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OUTFRONT SERIES

INDUSTRIAL POLICY'S IMPACT:

DEBT OR DIVIDEND?

1,568

Industrial policy interventions globally per year, up from just 34 in a little more than 10 years.

Source: National Bureau of Economic Research, August 2023

Winter/Spring 2023-2024

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including possible loss of capital.

In a race to sharpen their competitive edge, nations are re-deploying industrial policy.

There were 1,568 industrial policy interventions in the world in 2023 – up from just 34 in 2010, according to The New Economics of Industrial Policy, a paper from the National Bureau of Economic Research.

It's a defining moment for economies. Nations are in a race to be at the forefront of both the coming technology revolution and the green energy transition. Nothing short of economic leadership – as well as growth, energy security and well-paid jobs – is at stake.

Yet coming at a time of high debts across many economies, the shift from free-market economics to industrial strategy brings risks. Will the huge costs of industrial strategy be rewarded in terms of higher GDP growth? Or will subsidies stifle competition and productivity while pushing up interest rates? There are implications for national finances and financial markets.

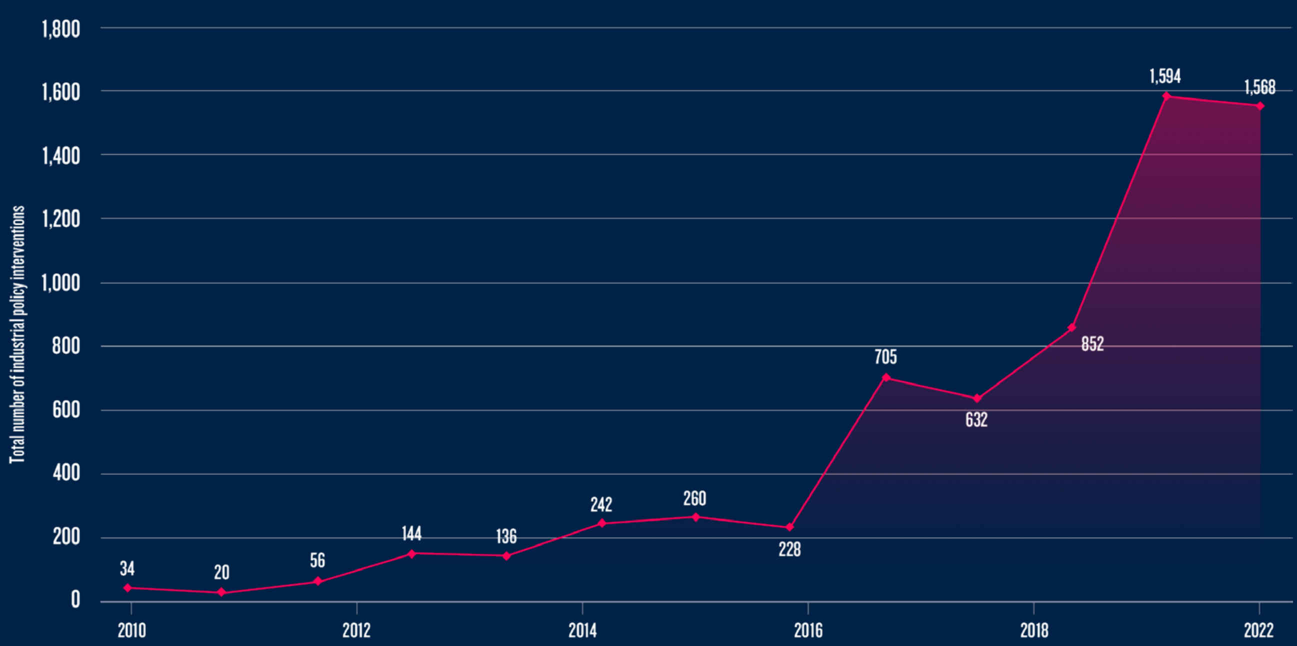
INDUSTRIAL POLICY DEFINED

There are many definitions of industrial policy, often with subtle differences. However, the following OECD definition sums up what's happening today:

"Industrial policy is any type of intervention or government policy that attempts to improve the business environment or to alter the structure of economic activity toward sectors, technologies or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of such intervention."

Source: OECD, Ken Warwick

The Rising Tide of Global Industrial Policy



Source: National Bureau of Economic Research, published August 2023 (data as of August 2022)

CHAPTER 1

BORROWING TO FUEL GROWTH

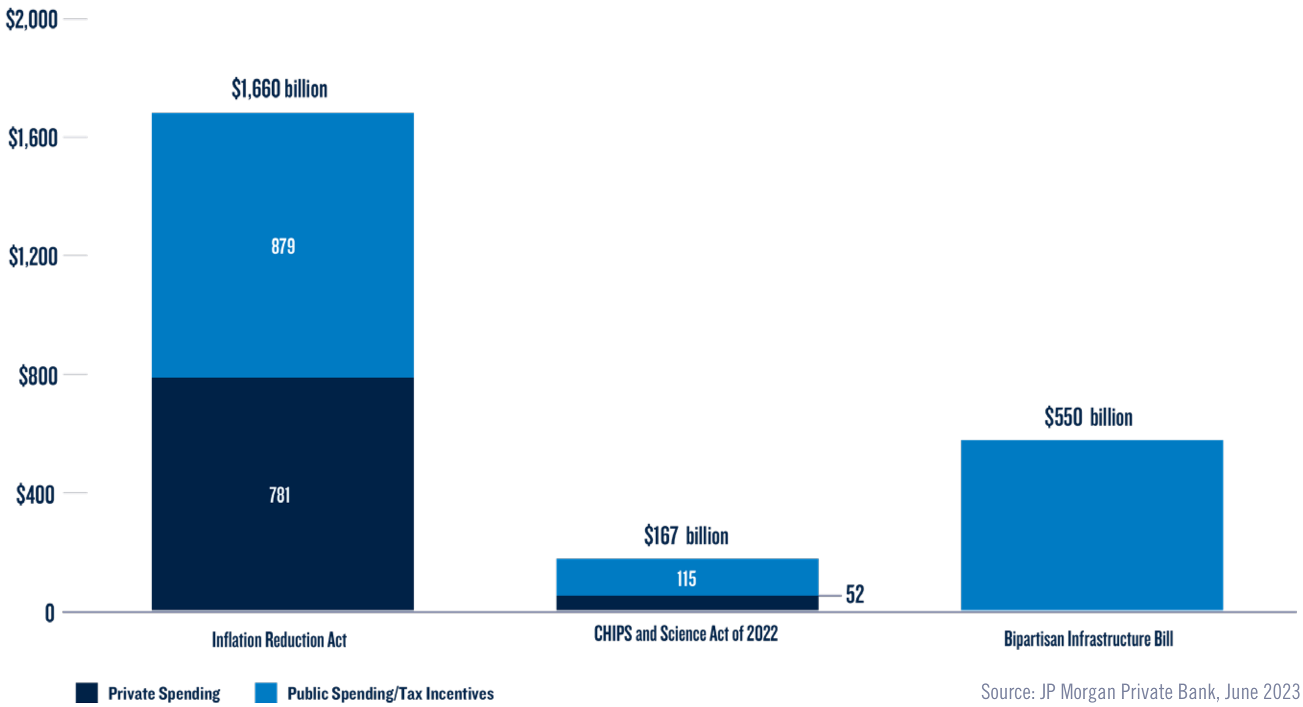
THE U.S. JOINS THE RACE

Signaling that national competition is replacing global cooperation, or globalization, the U.S. has made its largest commitment to industrial strategy since the Cold War.

Together, the 2021 Infrastructure Investment and Jobs Act, the 2022 Inflation Reduction Act (IRA) and the 2022 CHIPS and Science Act amount to more than $2.4 trillion in funding over 10 years, although some estimates put the eventual costs much higher.

Three recent U.S. policy bills include almost $2.4 trillion in funding.

Public and Private Spending (USD Billion) Over the Next 10 Years



Source: JP Morgan Private Bank, June 2023

1.5 MILLION

Estimated number of new jobs that could be created in U.S. semiconductor and clean tech production.

Source: Labor Energy Partnership, August 2022

The Biden administration is explicitly targeting technological leadership, security of supply chains, the energy transition and recapturing manufacturing jobs from abroad.

A combination of tax credits, grants and loans may already be sparking a manufacturing boom. Companies have committed more than $200 billion in large-scale projects to boost US semiconductor and clean-tech production, that could create up to 1.5 million jobs.

Yet economists are divided on whether this will raise GDP growth over the next decade, meaning there will not necessarily be a pay back on the debt incurred.

> **"America is adapting to intensified geopolitical competition for pre-eminence in the foundational technologies of our time."**

DALEEP SINGH
Chief Global Economist at PGIM Fixed Income and a former Deputy National Security Advisor for International Economics in the Biden administration

CHINA: THE BIG SPENDER

While industrial strategy fell out of fashion in many countries, it's always been at the heart of China's economic model.

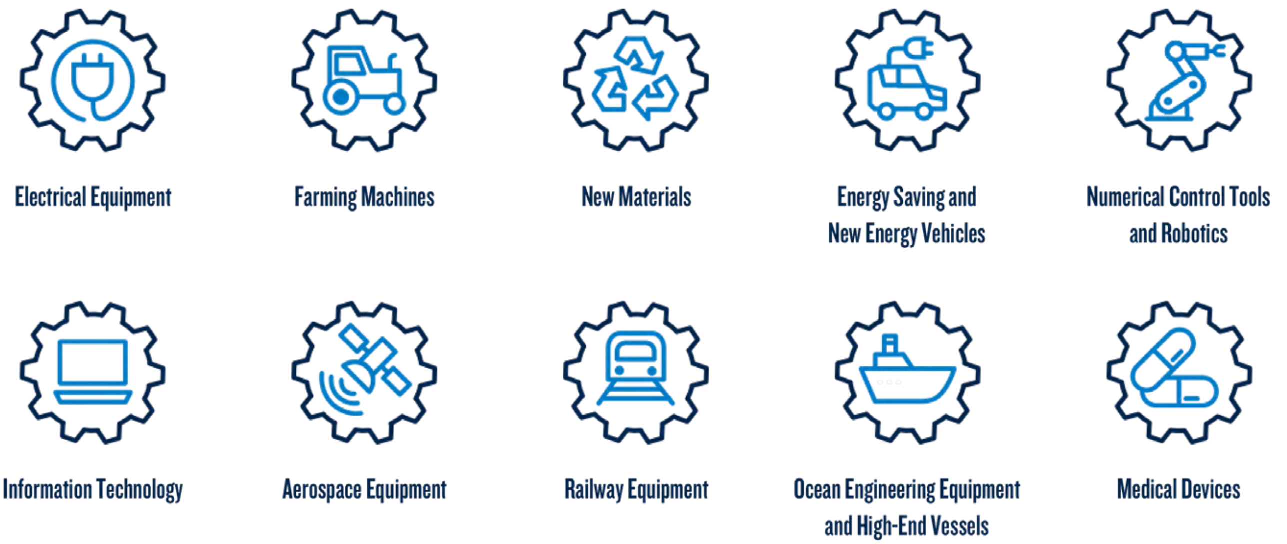
Even using conservative estimates, the country's spending is enormous at $407 billion a year (at purchasing power parity exchange rates, although spending estimates vary). This comes in many forms but chiefly subsidies and below-market credit to state-owned enterprises. That equates to at least 1.7%* of GDP. For comparison, the IRA that is the biggest part of Biden's package never amounts to more than a fraction of 1%**, according to Moody's Analytics.

*Source: Center for Strategic and International Studies May 2022
**Source: Moody's August 2022

Launched in 2015, the Made in China 2025 policy focused on leadership in strategic sectors such as robotics, information technology and clean energy.

More recently, this has evolved into the "dual circulation" strategy – the notion of reducing dependence on foreign powers while strengthening domestic sourcing.

Made in China 2025: Target sectors



Source: China Briefing, December 2018

It's true that China's industrial strategy is buying it dominance of some strategic sectors but it's also creating massive over capacity.

Notably, China's EV Gigafactory pipeline has swollen to an ambitious 4,200 GWh by 2030. This is twice what's needed to convert the country's entire vehicle fleet to battery electric vehicles, according to CRU, the business intelligence firm.

Source: Over capacity in China's battery cell industry will lead to consolidation. CRU, 25 August 2023

THE EU AND OTHERS STRUGGLE TO COMPETE

"Europe will do whatever it takes to keep its competitive edge," asserted Ursula von der Leyen, the commission president, in her annual 2023 State of the Union speech.

In reality, though, the bloc is struggling to counter the threat of U.S. subsidies which they fear could lead to an exodus of EU companies across the Atlantic if it cannot match the handouts on offer from Washington.

Source: EU Commission, September 2023

The EU's industrial policy focuses on what it calls its industrial ecosystems, across which it aims to foster twin green and digital transitions.

There are several parts to the European Union's plan – including the Net-Zero Industry Act, the Critical Raw Materials Act and a reform of the electricity market's design. Yet critics say that the EU goal to "speed up investment and financing for clean tech production in Europe" lacks funding. The proposed European sovereignty fund that was meant to pay for it has been shelved and critics say that any money promised is essentially reshuffling of existing commitments.

Source: EU Commission, December 2022

UK – THE SPENDING POWER GAP?

Turning to the UK, the current government's approach to industrial strategy appears reactive.

Taxpayer funds have been used to secure the future of a steel works and electric vehicle manufacturing, as well as to attract a battery factory. But the long-term strategy is unclear. Like other smaller economies that are constrained by the relatively small size of their public finances, it cannot match the spending power of the U.S. or China.

CHAPTER 2

LESSONS FROM THE 20TH CENTURY

EAST ASIA'S ECONOMIC MIRACLE

The second half of the 20th Century was the heyday of industrial policy, with Japan the poster child.

From the 1950s, the Ministry of International Trade and Industry (since renamed Ministry of Economy, Trade and Industry) promoted its favored sectors such as steel, shipbuilding, chemicals and machinery through a range of measures, including state loans and subsidies.

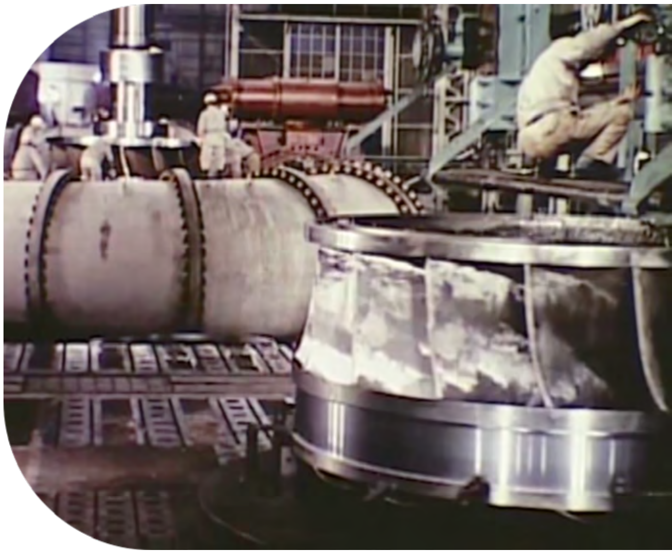
By the late 1960s, Japan had the second largest economy in the world. But growth stagnated in the 1990s, ending the country's economic miracle.

Source: Ministry of Foreign Affairs of Japan

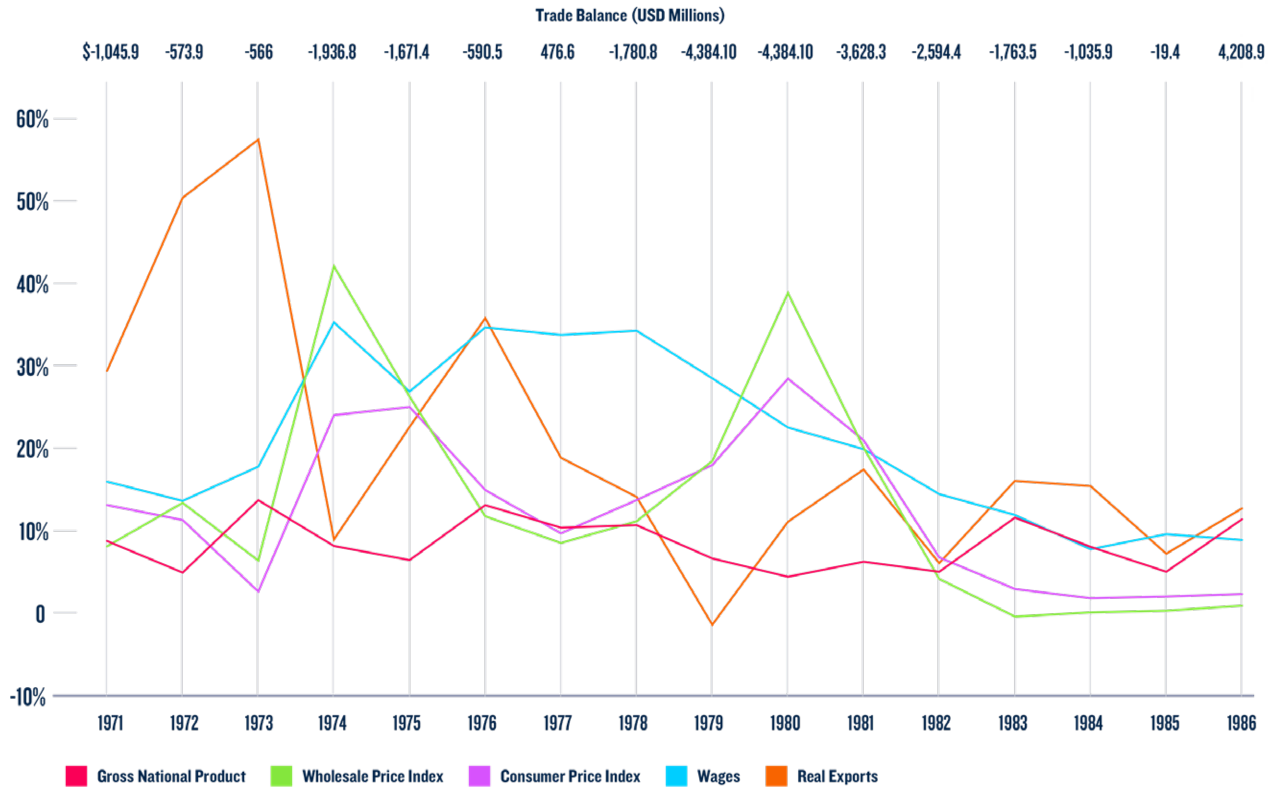
South Korea, too, used industrial policy with initial success. In the early 1970s, the government initiated a strategy to develop its largely agrarian economy through the heavy and chemical industries.

The years that followed saw considerable success, but some studies have concluded the policy led to a waste of resources, increase in foreign debt and monopolies that ultimately laid the ground for labor conflicts.

Source: "Industrialization and the State : The Korean Heavy and Chemical Industry Drive," Korean Development Institute, July 1995



South Korea: Selected Economic Indicators, 1971-1986 in Percentage Change



Source: Economic Planning Board, Major Statistics of the Korean Economy, 1987 (Seoul: Economic Planning Board, 1987)

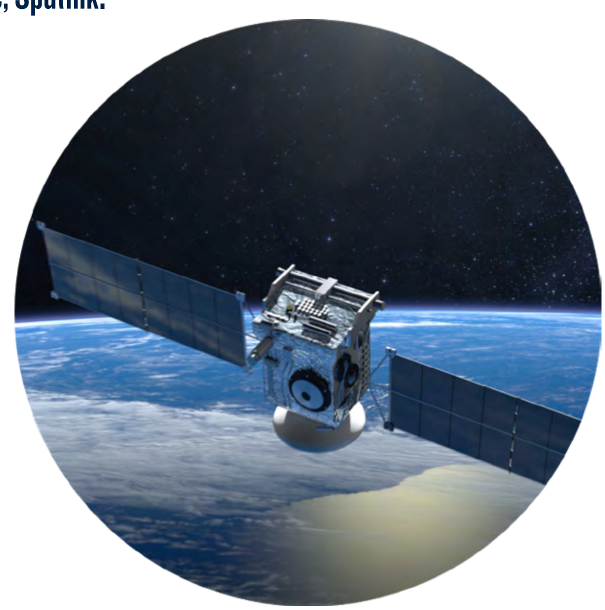
DARPA'S VC MODEL

A different model was introduced in 1958 to make sure the U.S. would never again be surprised by developments in new technology after the Soviet Union launched the world's first satellite, Sputnik.

The Defense Advanced Research Projects Agency (DARPA) has since been at least partially credited with funding the foundational technologies behind critical innovations like weather satellites, GPS, drones, stealth technology, voice interfaces, the personal computer and the internet.

Most recently, it awarded a small firm called Moderna with $25m in 2013 to use messenger RNA to develop vaccines, preparing the way for its Covid-19 vaccine.

Source: UnHerd, June 2018



FLIGHT PATHS: FROM AIRBUS TO COMAC

The creation of the Airbus consortium in the late 1960s is often hailed as a model of successful government intervention.

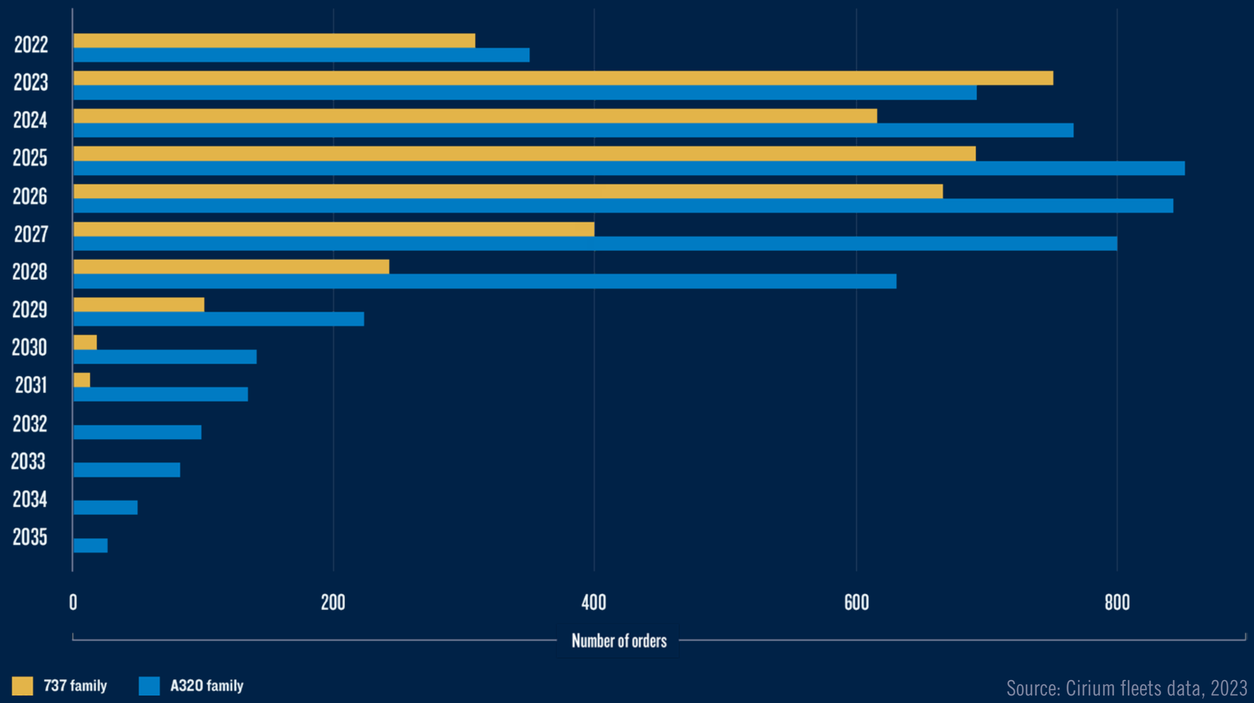
It depended on government subsidies, commitments to absorb losses and financing for fixed development costs.

Over the 60 years since then, Airbus has grown to outsell Boeing. Airbus's A320 family of passenger jets now has a market share of 59% in the key single-aisle market compared with Boeing's 737 family, according to aviation consultancy Cirium.

Yet the Commercial Aircraft Corporation of China (COMAC) has failed to emulate Airbus's success. Despite the state investing up to $70 billion, its C919 has yet to be certified by any major aviation authority outside China.

Source: Reuters, January 2020

Airbus Overtakes Boeing in Delivery of Single-Aisle Passenger Jets



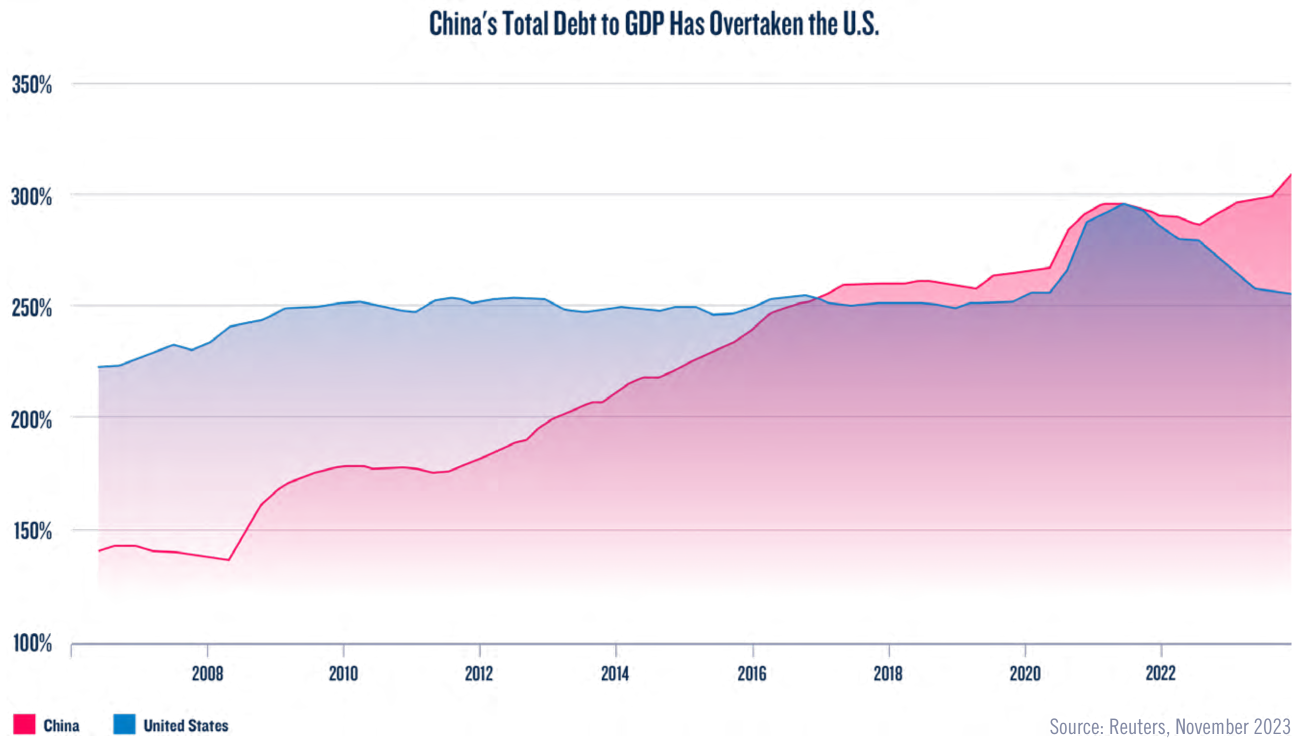
Source: Cirium fleets data, 2023

CHAPTER 3

IMPLICATIONS FOR INTEREST RATES AND FINANCIAL MARKETS

The race to harness industrial strategy to accelerate development of new technologies and the energy transition is happening at a time when the public finances are stretched.

In particular, China and the United States have borrowings at, or close to, record levels. While this makes the U.S. vulnerable to further bond market jitters, in China it plays out through downward pressure on the yuan.



"There is this shift between the monetary and the fiscal authority, from what we've seen before to what we're seeing now, which is going to have big implications for interest rates. Now, the potential benefit of this new mix of fiscal and monetary is that it should drive higher investment and hopefully eventually higher potential growth so that GDP growth becomes more sustainable."

KATHARINE NEISS
Deputy Head of Global Economics at PGIM Fixed Income

Should that happen, it's likely to help the public market equities of companies in the real economy most of all, including the types of industrial and infrastructure companies poised to gain from governments' industrial strategies.

There may also be long-term benefits for innovative young companies in private markets.

Governments in Britain, Germany and Japan have looked to build their own versions of DARPA, which eschews bureaucracy and big budgets – the U.S. president's request to Congress for DARPA's budget is $4.119 billion in 2023. That may well create still more foundational technologies for firms to build on.

Source: DARPA, 2023

CONCLUSION

WILL HIGHER DEBT FOSTER HIGHER GROWTH?

At a pivotal time for national economies, it seems likely that today's emerging industrial strategies will succeed in boosting key strategic sectors.

Already this can be seen in investments in U.S. semiconductors and clean-tech manufacturing, as well as Chinese EVs. The risk, though, is the effects of potentially higher interest rates for years to come.

"We're already seeing much higher debt levels, and that is pushing up on long-term interest rates. Now the downside to that is higher interest rates through higher public spending risks crowding out private investment. And if this increased public investment doesn't translate eventually into higher growth, that could lead to some very painful adjustments. But on the plus side, with governments clearly the direction of travel that they see through these industrial strategies, it does sort of give the private sector a north star of where we're going over the medium term that helps to coordinate in a way that can have positive spillovers."

KATHARINE NEISS
Deputy Head of Global Economics at PGIM Fixed Income

While industrial policy may well achieve its strategic economic goals, its dividends in terms of pure GDP growth are far harder to predict. If the past is a guide to the future, there could be costs in terms of higher debts, limited competition and suppressed productivity growth.

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