Economics

China 2025-40 Outlook: Tech and policy foundation

China/Economics/Markets

Group Research

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Executive Summary

The next decade and half would likely see China move up the value chain of manufacturing and services in a substantive manner. Immediate concerns about its prolonged property sector crisis, aging demographics, and intensifying trade war tend to obfuscate the country's ongoing foundational transformation. This report incorporates the near-term headwinds, and yet comes through with a constructive take on the medium term, based on China's tech transformation and supportive policies.

Our growth model finds GDP growth averaging 3% during the coming decade and a half. Growing consumption base and a modest total factor productivity rebound, driven by AI and automation, provide offsets to a likely slowing of capital formation.

- AI, semiconductors, and green energy are poised to be key growth drivers. China's push for AI chips and semiconductor self-sufficiency, backed by state-led R&D, should support productivity gains. Investments in smart urbanisation and renewables will enhance efficiency, while EVs and automation reshape key industries.

- AI adoption in healthcare, logistics, and manufacturing would be critical. AI-driven innovations, such as precision diagnostics in healthcare and smart supply chains, will optimize resource allocation.

- AI, electric vehicles, green hydrogen, and advanced healthcare technologies are set to dominate, while traditional manufacturing, labour-intensive sectors, and roles reliant on repetitive tasks will recede.

- **Challenges remain multifaceted.** Demographic decline is a key constraint, with a shrinking workforce and rising elderly dependency. The ongoing property market correction continues to erode household wealth and consumer confidence, while labour markets face pressure from youth unemployment and tech-driven job displacement. A reset of globalization and reshaping of supply chains warrant adroit public-private partnership and pragmatic policy making.

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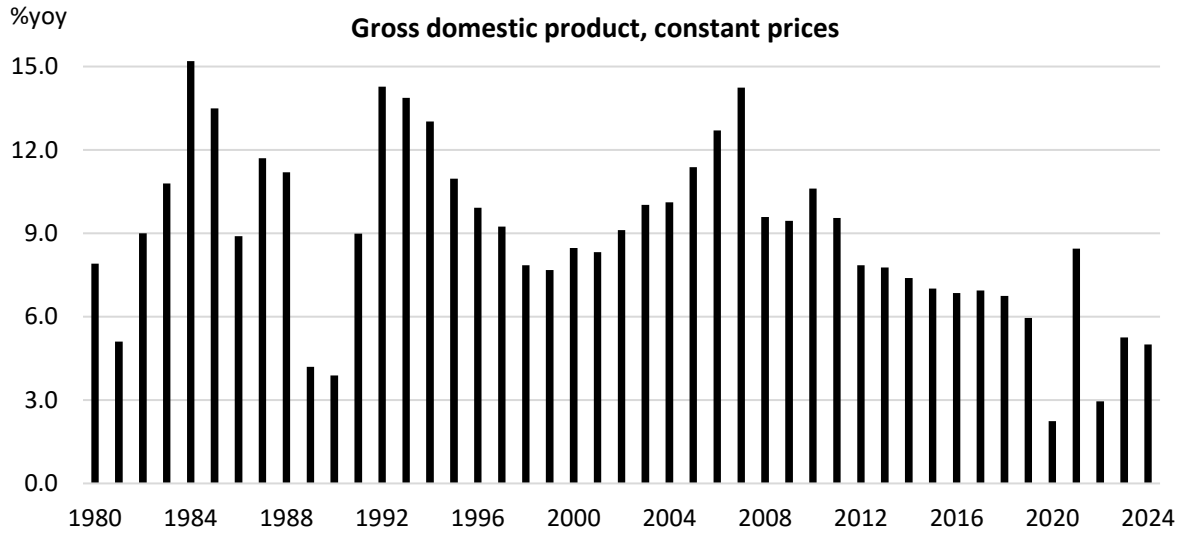
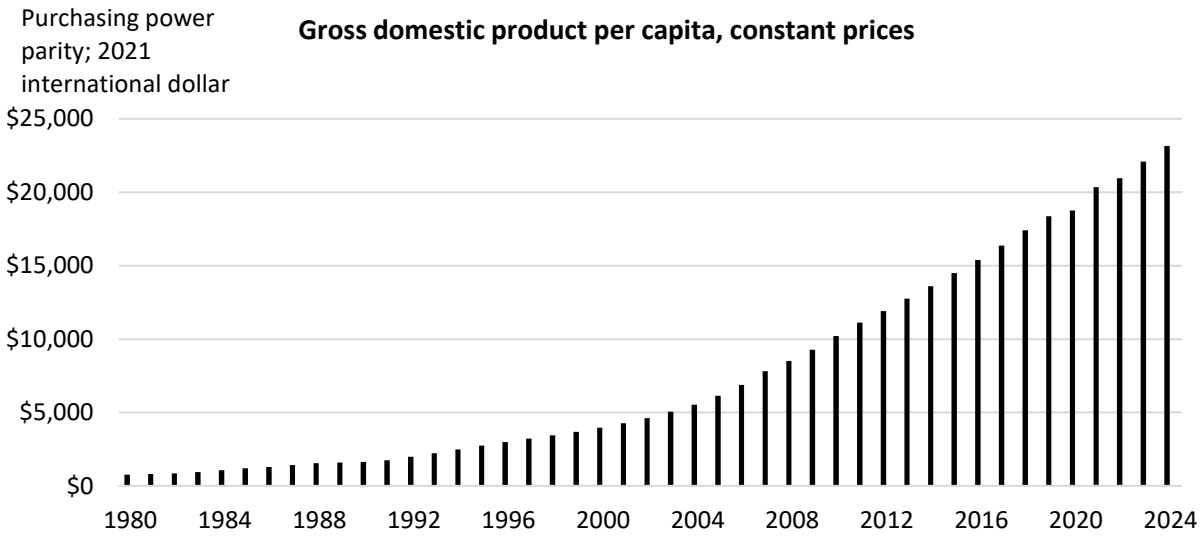
1 Introduction

The journey of the Chinese economy from the 1980s to present, lifting hundreds of millions out of poverty and creating an industrial foundation that has made it the factory of the world, has been one of unparalleled magnitude. What awaits might also be highly consequential, as the economy graduates from being a hub of efficient adopter of manufacturing processes to the developer of world class services and transformational technology.



Source: IMF DBS

As the Chinese see personal income rise through multiple cycles of economic and structural reforms, they will likely form the base of a consumption class that would rival their much wealthier counterparts in the West. The proclivity to save excessively would likely diminish, as forthcoming cyclical and structural policies provide rationale and support for higher levels of consumption, and a much-needed economic rebalancing takes place.

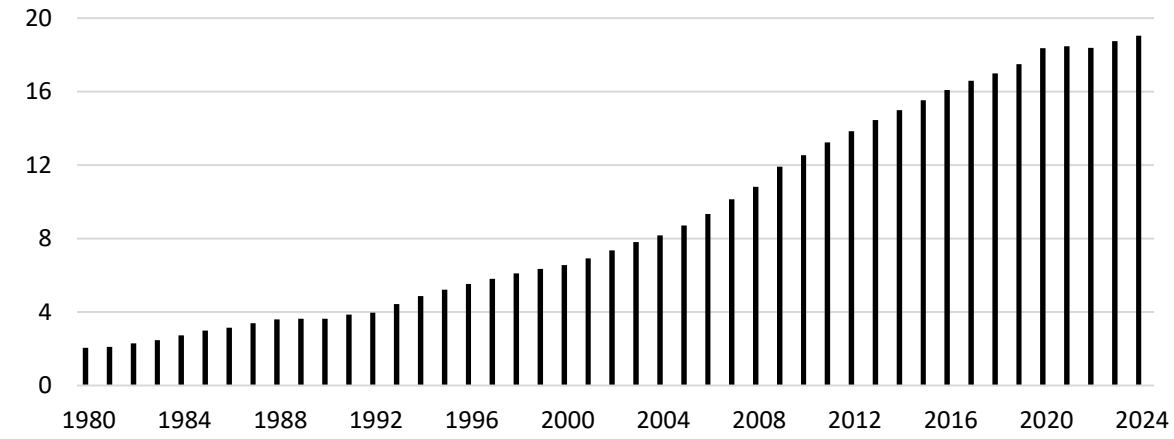


Source: IMF DBS

China is already a major chunk of the global economy, but it is primed to become bigger in the coming years. Defying the challenges posed by the middle-income trap is not easy, but we see plenty of ingredients in place to propel it toward a higher income plane. They include deepening research & development, long-term infrastructure investment, and perhaps most importantly, a culture of innovation. China's aspiration to attain high quality growth in the coming decades would likely be met with success.

% share of world total

Gross domestic product based on purchasing-power-parity (PPP)

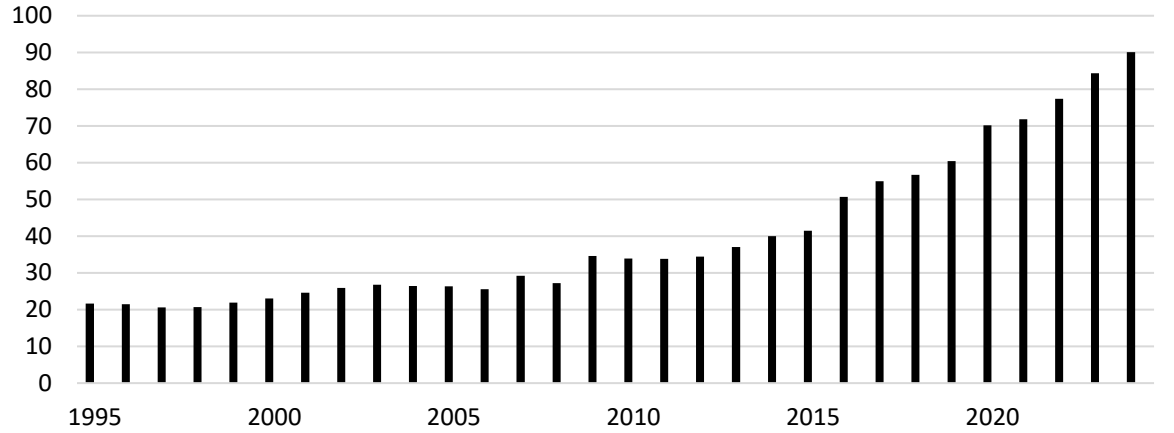


Source: IMF DBS

The myriad challenges in place, including property sector distress, bad debt, aging, and great power rivalry, will not be easy to overcome at all. But there is the wherewithal to deal with them, ranging from a generally high level of trust toward institutions, a key ingredient in orderly restructuring, to sufficient financial buffers. China's moderate central government liabilities, at only about 25% of GDP, allow for restructuring of local government debt through swaps. Its centralised power structure can readily bring together various affected parties, from banks to property developers, to carry out restructuring, painful as it may, in a decisive manner.

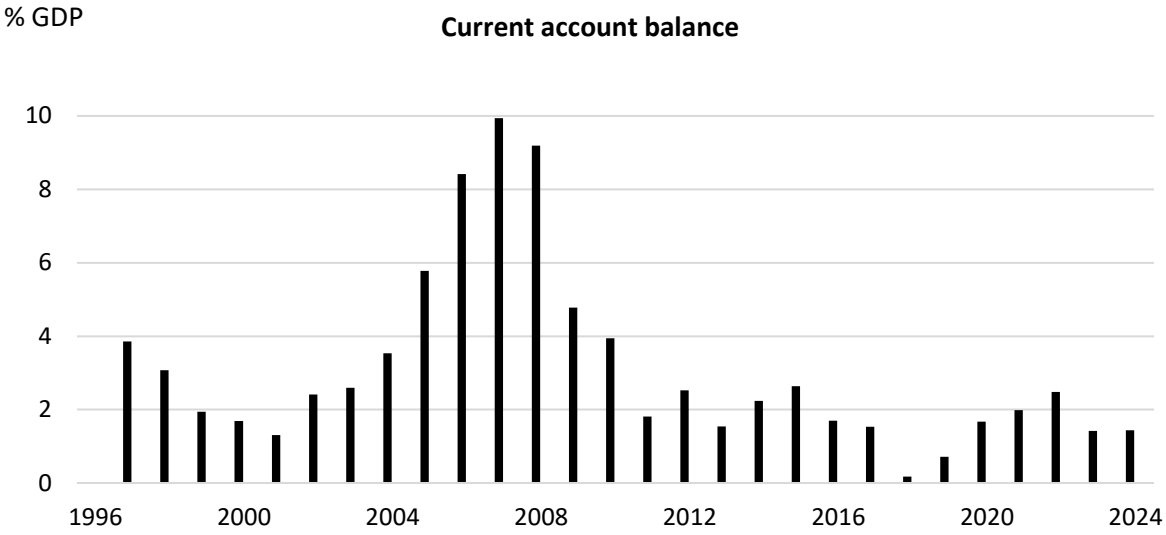
% GDP

General government gross debt



Source: IMF DBS

Persistent current account surpluses over the decades have allowed China to build up a multi-trillion-dollar net foreign asset position, which could provide healthy income in the future. But the burgeoning surplus has also become a liability, as it is seen as the sign of an economy beset with excess capacity, making China susceptible to protectionist salvos. China's goods producing sector, even as it climbs the ladder of excellence in precision, quality, and innovation, will find it costlier to do business overseas. Promoting greater domestic consumption of both domestically and foreign produced goods and services would be the wise path toward diffusing these tensions.



Source: IMF DBS

This paper focuses on China's growth potential in the coming decade and a half. We begin by running a growth model that incorporates the future path of labour force, capital formation, and technological innovation.

2 A growth model for 2025-2040

Our Solow growth model projects average real GDP growth of 3.0% from 2025 to 2040, slowing to 2.5% by the end of the period. While structural headwinds persist, stable human capital and AI-driven TFP rebound provide partial offsets.

2.1 Solow growth model

The Classic Solow growth model is defined as $Y = A\ (K\ L)$, which suggests long-term growth of an economy could be explained by the interplay between capital (K), labour (L), and TFP and human capital (A). Our model employs the PWT dataset, with the variables being defined as:

Y = GDP

K = Capital = real investment as a % of GDP

L = Labour = population x employment rate

A = A catch all variable for TFP and human capital

From 1991 to 1997, high total factor productivity (TFP) growth, fuelled by state-owned enterprise (SOE) reforms, foreign investment, and infrastructure expansion. Capital accumulation surged as China opened its economy, attracting substantial foreign direct investment (FDI). Labour force growth was also strong, supported by a young population and large-scale rural-to-urban migration.

1998 Asian Financial Crisis triggered a slowdown. SOE inefficiencies and mass layoffs weighed on productivity, while rising debt levels eroded capital efficiency. Employment in state-owned enterprises contracted, forcing labour reallocation. By 2002, China's accession to the WTO ushered in a golden era of globalisation-led growth, with industrialisation, export manufacturing, and urbanisation peaking in 2007. This period saw record capital inflows, rising private sector investment, and productivity gains as labour shifted to higher-value industries.

2008 Global Financial Crisis led to a RMB4trn stimulus package, boosting infrastructure and property investment but resulting in capital misallocation. Investment as a percentage of GDP climbed from 40.4% in 2007 to a record 47.0% in 2011. Labour productivity growth slowed as China's workforce peaked, while rapid debt accumulation reduced returns on capital. From 2013 onward, structural headwinds—including aging demographics, declining labour force participation, and debt-driven expansion with diminishing returns—led to a prolonged growth slowdown. Rising US-**China trade tensions (2018–2019) further disrupted supply chains, capping growth momentum.**

COVID-19 pandemic (2020–2023) added further volatility, with supply chain disruptions, lower workforce participation, and weak private investment exacerbating existing structural challenges. While post-pandemic stimulus in 2021 provided a temporary boost, inefficiencies in capital allocation and slowing labour force growth led to another decline in 2022–2023. These historical trends underscore the evolving challenges in capital efficiency, labour market shifts, and productivity growth that will define China's economic trajectory in the coming decades.

Our base case projects China's real GDP growth to average 3.0% annually from 2025 to 2040, with a terminal rate of 2.5% in 2040. This marks a further slowdown from the 4.6% recorded in 2020–2024, primarily due to weaker capital accumulation and a shrinking labour force.

Capital contribution is expected to decline to 2.1%, weighed down by a prolonged downturn in property investment and a high debt burden. Labour contribution is also set to weaken further to -0.4%, from -0.2% in 2020–2023, as demographic headwinds limit workforce expansion.

However, human capital contribution is expected to remain stable at 0.8%, underpinned by continued investments in education, technology, and workforce upskilling. TFP is forecasted to improve to 0.5%, reversing the -0.4% seen in 2020–2024, as AI, robotics, and automation help mitigate labour shortages and enhance efficiency.

Average growth during the period (%)	Capital	Labour	Human capital	TFP	Real GDP	CNY	CPI
1991-1997 High Growth Period Driven by Reforms	5.6	0.5	0.6	4.2	10.8	8.4	11.0
1998–2001: Post-Asian Financial Crisis Slowdown	5.8	0.5	0.8	0.8	7.8	8.3	-0.3
2002–2007: WTO Accession and High Productivity Growth	6.5	0.2	0.9	3.0	10.7	8.1	2.1
2008–2019: Global Financial Crisis, Stimulus-Driven Growth, and Structural slowdown	6.1	0.0	0.8	0.6	7.7	6.6	2.6
2020–2024: COVID-19 Shock and Volatile Recovery	4.3	-0.2	0.8	-0.4	4.6	6.9	1.2
2025-2040: Aging population and property downturn versus the era of AI and robotics	***2.1***	***-0.4***	***0.8***	***0.5***	***3.0***	***7.0***	***1.0***
Bear bull case range	***1.8 - 2.7***	***-0.5 - -0.3***	***0.6 - 0.9***	***0.1 - 0.8***	***2.0 - 4.0***	***6.5 - 7.5***	***0.5 - 2.0***

Source: PWT, DBS

This growth trajectory suggests China remains on track to achieve its goal of becoming a middle-income society by 2035, with GDP per capita reaching around USD 21,000. Moderate growth implies inflation will likely remain contained at around 1.0%, while the PBOC is expected to maintain an accommodative stance, keeping USD/CNY above 7.10.

Long-term GDP growth could range between 2.0% and 4.0%, contingent on the inflation trajectory (0.5%-2.0%) and FX movement (6.50-7.50 per USD). These hinge on trade relations with the West. According to our estimation, 104% additional US tariff on all Chinese imported goods will bring the China's GDP growth down by 2.17%ppts. The impact of trade war will likely weigh on the disinflation of China. External demand will continue to slow in the medium-term and exacerbate overcapacity. Chinese exporters will offer discounts to maintain competitiveness. This will in turn keep domestic prices especially PPI at bay. For exports to other countries, the lower export prices may also prompt other countries to impose countervailing tariffs. Disinflation will prompt the PBOC to stay with its easing stance and keep the CNY exchange rates on the weak side, vice versa if the trade tension ease.

AI development will be another wild card. Potentially, it could generate soaring investment, large financial returns, as well as critical social gains. It could enable better healthcare and social welfare, thereby extending the working age. Productivity is also set to increase. The stronger growth momentum will push the CNY exchange rate to the strong side and support inflation, and vice versa if AI development fails.

Additional tariff	10%	20%	30%	40%	50%	54%	60%	70%	80%	90%	100%	104%
Average tariff	21%	31%	41%	51%	61%	65%	71%	81%	91%	101%	111%	115%
China exports to the US, 2025	3,887 (CNYbn)											
China total exports, 2025	26,623 (CNYbn)											
Share of China exports to the US, 2024	14.6%											
Incremental US tariff impact on China total exports value	**-1.02%**	**-2.04%**	**-3.07%**	**-4.09%**	**-5.11%**	**-5.52%**	**-6.13%**	**-7.15%**	**-8.18%**	**-9.20%**	**-10.22%**	**-10.63%**
Incremental US tariff impact on China real GDP growth	**-0.25%**	**-0.46%**	**-0.66%**	**-0.86%**	**-1.07%**	**-1.15%**	**-1.27%**	**-1.47%**	**-1.68%**	**-1.88%**	**-2.08%**	**-2.17%**

Source: DBS

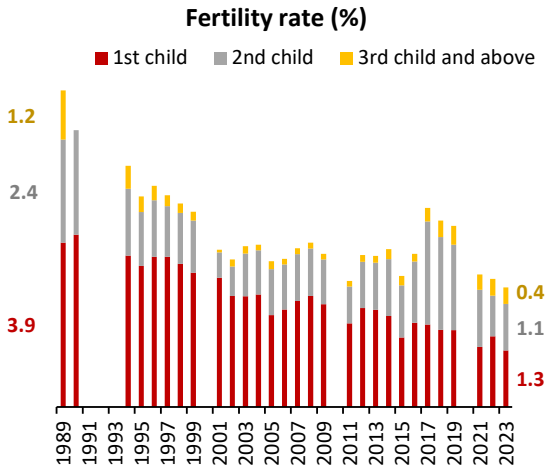
3 Prominent challenges

China's aging population is shrinking the workforce and raising dependency ratios, straining resources for innovation and growth. The property downturn has eroded household wealth and dampened consumer confidence. These twin challenges misallocate capital and weaken labour force dynamism, undermining productivity.

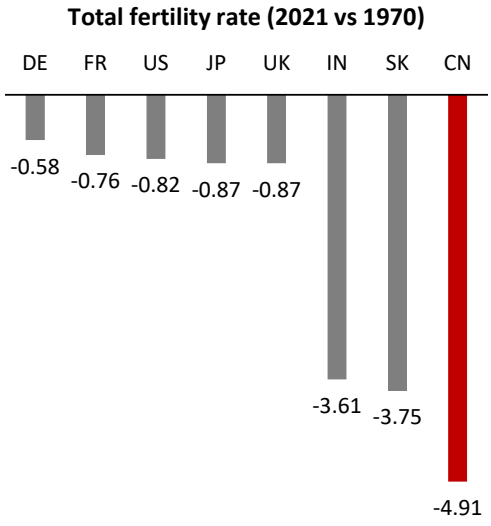
3.1 Aging

Aging population remains a structural drag on long-term economic expansion, shaving 0.4 % ppt off annual growth projections. The demographic shift is driven by rising life expectancy and persistently low birth rates. In 2023, individuals aged 60 and above accounted for 21.1% of the total population, or approximately 297mn people. This figure is set to surpass 400mn by 2035, exceeding 30% of the total, and is projected to top 500mn by 2050. Life expectancy continues to climb, reaching 79 years in 2024—an increase of 0.4 years from the previous year.

Meanwhile, fertility rates have declined sharply. Between 2019 and 2022, the birth rate fell from 10.41 to 6.77 per 1,000 people, while the number of women aged 15 to 49 shrank by over 4mn. Survey data from 2017 showed that childless women planned to have an average of 1.60 children, below the population-wide figure of 1.76, signalling further declines ahead.



Note: Data for 1991-1993, 2000, 2010, and 2020 are missing
Source: Wind, DBS



Souce:World Bank , DBS

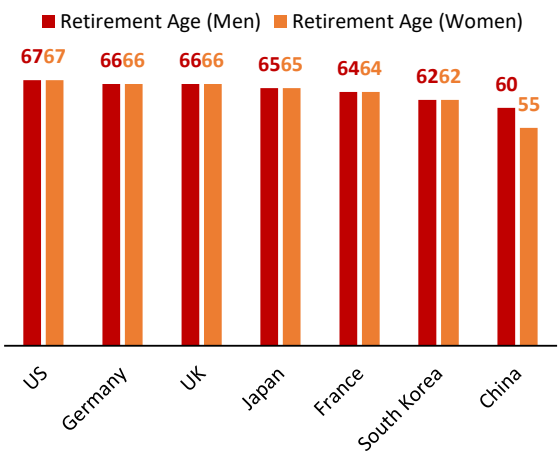
These trends are already affecting China's total population. In 2022, for the first time since 1958–1961, the population declined by 850,000. According to the United Nations Department of Economic and Social Affairs (UNDESA), **China's total population is expected to contract at a compound annual rate of 0.34%, reaching 1.34bn by 2040**. More significantly, the working-age population (15–60) is projected to shrink at an

even faster rate of 0.8% per year, deepening labour supply constraints in the years ahead.

Retirement age

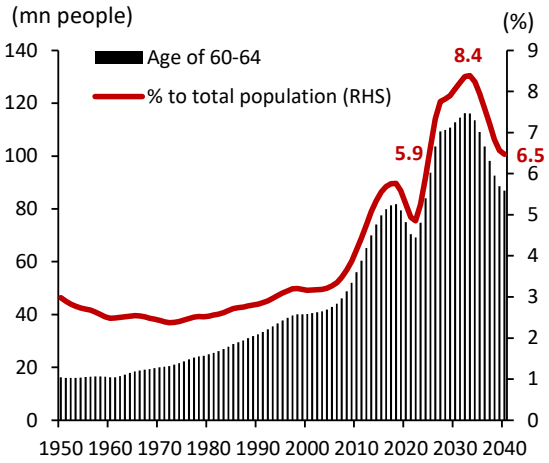
In response to a shrinking labour force, China has announced a gradual increase in the statutory retirement age. In March 2025, policymakers introduced a phased reform set to unfold over the next 15 years. Under the plan, the retirement age for men will rise from 60 to 63, while for women, it will increase from 50 to 55 for blue-collar workers and from 55 to 58 for white-collar workers.

Retirement age



Source: Reuters, DBS

Population of age of 60-64 (mn people)



Source: UNDESA, DBS

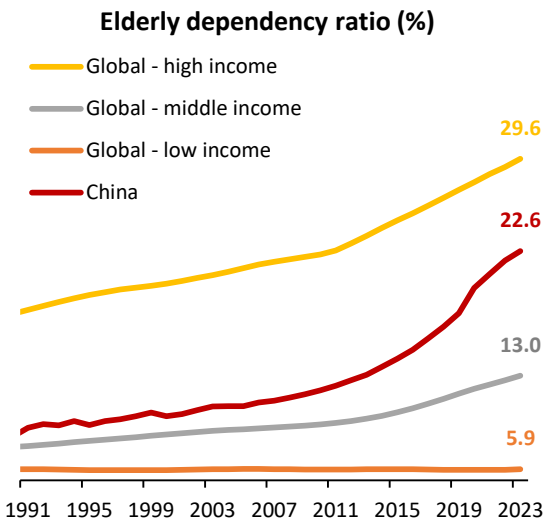
China's current retirement age remains among the lowest globally, particularly when compared to OECD economies, where retirement typically ranges from 62 to 67. Even after the adjustments, China's retirement age will remain lower than that of the US, Germany, the UK, and Japan. Raising the threshold aims to ease workforce pressures. In 2023, there were 114.1mn workers aged 60–64, accounting for 6% of the population. Extending the retirement age to 64 could help slow workforce contraction, reducing the annual decline from 0.95% to 0.79% between 2023 and 2040.

Box article 1: Pension fund expenditure

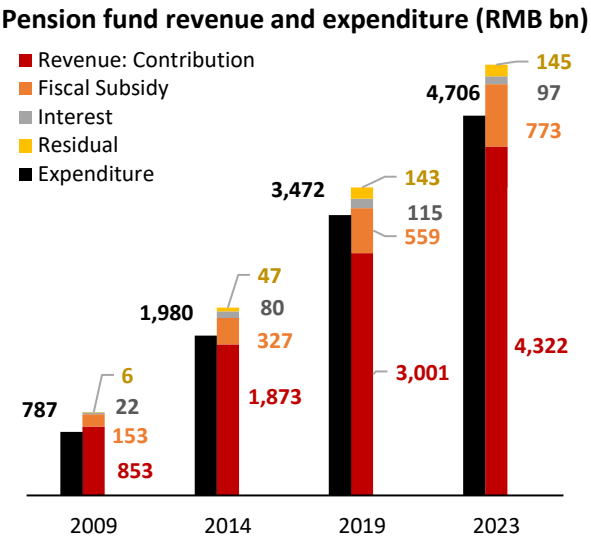
China's aging population is placing growing pressure on the country's pension system, which relies on workforce contributions to fund retiree payouts. A shrinking labour force means fewer contributors and a rising number of beneficiaries, straining public finances. In 2023, the elderly dependency ratio—retirees relative to working-age individuals—rose to 22.6%, up from 16.8% in 2013. The gap between China and high-income countries in elderly dependency narrowed from 11.2 % ppt in 2016 to 7.0 % ppt in 2023, underscoring the rapid pace of aging.

Financial stress on the pension system has intensified. In 2014, pension contributions fell short of expenditures for the first time, marking a structural turning point. Since then, government subsidies to cover deficits have surged, rising 136.5% between 2014 and 2023. Without structural reforms, rising pension expenditures will continue to weigh on fiscal resources.

To ensure long-term sustainability, policymakers may need to raise contribution rates, increase government subsidies, or implement additional policy measures. Potential solutions include expanding private pension schemes to reduce dependence on the state system, promoting reverse mortgage products to help retirees tap into housing wealth, and further raising the retirement age to sustain workforce participation.



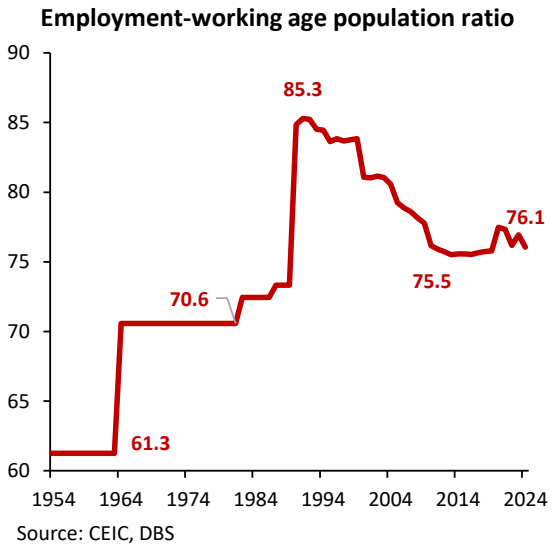
Source: Wind, DBS



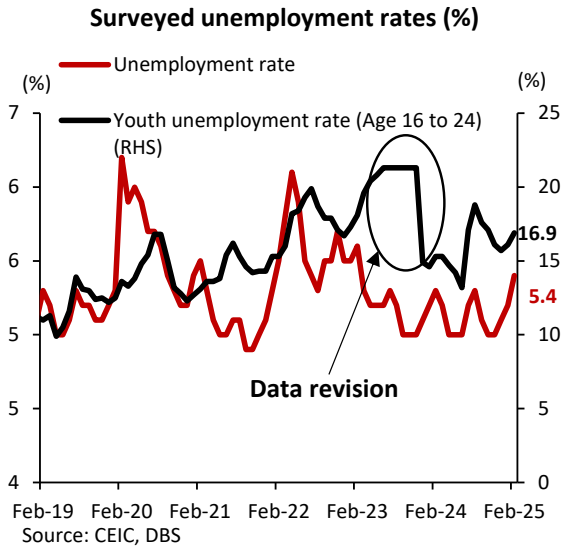
Source: CEIC, DBS

3.2 Employment

Shrinking population aside, the employment-population ratio (employment rate) has also been falling ever since the 1990s. Since the Open Door Policy in 1979, rapid industrialisation created tremendous number of jobs in manufacturing and construction sectors. That said, the employment rate started to decline since the State-Owned Enterprise (SOE) layoffs in the late 1990s and early 2000s, resulting in significant job losses. Meanwhile, youth have been delaying their entry into the labour market amid the expansion of higher education. Since 2019, youth unemployment has been another headwind for the overall employment level. The weak property market, tech sector crackdown, and subdued consumption sentiment have been stressing the job market, particularly for young adults. Headline jobless rate hit 5.4% in February 2024, while that of youth stayed elevated at 16.9% even after the data revision in 2H23.



Source: CEIC, DBS



Source: CEIC, DBS

That said, the employment ratio has found its footing on entering the 2010s despite these headwinds. Employment has been falling at a relatively slower pace of -3.8% during 2015-2024 compared to -4.4% of the population. In fact, the ratio has been rising since 2020, reflecting a tight labour market amid the rapid aging population. **Looking ahead, employment will remain steady amid a tug-of-war between AI driven employment and layoff.** We shall discuss this in Section 4.

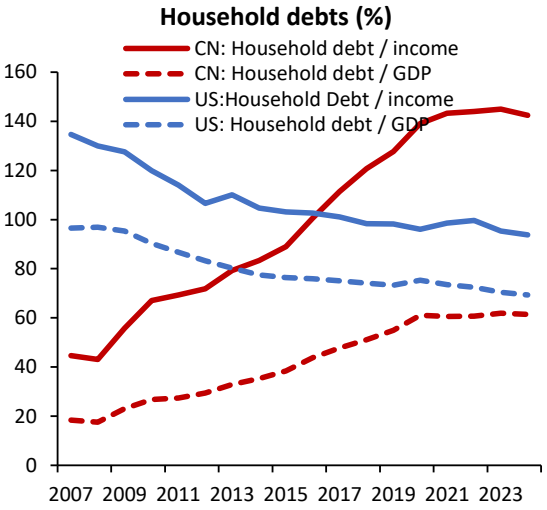
3.3 Property market

Since the late 1970s, China's economic landscape has been profoundly shaped by capital investment. CAPEX was attributed to three main categories – manufacturing, infrastructure, and property. Yet, **the contribution of capital will inevitably decline as the Chinese economy continues to transform towards a consumption driven one.** Over the next 15 years, the annual contribution of capital will fall from the peak of 6.5%ppts in the 2002-2007 to 2.1%ppts in 2025-2040. Amongst all, the drag from

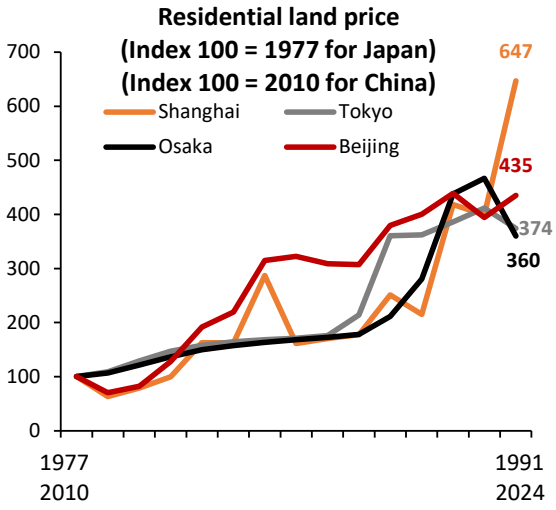
property section will be more apparent given its lion share of China's fixed asset investment (FAI). At its zenith, it accounted for 31% of total FAI in early 2021 before heading south to just 20% as of February 2025.

Property market overleveraging and market correction (2008-2024)

The property sector has undergone a period of overleveraging. For the demand-side, China's household debt to income ratio has overtaken that of the US since 2016 and reached 142% as of 2024. Its ratio against GDP also reached ~62%. On the supply-side, residential property FAI jumped by 932% cumulatively, during 2005-2021. The residential land prices in tier 1 cities such as Beijing and Shanghai have surged by over 400% since the RMB4trn stimulus in 2010, a trend largely comparable to that of Tokyo and Osaka in the 1980s. Such overleveraging has restrained both the homebuyers and developers from acquiring residential units and land moving forward. For Shanghai, we note the ongoing increase in land price in 2023-2024. But this is largely a result of a flight to land quality. In fact, the number of land sales was shaved from 209 to just 62 in 2024.



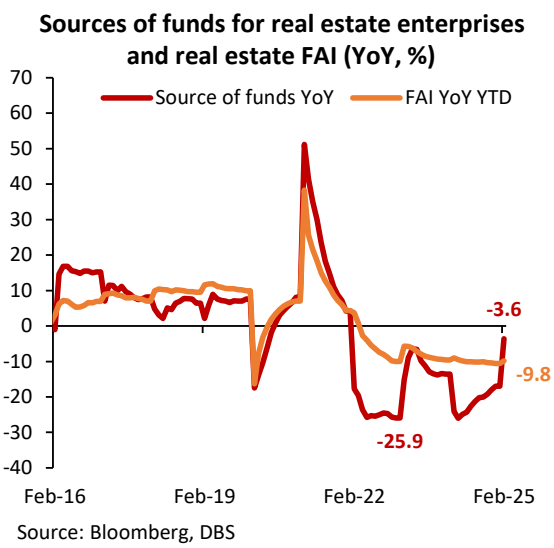
Source: CEIC, Bloomberg, OECD, DBS



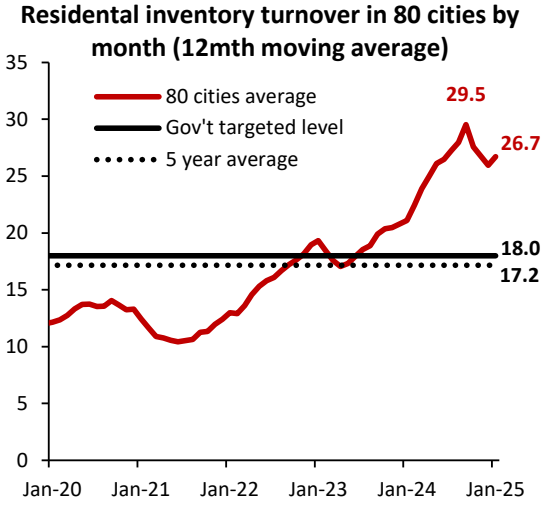
Source: CRIC, CEIC, DBS

Medium-term outlook (2025-2030)

Such skyrocketing debt levels necessitated Beijing to enforce deleveraging among developers through policies such as 'The Three Red Lines'. Residential FAI fell by 32% since its peak in 2021, in tandem with plunging sources of funding for real estate sector. This paradigm shifts did not only prompt developers to scale back excess investment, but also engineered a wave of defaults. Homebuyers thus refrained from entering the market, creating an excess supply of inventory.



Source: Bloomberg, DBS



Source: CRIC, DBS

On a 12-month moving average basis, **the residential inventory level soared to 30 months before retreating to 27 months, far beyond the government target of 18 months.** Such imbalance is weighing on property prices and subsequently homebuyers' demand, thereby creating a vicious cycle. Property developers therefore refrain from reinvesting their earnings. Based on historical data, this **negative loop could only be broken when the inventory level reaches 17 months.** Average selling price (ASP) on a month-over-month basis will start to turn positive thereafter, and **developers will only start investing 6 months after prices have stabilised**. According to the estimation, these will **only happen around mid-2028**.

Timeline	Feb 2025	2H 2027	1H 2028
Inventory (12-month average*) (80 cities)	27 Months	~16.3 months	≤16.3 months
ASP (MoM^ %) (70 cities)	-0.14%	≥0%	≥0%
FAI (YTD YoY %) (national)	-9.8%	~-9.8%	≥-9.8%

Correlation between ASP and FAI	
0-month	0.63
3-month	0.64
6-month	0.68
9-month	0.63

Note:
(*) 12-month average is employed to smooth out the seasonality for correlation analysis purposes (what we show in ALCO is a 3 month average).
(^) 70 cities primary market property prices dropped by 10.1% cumulatively during Sep21- Dec24.

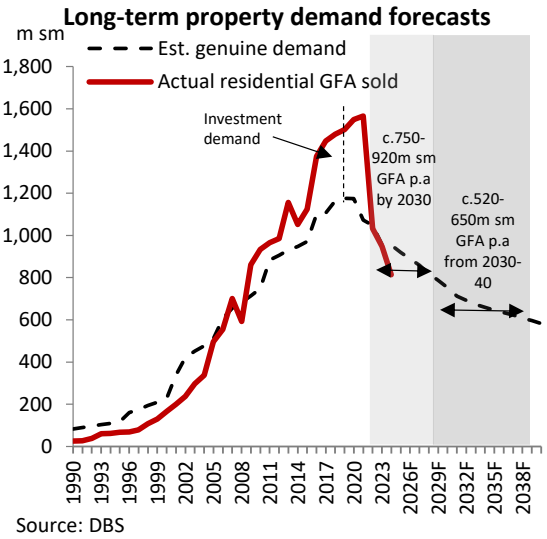
Hopefully, the various support measures could help accelerate the inventory absorption. A key measure is extending special local government bond proceeds to buying unsold homes and idle land for affordable housing. According to the stimulus packaged announced during the Two Sessions, the local government bond issuance is

set be increased from RMB3.9trn in 2024 to RMB4.4trn in 2025. Also, Beijing has directed provincial governments to acquire the unsold inventories close to market price to speed up the acquisition. **The 14th Five Year Plan's affordable housing program will help absorbing RMB1.6trn worth of unsold homes, or 75% of the excess inventory and push the inventory level down to around 17 months.**

Long-term outlook (2031-2040)

Excess-supply could remain as a source of concern over the medium-long term as aging population wobbles. According to our estimation, the annual demand for residential property will fall from the 1,600mn sq. meter in 2021 to 750-920mn sq. meter by 2030 and further contract to 520-650m sq. meter through 2040. This is largely attributed to:

(i) Falling average household size amid lower marriage rate and birth rate;
(ii) Steady average living GFA per capita for homebuying population, where the wealth effect is offset by weaker demand for large apartment from elderlies;
(iii) Receding homebuying population (aged between 20-50); and
(iv) Weaker demand per family given the inherited property.



Source: DBS

	Assumptions
Average family size	Gradually decline from 2020's 2.62 persons at the same rate as during 2010 - 2020 to 1.87 persons through 2040.
Average living GFA per capita for homebuying population	Remain steady at 41.76sm (2020 level)
Homebuying population (aged between 20-50)	Fall by 24% since its peak in 2011
Demand per family	Purchase 0.3 units on average in the primary market within their 30-year timespan

Source: DBS

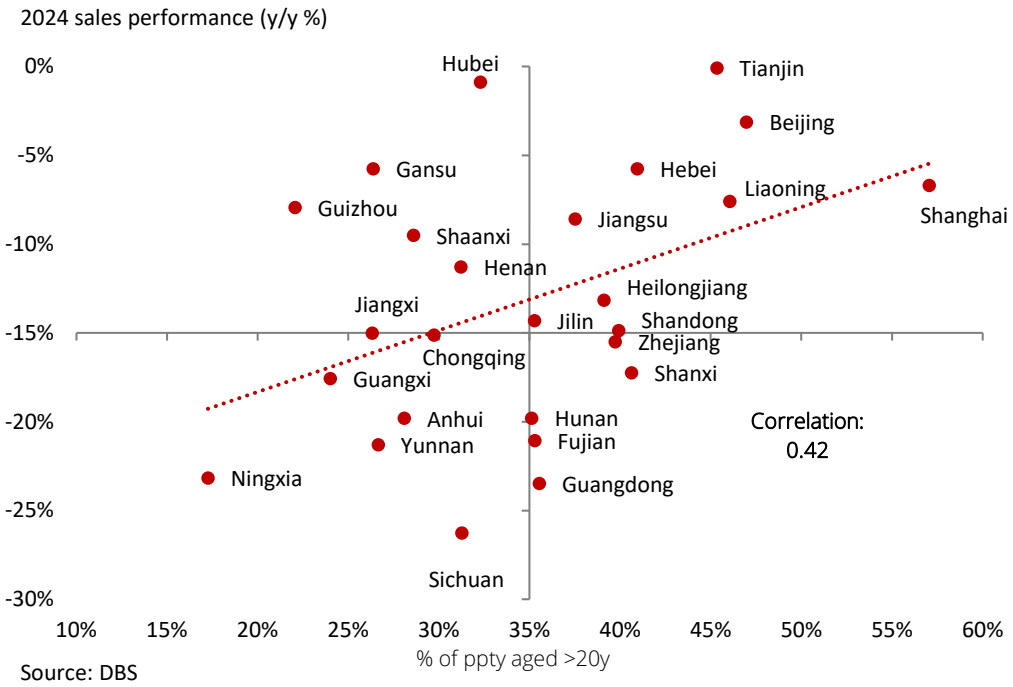
That said, there could be potential sizeable replacement demand that help absorb excess inventories. The rapid aging of the residential property stock prompts existing homeowners to upgrade or replace their homes. In fact, we found a positive correlation between provinces' average monthly sales growth over twelve months and the proportion of buildings aged over 20 years. This indicates replacement demand is already emerging in provinces with older housing stock. We estimate the potential replacement (for buildings aged over 20 years) and upgrading demand (for buildings aged over 10 years) would amount to a significant 76% of the total existing housing stock.

Replacement demand

	Property completion year			
	Before 2004	2004-2013	2014-2018	2019-2024
Property age	>20y	10-20y	5-10y	0-5y
% of existing stock	41%	35%	23%	11%
Intention to replace	More eager to replace when opportunities arise given	Interested to replace, but not as much of a hurry		Less Likely
Will sell in secondary market?	Challenging to sell existing property	Yes, but depend on whether they can receive sufficient profit from existing supply and future home price appreciation		Unlikely, and some may still be constrained by resale
Likely outcome	Those with sufficient purchasing power are more likely to enter the market if opportunities arise, others may need to	Sell their existing property and buy a new one when the secondary market sentiment revives and confidence over home prices resumes		Unlikely to re-enter the market in the near-term

Source: DBS

Sales performance and replacement demand by proovince

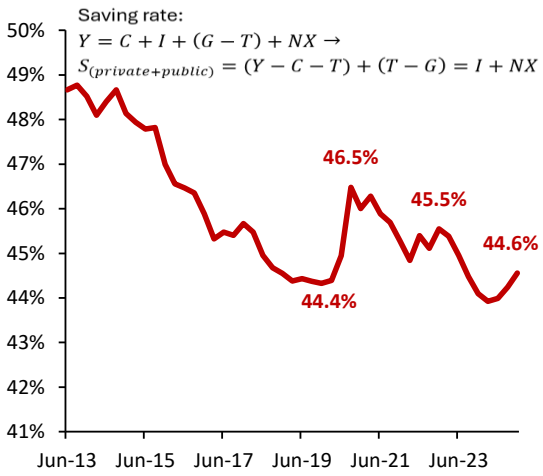


Source: DBS

Box article 2: From capital intensive to consumption driven growth

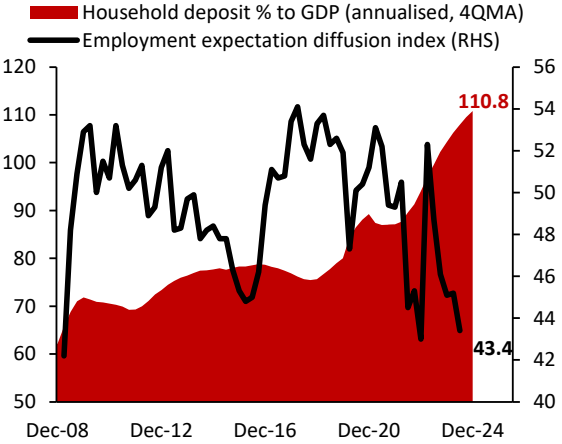
China's economic model has long been characterized by a strong emphasis on capital accumulation. China's investment-to-GDP ratios, at over 40%, is often the highest amongst major economies. This enabled China's rapid urbanisation and industrialisation, and infrastructure development. However, **it is inevitably for a country to undergo a structural transition toward consumption-driven middle-class society.** A decrease in investment implies a reduction in savings, as savings and investment are two sides of the same equation, barring the inflow or outflow through net exports. Consequently, the share of consumption in GDP is set to increase.

Saving rate as % of GDP



Source: CEIC, DBS

Household deposit % to GDP and PBOC employment expectation diffusion index



Source: CEIC, DBS

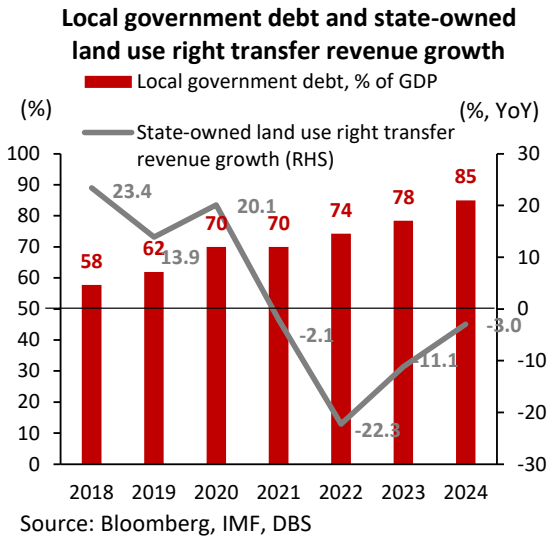
China's savings rate, at approximately 45% of GDP, is also the highest among the world. COVID and the recent economic downturn also prompt households to save, with saving rates hovering around 44.4%-46.5%. Meanwhile, household deposits reached record highs in recent years at 110.8% of GDP. **The government is set to play a key role in unleashing such consumption power.** The government has allocated RMB300bn worth of special sovereign bond to support durable goods upgrading such as smart phones and home appliances. Shortly after the Two Sessions, on March 16, 2025, the government announced a comprehensive 30-item directive to enhance consumption. This initiative includes promoting income growth and supporting asset prices. Reportedly, the civil servant salary was raised by RMB500 per month. Supporting the asset prices is another key. According to our estimation, 10% increase in property prices will boost the retail sales growth by around 1.3-1.5%ppts.

Direct government consumption is another key direction. It can unleash the disposable income level and hence boost consumption. This includes improve social safety nets, childcare subsidy, pension and healthcare systems. Looking ahead, the government will optimize the taxation and administrative fees collects from the public.

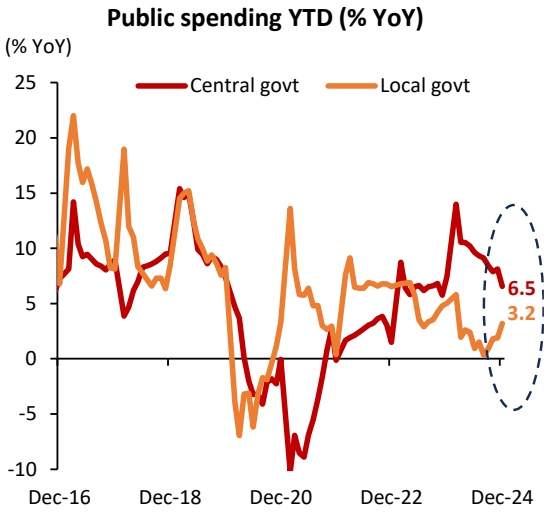
The transition toward a consumption-driven economy is expected to result in more sustainable and balanced growth. Unlike investment-driven expansion, which often leads to excessive debt in property sector and industrial overcapacity, a consumption driven economy is said to be a more resilient economic structure.

Box article 3: Local government debt and central government spending

Local government debt poses another key risk as land sales slashes. As of end-2024, total local government debt reached 85% of GDP, including general bonds, special bonds, and local government financing vehicles (LGFVs). Facing declining revenues from taxes and land sales due to economic and property market downturn, local governments have scaled back spending.



Source: Bloomberg, IMF, DBS



Source: Bloomberg, DBS

With central government debt levels being relatively low at under one-quarter of GDP, Beijing is well-positioned to assume additional fiscal responsibility. The growth of central government's public spending outpaces the local government at 6.5% YoY YTD as of December 2024. China also announced RMB6trn increase in local government debt quota to swap local government hidden debt in the next three years. It will also allocate RMB800bn from the newly increased special local government bond for debt swap each year for five consecutive 5 years, totalling RMB4trn specifically for local government debt swap. The new program brings previously off-balance sheet debt by incorporating them onto official records. Consolidating hidden debt and renegotiating repayment terms reduce servicing costs for local governments.

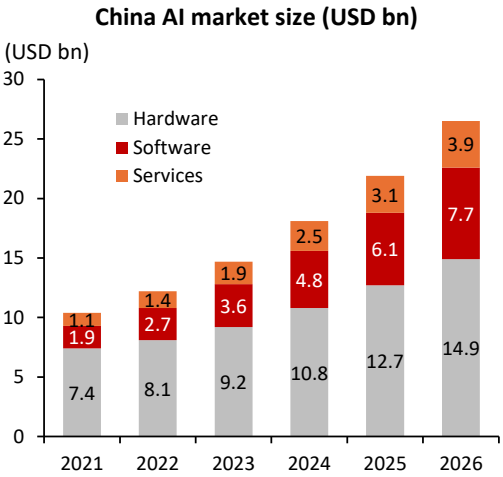
With more funds, regional governments can push forward crucial infrastructure projects that support local economies. More importantly, the fresh liquidity is needed for the unsold home and idle land buybacks program. Clearing back payments owed to businesses and employees may also ease their cash flow pressures. Easing aggressive tax collection and penalties could improve companies' financial stability by creating a more predictable operating environment. These will potentially revive the local investment and consumption sentiment.

4 Positive drivers

Infrastructure and AI advancements are revolutionising China's industries, driving efficiency in manufacturing, logistics, and services through automation and data-driven decision-making. Smart and sustainable urbanisation leverages technology and green infrastructure to enhance planning, reduce energy use, and elevate living standards as well as productivity growth.

4.1 AI-related investment

China's State Council AI Roadmap sets 2025 as a pivotal milestone. **The nation aims at championing the global AI leadership through self-sufficient AI chip supply chains and national AI innovation hubs by 2030**. These will require rapid investment in AI data centres, supercomputing infrastructure, AI chips, and energy infrastructure. Over the past decade, China's government VC funds have invested RMB912bn, with 23% of this investment directed toward 1.4mn AI-related firms across the country.



Source: IDC, DBS

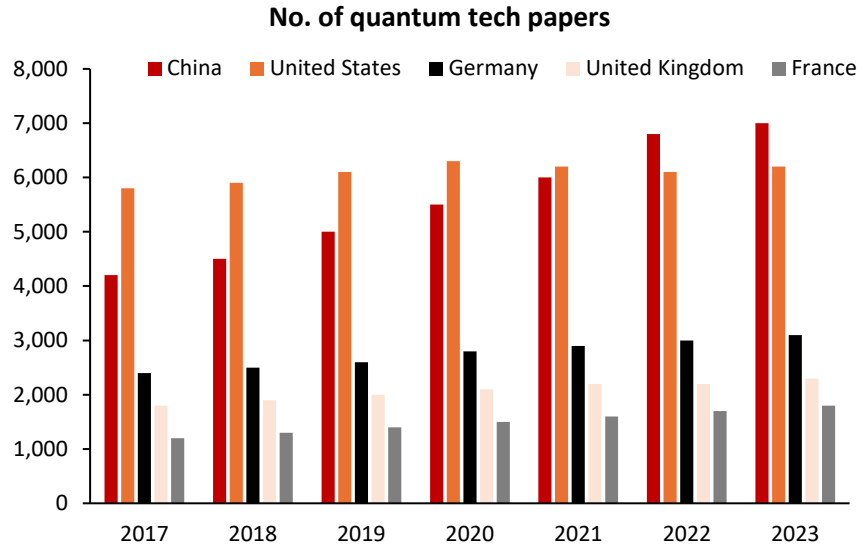
Source: IDC, DBS

Computing power

China remains the world's second-largest computing power hub and leads in the number of supercomputers. The country's computing capacity has expanded rapidly, reaching 246 exaFLOPS (EFLOPS) in 2024, with intelligent computing exceeding 76 EFLOPS. By 2026, computing power is set to rise by over 50%, surpassing 300 EFLOPS. This surge in computational capacity is crucial, as AI-driven industries such as fintech, biotech, and smart cities require immense data processing capabilities.

Key regional projects are accelerating. Shanghai's Lingang Free Trade Zone will deploy 40,000 high-power racks to enhance infrastructure. In Guangzhou, the "Huangpu No. 1" Smart Computing Cluster is set to achieve 1.0 EFLOPS of intelligent computing, with the first phase expected by the end of 2025. Meanwhile, the Nantong Economic and

Technological Development Area (NETDA) is investing RMB1.2bn to build a high-performance supercomputing centre with a planned capacity of 2 EFLOPS by June 2025.



Source: MERICS, DBS

Quantum computing, a cutting-edge field that allows computations at speeds unattainable by classical computers, tremendously improve the computing power. The fundamental unit of quantum computation is the qubit, which, unlike classical bits (0 or 1), can exist in a superposition of states. This allows quantum computers to process multiple possibilities at once (superposition). Also, when qubits become entangled (Entanglement), the state of one qubit is instantly correlated with another, no matter the distance, enabling highly efficient computation. Quantum computing could improve productivity through speeding up AI training and data analysis. This will be applicable to various sectors. For instance, it could help with drugs discovery by simulating molecular structures for new drug development. For logistics, it could optimize complex supply chain networks. For cyber security perspective, the strong quantum encryption can also protect against quantum-enabled attacks.

While the US is still dominating the quantum technology, but China has made significant strides in quantum communication that enables ultra-secure data transmission. China launched Micius, the world's first quantum satellite (2016), achieving secure quantum communication over long distances. Its quantum key distribution (QKD) networks are crucial for future cybersecurity. China now publishes more quantum papers than the US, largely attributes to the communication. Likewise, China leads the world in quantum communication patents but lags the US in patents for quantum computing.

Looking ahead, China will continue to catch up with quantum tech amid the government direction. China's public spending on quantum is four times higher than

the US and China accounts for over half of the estimated global public investment. Major enterprises like Huawei are also investing in quantum-safe algorithms to provide enhanced security.

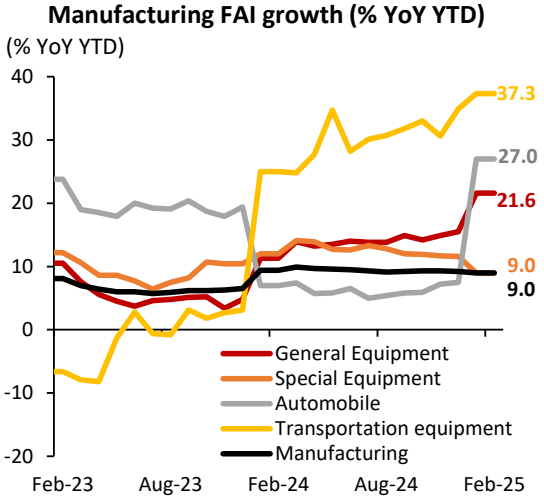
TYPE OF TECHNOLOGY	QUANTUM COMPUTING	QUANTUM COMMUNICATION	QUANTUM SENSING
What is it?	Computers using qubits (quantum bits) instead of traditional bits. Qubits can have multiple states at the same time, massively speeding up some calculations.	Using quantum effects for secure communication that cannot be intercepted.	Using quantum mechanics for better, more exact sensing.
Key potential applications	Breaking encryption, drug discovery	Quantum key distribution for safe communication, for instance for banks	Research in physics, for instance gravitational wave detectors; radars; optical quantum sensors for metrology and imaging, GPS
State of progress	Multiple quantum computers exist, but none are able to do all calculations	Quantum fiber-optic networks and quantum satellites exist and are being piloted for first applications	Currently in research and roll-out phases, with different types of sensors at very different technology readiness levels
Leading country/group	US leads in quantum computing, with IBM rolling out quantum computing datacenters with a 133-qubit chip in 2024, as well as a >1,000 qubit computer. China's top quantum computer has 72 qubits.	China leads in quantum communication, with a 12,000 km quantum network with two satellites. Switzerland has a metropolitan (Geneva) network. The US is piloting a network on the East Coast (between banks).	The US enjoys a narrow lead on China, but China is closer to market with some innovations. Germany plays an outsized role in quantum sensing compared to quantum computing due to its traditional strength in precision machinery.
Different approaches	Approaches differ in how they achieve qubits. Superconducting, trapped ions, photonic, neutral atoms, semiconductor quantum dots (spin-based).	Quantum key distribution (via BB84); quantum teleportation	Too many to count, as sensors are fundamentally different to each other
Other names	Quantum control	Quantum networking	Quantum metrology

Source: MERICS, DBS

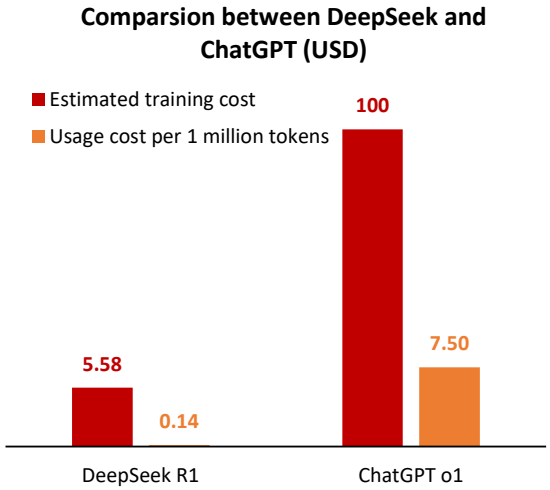
Semiconductor and AI chips

China's Made in China 2025 initiative prioritizes self-sufficiency and global leadership in critical technologies, with semiconductors at the core. The country is advancing efforts to achieve mature-node self-sufficiency within the next 15 years, particularly in automotive chips and AI accelerators for edge computing. China's foundries are already among the largest in mature-node chip production, with key areas of focus including power semiconductors, embedded non-volatile memory, microcontrollers, and analog ICs. **Our team sees a high probability of China securing over 50% market share in global mature chip supply within the next decade.**

To support these objectives, the government plans to allocate RMB55bn in 2025 toward fundamental technologies, including semiconductors. Tech-related fixed asset investment has been registering double-digit growth since 2010. Additionally, China's expansion into the European market could accelerate, particularly if shifting geopolitical dynamics—such as a potential shift in U.S.-EU relations under a renewed "America First" policy—create new opportunities.



Source: CEIC, DBS



Source: DBS, Reuters

Building on this semiconductor strategy, **China is also on track to dominate the global AI chip market by 2040, with market share expected to exceed 50%**. The emergence of Deepseek has driven efficiency improvements in AI chips, reducing computational demands for model training and inference. AI chip production in China is set to surge over the next 15 years, driven by increasing AI adoption across corporate and retail sectors. The rise of self-developed AI models will further accelerate this trend.

Public cloud

Alibaba, China's leading public cloud provider, emphasised that domestic AI chips are sufficiently capable and that further U.S. AI chip bans are unlikely to hinder its cloud business growth. Similarly, Tencent significantly increased its 4Q24 capex to RMB37bn, accounting for half of its full-year FY24 capex. Tencent is guiding around RMB90bn for FY25, with the majority allocated to GPU sourcing and AI-related initiatives.

China's AI deployment strategy is unlikely to face long-term computing constraints, given its push for semiconductor self-sufficiency and AI chip dominance. Deepseek's efficiency gains and rising AI adoption could drive public cloud growth—c.20% y/y in FY25/26, accelerating to c.30% thereafter. Alibaba asserts domestic AI chips are sufficient, while edge cloud and data centre deployments will expand to meet growing latency demands. AI agents will see rapid advancements in enterprise software like ERPs and CRMs, though large-scale commercialisation remains distant amid fierce competition. China is still in a user acquisition phase, with super apps like WeChat and Tongyi positioned for early adoption. Industry-specific AI agents, such as Manus, highlight the potential for tailored AI solutions to enhance business operations.

Data centre

China has invested approximately RMB43.5bn in data centre development over the past two years under the Eastern Data, Western Computing initiative. The country's

data centre market is projected to reach USD147.1bn by 2029, growing at a CAGR of 8.33% from 2025. Electricity demand continues to rise, with consumption increasing by 7% in 2024 and expected to grow at an average rate of 6% through 2027.

Data centres currently account for 2.7% of China's total power consumption, driving a push toward renewable energy solution. China's second-largest carrier-neutral data centre operator, VNET, has guided RMB10–12bn in 2025 capex, doubling from RMB5bn from previous year. **Industry players are targeting "100% renewable energy usage by 2030**," accelerating investment in green energy infrastructure to support sustainable data centre expansion.

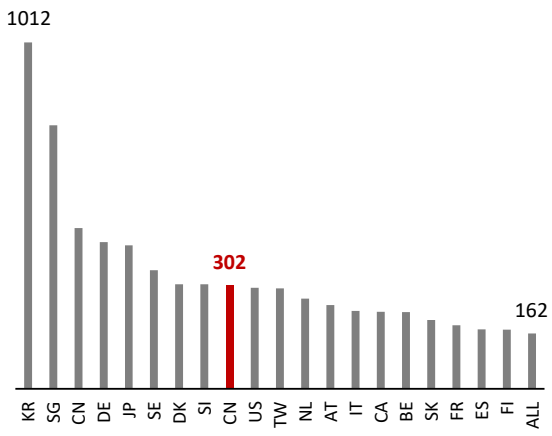
4.2 AI application

The soaring AI outlay will enable solid productivity advancements in various sectors. For instance, industrial robotics are set to offset the productivity losses and labour shortage from aging population. Increasing elderly care demand could be resolved by sector specific robotics. Smart agriculture could also secure the food supply for the gigantic Chinese population. Other use cases include autonomous driving, drugs research, aviation and logistic development.

Industrial robotics

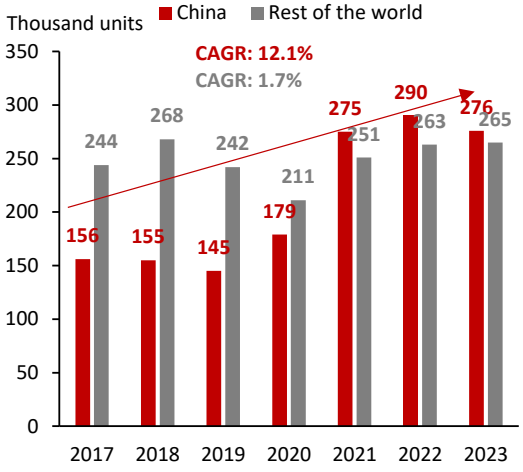
China has set ambitious goals for **manufacturers to achieve 70% self-sufficiency in high-end robotics components by 2030** as part of its broader technology advancement and smart manufacturing strategy. China's domestic industrial robot manufacturers held nearly 50% of the domestic market in 2024 (up from 30% in 2020). Industrial robot has grown 40% YoY in 2024, thanks to the equipment upgrade initiative. By 2025, China plans to deploy over 100,000 AI-driven industrial robots annually.

Robot density in manufacturing industry in 2023 (per 10,000 employees)



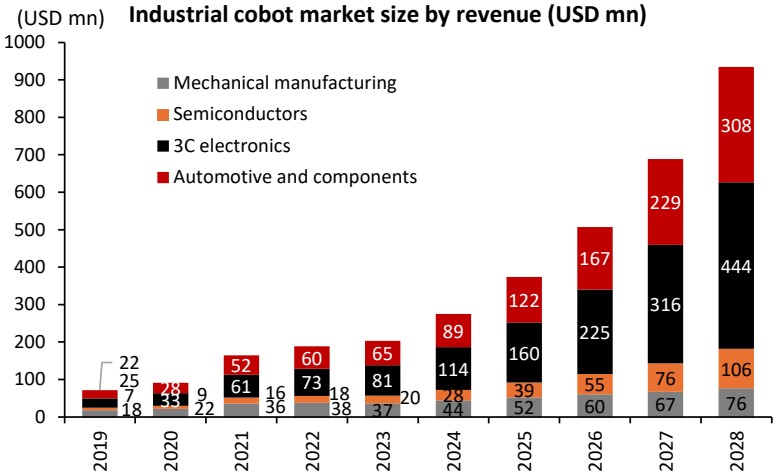
Source: International Federation of Robotics, DBS

Annual installations of indstrial robots

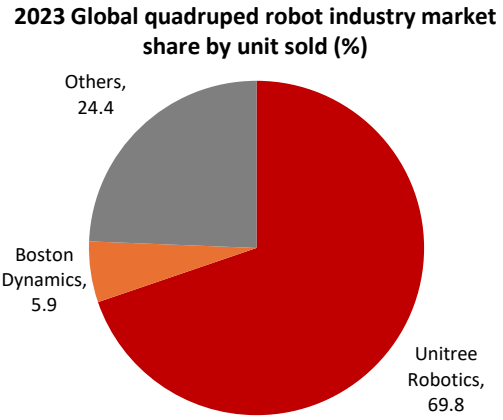


Source: International Federation of Robotics, DBS

According to International Federation of Robotics, industrial collaborative robot (cobot) market in China is expected to increase in an annual rate of 35.7% in 2023-2028, supported by strong growth of 36.5%, 40.4% and 39.1% in automotive, 3C electronics and semiconductors, respectively. For quadruped robots, China is also playing a leading role. Unitree sold 2.34mn unit of quadruped robots in 2023, contributed almost 70% of global market.



Source: IFR, Mordor Intelligence, CIC, DBS



Source: GGII, DBS

China is aggressively advancing in humanoid robotics, with a goal to achieve mass production by 2025 and global leadership by 2027. The government sees humanoid robots as a critical solution to its aging population crisis, with applications in education, elderly care, healthcare, logistics, and service industries. By 2035, China's humanoid robot market size is projected to reach RMB574bn, reflecting a CAGR of 46.9% from 2025-2035, consistent with global market growth projections. We expect humanoid robot adoption in China's manufacturing sector to reach approximately 26% by 2035. Additionally, **we anticipate this adoption rate to further rise to approximately 50% by 2040**. Such adaption rate is expected to enhance productivity by 20%-40% and reduced labour costs by up to 48%.

Robotics + Elderly Care

China's "Robotics + Elderly Care" initiative, spearheaded by the National Development and Reform Commission, is implementing a comprehensive strategy to address its aging population through technological innovation. The program has set ambitious targets to deploy 500,000 assistive robots nationwide by 2030, while automating 25% of joint replacements using Tinavi's surgical systems. This effort is supported by Shenzhen's Silver Economy Industrial Park, which aims to produce 200,000 care robots annually. Early implementations demonstrate promising results: Fourier Intelligence's rehab robots are now operational in 12 Shanghai hospitals, and UBTECH's AlphaMini companion robots have reduced caregiver workloads by 40% across 23 elder care centers in Guangdong.

Building on these foundations, China is looking toward more advanced integration of robotics in elderly care. The National Innovation Center for Aging's 2040 roadmap envisions robots handling 70% of routine care tasks, supported by the Ministry of Industry and Information Technology's push for "ubiquitous human-robot collaboration" through AI-driven health systems. Current innovations like Fourier's adaptive mobility robots and CloudMinds' BeiDou-linked health monitors are already creating interconnected networks that span urban and rural areas. With provincial governments investing RMB10 bn in related R&D, these technologies are evolving from supplemental tools into fundamental components of China's elderly care infrastructure.

China's leadership in this field was further solidified in January 2025 with the release of IEC 63310, the first global standard for active assisted living (AAL) robots. This comprehensive framework establishes performance criteria across five key functional areas: health monitoring/emergency detection, communication support, household task assistance, entertainment functions, and mobility aid (IEC, 2025). The standard not only validates China's technological advancements but also provides a blueprint for the future development of elderly care robotics worldwide.

Healthcare and pharmaceutical

As China moves toward 2040, pharmaceutical and drug discovery will be critical to sustaining economic growth amid an aging population. With plans to extend the retirement age, concerns arise over productivity declines, particularly in physically demanding sectors. AI and automation may help, but ensuring a healthy workforce remains essential.

China has set ambitious healthcare development goals for 2035, building upon the Healthy China 2030 initiative to enhance public health, increase life expectancy, and modernize the healthcare system. By 2035, China aims to elevate its primary health indicators to the level of high-income countries, ensuring universal access to quality healthcare. Key strategies include reducing rural-urban healthcare disparities, expanding medical infrastructure, and leveraging AI and robotics in elderly care to address the challenges of an aging population. The government also seeks to contain rising healthcare costs, with spending projected to reach USD2.5trn by 2035 without reforms. To mitigate this, China is implementing structural reforms such as simplifying drug approvals, improving hospital efficiency, and increasing state investment in medical technology and innovation.

AI Revolution in Healthcare

Traditional Manual Method	AI-powered Method
Drug discovery in 65-70 months	Drug discovery in 30-35 months
To identify a PCC candidate, around 5,000 molecules need to be synthesized and tested over four to six years.	To identify a PCC candidate, billions of molecules can be virtually screened, and only a few hundred need to be synthesized and tested over two to three years.
Begins from experimental screening of existing limited libraries of molecules to identify those with detectable activity against particular targets.	Customized generation of millions of hit molecules for a given target.
Manual testing of physical and chemical properties and optimisation through trial and error.	Multi-dimensional screening and optimisation of drug properties to ensure novelty and patentability of molecules, narrowing down to a list of dozens of compounds from thousands.
Costly and iterative synthesis and testing of molecules.	Only a few dozens of compounds need to be synthesised and tested in a wet lab.

Source: XtalPi, DBS

AI is set to revolutionize China's healthcare sector, particularly in medical imaging and drug development. AI-powered ultrasound systems and imaging technologies will surpass human radiographers in detecting lesions and predicting diseases like cancer, significantly improving diagnostic accuracy and efficiency. With China's push to consolidate all medical imaging data into a national cloud platform, **AI algorithms will continuously refine their capabilities, reducing diagnostic errors and easing the workload of healthcare professionals.**

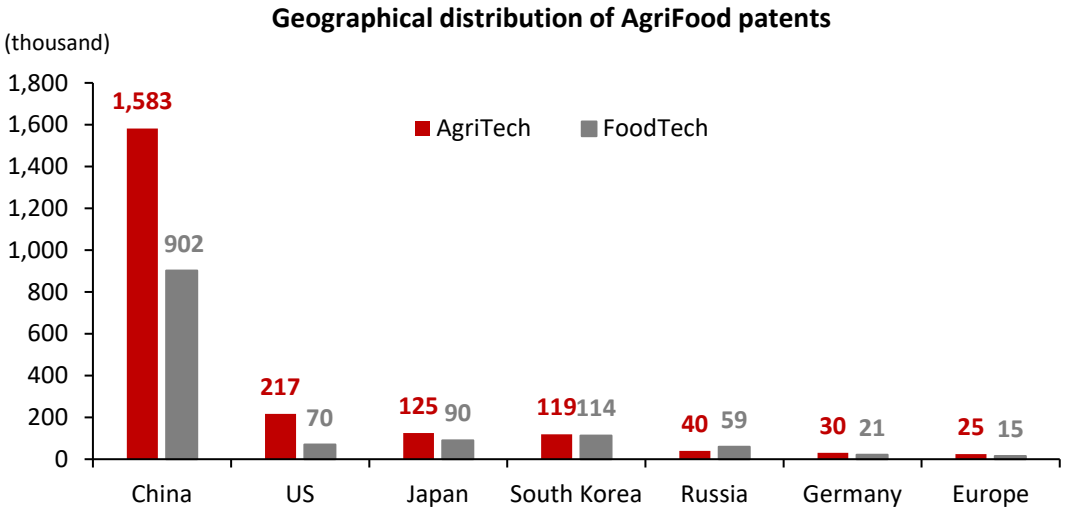
In pharmaceutical R&D, AI is expected to drastically reduce drug development costs and timelines. Traditional drug discovery, which takes over a decade and costs USD2.6bn, could see costs drop by 70% and time-to-market cut by more than three years. **AI-driven simulations will enable researchers to screen drug candidates with higher success rates and lower production costs, accelerating medical breakthroughs.**

Smart agriculture

China's agricultural robotics transformation is accelerating through coordinated national and provincial initiatives, targeting full automation by 2040. The Ministry of Agriculture aims to deploy 1 million robots by 2030, with XAG's P100 drones already servicing 20 million hectares in Anhui and Heilongjiang and YTO's autonomous tractors cutting costs by 35% in Xinjiang cotton fields. At the provincial level, Jiangsu's RMB15 bn investment is establishing digital farming hubs, where BeiDou-guided autonomous harvesters optimize tea and grape production—a model expected to cover 60% of such crops by 2035.

The 2040 roadmap envisions AI-managed "unmanned farms" for staple crops, with prototypes like Han's Robot's 98%-accurate strawberry pickers in Shandong and DJI's

Agras drones optimizing soil health across 15 provinces. **Full BeiDou integration will enable millimetre-level precision, while specialized AI systems address labour-intensive tasks**, such as lychee harvesting, through R&D funding under the 14th Five-Year Plan.

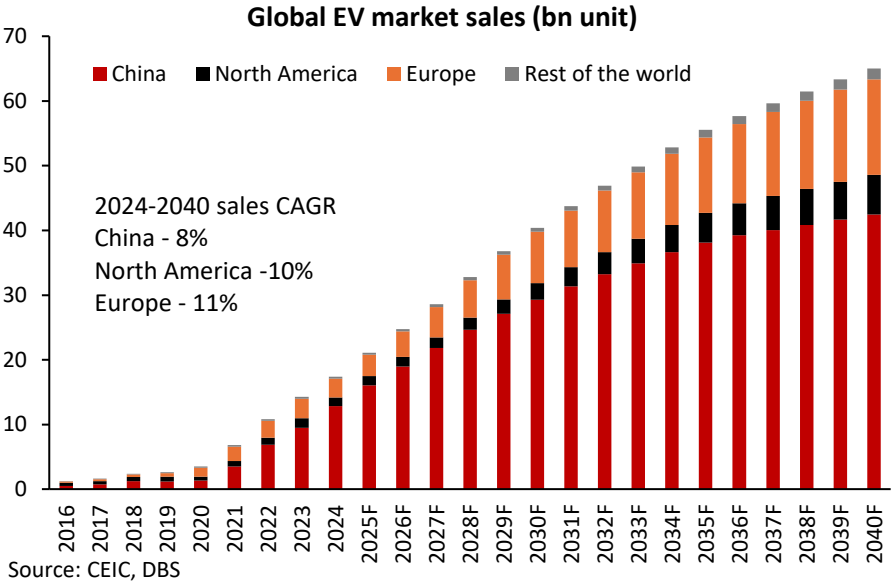


Note: The data statistics are based on the number of patent families published since 2004.
Source: WIPO, DBS

The economic impact is significant: automating 70% of fieldwork could shift 50 million rural workers to urban industries (World Bank estimates), while positioning Chinese firms like XAG and DJI Agro to capture a significant share of the growing global agri-tech market. **Precision farming systems are projected to halve water and fertilizer usage**, advancing food security (i.e. approx. 85% of China's soybean consumption is met through imports) and carbon reduction goals. Jiangsu's pilot hubs illustrate this transformation, blending satellite navigation with robotic harvesting to create new tech-driven jobs in former farming communities. With the world's largest share of agri-tech patents, China is poised to set global benchmarks for smart farming, driving a shift toward high-value, sustainable agriculture.

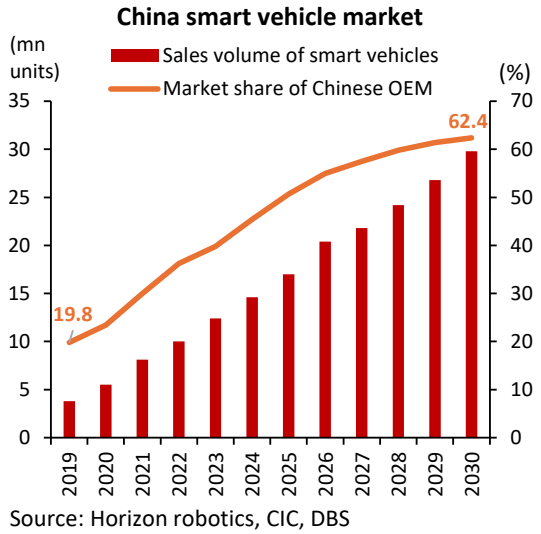
Electric and smart vehicles

China is the world's largest electric vehicle (EV) market for the eighth consecutive year, capturing over 60% of global sales in 2024 and target to boost the share of EV to 40% of new car sales by 2030. China's New Generation Artificial Intelligence Development Plan sets a target for mass commercialisation of autonomous vehicles (AVs) in major cities by 2030. Ride-hailing and delivery services are expected to be the first large-scale adopters. **By 2040, China's EV market is projected to scale to 40mn units, significantly outpacing that 15mn units of Europe.**

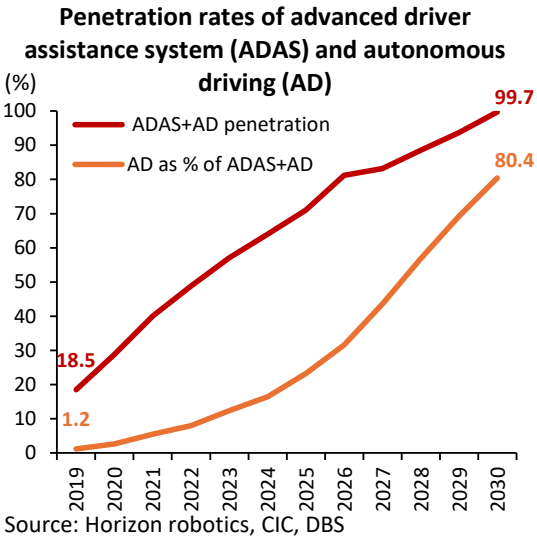


Source: CEIC, DBS

Meanwhile, smart vehicles sales volume in China is expected to reach 20.4mn and 29.8mn in 2026 and 2030, respectively. **Penetration rates of advanced driver assistance system (ADAS) and autonomous driving (AD) are projected to hit 99.7% by 2030.** Total market size of ADAS and AD solutions amounted to RMB24.5bn in 2023. It is estimated that the total market size will grow at a CAGR of 49.4% in China to RMB407bn in 2030. In terms of energy storage, AI optimizes lithium-ion battery performance, extending battery life and boosting efficiency in EV charging.



Source: Horizon robotics, CIC, DBS



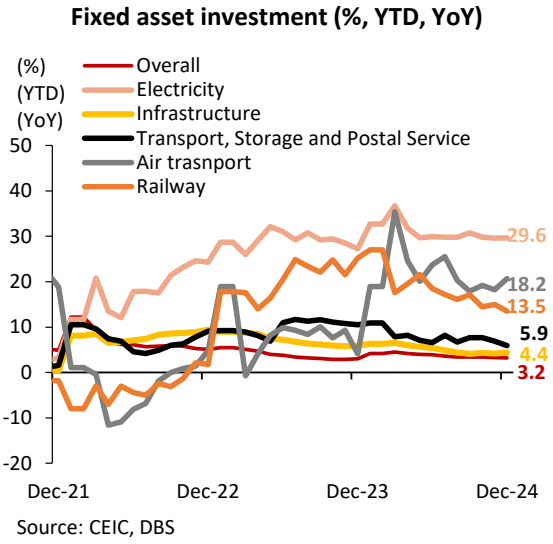
Source: Horizon robotics, CIC, DBS

Aviation

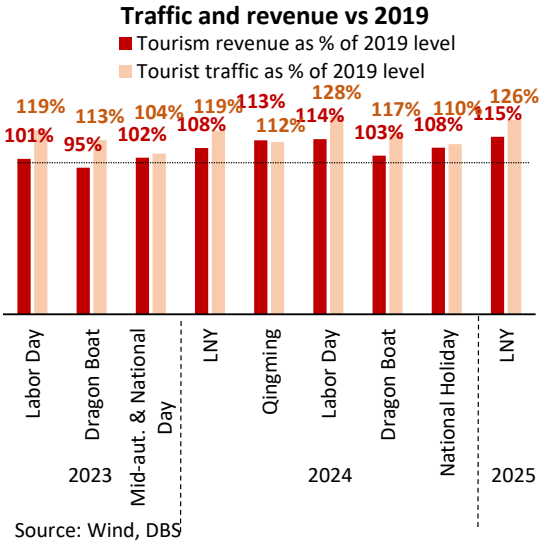
Since the early 2000s, China has embarked on one of the most ambitious infrastructure development programs in human history. One of the most astonishing achievements has been the construction of the world's largest high-speed rail network, which connects every major city with a total length of 42,000km. Beyond rail, China has

developed the world's largest highway system, surpassing even the United States in total expressway length.

The future outgo of transportation investment will be centred on air travel. The 'transportation superpower' concept first emerged in 2016 and continued to be focus of the 14th Five Year Plan. Demand from both domestic and international travel is on the rise. For instance, domestic tourist traffic during recent week-long Lunar New Year holidays has already surpassed the 2019 level by 26%. Coupled with international travel, passenger traffic has already hit a record 553 million in 2024, 11% above the 2019 peak. The government plans to expand China's airport network to over 400 airports by 2035, enhancing connectivity between urban and rural areas.



Source: CEIC, DBS

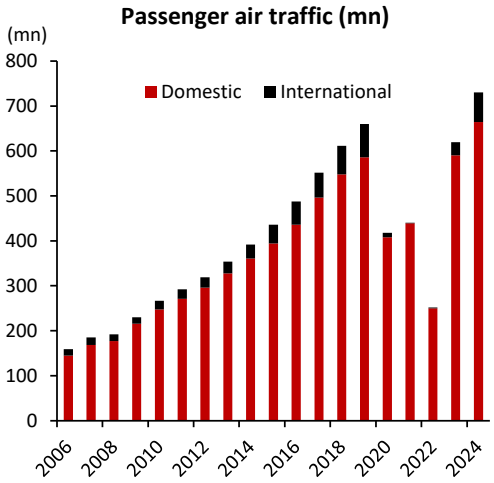


Source: Wind, DBS

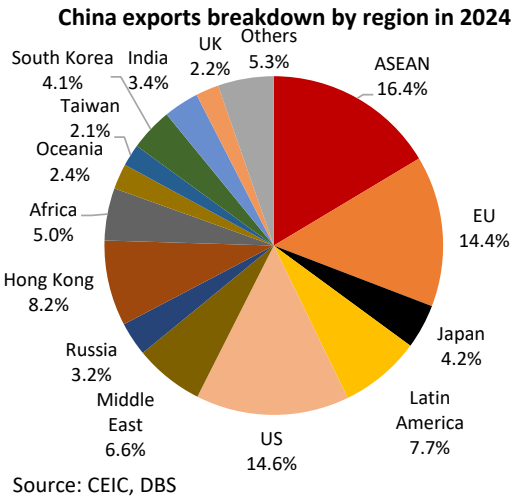
China's diversifying international trade routes also require further air transport investment. ASEAN, which accounted for 16.4% of China's total exports, has already become the largest export destination for China. Chinese exporters are also increasing their footprints in Latin America (7.7%) and the Middle East (6.6%). Cross-border e-commerce is also spurring international air cargo demand. High-value, small parcels require fast delivery, favouring air transport over sea or rail. In this regard, investments in next-generation aircraft technology, autonomous air traffic control, AI-based parcel sorting and custom clearance, and sustainable aviation fuels are anticipated. Chinese e-commerce and logistics giants such as Cainiao and Alibaba are developing cross-border parcel delivery systems that enable shipment to reach the destination in 5 working days, which is 30% faster than the industry standard.

Logistics aside, **China will continue to invest in core technologies**. For commercial aviation, China has been challenging its Western counterparts. China's leading aircraft manufacturer, COMAC, has announced an ambitious plan to increase C919 (the domestically produced narrow-body airliner) production capacity to 75 aircraft annually from 50. COMAC is also developing its long-haul aircraft, the C929, that could

potentially challenge the existing models. Other core technology developments include the high-speed engine ACAE CJ-1000A, which are also undergoing rapid progress. Meanwhile, China is also advancing the usage of composite materials such as carbon fibre and titanium alloys to improve fuel efficiency by lowering the weight and improving the strength at the same time. Looking ahead, AI and robotics could also accelerate aircraft design, manufacturing, radar, and autonomous piloting.



Source: CEIC, DBS



Source: CEIC, DBS

Low-altitude economy

Traditional aviation aside, China's low-altitude economy, encompassing activities within airspace below 1,000 meters has been gaining traction and emerging as a strategic sector in the nation's economic development. This expansion includes diverse applications such as passenger transport, logistics, agricultural surveillance, and emergency rescue operations. The NDRC and 30 provinces have incorporated low-altitude initiatives into their development plans, and cities like Shenzhen, Hangzhou, and Chengdu have been designated as pilot zones for airspace operations below 600 meters. According to Civil Aviation Administration of China, the low-altitude economy exceeded RMB500bn in 2023 and is projected to reach RMB1.5trn in 2025 and RMB3.5trn by 2035.

Investors now eye on the rapid increase in the use case of drones. Drones have revolutionized logistics and delivery services in China. For instance, tourists at certain sections of the Great Wall can receive food and supplies via drone deliveries, enhancing convenience in remote areas. Also, drones are employed for tasks like pesticide spraying, seeding, and fertilization in major agricultural provinces.

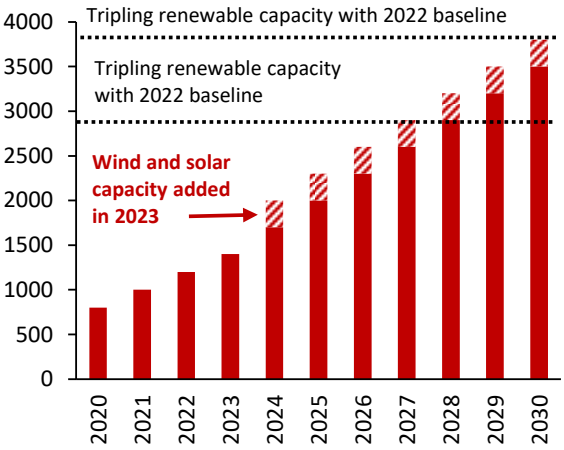
Besides, China’s success in smart driving is also creating a new industry – Electric Vertical Take-Off and Landing (eVTOL) vehicles, also known as flying cars, which currently, some of the Chinese EV new start-ups such as XPeng is embarking on. We anticipate this segment will probably be developed by regions, such as Guangzhou,

where the "low-altitude economy" is being actively promoted. The Guangzhou government is investing some USD1.4bn into the infrastructure and manufacturing by 2027. XPeng is still carrying out development and testing of its Aeroht flying cars.

4.3 Green transition

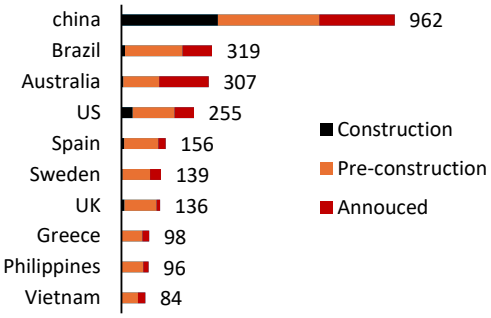
China is the largest global clean energy contributor, holding a 30% share in 2023, and is expected to maintain its leadership through 2040, driven by AI-powered advancements. The country's targets for its green energy transition include aiming to peak carbon emissions before 2030 and achieve carbon neutrality by 2060. By 2025, non-fossil fuels are expected to account for 20% of total energy consumption, with renewable power capacity exceeding 3,500 GW, by 2030.

Renewable power capacity in China, GW



Source: China National Energy Administration

Utility-scale solar and wind power capacity in the top ten countries (GW)



Source: Global Solar Power Tracker, Global Wind Power Tracker, Global Energy Monitor, DBS
Data includes solar project phases with capacity of 20 MW+ and wind project phases with a capacity of 10 MW+. Capacity under construction for China and Europe updated in Jun 24, while other regions accurate to Dec 23.

AI plays a crucial role in this transformation, enhancing offshore wind assessments, accelerating virtual power plant development, and improving energy forecasting for grid stability. AI enhances the efficiency of offshore wind resource assessment through technologies like Synthetic Aperture Radar. These advancements reduce costs and improve project planning, leading to more robust installations. AI facilitates the faster development of virtual power plants by managing controllable load resources across various categories, boosting energy efficiency and grid stability. AI-driven predictive analytics optimize energy generation by forecasting demand and power output from variable sources, enabling smoother renewable energy integration and a more stable supply.

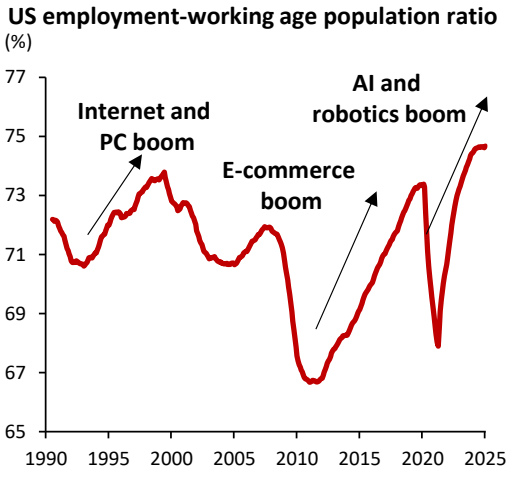
Despite its dominant market position in hydrogen production, China's green hydrogen sector is still in its early stages. However, the industry holds immense growth potential as the country has identified hydrogen as a key component of its low-carbon energy transition strategy. By 2024, China is expected to install approximately 2.5 gigawatts of hydrogen electrolyser capacity, producing 220,000 tons of green hydrogen per year—6,000 tons more than the rest of the world combined.

At the same time, China is gradually reducing its reliance on coal by limiting new coal power projects while advancing alternative energy sources such as hydrogen, nuclear, and energy storage. To ensure the efficiency and stability of its growing renewable energy infrastructure, the country is also building a nationwide smart grid and advancing large-scale energy storage solutions.

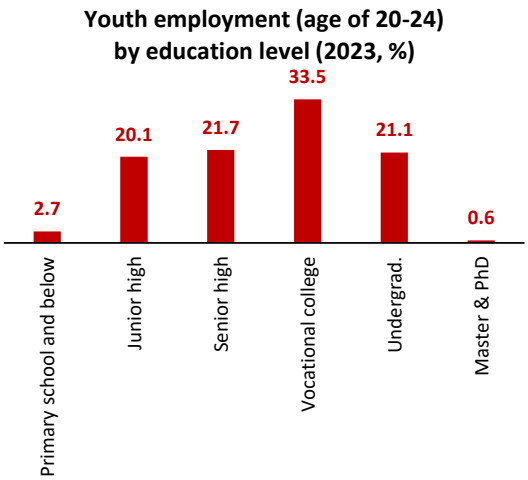
Sustainable aviation fuel is another key focus. In the 14th Five Year Plan, Beijing has set its plan to consume 50,000 tons of SAF a year as part of its carbon neutrality plan. To date, there is around 400,000 tons per year of production capacity already in operation. Aside from the use of used cooking oil (UCO), key energy and aviation players have been promoting biomass-to-liquid (BTL) and alcohol-to-jet (ATJ) that turn feedstocks such as sugarcane, corn and switchgrass into aviation fuel. Potentially, these alternative fuels could save 80% of the carbon emission compared to fossil fuel.

4.4 Employment

The AI development will be a double-edged sword for employment. With the rapid adoption of AI, robotics, and automation, repetitive, rule-based, and low-skill jobs will be at risk. Referencing to the US labour market, White House research suggests sectors with high employment exposure to AI with low performance requirement will be at risk of being displaced. Amongst all, the transportation sector is the prime example. 81% of transportation jobs are exposed to AI risk, and 75% have low performance requirements, putting manual workers like truck drivers at risk of displacement by self-driving technology. Industry analysts expect autonomous driving to save 35% in operating costs.



Source: CEIC, DBS



Source: WIND, DBS

More importantly, this could disproportionately affect young workers. The youth unemployment rate is expected to remain high, given that more than 70% of young employees are below the undergraduate level. Even for higher-skilled white-collar

jobs, inexperienced graduates may find it difficult to hunt for entry-level positions due to the repetitive nature of these jobs.

Exposures to AI and employment performance requirements

Rank	Occupational group	Avg. AI exposure	% highly exposed employment	% exposed employment with low performance requirements
1	Architecture and engineering	0.44	90%	4%
2	Legal	0.39	100%	1%
3	Computer and mathematical	0.33	73%	0%
4	Office and administrative support	0.32	53%	49%
5	Transportation	0.27	81%	75%
6	Life, physical, and social science	0.25	57%	12%
7	Business and financial operations	0.17	19%	9%
8	Installation, maintenance, and repair	0.07	10%	10%
9	Production	0.07	6%	4%
10	Farming, fishing, and forestry	0.06	0%	0%
11	Protective service	0.05	5%	0%
12	Arts, design, entertainment, sports and media	0.01	18%	13%
13	Healthcare practitioners and technical	-0.05	3%	0%
14	Healthcare support	-0.08	16%	1%
15	Management	-0.11	0%	0%
16	Construction and extraction	-0.16	0%	0%
17	Education instruction and library	-0.18	0%	0%
18	Sales and related	-0.23	9%	9%
19	Community and social services	-0.23	7%	0%
20	Personal care and service	-0.27	1%	0%
21	Material moving	-0.29	2%	0%
22	Food preparation and serving related	-0.3	0%	0%
23	Building, grounds cleaning, and maintenance	-0.31	0%	0%

Source: White House, DBS

However, AI is also set to create new roles. Referencing the experience of the US labour market again, the employment-population ratio has already breached pre-COVID levels and is marching towards record highs. This mirrors the trends during the internet boom in the late 1990s and the e-commerce boom in the 2010s. If history is a guide, stronger economic growth will create new jobs and thereby maintain a healthy labour market condition. The way forward for a vibrant labour market is to train up AI literacy and adaptability. China's early push for AI education will help mitigate job displacement from automation, ensuring a steady pipeline of talent for the AI-driven economy. We will discuss this further in the education section.

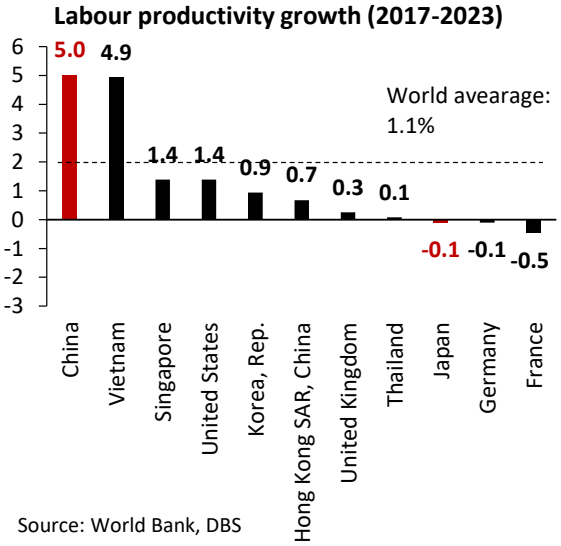
4.5 Labour productivity

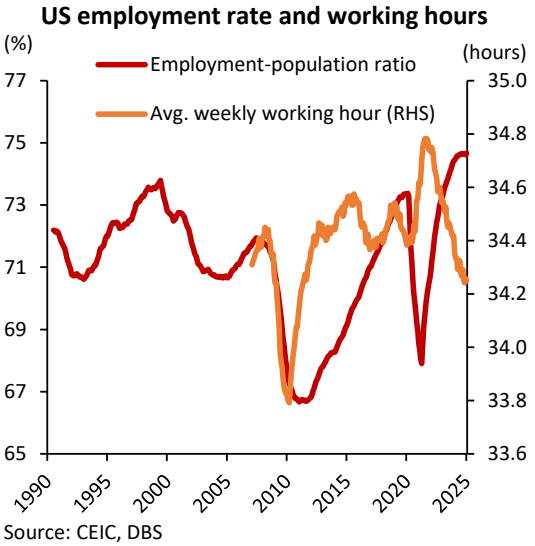
TFP and human capital are defined as the residual of the standard Solow Model. By 2040, TFP contribution to GDP growth will reach 0.8%ppt out of the 2.5% headline growth. Likewise, human capital will continue to contribute 0.8 % ppt of the GDP growth in the next 15 years. All told, these are expected to offset the shortfall of labour.

China's labour productivity growth has been on top of the league at 5.0%, much faster than other major economies and so far, only Vietnam could be comparable with China. **China will continue to stay in the front-end, thanks to the aforementioned early AI**

adoption and automation. Institutional factors such as infrastructure upgrades and SOE reforms are also playing key roles in improving efficiency. Meanwhile, AI will fuel human capital advancement as it will enable universal and personalised education. Robotics will also improve health care efficiency as discussed.

Taking the US labour as an example again, labour productivity is now improving at a much more rapid pace compared to previous tech waves. Unlike the late 1990s, weekly working hours are now moving in the opposite direction of the employment rate. This signal rising productivity - up 15.9% in real terms since 4Q20. China's labour market will likely see similar development moving forward amid the speedy AI adoption.





4.6 Education

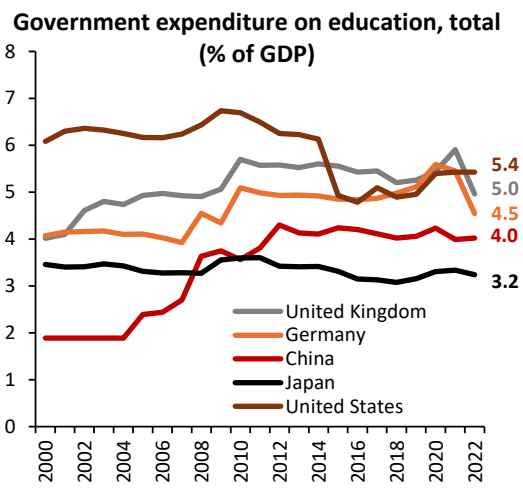
Education has long been a cornerstone of China's labour productivity growth. The 1999 Higher Education Expansion Plan transformed China's education system from an elite model to mass higher education, significantly increasing university enrolments. Government spending on education rose from 1.9% of GDP in 2000 to 4.0% in 2022, reinforcing long-term human capital development. The proportion of workers with at least an associate degree surged from 7.4% in 2009 to 25.7% in 2023, strengthening China's knowledge-based workforce and supporting economic resilience.

China's long-term vision aims to transform the country into a "strong education nation" by 2035. A key priority is expanding high-quality undergraduate education in strategic fields. In 2025, Peking University, Renmin University, and Shanghai Jiao Tong University will collectively add 400 undergraduate spots, focusing on information science, engineering, biomedicine, healthcare, and new energy.

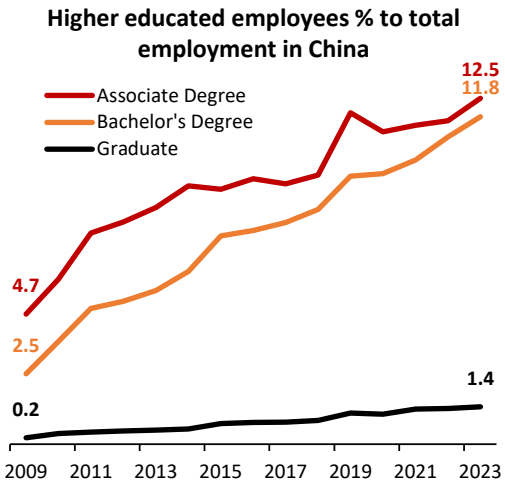
Pioneer in AI education

China's aggressive AI education push is critical to its broader ambitions. Bridging the gap between workforce education and AI development will boost labour productivity, supporting TFP growth. Early investments in AI education ensure a steady talent pipeline capable of driving AI breakthroughs.

AI education has become a core policy focus. China was the first country to introduce AI education as a national strategy, launching the "New Generation AI Development Plan" in 2017. It also pioneered standardised AI textbooks for high school students and established AI as a standalone academic discipline in 2018–2019. In 2022, 47% of the world's top 20th percentile AI researchers finished their undergraduate studies in China, well above the 18% share from the US, according to data from the Paulson Institute. In 2024, China ranked third in the number of innovation indicators compiled by the World Intellectual Property Organisation, after Singapore and the US. In 2025, Beijing will take another step forward, requiring all schools to offer at least eight hours of AI instruction annually, spanning elementary to high school levels.



Source: World Bank, DBS



Source: WIND, DBS

Retention and attraction of AI talent will be a key variable in determining China's AI-driven growth trajectory. Despite producing the highest number of AI Ph.D. graduates, China struggles to retain top researchers, many of whom move to foreign tech firms for better funding and career opportunities.

R&D capability

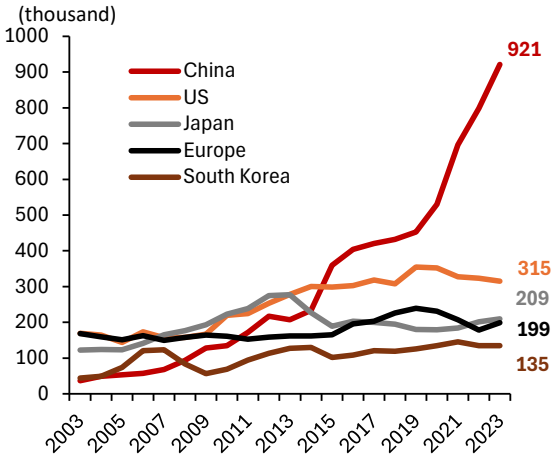
AI and robotics are accelerating R&D by automating research processes, enhancing data analysis, and optimizing industrial and scientific experiments. AI-powered algorithms process vast datasets, simulate experiments, and identify patterns faster than human researchers, while robotics enables precision automation, reducing errors and boosting efficiency.

China targets raising R&D spending to 2.8% of GDP by 2030, maintaining at least 7% annual growth under the 14th Five-Year Plan. Investment continues to climb, surpassing RMB3.6trn in 2024. Scientific journal publications rose from 5,163 in 2022 to 5,211 in 2023, with 48 new titles. SCI journal publications reached 33,400, with 65.7% ranked in the global top 25%, highlighting China's rising research quality.

State-owned academy

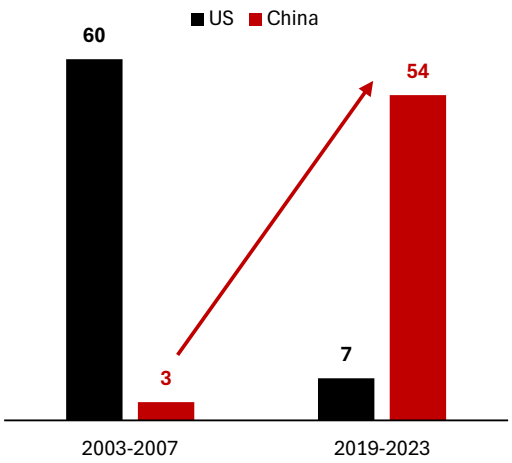
China's long-term R&D investment strategy continues to drive rapid technological advancements. The Chinese Academy of Sciences (CAS), a key institution in scientific development, had a USD23.8bn budget in 2023 and employs over 69,000 people. CAS plays a crucial role in national security and economic strategy, leading 30 major infrastructure projects and holding stakes in over 1,000 companies. In 2024, CAS co-founded a solid-state battery consortium with government ministries, CATL, BYD, and Tsinghua University.

Number of patents granted (thousand)



Source: WIPO, DBS

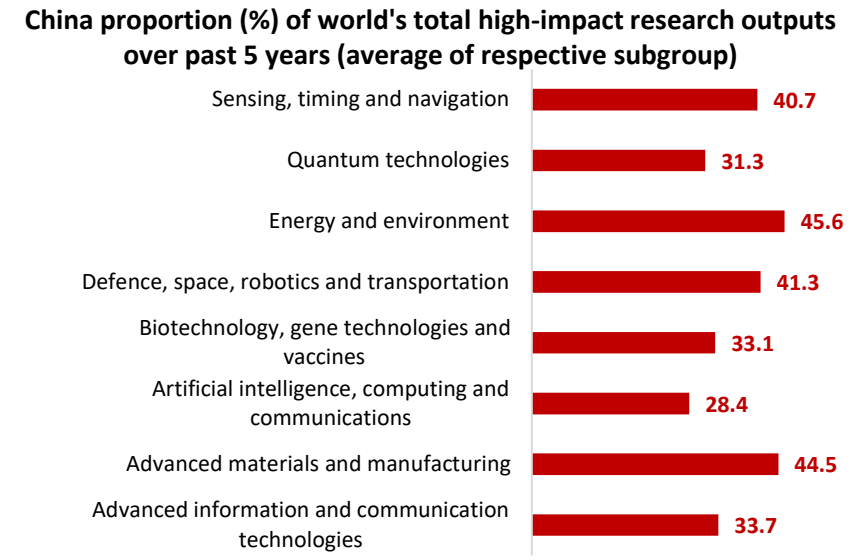
Leader of 64 cricitical technologies



Source: ASPI, DBS

The investment in both education and R&D pays off. Tracked by Australian Strategic Policy Institute, China now leads in 57 out of 64 critical technologies in 2019–2023, up from just three in 2003–2007, including high-performance computing, adversarial AI, advanced semiconductor design and fabrication, autonomous systems, and quantum sensors. U.S., which led in 60 of 64 technologies from 2003–2007, now leads in only seven. China ranked first in

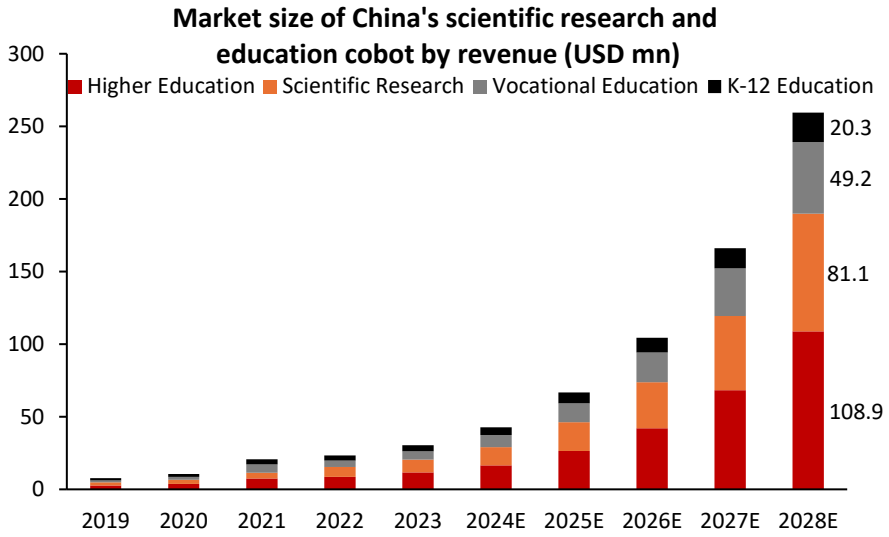
global patenting in 2023, with patent grants outpacing the U.S. by three times. AI-related technology patents surged, accounting for 38% of the global total in 2023, up from 20% in 2014.



Source: ASPI, DBS

Education collaborative robot (cobot)

AI is revolutionising education by making learning more efficient. It enhances the way students learn, how teachers instruct, and how educational institutions operate. Amongst all, the evolving education cobots are the key to watch. AI enables cobots to adapt personalised lessons based on students' progress, strengths, and weaknesses. For instance, AI-powered tutoring robots such as Squirrel AI provide personalized feedback and adjust difficulty levels based on student performance.



Source: IFR, Mordor Intelligence, CIC, DBS

Other use cases include Natural Language Processing (NLP) & Speech Recognition. Cobots can interact with students using voice commands and even support multilingual learning. Meanwhile, AI helps cobots recognize emotions and facial

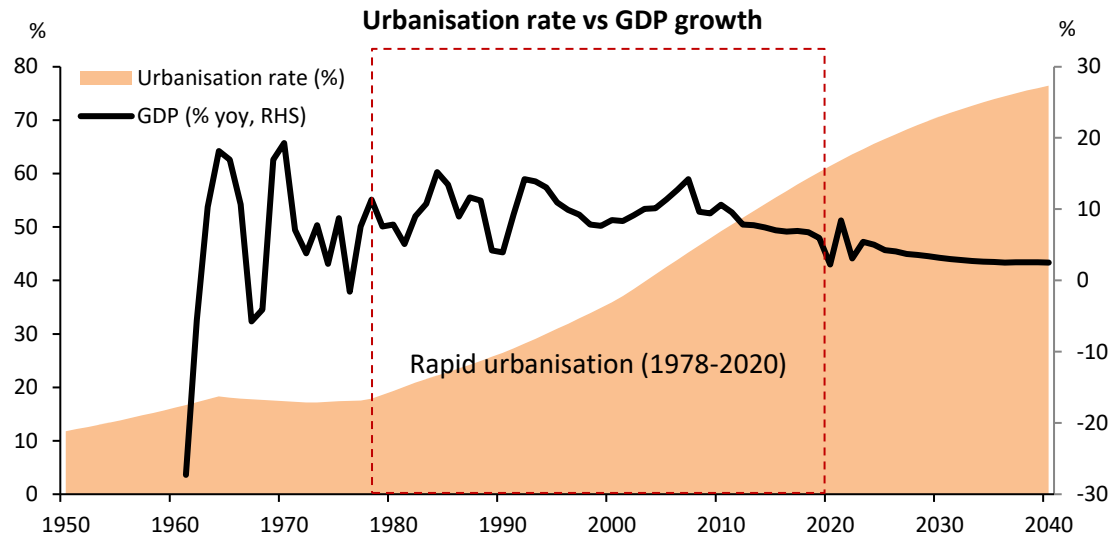
expressions, allowing them to adjust their teaching style based on student engagement.

Direct education aside, AI also enables automation in teaching assistance such as automates assessments and generates personalized learning paths. According to industry research, **the CAGR revenue growth of China's education cobot is expected to jump from 41.7% in 2019-2023 to 53.5% in 2023-2028**.

4.7 Urbanisation

Catalysing growth through urbanisation (1978–2020)

Urbanisation has been central to China's socioeconomic transformation since the 1978 economic reforms. Over four decades, the urbanisation rate surged from 17.9% to 63.9%, driven by the migration of over 300mn rural workers to urban industries. **This labour reallocation contributed 3%ppts to annual GDP growth during 1980-2010** (World Bank, 2014), while cities exceeding one million residents, such as Shanghai and Guangzhou, leveraged agglomeration economies for 10–20% higher productivity (Henderson, 2009). Special Economic Zones (SEZs), exemplified by Shenzhen, attracted foreign investment and fuelled export-driven industrialisation. Meanwhile, China built the world's largest high-speed rail network, boosting regional GDP by 8–10% (Zheng & Kahn, 2013). These developments nurtured a growing middle class and expanded the services industry, reducing dependence on exports and reshaping domestic consumption.



Source: UN, World Bank, DBS

Prioritising quality over quantity (2021–2025)

By the 2020s, China's urbanisation strategy shifted from rapid expansion to sustainable development. **The 14th Five-Year Plan (2021–2025) introduced "people-centred"**

urbanisation, emphasising equitable access to healthcare, education, and green infrastructure. Smart city pilots, such as Hangzhou's AI-powered "City Brain," optimise traffic and energy grids, reducing congestion by 15% and emergency response times by 50%. The Greater Bay Area (GBA) integrates Hong Kong, Shenzhen, and Guangzhou into a global innovation hub, while the Yangtze River Economic Belt fosters inland growth. Hukou reforms ease access to urban welfare for rural migrants, and platforms like Pinduoduo digitise agricultural supply chains, connecting 600mn rural residents to urban markets. These initiatives aim to bridge urban-rural disparities and recalibrate regional imbalances favouring coastal megacities.

Vision 2040: Sustainable, equitable, and technologically advanced cities

Looking ahead to 2040, China's urbanisation rate is expected to stabilise at 75–80%, with over 1bn urban residents. The focus will shift to sustainability, innovation, and regional equity through state-led technological integration. AI and digital twins will guide low-carbon infrastructure aligned with China's 2060 carbon neutrality goals. Pilot projects such as Xiong'an's "sponge city," featuring permeable roads and AI-managed utilities, exemplify green urbanisation. Rural revitalisation will accelerate through AI-driven agriculture and expanded e-commerce logistics, building on Taobao Villages' success in globalising rural entrepreneurship.

Overcoming Challenges

Achieving this vision requires addressing entrenched challenges, with global experiences offering valuable insights for China's path forward.

- **Urban-rural integration.** To address rural depopulation—a challenge starkly illustrated by Japan's hollowed-out countryside—China's integration of technological innovation with decentralised governance offers a viable pathway. AI-driven agricultural modernisation and rural e-commerce networks, such as drone farming in Shandong and Pinduoduo's digitised supply chains, hold potential to generate tech-enabled economic opportunities for rural youth. Drawing on Germany's decentralised governance model—notably fiscal transfers and regional banking systems (Landesbanken)—could enhance rural credit mechanisms through tech-driven cooperatives. Meanwhile, South Korea's Saemaul Undong (New Village Movement) underscores the importance of community-led development, where local populations spearhead innovation rather than relying exclusively on centralised directives.

- **Sustainable development.** China's carbon neutrality goals by 2060 necessitate integrating global best practices into green urbanisation. Inspired by Germany's Energiewende—which shifted 50% of its energy mix to renewables by 2023 while generating 300,000 sector jobs—China can accelerate wind and solar adoption

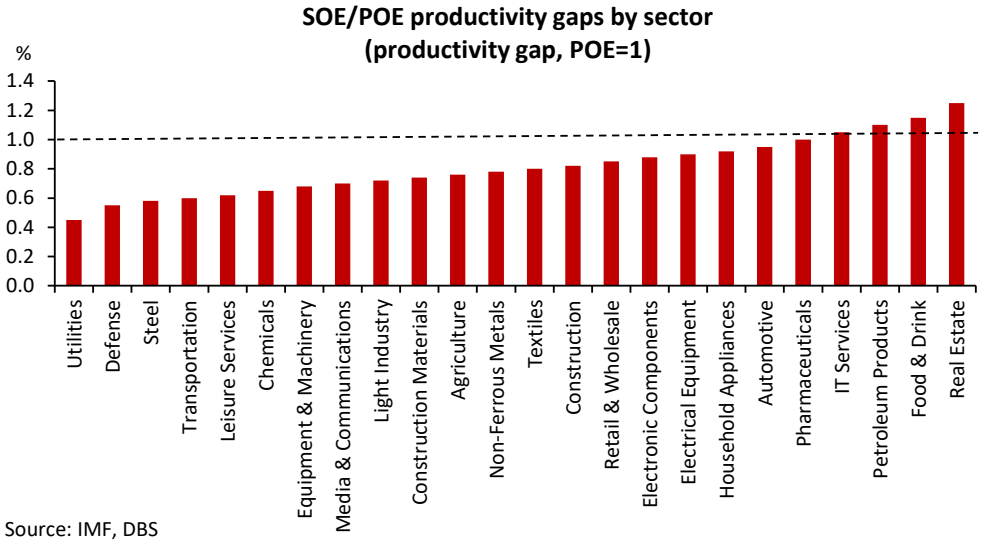
nationwide, linking energy transition with green employment. Sweden's circular economy model shapes initiatives like Xiong'an's sponge city, where AI-managed stormwater recycling and permeable roads resemble Malmö's waste-to-energy systems, diverting 99% of landfill waste. Combining these models with public-private partnerships can establish scalable frameworks for resilient, low-carbon cities.

- **Technological innovation.** China's innovation-driven urban vision for 2040 builds on domestic advancements like Shenzhen's AI-optimised public transit (18% energy savings) and Hangzhou's "City Brain". For megacity efficiency, South Korea's Songdo—a model of IoT and AI integration—demonstrates replicable urban gains: 30% energy savings and 25% shorter commutes via real-time data systems. Yet rural regions face systemic hurdles. For instance, only 35% of villages in Guizhou have 5G access, while device costs and digital literacy lag urban hubs. Addressing these gaps demands public-private partnerships to scale rural tech applications—including AI-driven precision farming, telemedicine platforms, and digital education tools—coupled with subsidies for rural startups and localised training programs.

- **Regional balance.** The nation's urbanisation strategy must address disparities between the prosperous eastern coast and lagging central and western regions. France's métropoles strategy, which elevated cities like Lyon and Toulouse as regional hubs, offers insights. China is decentralising growth through initiatives like the Chengdu-Chongqing Economic Circle and the Central Plains Urban Agglomeration. Expanding high-speed rail networks will further boost GDP in connected cities. Targeted measures—including tax incentives and improved education and healthcare—are warranted to attract businesses and skilled workers to underdeveloped areas, fostering balanced growth and reducing dependence on coastal megacities.

4.8 SOE reform

China's SOEs play a central role in the economy, but inefficiencies and resource misallocation have constrained productivity growth. Preferential access to state-directed financing has led to excessive debt accumulation, while government guarantees have allowed unproductive firms to operate despite weak economic fundamentals. These distortions limit financial discipline and crowd out private enterprises that could drive innovation and efficiency. In key industries where SOEs maintain monopolistic control, restricted market competition further slows growth. Studies highlight significant productivity gaps in sectors like utilities, steel manufacturing and transportation, while more competitive industries, such as IT services, pharmaceuticals and automotive, exhibit smaller disparities (IMF, 2021).



Source: IMF, DBS

Recognising these challenges, China has taken steps to enhance SOE efficiency and financial sustainability. Reforms aimed at strengthening financial discipline, improving market competition, and advancing corporate governance are expected to support productivity gains. Efforts to reduce reliance on implicit government guarantees and promote risk-based lending should improve capital allocation, directing resources toward the most productive enterprises. Expanding corporate bond markets and adopting stronger credit assessments, based on economic fundamentals rather than administrative factors, will help refine SOE debt pricing and enhance financial accountability.

Encouraging greater private-sector participation in key industries, such as energy, telecommunications, and finance, is another priority. A more open and competitive business environment would promote efficiency and innovation, while increased transparency in state procurement processes is set to facilitate fairer market conditions. At the same time, corporate governance improvements are progressing, with initiatives to strengthen board independence and introduce more professional management. Allowing experienced private-sector and international executives to take leadership roles, along with increasing transparency in SOE structures, will further support governance and efficiency improvements.

5 In-depth: Sectors on the rise by 2040

5.1 Semiconductors

Mature-node semiconductors

China is expected to continue advancing its self-sufficiency efforts in semiconductor manufacturing, with a strong likelihood of achieving mature-node self-sufficiency within the next 15 years, particularly in automotive chips and AI accelerators for edge computing. This push is driven by rising domestic demand from high-growth sectors such as NEVs and the strategic priority of AI self-sufficiency at the national level.

China's foundries are already among the largest players in mature-node manufacturing, and aggressive capacity expansion under its national strategy positions the country to secure a dominant share—potentially exceeding 50%—of the global mature chip supply within the next decade. **Key areas of focus include power semiconductors, embedded non-volatile memory, microcontrollers, and analogy ICs.** Additionally, expansion into the European market could accelerate, particularly if shifting geopolitical dynamics, such as a potential shift in U.S.-EU relations under a renewed "America First" policy, create new opportunities.

AI Chips

Despite lagging in EUV technology, China is expected to dominate the global AI chip market by 2040, with a market share exceeding 50%, as efficiency requirements for AI chips decline with advancements in AI model training and inferencing. Over time, AI computing chips will likely be fabricated using non-leading-edge nodes, such as 7nm and 10nm, rather than the latest 4nm GPUs. **Yield improvements in advanced-node foundries will continue alongside the growing adoption of AI applications, AI-powered devices, and increasing shipment volumes.**

China is also expected to achieve self-sufficiency in DUV lithography machines, supported by advancements in Shanghai Micro Electronics Equipment (SMEE)'s latest immersion lithography technology. AI chip production in China is set to surge over the next 15 years, driven by rising AI adoption across corporate and consumer markets, particularly with the emergence and development of domestically developed AI models.

Public cloud

China's long-term strategy for AI deployment is unlikely to face limitations in computing resource expansion in the longer run, given its aggressive push toward semiconductor self-sufficiency and potential dominance in AI chips. With the emergence of Deepseek—lowering the cost of training/inferencing and requirements

for AI computing chips—along with increasing adoption of AI models across many industry verticals, we expect public cloud market growth to continue accelerating (c.20% y/y growth in FY25/26, speeding up to c.30% in the following 2–3 years).

Alibaba, China's leading public cloud provider, recently stated in its earnings call that domestic AI chip alternatives are sufficient and that further U.S. AI chip restrictions are unlikely to hinder its cloud business growth. Meanwhile, we expect a rise in edge cloud and data centre deployments in the coming years, driven by growing latency requirements to enhance AI-powered applications.

AI agents

AI agents are set to advance significantly in the short to medium term, particularly in enterprise software such as ERPs and CRMs. However, **widespread commercialisation remains unlikely in the near future due to intense competition, at least over the next few years.** The Chinese market is still in a user acquisition phase, and super apps like WeChat or Tongyi—once they reach critical mass—may have an opportunity for earlier commercialisation. The emergence of industry-specific AI agents and LLMs, such as Manus, underscores the growing potential for tailored AI solutions. As AI models become more powerful and efficient, businesses will increasingly leverage them to streamline operations and enhance decision-making.

Longer term, the rise of autonomous agents will enable more sophisticated applications across various industries. However, with LLMs requiring greater computational resources—evidenced by the rising token demands seen in Manus—AI agents will need substantial computing power to handle complex tasks. This will likely delay mass-market adoption while driving long-term industry transformation.

5.2 Green energy

AI is set to play a pivotal role in China's power sector, driving the country's energy transition by optimizing production and enhancing efficiency. Its growing application will likely strengthen China's leadership in key areas such as green power generation, energy storage, and green hydrogen production.

Green power generation

China accounted for approximately 30% of the global clean energy market in 2023, making it the largest contributor to global clean energy, according to BloombergNEF. We expect AI to sustain China's leadership in clean energy through 2040, driven by several key factors:

- AI enhances the efficiency of offshore wind resource assessment through technologies like Synthetic Aperture Radar. These advancements reduce costs and improve project planning, leading to more robust installations.

- AI facilitates the faster development of virtual power plants by managing controllable load resources across various categories, boosting energy efficiency and grid stability.

- AI-driven predictive analytics optimize energy generation by forecasting demand and power output from variable sources, enabling smoother renewable energy integration and a more stable supply.

Energy storage

China is the world's largest producer of lithium-ion batteries, with companies like CATL and BYD leading the market. **AI has the potential to further optimize battery performance in energy storage devices, enabling more efficient management of electric vehicle charging systems.** By leveraging AI-driven analytics, these companies can enhance energy storage efficiency, extend battery life, and improve overall system performance.

Green hydrogen

Despite its dominant market position in hydrogen production, China's green hydrogen sector is still in its early stages. However, the industry holds immense growth potential as the country has identified hydrogen as a key component of its low-carbon energy transition strategy. By 2024, China is expected to install approximately 2.5 gigawatts of hydrogen electrolyser capacity, producing 220,000 tons of green hydrogen per year—6,000 tons more than the rest of the world combined.

AI adoption will play a crucial role in optimising operating conditions such as temperature and pressure, leading to improved efficiency and reduced energy consumption in green hydrogen production. **As China continues to expand its clean energy initiatives, AI-driven advancements will be essential in maximising the effectiveness of hydrogen as a sustainable energy source.**

5.3 Healthcare

Over the next 15 years, we believe the emergence of AI would 1) improve the accuracy and speed of diagnosing patients; 2) accelerate drug development due to faster and more accurate drug discovery; 3) give rise to widespread implementation of telemedicine, which can help alleviate the burden on healthcare providers from the aging population.

Imaging products

AI-powered ultrasound systems and imaging technologies will surpass human radiographers in detecting lesions and predicting diseases like cancer. With China's push to consolidate all medical imaging data into a national cloud platform, AI algorithms will continuously refine their capabilities, reducing diagnostic errors and easing the workload of healthcare professionals. This shift will enhance early detection rates and optimise resource allocation in hospitals.

Pharmaceutical R&D

AI is expected to drastically reduce drug development costs and timelines. Traditional drug discovery, which takes over a decade and costs USD2.6bn, could see costs drop by 70% and time-to-market cut by more than three years. AI-driven simulations will enable researchers to screen drug candidates with higher success rates and lower production costs. These advancements will drive growth in biotech sectors, particularly in genomics and gene editing, as precision medicine and AI-powered genetic research gain momentum.

Telemedicine

Telemedicine will see widespread adoption, addressing physician shortages and improving healthcare accessibility, particularly in rural areas. AI-driven telehealth platforms will allow faster diagnosis and treatment of non-critical conditions, reducing hospital congestion and optimising healthcare delivery. As China's population continues to age, telemedicine will play a critical role in ensuring efficient medical services while reducing strain on traditional healthcare infrastructure. While AI drives efficiency in diagnostics, drug development, and telemedicine, certain sectors may face decline.

Contract research organisations

Contract research organisations (CROs), which specialise in outsourced clinical trials and drug discovery services, may see reduced demand as AI allows pharmaceutical companies to conduct R&D in-house, minimising the risk of technology leakage.

Hospital IT providers

Hospital IT providers could experience a downturn as AI-powered hospital management systems and automated data acquisition streamline operations, reducing the need for external software solutions. As AI integration accelerates, the healthcare industry will undergo a fundamental shift, favouring innovation-driven growth while reshaping traditional business models.

5.4 Automotive

EV and autonomous driving

The Chinese automobile industry has undergone a major transformation since 2000, turning from a mere vehicle assembly nation to a large vehicle production hub. China is currently the largest vehicle market in the world, producing over 30mn units in 2024.

Besides, China is also the largest electric vehicle market for eight consecutive years and cornering over 60% global share in 2024. **China is advancing rapidly in electrification technology, connectivity and digitalisation, and leveraging on AI models in its advancement as a leading player in autonomous driving.**

The success of China's electric vehicle (EV) market lies in the strong government support in building a comprehensive value chain over the past decade, ranging from key mineral mining, processing, EV battery production, EVs manufacturing, and EV charging network. Hence, sales of EV in China surged from a mere 300,000 units size in 2015 to over 12mn units by 2024, translating to an annualised growth of 50%. By 2040, China's EV industry scale is projected to reach some 40mn units, followed by Europe at approximately 15mn units.

Low-altitude economy

Besides, China's success in smart driving is also creating a new industry – flying cars, which currently, some of the Chinese EV new start-ups such as XPeng is embarking on. We anticipate this segment will probably be developed by regions, such as Guangzhou, where the "low-altitude economy" is being actively promoted. The Guangzhou government is investing some USD1.4bn into the infrastructure and manufacturing by 2027. XPeng is still carrying out development and testing of its Aeroht flying cars.

Based on an affiliate to China's Ministry of Industry and Information Technology, the low-altitude economy exceeded RMB500bn in 2023 and is projected to reach RMB1trn in 2026.

6 Conclusion

China's economic trajectory through 2040 hinges on reconciling structural constraints with technological ambition. While demographic decline and property sector contraction will dampen growth, strategic investments in AI, semiconductors, and green infrastructure underscore China's strategy to counterbalance pressures and redefine productivity. The pursuit of semiconductor self-sufficiency and breakthroughs in autonomous mobility and AI-driven healthcare exemplify this shift toward tech-driven efficiency.

Central to this transition is the projected rebound in TFP to 0.5% by 2040, reflecting automation's transformative role in mitigating labour shortages and unlocking systemic efficiency. Sectoral shifts will prioritise AI, EVs, and advanced healthcare technologies, displacing traditional manufacturing and labour-intensive sectors. Achieving this will require reforms including pension modernisation, SOE restructuring, and education systems realigned with AI-driven labour demands—all while ensuring equitable access to innovation. By harnessing innovation inclusively, China can transform structural challenges into opportunities, securing a resilient, tech-powered future anchored in sustainable productivity gains.

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References

Global Energy Monitor (2024): "China continues to lead the world in wind and solar, with twice as much capacity under construction as the rest of the world combined"

Australian Strategic Policy Institute (2024): "ASPI's two-decade Critical Technology Tracker: The rewards of long-term research investment"

XtalPi Holdings Limited (2025): "XtalPi Holdings Limited global offering IPO prospectus"

Horizon Robotics (2024): "Horizon Robotics global offering IPO prospectus"

Shenzhen Dobot Corp ltd (2024): "Shenzhen Dobot Corp ltd global offering IPO prospectus"

International Electrotechnical Commission (2025). "Functional performance criteria for AAL robots used in connected home environment."

World Bank (2014). "Urban China: Toward Efficient, Inclusive, and Sustainable Urbanization."

Henderson, J. V. (2009). "Urbanization in China: Policy Issues and Options."

Zhang, X., & Kanbur, R. (2005). "Spatial Inequality in Education and Health Care in China."

Zheng, S., & Kahn, M. E. (2013). "China's Bullet Trains Facilitate Market Integration and Mitigate the Cost of Megacity Growth."

IMF (2021). "People's Republic of China: Selected Issues"

MERICS (2024). "China's long view on quantum tech has the US and EU playing catch-up"

World Economic Forum (2024). "Could Chinese hot pot fuel your next flight?"

White House (2024). "Potential Labor Market Impacts of Artificial Intelligence: An Empirical Analysis"

Huawei (2024). "Computing 2030"

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