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Allianz Research

# China: keeping the dragon awake

# Executive Summary



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**With its real estate and foreign investment engines sputtering, China desperately needs new drivers of growth.** The real estate sector has gone from hero to zero since mid-2021: We estimate real estate development has been -26% lower than its pre-pandemic trend. But the long-term perspectives are also grim with a rapidly aging and shrinking population and slowing urbanization. Meanwhile, foreign investment into China has started to soften for short-term tactical reasons, but long-term structural factors such as slower growth, regulatory barriers and worsening geopolitics are also reducing the economy's attractiveness to foreign investors.

**On the bright side, exports are still going strong as China remains a critical supplier to the world.** The number of imports for which China is a critical supplier has been increasing over time and across the world's major importers. The intensity of critical dependencies on China varies across importers, with the US being the most exposed: nearly 50% of its imports from China are critical dependencies. Furthermore, a shift in concentration of critical dependencies towards higher value-added sectors is clearly visible, especially when it comes to EU imports from China. As a result, China's strong position in the global supply chain will continue to provide some support to growth.

**Looking ahead, the target is for higher value-added manufacturing such as the 'New Three' industries of electric vehicles, batteries and solar energy products to become the main drivers of growth.** Chinese cars have taken the world by storm in just a few years as the rapid expansion of electric vehicles (EVs) drives significant growth in auto sales both domestically and internationally. Despite a recent slowdown in global demand, we expect EVs to remain the bright spot in the auto sector amid the ongoing green transition, and value for price is the key advantage that places Chinese EV makers at the forefront. China's dominance is also strong in the battery sector, commanding nearly 56% of the global EV battery market share. It has made remarkable progress in renewables as well, accounting for more than 80% of the global



solar module manufacturing capacity and more than 80% of solar cell exports. But while China seems well-positioned in these emerging industries, its current dominance and future growth could be tested by the chips war, protectionism, geopolitical tensions and the risk of creating other situations of excess capacity, inventories and leverage.

**Nevertheless, China is heading towards lower trend growth.**

We now expect the Chinese economy to grow by +3.9% on average over 2025-2029. This compares with forecasts at +5% before the Covid-19 pandemic broke out, and +4.5% before the real estate crisis unfolded. In our baseline scenario, we do not see Japanification taking place for the Chinese economy, in part thanks to important differences when it comes to growth of the middle class and the progress in urbanization. But Chinese policymakers urgently need to restore consumer confidence, put in place long-term consumer-focused policies and unleash the high level of precautionary savings.



# China needs new drivers of growth

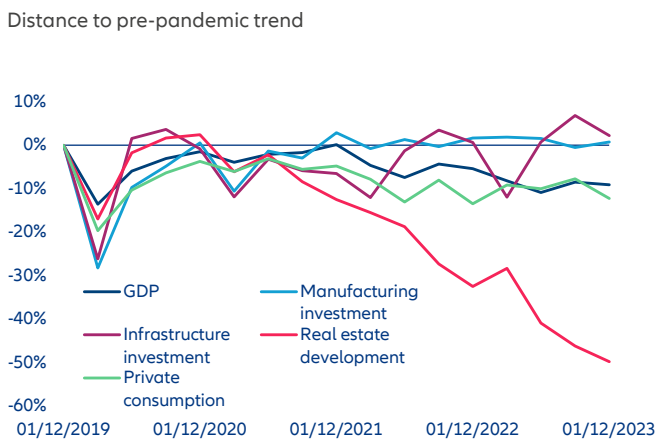
**The Chinese economy needs new growth drivers more than ever.** This decade has been difficult for China so far, with the effect of strict pandemic-control measures, a reeling real estate sector and a tenser geopolitical context. The economy has more or less powered through, in part thanks to accommodative public policies. But more policy support will be needed in the coming years to navigate structural adjustments in the economy and reestablish consumers' and companies' confidence. This will likely take the form of measures with temporary boosts (e.g. infrastructure projects, policy rate cuts and others), but also industrial policies with hopefully more long-lasting effects in an aim to develop sectors that will become new growth drivers as some of the economy's old engines – notably real estate and foreign investment – sputter.

## The real estate sector: from hero to zero

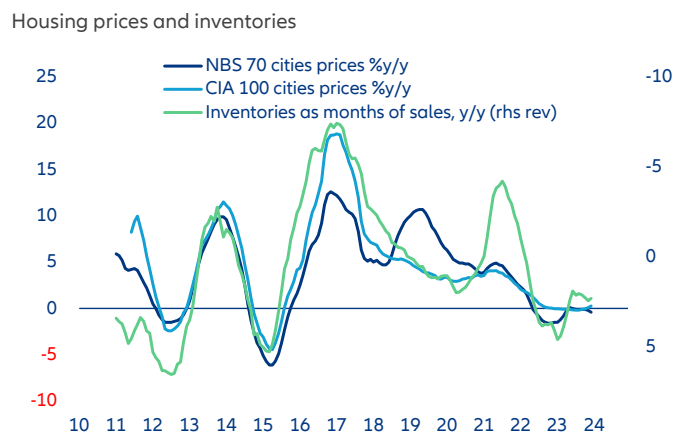
**The real estate sector has been the clear underperformer since mid-2021.** The real estate market in China is very policy-driven and was an important growth driver in the 2010s, accounting for around 30% of China's economic activity (including upstream and downstream linkages). Several rounds of stimuli led to high inventories, high indebtedness and bubble-like

situations in some markets. To rein in risks, in the second half of 2020, Chinese regulators put in place the 'three red lines' policy, creating significant liquidity constraints on some real estate developers and kicking off a crisis that is still ongoing. We estimate that since 2021, real estate development has been -26% lower than its pre-pandemic trend (Figure 1). This compares with just -2% for infrastructure investment, while manufacturing investment was in line with the pre-pandemic trend over 2021-2023. Property-related activities have been the clear underperformer, but it is also interesting to note some underlying trends: In 2023, residential completions came in at 724mn square meters (+16% y/y), outpacing for the first time the volume of housing starts (693mn square meters, -21% y/y). This has helped reduce inventories and stabilize prices at the national level (Figure 1). The more dynamic growth in completions was the result of policymakers' efforts to ensure pre-sold housing is delivered, in an attempt to restore buyers' confidence in the property market. While very weak housing starts since mid-2021 could ultimately result in a completions cliff and maintain downwards pressure on China's overall economic growth, the ongoing crisis may be a necessary adjustment towards a low-growth but more sustainable property market.

**Figure 1:** The real estate sector's underperformance since 2021



Sources: national statistics, Allianz Research



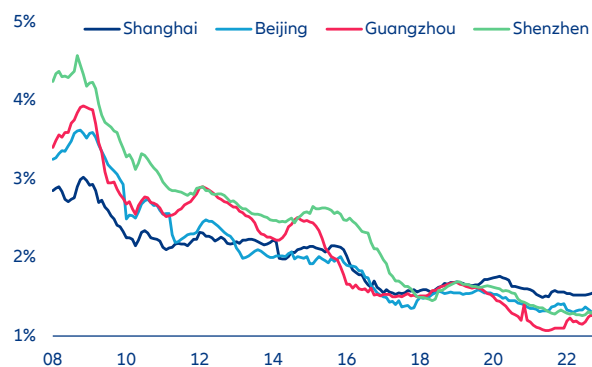
**Beyond the ongoing crisis, the rapidly aging and shrinking population, coupled with slowing urbanization, puts a brake on the long-term growth of the real estate sector.** China's population peaked at 1.41bn in 2021, a turning point that came nearly a decade earlier than previously predicted by the United Nations. Despite the ending of the decades-long "one-child policy" in 2016 and the rollout of childbearing incentives, the fertility rate has plummeted from 1.8 in 2017 to 1.2 in 2023. This trend seems unlikely to reverse and could even accelerate as the government's ongoing efforts appear ineffective at the moment. Moreover, the rapidly declining working-age population, which represents the major home-buying group, and slowing urbanization, standing at 66% in 2023 and growing at a yearly rate below +1pp since 2021, also point to weakening demand that will hardly support the long-term growth of the real estate sector.

**Even for Tier 1 cities that are supported by more robust demand, the combination of low rental yields, high rent levels and the gloomier outlook on the property market suggest limited upside for property values.** The long boom of China's property market has fueled widespread speculative buying, given limited investment choices

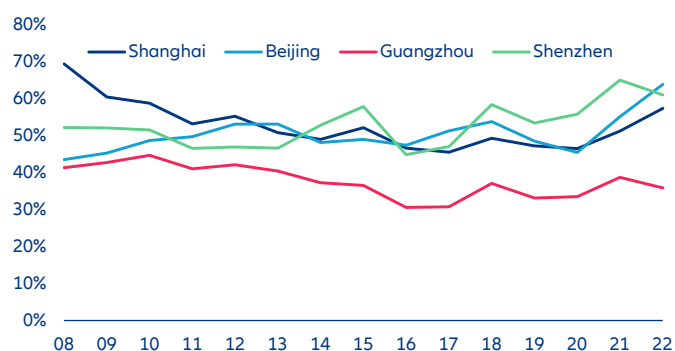
for domestic investors and bullish views on housing prices. This is especially notable in Tier 1 cities where housing prices have seen multifold jumps over the last two decades and gross rental yields have long hovered below 2%, far lower than those of international peers. Rent levels, on the other hand, remain consistently high compared to incomes despite a slow downward trend over the past decade. Assuming 20 square meters of living space per person, we estimate that rents currently account for 22% and 35%-45% of disposable incomes in Guangzhou and other Tier 1 cities, a downtick from 30% and 40%-50% in 2008 but still considerably high. The PBOC's latest quarterly survey shows that the share of respondents that expect further housing price increases fell from the recent peak of 25.5% in June 2021 to 15.9% in June 2023. If investors continue losing confidence in the property market, they will have less incentive to go for low-yield properties. In this context, we expect limited upside for property values and reduced speculative buying activities going forward.

**Figure 2:** Rental market in Tier 1 cities

Gross rental yield of residential in Tier 1 cities



Estimated rent as % of disposable income in Tier 1 cities



Sources: national statistics, Centalin Property, Wind, calculated by Allianz Research

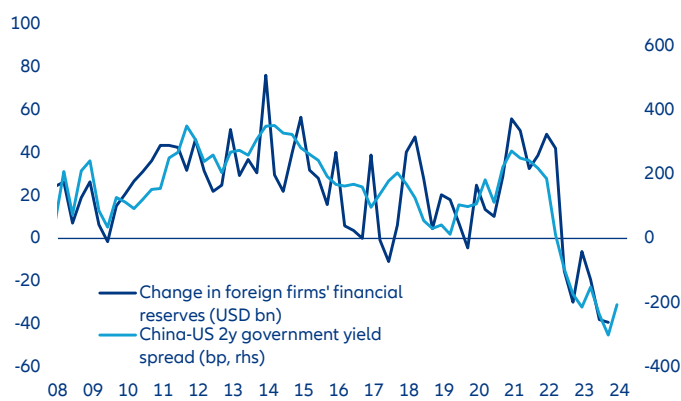
## Foreign investment: both short-term tactical and long-term structural factors are at play

**Slower growth, regulatory barriers and worsening geopolitics are making China less attractive.** Balance of payments data released by the State Administration of Foreign Exchange (SAFE) showed that foreign direct investment into China turned negative in Q3 2023 for the first time on record. We find that both structural and short-term tactical factors are at play. Indeed, the SAFE measure of foreign direct investment accounts for actually utilized investment as well as changes in foreign firms' financial reserves in China. In the context of diverging monetary policies meant that the spread between the two-year Chinese and US government yields turned negative for the first time since 2007. As a result, while foreign firms based in China tended to keep their earnings within the higher-yielding Chinese financial system, they chose to remit their earnings abroad when yields turned more attractive there, leading to negative changes in foreign firms' financial reserves (Figure 3) and

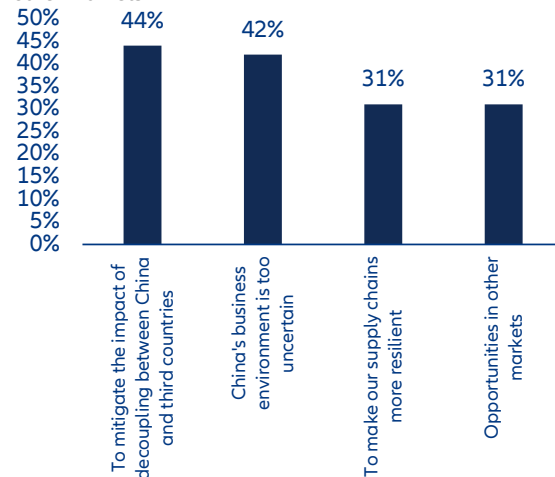
overall foreign direct investment, as reported by SAFE. The underlying foreign investment actually utilized has in fact remained positive through 2023. That said, structural factors are also at play, making China less attractive as a destination for foreign money: slower growth, regulatory barriers and worsening geopolitics. In the American Chamber of Commerce in China's 2023 Business Climate Survey, 45% of respondents find that China's investment environment is deteriorating – up from 16% on average over the 2018-2021 surveys. In the European Chamber of Commerce in China's 2023 Business Confidence Survey, the top business challenges picked are: a Chinese economic slowdown (36%), a global economic slowdown (29%) and a US-China trade war (24%). While at least 60% in both surveys report that they would increase investments in China if given greater market access, more than 10% say that they have already shifted investments out of China to other markets or started the process of relocating manufacturing or sourcing outside of China.

Figure 3: Foreign investment in China

China-US yield spread vs. Change in financial reserves of foreign firms in China



EU Chamber of Commerce in China's 2023 Business Confidence Survey: top reasons for shifting current or planned investments in China to other markets\*



\* This question was asked only to respondents that reported that they have already or are considering shifting China investments elsewhere. Other reasons not included in the chart are: China's Covid-19 measures have made business too challenging (29%), To be closer to customers (27%), To reduce costs (26%), Due to the reputational risks of doing business in China (21%), To take advantage of free trade agreements (18%), Due to a lack of ability for decision-makers to visit China (14%), Market opening in China was too little too late (13%) and To take advantage of government incentives (5%).

Sources: national statistics, European Union Chamber of Commerce in China, Allianz Research





# Still the world's critical supplier

**Despite all the changes in the geopolitical context, China's role as a critical supplier is unchanged.** Amidst debates on friendshoring and nearshoring, we revisit our analysis of China's role as a critical supplier for the main importers in the world. We extend the comprehensive dataset on bilateral trade flows over time and across geographies, which allows us to examine the dynamic evolution of critical dependencies. Our definition of a critical supplier and a critical dependency using the example of Chinese exports to the US is as follows: China is defined as a critical supplier of product 'X' (the critical dependency) to the US if all the following criteria are met:

- 1 The US is a net importer of product 'X'
- 2 More than 50% of US imports of product 'X' comes from China
- 3 China's global export market share for product 'X' exceeds 50%.

**The number of imports for which China is a critical supplier has been increasing over time and across the world's major importers.** Over the 20-year period between 2003 and 2022, the number of critical dependencies on China has increased by more than 5x and 6x to 280 and 385 for the US and EU<sup>3</sup>, respectively. At the same time, the economies that would benefit from friendshoring also seem to exhibit an increasing dependence on China – most notably ASEAN economies, with 369 products with critical dependencies in 2022 (an increase of more than 10 times from 2003) and Mexico, with 320 products (an increase of 12 times).

<sup>1</sup> [Globalization 2.0. Can the US and EU really 'friendshore' away from China?](#)

<sup>2</sup> by product at the six-digit level of the Harmonized System (which classifies goods into ~ 6000 categories)

<sup>3</sup> Our definition of the EU includes the UK (EU-28)

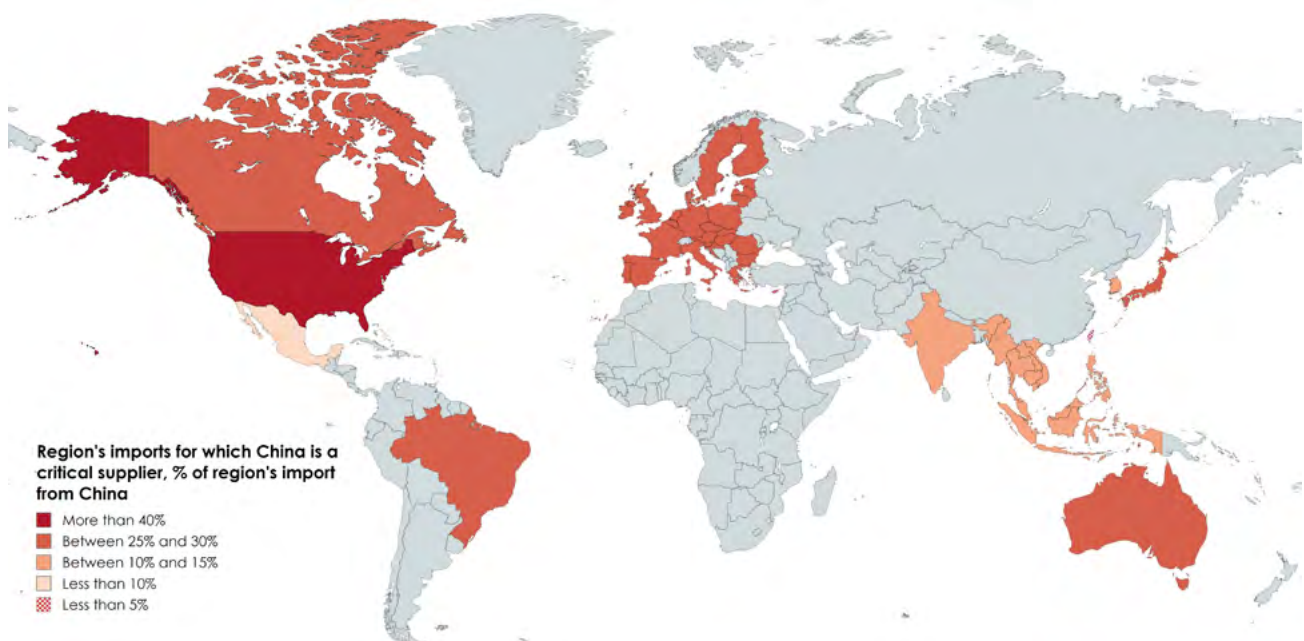
**The intensity of critical dependencies on China varies across importers, with the US being the most exposed: nearly 50% of its imports from China are critical dependencies.** The US exhibits more critical dependencies than the EU relative to its total imports from China (45% vs. 30%), highlighting the fact that it will be challenging to substitute close to 50% of US imports from China. Overall, there seems to be a pattern of divergence across emerging and developed economies, with at least 30% of imports from China being critical dependencies for developed economies (with South Korea and Taiwan as exceptions), and less than 15% of imports from China being critical dependencies for emerging economies (with Brazil as an exception) in 2022 (Figure 4).

**In terms of the number of critical dependencies imported from China, the textile sector dominates...** China exhibits strengths in four key sectors – textiles, computers and telecom, electronics and household equipment. But over the past decade, the number of critical dependencies have been concentrated in the textile sector. In the US for instance, between 2010 and 2019, textiles ranked first and accounted for an annual average of 35% of the total number of critical dependencies imported from China. The computers and telecom, electronics and household equipment sectors ranked second and accounted for an

annual average of 24% during this period. These figures are relatively similar for the EU, with textiles accounting for 34% and the computers and telecom, electronics and household equipment sectors accounting for 22% during the same period. However, the sectoral concentration of critical dependencies appears to be shifting towards the computers and telecom, electronics and household equipment sectors in recent years. For instance, when we look at the number of critical dependencies in US imports from China by sector, the textiles sector has seen a decline from 81 in 2013 to 64 in 2022, while it has increased from 57 in 2013 to 82 in 2022 in the computers and telecom, electronics and household equipment sectors.

**...But a shift in concentration of critical dependencies towards higher value-added sectors is clearly visible, especially when it comes to EU imports from China.** While the textile industry dominates in terms of the number of critical dependencies by sector, computers and telecom, electronics and household equipment clearly dominate in terms of the value of critical dependencies (Figure 5). In the US, these industries accounted for close to 74% of the total value of imports of critical dependencies from China in 2022 – up from 40% in 2003. On the other hand, the textiles sector

**Figure 4:** Map of regional\* critical dependency on China in 2022, relative to region's total imports from China



\*Regions include top importers from China whose imports account for more than 70% of total Chinese exports.  
Sources: Allianz Research estimates based on ITC data.

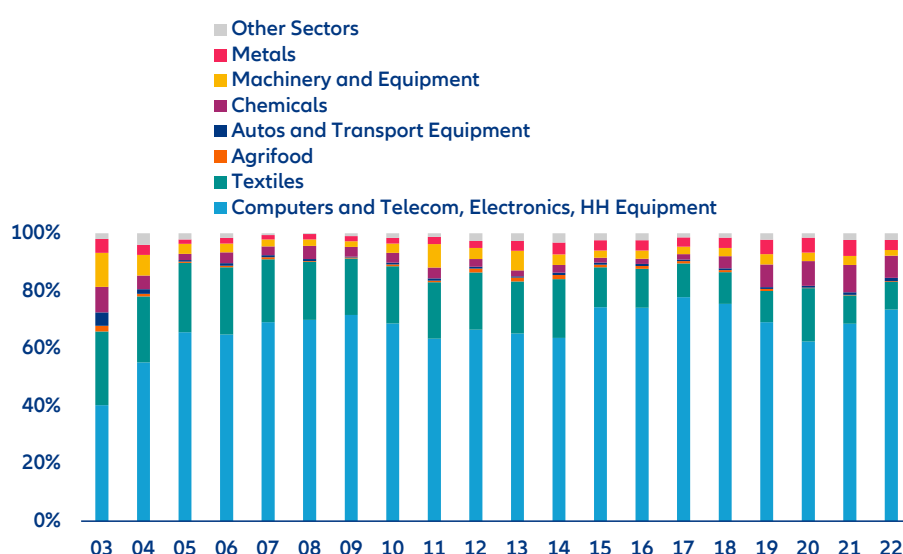


accounted for only 10% of the total value of critical dependencies in 2022 – down from 26% in 2003. The shift in the sectoral concentration of critical dependency of the EU on China is more noticeable: the value of critical dependencies in the computers and telecom, electronics and household equipment accounted for 73% of the total value in 2022 (a massive increase from 16% in 2003) while the textiles sector only accounted for 12% (a massive decrease from 57% in 2003). These figures provide evidence for the fact that China has moved up the value chain by increasing its reliance on sophisticated sectors

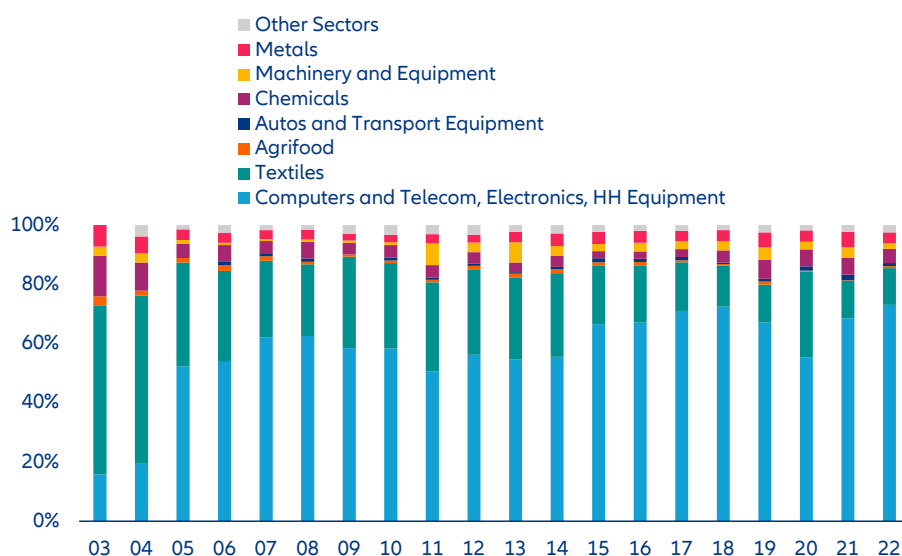
such as computers and telecom, electronics and household equipment and reducing its reliance on lower value-added manufacturing sectors such as the textiles sector.

**Figure 5:** Breakdown of critical dependency on China by sector, in value terms (%)

A) The US



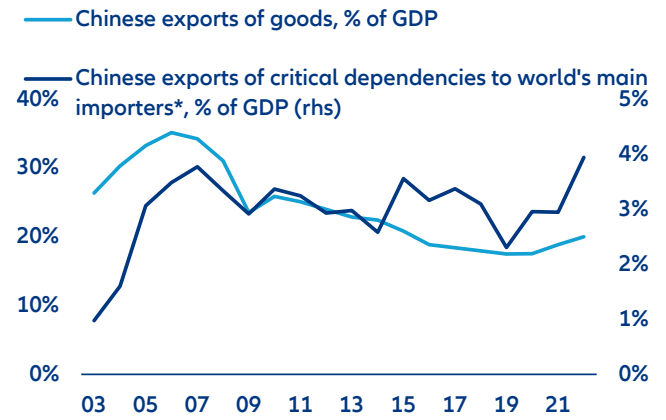
B) The EU-28



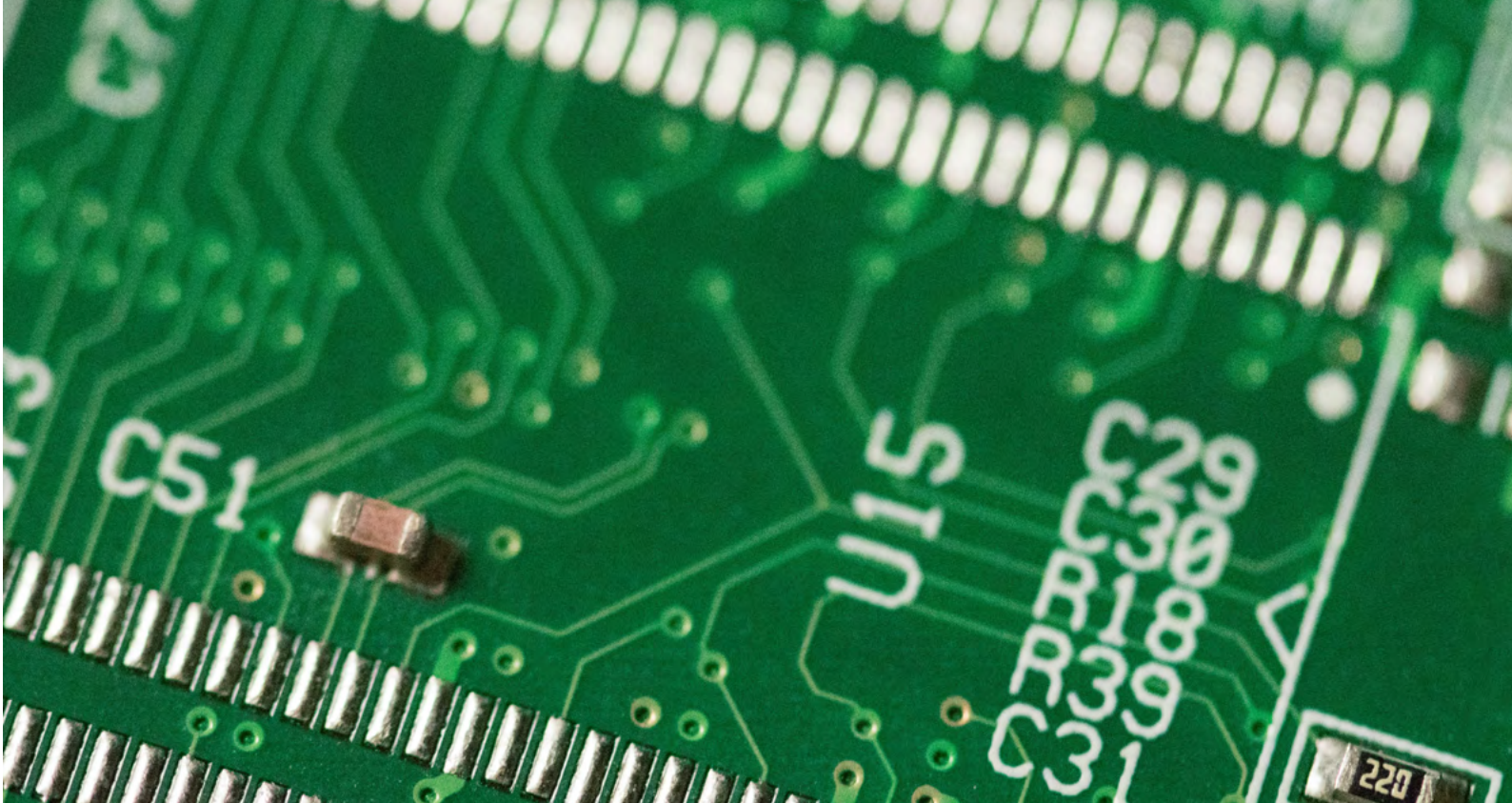
Sources: Allianz Research estimates based on ITC data

**China’s strong position in the global supply chain will continue to support growth.** While the share of exports relative to the economy’s gross domestic output has declined over the years, the share of exports of critical dependencies has increased (Figure 6). Further, the total value of imports of products that will be difficult to substitute away from China by the world’s main importers – the US, EU, ASEAN, Japan, South Korea, India, Taiwan, Australia, Canada, Mexico and Brazil – accounted for 20% of total Chinese exports to the world in 2022, a massive increase from 4% in 2003. With the world’s critical dependency on China remaining, Chinese exports will continue to support growth as these products are likely highly difficult to substitute in the short term. In the longer term, the impact of increasing protectionist measures aimed at diversifying away from China will depend on how other countries, especially those in South East Asia, as well as India, Mexico and Canada, play catch up and develop their positions in the global supply chain.

**Figure 6:** Share of total Chinese exports and Chinese exports of critical dependencies, % of GDP



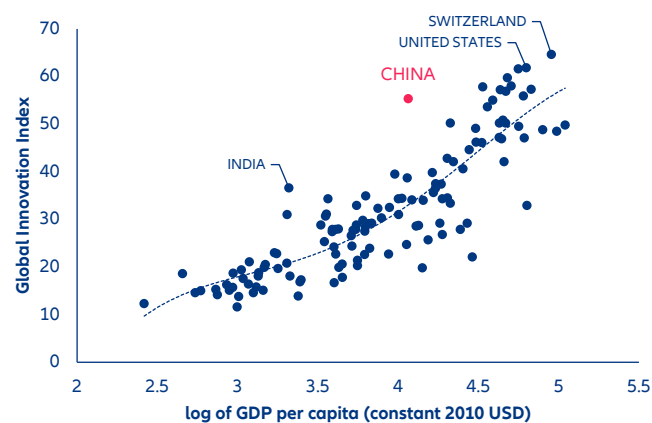
\*Importers include US, EU-28, ASEAN, Japan, South Korea, India, Taiwan, Australia, Canada, Mexico and Brazil that collectively account for 70% of global imports  
Sources: Allianz Research estimates based on ITC data..



# Playing the innovation game

**China’s policymakers are betting on innovation and moving up the value chain.** Upgrading the manufacturing base has been the strategy for decades<sup>4</sup>, with a special focus on developing ‘emerging strategic industries’ and indigenous technology, and encouraging industrial autonomy. R&D spending has been steadily rising over the past decades – from 0.9% of GDP in 2000 to 2.6% in 2022 – placing China at the 12th position globally. China presents a number of strengths to further boost its innovation potential, including science-biased education, capital availability (including state-led initiatives), robust manufacturing capabilities, supply chains and infrastructure and a large domestic market (which enables testing and adopting new technologies). The Global Innovation Index, developed by the World Intellectual Property Organization ranked China the 12th most innovative nation in 2023, up from 14th in 2019 and 29th in 2015. In particular, China scores much higher than its level of economic development would suggest (Figure 7).

Figure 7: Global Innovation Index vs. GDP per capita



Sources: World Intellectual Property Organization, World Bank, Allianz Research

<sup>4</sup> As an example, the ‘Made in China 2025’ program announced in 2015 aimed for China to become more autonomous (less reliant on foreign inputs) and significantly improve Chinese manufacturers’ global position in ten key sectors: (i) next-generation information technology, (ii) high-end digital control machine tools and robotics, (iii) aerospace and aeronautic equipment, (iv) oceanographic engineering equipment and high-technology shipping, (v) advanced rail transportation equipment, (vi) energy-efficient and new energy automobiles, (vii) electric power equipment, (viii) agricultural machinery and equipment, (ix) New materials and (x) bio-pharmaceuticals and high-performance medical equipment. More recent initiatives include the ‘Dual Circulation’ strategy announced in 2020 or the ‘Strategic Plan for Expanding Domestic Demand 2022-2035’ launched in 2022.



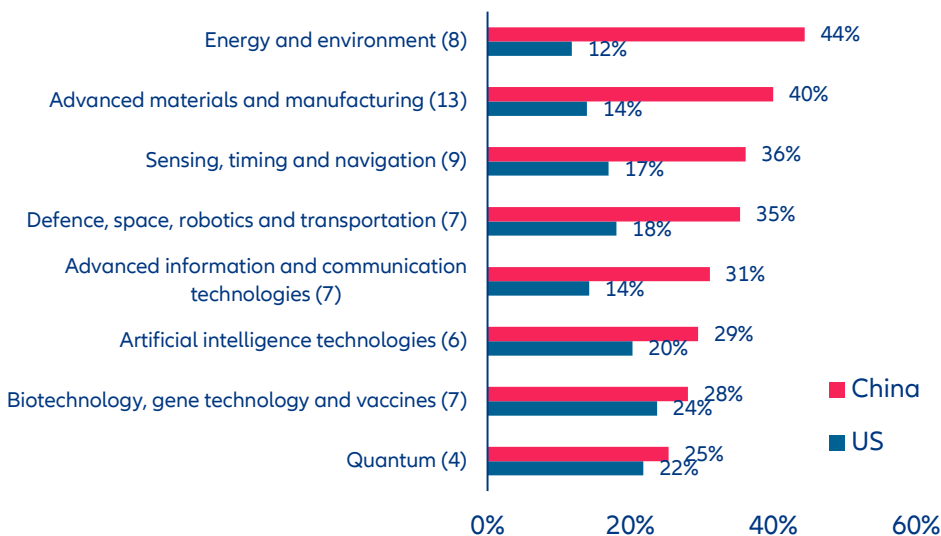
**China is leading by far in research breakthroughs related to critical technologies, but the translation into manufacturing is not yet clear in all cases.** Looking at a list of 64 cutting-edge and critical technologies<sup>5</sup>, the Australian Strategic Policy Institute (ASPI) finds that China is the biggest source of high-impact research output in 53 critical technologies. The gap with the runner-up (most frequently the US – see Figure 8) is sometimes large enough that the ASPI cautions against a high risk of China establishing a monopoly in 15 of the 64 technologies under scrutiny (and 11 with medium risk). While this analysis based on research publications data suggests that China has the intention and strong potential to approach the technological frontier, there is still some way before China can actually establish itself as a science and technology superpower. Indeed, research breakthroughs do not always translate into manufacturing and commercialization. In the following sections, we focus on three sectors where China’s recent track record in production and exports has been strong, i.e. the ‘New Three’: electric vehicles, lithium-ion batteries and solar energy products.

**Electric vehicles: further growth potential for Chinese manufacturers**

**Chinese cars have taken the world by storm in just a few years as the rapid expansion of electric vehicles (EVs) drives significant growth in auto sales both**

**domestically and internationally.** Since the EV sector was targeted as a potential pillar of economic growth in 2009, the Chinese government has handed out generous incentives to encourage domestic EV manufacturing and purchases in the form of subsidies, tax breaks, public procurement and credits etc., which played a crucial role in the rapid development of the sector. As subsidies were phased out gradually, traditional Chinese car makers such as BYD, SAIC and Geely have made their transitions to large EV manufacturers, and start-ups such as NIO, Li Auto and XPeng have emerged as well-known new forces in China. In the home market, sales of domestic brands recorded a CAGR of 23.4% over the last three years and accounted for more than half of all sales for the first time in 2023. Even stronger growth comes from exports as Chinese car makers increasingly seek opportunities abroad amid intensifying competition at home. Boosted by the strong EV presence, exports of passenger cars have increased substantially since 2020 from below 1mn units to 4.4mn units in 2023. This surge has led to China overtaking Japan as the world’s largest passenger car exporter. Within the EV segment, China dominates with nearly 60% of global EV sales and over 60% of total EV outputs in 2022. The market-leading position underscores China’s pivotal role in shaping the trajectory of the global EV industry and the broader automotive market landscape.

Figure 8: Proportion of high-impact research output (proportions averaged across the number of technologies in parenthesis per sector)



Sources: ASPI Critical Technology Tracker, Allianz Research

<sup>5</sup> This list of critical technologies was established based on the Australian government’s ‘List of Critical Technologies in the national interest’ and the US government’s ‘Critical and Emerging Technologies List’.

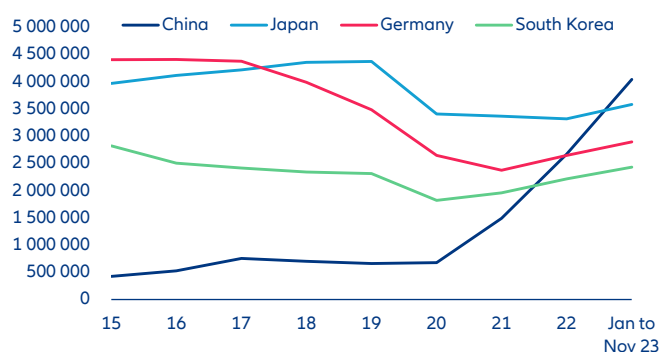
**Value for price is the key advantage that places Chinese EV makers at the forefront.** According to JATO Dynamics, despite an initially higher average price of EVs (EUR66,819) compared to those in Europe (EUR48,942) and the US (EUR53,038) in 2015, China managed to significantly slash average EV prices to less than half (EUR31,829) by 2022, a third lower than the average price of gasoline cars. Meanwhile, both Europe and the US recorded an increase in average EV prices to EUR55,821 and EUR63,864, making them 27% and 43% more expensive than gasoline cars, respectively. In fact, almost all EV offerings in Europe and the US were priced above EUR20,000 in 2022, whereas 30% of China's all EV offerings were below this threshold, allowing Chinese EV makers to effectively capture a large group of consumers hesitant to make the switch to EVs due to higher upfront costs without much foreign competition.

Besides generous government subsidies, a well-established local auto supply chain, and a huge domestic market that help establish economies of scale, also contribute to the cost advantage of Chinese EV makers. However, it is not just affordability – a characteristic historically associated with Chinese products – but also quality that gives Chinese EV makers an edge. BYD, the world's largest EV exporter as well as a leading EV battery producer, managed to cut its costs substantially thanks to its high degree of vertical integration. As batteries represent the highest cost in producing an EV (about 40% of total costs), BYD's expertise in lithium

iron phosphate (LFP) batteries, a cheaper alternative to nickel manganese cobalt (NMC) batteries, enables it to achieve close to the highest energy density with among the lowest costs in the world. In addition, as domestic competition is now much centered around vehicle intelligence and connectivity, Chinese EV makers are making rapid progress in software technologies such as driving assistance systems and human-interface machine (HMI) systems.

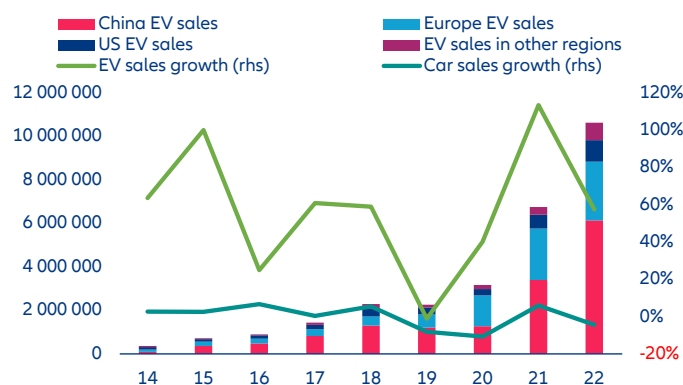
**Despite a recent slowdown in global demand, we expect EV to remain the bright spot in the auto sector amid the ongoing green transition.** EV sales have experienced significant growth over the last decade, with units sold increasing by 80-fold and the sales share rising from 0.2% to 12.1% between 2012 and 2022. In the passenger vehicle segment where electric vehicles primarily aim to expand, one out of every seven cars are now partly or fully powered by batteries. While the sales increase is expected to decline to around 30% in 2023, and the EV sector has entered a more mature stage after years of rapid growth, there is still large demand to fill as governments incentivize EV purchases or set goals to phase out fossil-fueled cars in pursuit of carbon neutrality. For instance, as the second-largest EV market, Europe is expected to grow its EV sales share substantially from 18% currently after the ban on sales of new cars powered by fossil fuels kicks in by 2035 in the EU and UK. We expect secular growth to persist in the EV sector against this backdrop.

Figure 9: Passenger vehicle exports by country (million units)



Sources: CAAM, GACC, VDA, KAMA, Allianz Research

Figure 10: Global electric vehicle sales by region



Sources: IEA, CAAM, ACEA, Allianz Research

## Renewables and batteries: China's domination could be contested going forward

**China's strong dominance in renewables and batteries will be tested in the coming years.** Despite its status as one of the world's largest carbon emitters, China has made spectacular achievements in renewables, part of a strategy that balances economic expansion with sustainable development. As early as 2009, China had made strong commitments to renewable energy. It initially ventured into clean energy to gain another leg for exports, but the country also managed to set up a strong domestic market. Beijing provided tax incentives and credits to attract investors and secured critical supplies around the world in order to support the sector. Thanks to this strong vertical integration, China created a leading solar industry that was able to produce the most and sell at the cheapest price. When Europe or the US imposed tariffs, China managed to quickly pivot towards its domestic market.

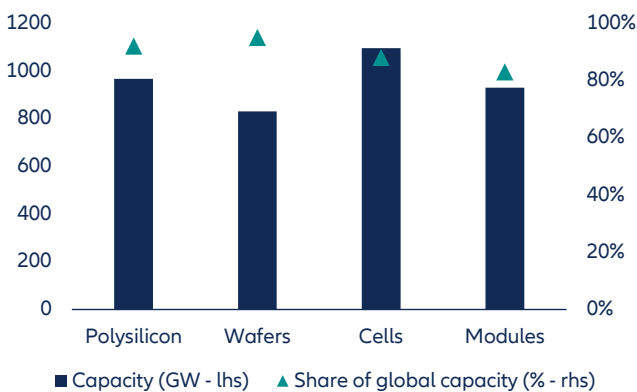
As a result, China accounts for more than 80% of the global solar module manufacturing capacity (Figure 11) and more than 80% of solar cell exports, and it has over 2.7 million of jobs in the solar sector. On top of its export credentials, it has the largest installed renewable capacity. With a solar capacity that exceeds 228 gigawatts (GW), China outstrips the combined output of the rest of the world. At 310GW, its wind energy capacity

also leads over all other regions. The country has an ambitious pipeline of 750GW in new wind and solar projects, which would allow China to surpass its 2030 renewable energy target of 1,200GW well ahead of schedule.

**This trajectory also reflects a broader strategic shift towards securing a dominant position in the global energy transition and making clean technology a cornerstone of national industrial policy.** These achievements have been made possible thanks to China's corporate giants, which have emerged as global frontrunners in wind and solar technology production. Backed by strong government policies and generous investments, these firms have grown substantially.

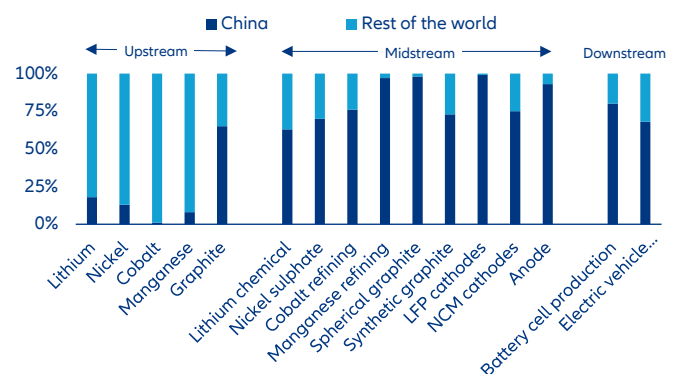
China's dominance is also strong in the battery sector, with firms such as CATL, BYD and CALB, commanding nearly 56% of the global EV battery market share. Just like for solar panels, this position is not just a matter of volume but also reflects China's grip on the entire supply chain – from mining critical materials (e.g. graphite, lithium, cobalt etc.) to refining them to manufacturing the batteries (Figure 12). Beyond batteries for EVs, the energy transition will also push up demand for large industrial scale energy storage and China will account for a large share of this (Figure 12).

Figure 11: China PV manufacturing capacity by 2024



Sources: ASPI Critical Technology Tracker, Allianz Research

Figure 12: Estimate % of supply over the EV battery value chain in 2023



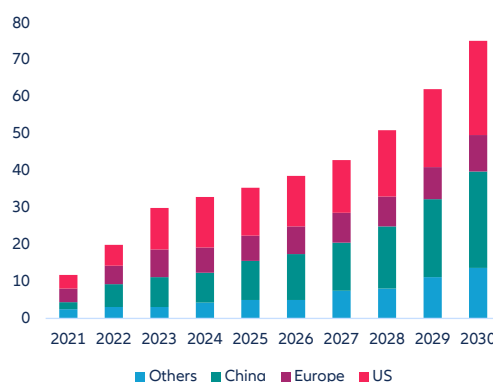
Sources: Benchmark Mineral Intelligence, Financial Times, CAMM, Allianz Research



## Headwinds are gathering against further upgrading of China's manufacturing

**Watch out for the chips war, protectionism, geopolitical tensions and the risk of creating other situations of excess capacities, inventories and leverage.** While China seems well-positioned in a number of emerging industries, current dominance and future growth could be tested for a number of reasons. In a global self-reliance awakening, policymakers across the world are realizing the importance of semiconductors and putting in place efforts to maintain their own or block other nations' sourcing (see Box). Furthermore, as Europe and the US are bulking up their support to clean energy with large industrial plans (IRA, Fit for 55 etc.), there will be increased competition for Chinese firms going forward. While establishing that China retains an important lead on research related to critical technologies, the ASPI also notes that one-fifth of China's high-impact papers are being authored by researchers with postgraduate training in the US, the UK, Canada, Australia or New Zealand. Such cooperation could be at risk in the increasingly tense geopolitical environment. Finally, experience tells us that state-led initiatives to develop industries and technologies could risk leading to capital and resource misallocation and ultimately new situations of overcapacities, excess inventories and high leverage.

**Figure 13:** Forecasted annual deployment of energy storage by region (GW)



Sources: Wood Mackenzie, Allianz Research

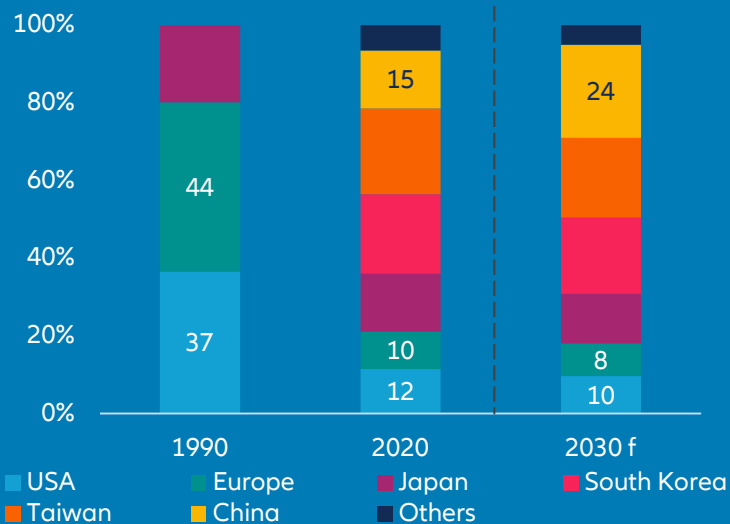
## Box 1: Chips war

**The US is ramping efforts to fight back against China's quest for chip dominance.** Post-pandemic shortages and China-US tensions pushed many major economies to design strategies for chip self-reliance or elaborate policies to reduce reliance on foreign suppliers. The US is strengthening its capabilities in the development and production of high-end chips and chipmaking equipment, with its CHIPS and Science Act, passed by Congress in July 2022, providing over USD50bn in funding to foster research investment, manufacturing production and workforce training. Also, export controls on chips and chipmaking equipment shipped to China were tightened in 2022 (with the support of Japan and the Netherlands), restricting the sale to China of machinery needed to produce sub-18nm chips – which are more advanced.

**The US will reshore some production but will not be able to restore its leadership from the 1990s.** The country still retains strong shares in some specific segments of the value chain: 80% of Electronic Design Automation (EDA) software and about half of both core intellectual property and manufacturing equipment are US assets. Not to mention that leading chip designers Qualcomm, Broadcom and Nvidia are also US firms. That said, in other segments of the sector, despite subsidies and efforts from US firms such as Intel, it will not be possible to catch up with TSMC and Samsung. These foreign players will increase to some extent their capabilities on US soil, but that will also depend on their ambitions in China.

**Despite restrictions on its capacity to manufacture the most advanced chips, China's semiconductor industry, led by giants like Semiconductor Manufacturing International Corporation (SMIC), is on an aggressive expansion path.** China's chip production capacity is expected to surge by 60% in the next three years, potentially doubling over the next five years. This growth primarily focuses on foundational processor chips, essential for a wide array of consumer goods.

Figure 14 – Global chip manufacturing capacity, breakdown by country



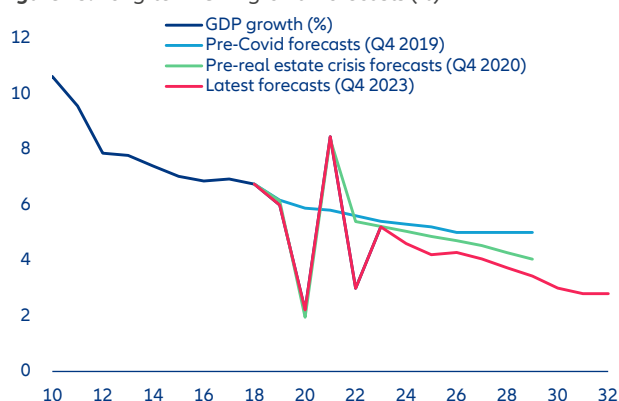
Sources: BCG, Allianz Research

# Settling to lower trend growth

**While Japanification is not in our baseline scenario, China cannot avoid a lower path of growth in the long-term.** We now expect the Chinese economy to grow by +3.9% on average over 2025-2029. This compares with forecasts of +5% before the Covid-19 pandemic broke out, and +4.5% before the real estate crisis unfolded (Figure 15). In our baseline scenario, we thus do not see a 'Japanification' taking place for the Chinese economy. There are certainly similarities between the Chinese economy today and the Japanese economy in the early-1990s: a declining population, as well as a high dependence on debt, investment (in particular real estate) and exports. And indeed the turning point in real estate prices in China since Q3 2021 is reminiscent of what happened in Japan around 30 years ago, when residential property prices peaked in Q1 1991. But it

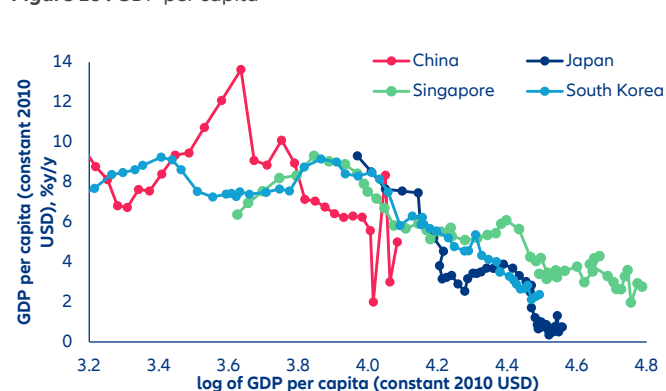
is also interesting to note that the prior price increase in Japan was even larger than in China: +85% in the 10 years leading to Q1 1991, compared with +40% in the 10 years leading to Q3 2021 in China. There are also other important differences that should provide some support to Chinese long-term growth: China's GDP per capita is roughly 40% of that of Japan in 1991, suggesting significant further room for growth (Figure 16). Similarly, China's urbanization rate currently stands at 66%, still a long way from the 78% observed in 1991 Japan. Finally, as we've exposed previously, the Chinese economy can still rely to some extent on exports and unlike 1991 Japan, China does not have an equity market bubble and its capital account is not fully liberalized.

**Figure 15:** Long-term GDP growth forecasts (%)



Sources: National statistics, Allianz Research

**Figure 16:** GDP per capita



Note: growth rates for Japan, Singapore and South Korea have been smoothed

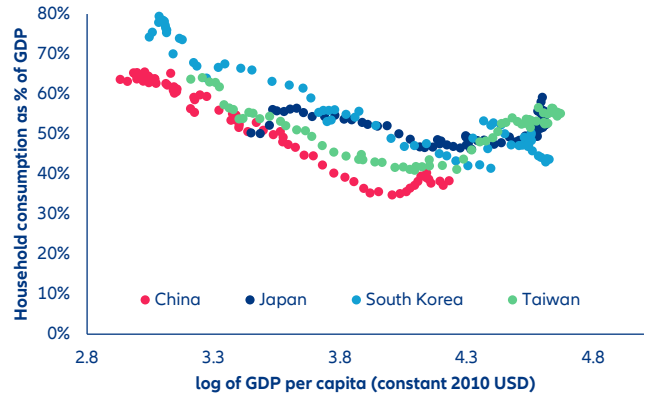
Sources: World Bank, Allianz Research



**Further pockets of growth could be found on the consumer side, but policy support seems to be lacking on that front for now.**

Since 2022-2023, consumer confidence in China has been in the doldrums. A lot depends on developments in the real estate sector and a stabilization in property prices would be helpful to at least partly restore confidence. Beyond this, policymakers could also consider more consumer-focused measures. Private consumption as a share of GDP is low in China, compared to what other Asian economies exhibited at similar levels of development (Figure 17). A more inclusive growth model, urbanization, an aging population and a lower savings rate in the long run should increase the reliance of the economy on consumption. At nearly 50% of GDP, China's gross domestic savings are very high, compared to what other economies registered at similar levels of development or similar levels of the old-age dependency ratio. Policies to strengthen the social safety net and increased public spending in healthcare and pension-related services would most likely allow Chinese households to save less and consume more.

**Figure 17** : Household consumption to GDP ratio (%) vs. log of GDP per capita



Note: data from until 2019, extended to 2023 for China on Allianz Research estimates  
Sources: Penn World Table, Allianz Research

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