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PUSH AND PULL

China's research output on cutting-edge technologies shows great promise, but turning it into tangible products is proving difficult

- The Belt and Road Initiative is shifting focus to 'small yet beautiful' projects
 - China's SOEs are expanding their role in the country's economy
- While full decoupling from China seems impossible, de-risking is certainly taking place

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China's world-leading research output on cutting-edge technologies shows great promise, but turning that into tangible products is proving difficult



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The Same but Different

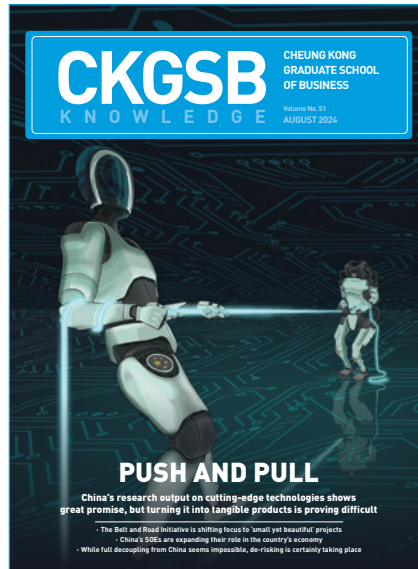
It is always important to focus on day-to-day activity to achieve success in the business world, but the minutiae also form part of larger-scale trends that can span years or even decades, and China's economy features several such trends which allow us to monitor developments. The Belt and Road Initiative (BRI), which reached its 10th anniversary in 2023, is one example and tracking its changing priorities provides a glimpse into the changes that have taken place within China over the same time period.

Initially set up as a vehicle to allow China to export excess infrastructure building capacity that had driven the country's development for the first decade after its accession to the WTO, the BRI has produced major ports, railroads and road systems across the world. But there is a limit to how many of these projects are required, as well as to what extent they can be financed. We have seen a recent shift towards "small yet beautiful" projects that seek to capitalize on China's growing expertise in areas such as green energy and electric vehicles, and this shift in priorities looks set to continue. We discuss the last 10 years of the BRI and what the future holds in our article '**Taking the Initiative**' on page 18.

Another mainstay in the Chinese economy is the country's myriad state-owned enterprises (SOEs), which have historically had a reputation for being slow-moving, inefficient behemoths when compared to their private sector counterparts. But while this may well be true, their centrality to the Chinese economy is also not in doubt. The last ten years have seen a solidification and expansion of the role the state companies are expected to play, especially given the growing economic headwinds and geopolitical tensions the country is facing. The article '**Flying High**' on page 40 takes a closer look at the subject.

And in our cover article, '**Solace in Quantum**' on page 10, we delve into the trends and opportunities for the future through the lens of the growing global race to develop new technologies. Chinese leadership has clearly emphasized the importance of the "new productive forces" that it hopes will drive the economy, and the country's related research output has been stellar. But the process of turning research into tangible commercial products has been slow, and bridging that gap is a problem yet to be solved.

Elsewhere in the issue, we are lucky to be joined by Prof. Scott Rozelle, Helen F. Farnsworth Senior Fellow at Stanford



University, who discusses the causes and implications of the rural-urban divide in China (page 15), and we cover the topic in more depth in '**Growing Closer?**' on page 32. We are also joined by the CEO of Scaled Agile, Chris James, to discuss the need for business agility in larger companies to allow them to keep pace with newer, smaller competitors (page 37).

Our hope is that you find these insights and reflections on the changing nature of Chinese businesses and the country's economy useful. If you have any comments or opinions to contribute, please feel free to contact us at ckgsb.knowledge@ckgsb.edu.cn).

Yours Sincerely,

Patrick Body
Managing Editor, *CKGSB Knowledge*

For more insights on the Chinese economy and business, please visit the CKGSB Knowledge site: <http://knowledge.ckgsb.edu.cn/>

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VALUE PROPOSITION

While a full decoupling between China and the rest of the world seems almost impossible, the de-risking process is well underway

By Sean Williams

Image by José Luna

Many companies are now pursuing a 'China plus one' strategy to lessen their reliance on the Chinese supply chain

A standing ovation when China's president takes to the stage is nothing unusual. Still, it was not an ordinary audience that applauded Xi Jinping in San Francisco one rainy night last November. Crowding into a hotel ballroom were more than 300 US political and business elites—including Elon Musk of Tesla, Apple's Tim Cook, and Pfizer head Albert Bourla—all seeking a chance to talk with the Chinese leader.

Xi, on his first visit to the US in six years, sought to soothe the nerves of the corporate chieftains—many of whom had a vested interest in maintaining good ties with China. “We are in an era of challenges and changes. It is also an era of hope. The world needs China and the US to work together for a better future. China is ready to be a partner and friend of the US,” Xi said.

The speech went down well but US-China relations remain at best cool, amid renewed talk of decoupling and now de-risking. There is recognition on both sides that full-blown decoupling—that is, the complete bifurcation of the world's top two economies—would be almost impossible, not to mention disastrous.

“Companies are not going to leave China, you can't not be in China,” says James McGregor, Greater China chairman at APCO Worldwide. “The equation has always been, this is a problematic and difficult market, but it's still the market where the largest middle class will emerge in the next couple of decades.”

De-risking—the process of reducing exposure to the Chinese market—has now superseded decoupling, but the softer language belies the negative impact that the trend has had on China in recent years.

A word of difference

As the US and China began mutually escalating tariffs on their massive trade flows in 2018-2019, the chatter of decoupling began to surface in Washington. “Decoupling was introduced mainly during Donald Trump's administration and had a tone of absolute finality to it—that you were somehow looking to completely separate the two economies,” says Ken

Jarrett, a senior advisor at Albright Stonebridge Group and former president of AmCham Shanghai. “That would be quite intimidating to most companies, as well as most fair-minded Americans or Chinese.”

There is a question of who started the decoupling process, and many analysts, such as Steven Okun, CEO of APAC Advisors and senior advisor at McLarty Associates, see the Made in 2025 policy—a Beijing-led industrial policy unveiled in 2015 that aimed at ending China's reliance on foreign technology imports—as one of the triggers.

“For many years China has been looking to improve its indigenous capabilities in strategic sectors like semiconductors and telecommunications, in part because it realized it was too dependent on foreign technologies,” says Alfredo Montufar-Helu, head of the China Center at a global think tank, The Conference Board. “That is a vulnerability that can be exploited by other governments—as is happening right now—so China's focus on building technological self-reliance via policies and initiatives like Made in China 2025 and, more recently, the development of so-called ‘new quality productive forces’ is not at all surprising. It is a matter of national security for the Chinese government.”

From the outside perspective, there has also been a growing desire to reduce dependency on China's manufacturing capability and supply chains. The de-risking strategy caught on after European Commission president Ursula von der Leyen coined the term a year ago ahead of a spring visit to Beijing.

De-risking quickly gained currency with US officials, and less than a month after von der Leyen's remarks, US national security adviser Jake Sullivan referenced her when he said Washington “converged with key European leaders in saying we are for de-risking, not for decoupling.”

“A company sourcing all its inputs from a single supplier, or even a single country, would be de-risking when it acts to diversify its supply chain. Decoupling would be eliminating any activity from a single company or supplier,” says Okun. “From the perspective of foreign businesses,

the shift in language when discussing the reduction of economic interdependence on China to include both decoupling and de-risking is more accurate.”

But the line between the two approaches is somewhat blurred, and China has complained that de-risking is in fact decoupling in disguise. The country has, however, had something of its own de-risking campaign in place, involving a state-led push to develop domestic technologies and materials, thereby curbing imports for critical supply chain segments.

“When the US and Europe do it, it’s called decoupling and de-risking. When China does it, they call it self-reliance,” says McGregor.

Fork in the road

There is evidence of some distancing between the US and Chinese economies in recent years. The US trade deficit with China fell last year to its lowest since 2010, plunging by more than \$100 billion to \$279.4 billion, according to the US Bureau of Economic Analysis. Mexico also last year replaced China as the US’s main source of imports.

The apparent parting of the ways between China and the West has been most pronounced in the finance and high technology sectors. China’s net foreign direct investment (FDI) fell to \$42.7 billion last year, down by nearly 80% from 2022 and the lowest since the country joined the World Trade Organization in 2001.

Increasingly vigorous oversight of consulting and due diligence companies, and curbs on international access to various corporate and economic databases have particularly undermined the investment case for China and prompted some foreign firms to think twice about committing more resources to the world’s second-largest economy.

Beijing also continues to maintain tight currency controls which make it difficult to move funds in and out of the country. The issue spilled out into the open briefly last year when billionaire investor Mark Mobius publicly blamed the controls for preventing him from withdrawing money out of China.

For many years China has been looking to improve its indigenous capabilities in strategic sectors like semiconductors and telecommunications

Alfredo Montufar-Helu
Head of the China Center
The Conference Board

Currency restrictions, and the more complex geopolitical landscape, have also reduced Chinese outbound FDI to Western countries. Chinese flows to the US in particular have collapsed, from \$46 billion in 2016 to less than \$5 billion in 2022.

Foreign business lobbies in China, such as AmCham and its European counterpart, have long complained about the regulations covering cross-border data transfers. A new version of the rules released in March relaxed some of the requirements, but retained an expansive interpretation of sensitive personal information that could increase the administrative burden for companies sharing data overseas.

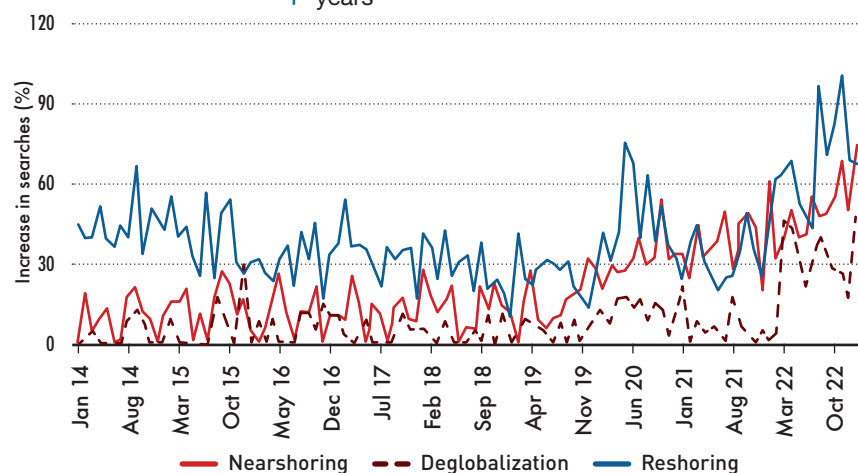
The US strategy of restricting key technologies from China has hit the

Chinese microchip industry especially hard. In response, China has mobilized tens of billions of dollars under several ‘Big Funds’ that aim to propel semiconductor self-reliance, but it is unclear if the massive investment will pay off. “Supply chains for semiconductors are so vast and touch so many countries that it’s going to be very difficult, if not impossible, for any country in the world to be able to be completely self-reliant on microchips,” says Montufar-Helu.

Washington’s watchful eye is now also extending into biotechnology. “The sector has been lurking on the sidelines for a while and now it’s definitely in the limelight,” says Jarrett. “BGI and WuXi AppTec are current targets of that effort in the US.”

SEARCH STATS

Google searches for ‘nearshoring,’ ‘deglobalization,’ and ‘reshoring’ have increased significantly in recent years



Source: CEPR



Diversification: Chinese companies are increasingly manufacturing in countries like Vietnam

Foreign business lobbies have also long complained that China's controls on the internet limit business competitiveness.

Brussels shouts

The US is not alone in seeking to recalibrate its economic relationship with China. The EU's position took a distinct turn in 2019 when it called Beijing "a partner for cooperation, an economic competitor and a systemic rival"—a shift in messaging that aligned Europe closer to the US. A landmark EU-China trade and investment pact announced in 2020 then failed to pass the European Parliament, as tensions rose sharply after China responded to EU sanctions with sanctions of its own.

More recently, EU-China ties have been further strained by the deepening alliance between China and Russia following the invasion of Ukraine, and surging exports of Chinese electric vehicles (EVs) to Europe that could threaten the continent's automotive industrial base.

China has sought to offset the growing discord by boosting economic engagement with the Global South. Beijing feted world leaders from developing countries last October when it hosted a forum to celebrate a decade of the Belt and Road Initiative (BRI), which still enjoys strong support in many areas of the Global South. Non-financial FDI from China to BRI partner countries surged by 22.6% year-on-year in

2023, twice as fast as the overall growth of 11.4%

Turning a new leaf

Keenly aware of discontent among many foreign business people, the Chinese government has launched a charm offensive. Shortly after China's annual legislative meeting the State Council released an action plan listing 24 measures aimed at boosting foreign investment, including easier procedures for visas and residence permits.

There has also been a recent flurry of engagement at the highest levels of the American and Chinese governments. US National Security Adviser Sullivan met Chinese foreign minister Wang Yi in Bangkok in January, while Xi followed up his meeting with US President Joe Biden in San Francisco last November with their first phone call since July 2022. In April, Treasury Secretary Yellen visited Guangzhou, where she voiced rising concerns about China's industrial overcapacity.

Beijing has also stepped up efforts to rebuild bruised relations with Europe. It took the surprise step of offering visa-free travel for six European countries last December, and expanded the measure to further nations in March.

The outreach has also taken the form of more high-level face-to-face diplomacy—Wang Yi toured Germany, Spain, and France in February in an effort to thaw relations, while commerce minister Wang Wentao visited Paris in April to argue Beijing's case over European scrutiny of Chinese EV industry practices. This all laid the groundwork for a trip to Europe by Xi in May. Momentum appears to be building as a result. The number of new foreign-invested firms set up across China in January-February grew by 34.9% year-on-year.

Defanging de-risking

While it works to assuage foreign concerns, Beijing is also attempting to mitigate the impact of de-risking by emphasizing "new productive forces," a term that refers to future-facing disruptive technologies.

[More companies are now recognizing]
that a JV might give some welcome
protection



Ken Jarrett
Senior Advisor
Albright Stonebridge Group

Take the arms race over semiconductors for instance—despite US sanctions, the Chinese industry still appears to be making strides in advanced chips, with Huawei last year unveiling an unexpectedly advanced, self-designed 7-nanometer (nm) chip to power a flagship smartphone.

Further progress is expected, but this will be slow, and there is no guarantee China will ever catch up to US leadership at the cutting edge of microchips.

Chinese businesses in the private economy have also adopted a de-risking mindset as they look to sidestep the commercial impact of geopolitical tensions. Mexico, seen as a backdoor for the US market, has seen investment from China surge in recent years—by IMF estimates, mainland Chinese FDI in Mexico grew from \$744 million in 2018 to \$1.19 billion in 2022

The increase can be attributed to Chinese companies “nearshoring” operations in Mexico to bypass US tariffs on Chinese imports. Proximity also makes Mexico a tantalizing possibility for firms targeting the US market because companies do not need to wait weeks for goods to be shipped from China. Morocco, by dint of free trade agreements, appears to be serving as a similar Chinese conduit to European and American markets, as several Chinese battery metal players have announced investments in the North African country.

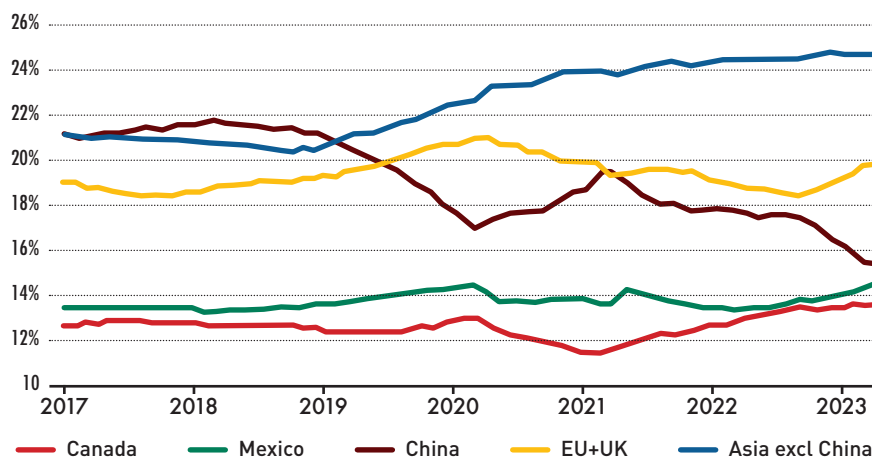
Chinese firms are going to great lengths to deflect anti-China sentiment from the US and other countries concerned by Beijing’s policies. Some—such as SHEIN, the world’s biggest fashion retailer, and Pinduoduo, the world’s second-largest e-commerce platform—have relocated their headquarters outside China, perhaps in an effort to play down their Chinese origins.

Though the challenges are rising, business surveys indicate exiting China completely is unfeasible for most foreign businesses. Rather than reduce their China presence, many companies are focusing on insulating their China operations from rising tensions. Some, such as Apple, are making progress in creating alternate production

IMPORT INTERCHANGE

While other imports are rising or plateauing, Chinese imports into the US have been falling

Percentage of US goods imports



Source: CATO Institute

bases outside of China, while others, such as ExxonMobil, VW and BlackRock are opting to silo their China operations, walling them off from the global business so that they can withstand disruption from potential scrutiny or sanctions.

Jarrett also points to a trend of foreign companies trying to look more local. “It could mean localizing your executive team, a transition that has been underway in American companies for quite some time already,” he says. “More companies are thinking about joint ventures (JV), even though for many years nobody wanted to enter into a JV. Now there’s a recognition that a JV might give some welcome protection.”

Many foreign companies are also pursuing a “China plus one” strategy, moving some production out of China, even though the approach comes with extra costs. “China plus one still has to pass the business case, it’s not free,” says McGregor.

De-Day

While many corporate executives and officials resist the notion of decoupling, there is little doubt that efforts to reduce economic exposure to the Asian powerhouse are gathering pace. Intensifying scrutiny from the US and EU indicates decoupling

and de-risking are unlikely to fade, especially as China looks to future-facing technologies to revive growth.

“What we’ve seen out of Washington in the last few months is a taste of things to come,” says Jarrett. “At first the focus was on semiconductors and artificial intelligence. Now we’ve moved onto made-in-China cranes in US ports, Chinese EVs, biotechnology, and TikTok. More and more issues are getting folded into the national security category. People will start to anticipate what else could be next because you don’t want to make a long-term investment in an area that in a year or two is now on a blacklist.”

Even as multinationals look to spread their exposure more evenly around the globe, they can play a positive role in encouraging dialogue between China and an increasingly wary West. Business has always been common ground between the two, and could yet be what keeps tensions from spiraling further.

“The US and China look at each other as strategic competitors. I worry about it slipping into strategic adversaries,” says McGregor. “That’s why the business bridge is extremely important, it’s the ballast in the relationship between countries. We have to figure out how to keep that business bridge going.”

SOLACE IN QUANTUM

China's research output on cutting-edge technologies shows great promise, but turning it into tangible products is proving difficult

By Helen Zheng

China's innovation targets are centrally-driven, in contrast to more market-driven development in the rest of the world

At the key National People's Congress (NPC) session in March, in which China's economic priorities were laid out, "new productive forces" was named as the country's top priority for 2024, with the slogan reflecting the growing desire of Chinese leaders for high-technology-driven development.

These new productive forces are disruptive innovations capable of propelling the country to the forefront of the global tech race. To do so requires both high-quality research and a thriving innovation environment among the country's enterprises, and while China's research numbers are strong, translating that into tangible products is proving difficult due to economic and geopolitical headwinds.

Despite an increase in R&D spending as a portion of GDP, China's 2.64% outlay

in 2023 was on par with the EU, but still far below that of 3.5% in the US. China will need to do more to close the gap, especially now that its access to externally-developed disruptive technologies is dwindling.

"There is a gap between China and the leading pack," says Alicia García-Herrero, Chief Economist for Asia Pacific at NATIXIS. "For a long time, China has accessed disruptive innovation from the rest of the world, and that has made it easier to go through the applied innovation process. But that is getting harder to do now, and China has realized that it needs to close the gap itself. It's going to be a tough thing to do."

Key technologies

The technologies viewed as critical are not always the same in all countries,



Image by Jamie Stevenson

but there is inevitably some overlap, especially where economic and national security interests align, such as advanced telecommunications.

“China’s priorities have shifted away from engineering existing technologies to looking more towards original science innovations such as quantum computing and brain integration with computer vision,” says Tilly Zhang, China technology analyst at China macro research firm Gavekal Dragonomics. “These are areas that nobody has fully covered before, by any means, and China hopes this can help them lead the next possible industrial revolution.”

For China, a document released by the Ministry of Industry and Information Technology (MIIT) in January set out the industries of the future:

1. Future manufacturing: such as

humanoid robots, the industrial metaverse and biological manufacturing.

2. Future information: which includes next-gen telecoms, large AI models and quantum computing.

3. Future materials: such as advanced semiconductors, holographic displays and superconducting materials.

4. Future energy: referring to nuclear and hydrogen energy and high-efficiency solar cells, among others.

5. Future space: which targets space, deep sea and deep earth development.

6. Future health: advances such as brain-computer interfacing and cellular and genetic technologies.

“Many of these technologies are also frequently emphasized in the policies of the

US, EU, Australia and Japan,” says Laura Gormley, research analyst with Rhodium Group’s China Practice “Ambitious national support schemes, coupled with the strong demand for disruptive technologies, will speed up indigenization and result in fiercer global competition in these sectors.”

State of play

One indicator of technology leadership is high-impact research output, and here we see a surprising dominance for China across the majority of key technologies. In 2023, the Australian Strategic Policy Institute (ASPI) published its Critical Technology Tracker, which follows research development in 64 critical and emerging technology domains, many of which align with the MIIT industries.

According to the data it released in



Academic Output: China's researchers are producing large numbers of patents

September 2023, China currently leads the world in 53 of 64 key technologies, including advanced radio-frequency communications (5G and 6G), nanoscale materials and manufacturing, synthetic biology and supercapacitors.

In some areas the lead is by a large enough margin that it could be considered at risk of developing a technological monopoly. For example, when it comes to electric battery research, the ASPI data suggests that China publishes 65.5% of all high-impact papers on the topic, with the US in second place, publishing just 11.9%.

For the 11 key technologies where China is not in a leading position, including genetic engineering, quantum computing, and atomic clocks, it sits in second place behind the US—with varying degrees of separation in terms of percentage, including some gaps that suggest a potential US monopoly. Other than these two countries, only India and South Korea also find themselves in the top two in any of the fields.

“China used to be the student, and the US was the teacher, but that has all changed now and there is much greater parity in the relationship, and several areas where China is excelling,” says Denis Simon, Clinical Professor of Strategy and Entrepreneurship at the UNC-Kenan-Flagler Business School.

While the research statistics are impressively in China's favor, the infancy of many of these technologies means

that commercial business applications are often few and far between. “There are some sectors, such as robotaxis and the ‘low-altitude economy,’ where commercialization is well on the way,” says Zhang. “But there are others where it will take time for products to come to market. A prominent professor in the Quantum Technology field suggested it would be at least a decade or two before anyone will be able to really commercialize those technologies.”

Currently, several Chinese companies are at the leading edge of global industry in their sectors, such as CATL for battery production and development, Huawei in the telecoms space and a number of innovative firms in the AI space, such as Alibaba, Tencent, Kuaishou and Xiaomi. There are also state-backed examples such as the surveillance tech firm, Hikvision.

But China is still behind in many key areas. For semiconductors, China is the largest producer of legacy chips—28nm chips and above—but these are now a decade-old technology and are not powerful enough to run the most up-to-date AI models or computing technologies. The country lags in the manufacture of advanced chips, which are a vital part of any cutting-edge technology.

“In terms of chip manufacturing and chip manufacturing equipment, China is at least five years behind its foreign counterparts,” says Zhang. “Some of the things that companies are trying to

deliver on now are machines that [world-leading Dutch semiconductor equipment manufacturing firm] ASML had initially delivered as far back as 2003.”

According to Zhang, China is doing better in terms of chip design, where the lag is only around a year or two. In some cases domestic players such as Huawei can already compete at the same level as international powerhouses such as NVIDIA. But without proper manufacturing equipment and capabilities, the ability to design cutting-edge chips does not easily translate into real-world value.

How the system works

Turning research into technology is a complex process and requires a great number of different inputs. These include availability of state or private funding, talent availability and opportunities for international collaboration. “Right now if you look at the research collaborations around the world it's clear that the most powerful collaborative partnerships are between US and Chinese scientists,” says Simon.

“Capabilities in upstream and downstream industries are also important,” says Gormley. “Access to critical inputs needed to produce technology, and downstream demand can determine whether research gets translated into innovation.”

China's approach to technological development is very state-centric when compared to other global technology leaders. Government funding accounts for around 60% of financial inflows into China's science and technology ecosystem, while of the total R&D funding in the US in 2019, 72% came from the private sector.

Much of the state funding for science and technology development actually comes from the local government level, which, according to Rhodium Group statistics, accounts for around two-thirds of all state funding within the ecosystem. The funding from local governments almost exclusively follows centrally-decided targets and has generally proved fruitful in driving development, producing many leading firms, and cultivating industry clusters that play a role in driving

innovation.

“China’s centralized approach enables a strategic concentration on crucial industries and technologies, accelerating the development of sectors considered vital for national interests, like AI and sustainable energy,” says Daniel Cheng, Deloitte China TMT Industry Leader.

Another state-led source of R&D funding is equity investments made through government guidance funds (GGFs), which raise capital through public and private sources. In 2022, GGFs accounted for at least \$12.3 billion in funding to high-tech companies, but they have, in many cases, failed to meet investment return targets.

Enterprises themselves fund the large majority of commercial R&D in China, with around 87% of the most innovative firms reinvesting their own finances to support innovation.

“China’s general international patent output is quite competitive, but that is not the case for core disruptive technologies like AI, semiconductors or quantum,” says García-Herrero. “The US remains by far bigger than everyone else. Also very importantly, of the patents in China a big chunk of them, and perhaps even half, are from foreign companies operating in China.”

Technically correct

While it has often been thought that decentralized systems are more amenable to innovation, China’s state-capitalist approach has its benefits. The interconnectivity of the state, state-owned enterprises and banks and technology firms provide something that has been termed “the complete value package,” providing resources and support in a way that boosts Chinese firms, while at the same time making it very difficult for foreign players to operate in the market.

“The system’s positive influences manifest in various ways, including setting strategic directions, issuing supportive policies, providing active guidance, and rallying enterprise strength,” says Cheng. “By delineating clear goals and offering substantial support, the government plays a pivotal role in shaping the trajectory

of technology sectors and encouraging collaboration among businesses.”

Although many GGFs have failed to reach their revenue targets, they have performed vital functions in developing strategically significant industries. The GGFs offer a way for policymakers to utilize market discipline and expertise through the provision of long-term, stable investment capital for companies trying to bridge the gap between product discovery and commercialization.

The major beneficiaries of this system have been the country’s tech-focused small- and medium-sized enterprises (SMEs), 98,000 of which have been identified by MIIT as “Specialized SMEs” and more than 12,000 as “Little Giant” SMEs, meaning that they receive government benefits as part of the acceleration system. The system is designed to promote competition between these SMEs.

“The government’s capability to mobilize extensive resources toward specific objectives facilitates rapid advancements in infrastructure, research, and technology,” says Cheng. “An example is China’s investment in quantum computing, demonstrating significant resource allocation to a cutting-edge field with the potential to transform computing and cryptography. The launch of the world’s first quantum satellite highlights

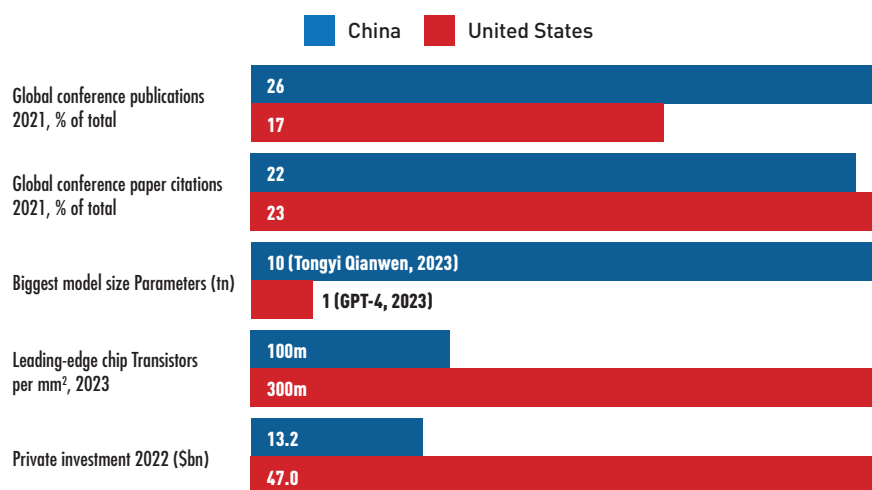
China’s commitment to pioneering in this advanced technology area.”

Higher levels of educational attainment in the Chinese workforce over the past few decades have also been a positive factor in helping the country innovate, particularly the increase in the number of students studying STEM subjects abroad. Many of these students have remained overseas for their work, but a growing number have been returning to Chinese shores in recent years to work in well-resourced laboratories and high-tech companies. According to the National Bureau of Statistics, returnees outnumbered new overseas students for the first time in 2020, and 2021 saw over a million students return to China.

Wider societal support is also a strength for China, with the World Value Survey showing that China is one of the most appreciative countries when it comes to S&T. Technology has become not only a symbol of national security, but equally a driver of individual prosperity, and has been embraced with enormous enthusiasm. For instance, internet and mobile payment adoption in China has been very fast, and according to the European Chamber of Commerce, Chinese consumers demand new products and product features at a much faster rate than their European counterparts.

CHIPPING IN

There are marked differences in AI progress between China and the US



Source: The Economist

Coder's block

Specific industrial targets related to national policies can show dividends in some localities, but others lack the proper expertise to do sufficient due diligence, leading to sub-par investment strategies. Another issue is that forcing a local government to prioritize a specific industry may not properly utilize existing competitive advantages in an area, as well as draw funding away from existing sectors that form a vital part of a province's ecosystem. The heavy political priority-driven focus has also historically led to issues in the development of market-viable products, whereas the market-driven R&D approach tends to be more consistent.

China also faces some macro barriers, both internal and external, in its aim to reach pole position in the international tech race. The largest of these is the current slowdown in the Chinese economy, which has forced companies and government entities to reduce spending, especially in some areas of innovation where returns are long-term and not necessarily guaranteed.

There is also the issue of short-termism in the minds of the local government officials in charge of funding allocation and prioritization. Officials typically hold positions for five years before moving on, and they tend to maximize short-term output over long-term sustainability.

"China's innovation system is centralized in its words, but not necessarily in its details," says García-Herrero. "People think that the industrial policy is very clear-cut, but it can often be confusing and the different choices made by local governments can create a competitive environment. It's a similar reason why industrial policy is a challenge for the European Market."

There are also limits to how far some industries can go. "Investments in strategic industries linked to Made in China 2025 resulted in the build-up of production capacity from 2016 to 2020," says Gormley. "In many industries, supply has expanded beyond what can be supported by current demand, resulting in challenges with widespread overcapacity, the effects

of which will continue to manifest in coming years."

Gormley adds that the outsized and growing role of SOEs in China's S&T system can also be problematic due to their lower efficiency. "Though SOEs have increased their R&D spending faster than private firms in the past few years, they produce, on average, far fewer higher-quality international patents," she says.

There are also implementation and coordination challenges, a clear example being a lack of interlinkage between AI data centers. "Local governments were encouraged to build up AI data centers at a lower level to support local AI computing power tasks," says Zhang. "But in reality, local governments have outsourced these orders to state carriers like China Telecom and China Mobile and they are competing with big cloud computing players such as Alibaba and Tencent. They're all now fighting over resources and local computing power is becoming increasingly fragmented."

China's geopolitical relationships are also having an impact, with vital technologies for innovation now under limitations leading to bottlenecks in some areas and forcing the country to try and catch up rather than work on developing something new.

The US in particular has placed limitations on China including export controls, investment and import restrictions and has bulked up its own industrial policies in certain areas.

"The export controls have had impacts here and there, but in terms of China-US differences, the real answer is that the US is running while China is still walking," says García-Herrero. "They are spending massive amounts of money on development through the private sector that China can't match."

Foreign investment into Chinese tech development is also down, with overall FDI into China reaching a 23-year low in 2023. While plummeting investment is clearly exacerbating China's economic slowdown, the lack of openness and transparency is more of an issue as it impacts talent acquisition and

collaboration opportunities.

"Attracting more talent is very important to turning theoretical research into significant tech breakthroughs that are applicable to industry," says Zhang. "This is related to having an open, rewarding and transparent environment and it seems somewhat barren in that sense in China at the moment."


Technical progress

China's system has its advantages, with the country boasting more state-backed funding vehicles to support innovation than probably any other country, and the goals as defined by the system are clear.

"Facing the challenges of globalization and geopolitics, China is rapidly becoming self-sufficient in its technology supply chain," says Cheng. "This represents a major shift from being primarily a manufacturing and assembly center to one that increasingly emphasizes original design and core technology development, positioning itself at the high end of the global value chain."

But while the quality and scope of research output put the country in a position to succeed, there are a number of barriers to turning theory into commercially viable products. Innovation is almost always driven by collaboration, transparency, and diversity, and China's system does not lend itself well to these things. Without some changes, therefore, it will probably be difficult long term for the country to compete at the top in as many areas as it wants to.

"Changes such as overall lower S&T spending will not necessarily impede China's ability to develop as a global leader in prioritized strategic sectors," says Gormley. "They could, however, slow China's development of a well-rounded innovation ecosystem—the kind that facilitates technology spill-overs, fosters the emergence of next-generation innovation, and keeps talent and resources mobilized."

"It will be hard for China, but their mindset has changed now, so perhaps that might make it possible," says García-Herrero. 

Mind the Gap

Professor Scott Rozelle, Helen F. Farnsworth Senior Fellow at Stanford University, discusses the need for more early childhood education to help close China's rural-urban divide

As the second-most populous country on Earth, China faces a gargantuan task when it comes to equitable development within its borders. The last two decades in particular have seen massive GDP growth in the country as well as a shift from a low- to middle-income economy. But while the eradication of poverty was officially announced in 2020, there is still a notable rural-urban divide, which, if left alone, would have long-term consequences for the country's ambitions of escaping the middle-income trap.

In this interview, Professor Scott Rozelle, Helen F. Farnsworth Senior Fellow at Stanford University, discusses the long-term impact of a rural-urban divide on education levels, the impact of China's *hukou* registration system and the potentially different outcomes of an industrial versus post-industrial world.

Q. What are the major impacts, both general and economic, of a large rural-urban divide in a country such as China?

A. The biggest consequence of a rural-urban divide is that it really doesn't allow for the natural large-scale urbanization of countries

to occur. And at least over recent decades in the post-industrial world there are no high-income countries where more than 10% of the population lives in a rural area or in agricultural industries.

If you think of Japan, where three quarters of the population lives between Tokyo, Kyoto and Hiroshima, or South Korea, where half to three-quarters live in either Seoul or Busan, the reason that works is that there is a mass conglomeration effect for urbanization. Moving rural people into cities results in higher quality human capital. There are any number of benefits, and there are no high-income countries in the world where this hasn't happened, but China is lagging very far behind.

One of the issues in China is that there are two definitions of urbanization. In the most liberal definitions, by June of the census year [2020] there were between 60-70% urban people and the rest rural. But if you look at residency permits (*hukou*) then

it's almost exactly the opposite. The trouble is that those with rural *hukou* can't permanently move to cities without changing to an urban *hukou*, but that requires things like having their land being bought up or them gaining a higher level of education and job than



Scott Rozelle is the Helen F. Farnsworth Senior Fellow and the co-director of Stanford Center on China's Economy and Institutions in the Freeman Spogli Institute for International Studies and Stanford Institute for Economic Policy Research at Stanford University.

many immigrants typically have.

Looking the other way, there are a number of schemes aimed at improving healthcare and education in rural areas, but the cost is high and the quality is low, and that can also have costs on both the fiscal and GDP sides.

Q. Where do the main discrepancies in China's rural and urban populations lie?

A. Education is probably the biggest disparity. If you look at the elite universities across the country, such as Peking University and Fudan University, less than 5% of the students have two parents with rural hukou. At the same time, 65% of kids in China have two parents with rural hukou, so there is a clear disparity there.

The other major issue is healthcare. We have a lot of studies, done through sending standardized test patients [using symptoms for diseases without outward symptoms] to rural village clinics

or township hospitals, which have shown in many cases that the probability of you being negatively affected by the proposed treatments is higher than the probability of getting better. When you look at urban China, there are obviously still some issues with the services, but generally the healthcare is significantly better than in rural areas, and in some cases, world-class.

A third one is unemployment insurance. There is a lot of discussion about the 20% rate of urban 16-24 year old unemployment, but if you do the math, that works out to around 10-15 million people. Still significant, of course, but in April 2023, of the 600 million rural people in the labor force nearly half of them couldn't find a job.

The difficulty here is that their *hukou* is linked to a farm back home, and they are therefore not technically considered unemployed by the state. The farms they have don't tend to be large, and they can make in a city in three or four weeks what their parents back home make in a year. Rural individuals between 18 to 40 years old that lose their jobs in urban areas should be counted as unemployed (because most do not know how to farm and have never farmed), but are not.

Q. What are the underlying causes of these disparities?

A. The *hukou* system is behind so much of it. A rural *hukou* limits schooling opportunities, access to healthcare and it's harder for kids to go with their parents when the parents get jobs in the cities. This also has any number of longer-term effects on their development and prospects, which has a wider economic impact as well. For example, their chances of going to college are very slim compared to their urban counterparts.

There have been some changes to the *hukou* system in some parts of China, but mostly these are taking rural and urban *hukou* inside counties or prefectures and allowing for movement anywhere inside them. This means that many rural families in those areas will move to the county seat, buy or rent an apartment which allows them access to healthcare and their kids to school there. For many reasons, this is a good deal and in the short run there are many positives.

But I worry about the longer run, as the movement of any number of low-income citizens into smaller cities is much less likely to drive industrial development in those areas. What happens when the children grow up? How and where do they get a job?

Q. There are some that argue that these issues will be less relevant in a post-industrial world. To what degree do you agree with that idea?

A. There are some people that argue that I'm too industrial society-oriented, and there absolutely could be major changes to come in the future. But a lot of the post-industrial work will still be technologically-related, and to be able to use that technology and understand that you can use it requires a certain level of education.

China is starting to fill that knowledge/access gap by moving people to the county seats, but it's unclear how fast that will overcome it. Perhaps the post-industrial jobs will move to where

There is clearly a route for a larger amount of private sector involvement in closing the rural-urban gap

they are, but taking examples of what is already happening, such as rural sellers sending produce directly to consumers on platforms like Pinduoduo, there are still issues. The people who are doing it tend to already have higher education levels, they have the required computer skills, language skills and they are able to do some level of finance and accounting. A large majority of rural individuals are unable to compete in this newly unfolding economy.

Q. To what degree can the private sector play a role in reducing the country's rural-urban divide?

A. As an economist I'm very much in favor of the private sector taking a large role. Developmentally-speaking, if you look at all of the high-income countries in the world, none of them have large SOEs at the heart of their economies, so there is clearly a route for a larger amount of private sector involvement in closing the rural-urban gap.

Of course, the government needs to provide education and health services, and China still has one of the lowest-educated labor forces in the entire middle-income world, so there is still a lot of need for improvements in education. It starts with early childhood education, from 0-3 really, and then on into higher quality pre-schools and elementary/junior high schools. That is going to take investment and it's going to take time.

I think there is an opportunity for a shift in investment from things like infrastructure to these services, even if that results in a lower growth rate overall. China growing at 2% for the next 35 years will still double their economic size in not too short a time, and that would still be a rich country. In this meantime, they could make a lot of progress in educating that workforce for their new high-income, high-skill economy.

Q. What are the main negative issues caused by China's rapid economic development?

A. One of the major issues is that China has gone from being a poor- to middle-income country but the education level of the labor force has not improved at the same rate of growth. This is because, going from poor- to middle-income, you have four sources of growth, you mobilize inputs, marketize, remove inefficiencies and then you grow productivity. But once you get to middle-income, in order to move to high income you only have one major growth source, and that is productivity growth, and you have to remove things like labor intensive industries. This is why there are 85 to 100 countries in the world that have been in the middle-income bracket for the past 70 years. They just can't escape the middle-income trap.

China is currently going through that process of trying to move from middle-income to high-income, and it's hard to tell how they can continue to grow with their relatively poorly educated labor force. Of course, we don't want China to become stuck in the middle-income trap, but to avoid stalling out, I believe China needs to aim for a trajectory where it will escape from the trap slowly and surely. To do that, however, it needs to make sure its economy is ready to be a high-income one, and that requires higher


China is starting to fill that knowledge/access gap by moving people to the county seats, but it's unclear how fast that will overcome it

education levels which in turn requires sustained investment into human capital for long periods of time.

Q. What do you see as important factors for the development of China's economy in the coming years?

A. China has a number of high-quality industries, including electric vehicles and solar power, as well as sectors such as agriculture and textiles, which all tend to be more market-driven than not. But there are a large number of industries that make up an economy and in order for the country to grow at a certain rate, each of those sectors also needs to grow at a commensurate rate.

There are often comparisons made between China's situation now and that of Japan, where the latter had a small number of the strongest industries in the world, for example electronics, automobiles and chemicals, but failed to grow properly overall for a long period of time. I think China has an opportunity to avoid that, and there is a great opportunity for more market reforms to enable this, while the government oversees industries to avoid things like monopolies, as well as providing public goods and services.

We all want China to succeed. A failing China is both bad for China and for the rest of the global economy. 

Interview by Patrick Body

TAKING THE INITIATIVE

The Belt and Road Initiative has seen a number of successes and setbacks over the last decade, but it is now focusing more on 'small yet beautiful' projects

By Patrick Body

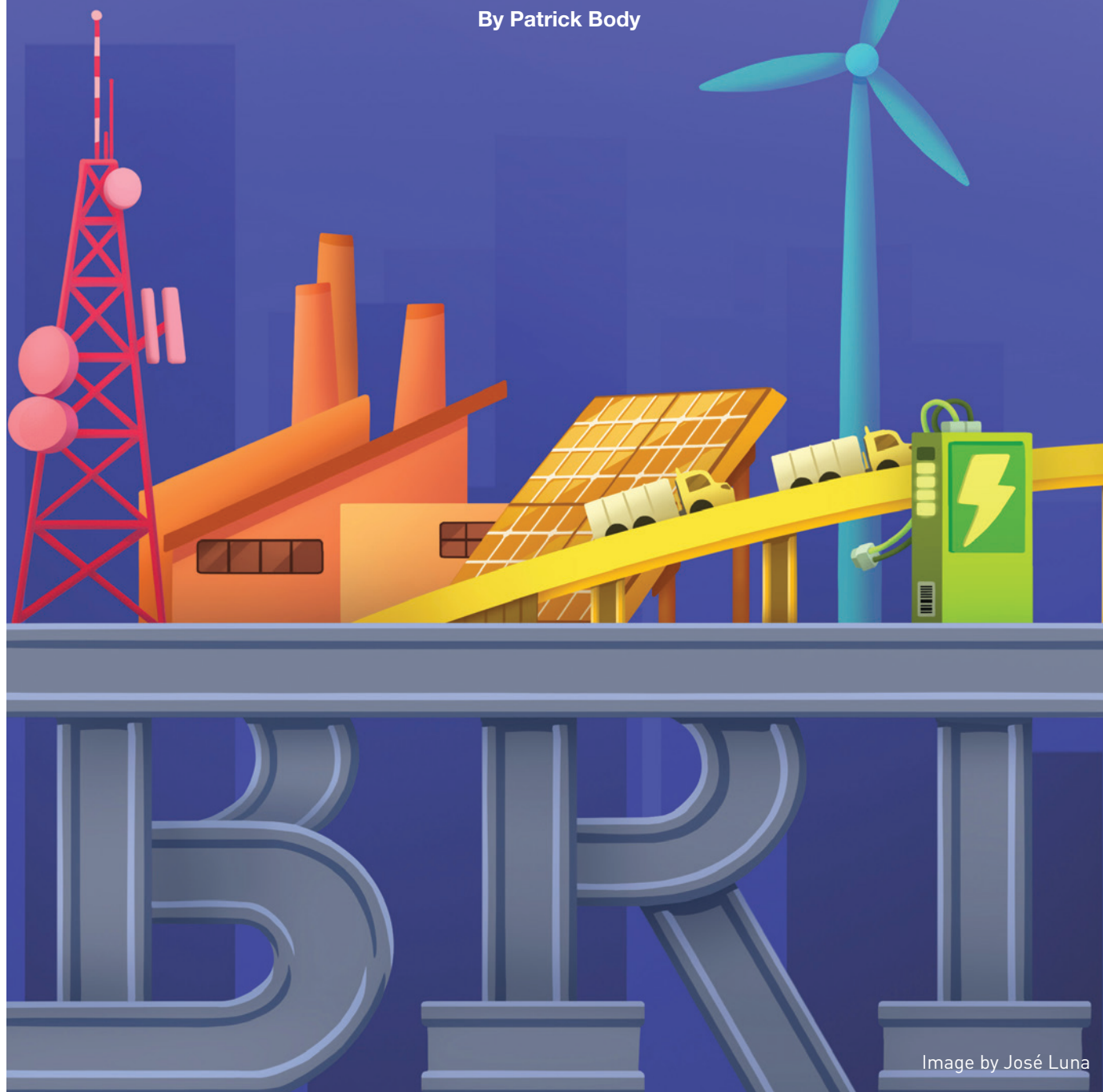


Image by José Luna

The focus of the BRI is shifting to projects aligned with China's national strategic priorities

If you had attended the 2019 Belt and Road Forum in Beijing, there is a chance you could have bumped into one of seven different EU leaders. Just four years later, however, only Hungarian leader Viktor Orbán made the trip to the Chinese capital, and one of the seven countries, Italy, has left the Belt and Road Initiative (BRI) altogether.

The October 2023 forum marked the 10th anniversary of the BRI, and in spite of the lack of attendance by some countries' leaders, it marked the coming of age of the initiative, with new characteristics. At the forum, Chinese leader Xi Jinping made it clear that the focus will now be on more yuan-denominated, and what he termed as "small yet beautiful," projects, as opposed to the monolithic infrastructure undertakings of the past.

Along with a greater focus on the Global South, these changes are set to a background of criticism of various parts of the initiative, such as financing. But what is clear is that the BRI is here to stay and it is providing a useful tool for China across the world, both economically and politically.

"The BRI is many things to many people," says Dominic Chiu, Senior Analyst, China and Northeast Asia at Eurasia Group. "First and foremost, it is China's global program to offer public goods to the world, especially to developing countries. But the Chinese government policy is also realistic, it also hopes to gain both economically and politically from the BRI."

Showing initiative

China's rapid economic expansion since the turn of the 21st Century is well documented, and integral to this has been the country's massive infrastructure development. But by the early 2010s, domestic demand for infrastructure development was beginning to be outstripped by supply, and a new home was needed for some of this capacity. At the same time, the launch of the BRI in 2013 offered a chance at a greater political and economic role on the global stage.

As of the end of 2023, more than 200 BRI cooperation agreements have been signed with over 150 countries and 30 international organizations, and, according

to the China Belt and Road Initiative Investment Report, 2023 saw around \$50 billion in BRI-related investment, the highest it has been since 2018. The decade mark also saw cumulative BRI engagement pass \$1 trillion, with around a 60-40 split between construction contracts and non-financial investments.

In 2023, investment grew across most of the Global South, and a decrease in Latin America and the Caribbean does not indicate much in the way of future trends, as BRI investment into specific regions has regularly fluctuated throughout the initiative's history. Overall there has been an upward trend in engagement since the last fall in 2019.

Projects have ranged from traditional infrastructure such as ports, roads, and railways, to digital advancement programs including telecommunications infrastructure, satellite television, and Wi-Fi. More recently, green technology and renewable energy projects have come to the fore. China's energy-related engagement in 2023 was the greenest in absolute and relative terms of any period since the BRI's inception, reaching \$7.9 billion. The battery sector saw another \$8 billion in engagement.

"China's capacity in green technologies has expanded significantly, particularly over the last 10 years, and this has been reflected in the BRI," says Christoph Nedopil Wang, Professor of Economics and director of the Griffith Asia Institute at Griffith University. "In the olden days you would have expected developed countries would benefit mostly from this, but there are actually a lot of emerging economies, particularly in Southeast Asia that have benefited from China's green technology investment."

Making headway

For a global initiative of such scale, the BRI can be considered a success by a number of metrics, and has met many of its original goals of helping deal with infrastructure overcapacity, providing value for both China and recipient countries, and helping build goodwill.

Market development has been a key benefit of the BRI, with projects playing

a role in creating new markets for Chinese goods and services. The initial major infrastructure projects, such as roads, railways and ports, are now able to be used by other businesses, including a growing number of private enterprises, to enable increased trade.

“It’s not just a case of building the infrastructure, and then the infrastructure sits there,” says one European analyst. “It’s also that Chinese companies are often piggybacking on to this, meaning a lot of Chinese companies are now invested in parts of the world that they might not have been, had the infrastructure not been built in the first place.”

“Taking Africa as an example, China’s trade has gone through three stages,” says Tao Zhigang, Professor of Economics and Strategy at CKGSB. “The first was low-end business, selling clothes and the like. The second was the large SOEs coming in and doing the large infrastructure projects. Now that the infrastructure is ready, we’re seeing the third stage, and that is the involvement of larger businesses, including many private enterprises, approaching the markets as they would anywhere else and conducting much more profitable business.”

As a result, there are now a number of privately-owned Chinese companies that have been set up with non-domestic targets in mind, including Shenzhen-based mobile phone manufacturer TECNO Mobile. The company has no real presence in the China market but utilizes the country’s supply chain advantages by manufacturing most of

its products domestically, before exporting them to the target markets for which they are specifically designed, most of them BRI participant countries.

China has also gained access through the BRI to a wide range of resources to support its domestic supply chain, now with a particular focus on the green transition. Chinese engagement in metals and mining reached \$19.4 billion in 2023, the highest level since 2013 and up 158% from 2022. Engagement is spread across Africa, Southeast Asia and Latin America, and is increasing in its verticality, with companies now engaging more in downstream activities in the source country on top of simple resource extraction.

“Securing resource access has been almost tangential to the BRI,” says Nedopil Wang. “It is driven by a desire to shore up the domestic supply chain, but the development of various infrastructure projects through the BRI has certainly helped the process.”

China has also gone some way to increase its soft power impact in many BRI countries. Soft power is difficult to quantify, but often the key balancing act for countries in terms of international allegiances lies between national security and the economy, and China isn’t necessarily aiming to claim pole position for both.

“The geopolitical ambition of the BRI and broader Chinese statecraft in a lot of the developing world is not so much trying to get countries onto China’s side, but it’s trying to get countries to a position of

neutrality,” says the analyst. “The countries will often still view the US and institutions like NATO as a security provider, but China has very quickly become their primary economic partner.”

For recipient countries, there have been some benefits to participating in the BRI, including the aforementioned market development that has occurred at a speed and scale that would not have been possible without Chinese financing and expertise.

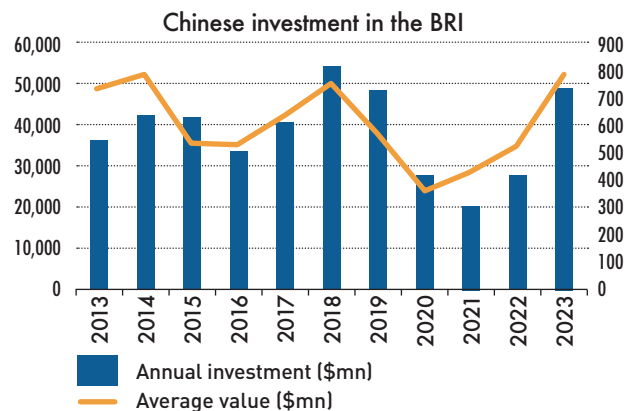
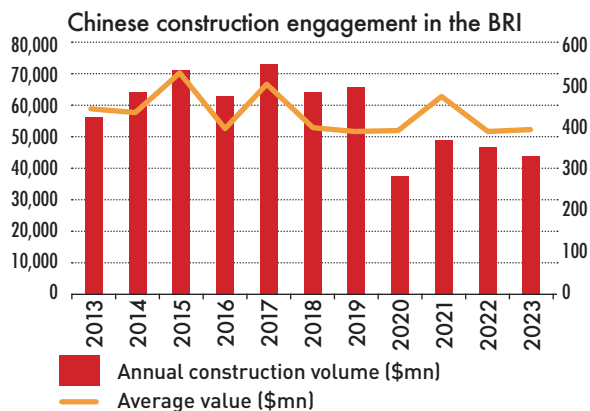
Tightening belts

While there have been positive outcomes from the BRI, for both China and the countries that have received BRI-related spending, the initiative has not been without its controversies. These range from small, project-related issues to larger concerns regarding China’s approach to deal-making or geopolitical impacts.

At a project level, there have been several criticisms of built infrastructure either being left incomplete or failing to meet specifications, and in some cases falling apart after only a short period of use.

China has also been accused of undertaking ‘debt-trap diplomacy’ by financing projects with a low level of commercial viability, something which the country has always denied. Sri Lanka’s Hambantota port is the most cited example, where the China Harbor Engineering Company built a port that many analysts argued lacked any real level of viability. Following an economic downturn in the country, Sri Lanka was forced to turn to

SPENDING SPREE | While average construction engagement in the BRI is plateauing, investment is rising



Source: Green Finance & Development Center

the IMF for a bailout and the government needed a way to raise funds, for which the poorly-performing port was a prime candidate. Subsequently, a contract to operate the port for 99 years was secured by China Merchants Port Holdings.

“In Sri Lanka, the construction of ports and airports, financed by Chinese loans, became emblematic of the ‘debt-trap’ narrative, however, the complexity of the debt dynamics, including interest rates, repayment terms, and project viability, often obscured a clear understanding of the situation,” says Yasiru Ranaraja, Founding Director of education and consulting platform Belt and Road Initiative Sri Lanka. “Many challenges can be addressed more effectively with improved transparency and communication throughout the project lifecycle.”

Hambantota is not the only example, and the specter of unpayable debt now hovers over a number of BRI countries. According to a 2023 report by the research institute AidData, which tracks development finance, China is now owed around \$1 trillion, similar to their total outlay, with 80% of that debt being held by countries classed as being in financial distress.

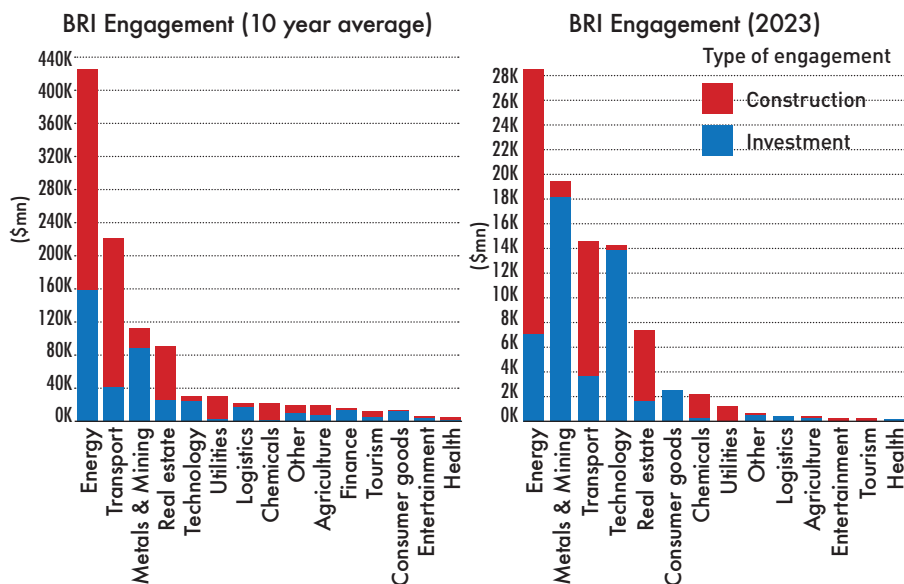
By the end of 2021—the most recent data available in the report—Russia, the largest recipient of BRI funding, owed \$169.3 billion, the most of any country. And given that these figures were prior to the war in Ukraine, it is very likely that the number is now much higher. Other major debtors are Venezuela, owing \$112.8 billion, Pakistan, with \$68.9 billion in debt and Angola, which owes \$64.8 billion.

“The debt issue is increasingly becoming a challenge that China is facing, and in several cases, it is unclear whether or not Beijing is going to get fully paid back,” says Harry Broadman, a former White House and World Bank official, who is now at the RAND Corporation and WestExec Advisors.

At least 23 zero-interest loans to 17 African countries have been canceled. Beijing has worked with Zambia to restructure some of its debt, but this only accounts for a very small percentage of overall debts. At the October 2023

SECTOR SPECIFIC

In sectors such as Metals & Mining, BRI engagement was very investment heavy in 2023 compared to the 10-year average



Source: Green Finance & Development Center

BRI forum, a revamped debt appraisal framework was announced, the new rules beefed up criteria to assess the economic growth of borrowers, aiming for a more prudent approach in assessing growth risks.

Another pertinent issue is who exactly is party to the deal-making process, given that many of the governments in recipient countries are associated with notable levels of corruption.

“In many of these emerging markets, the people who sign on the dotted line are either heads of government or finance ministers, who frankly, in practice, are somewhat untethered from the bulk of the population’s best interests,” says Broadman. “Moreover, because the countries tend to be less developed, their leaders, too often, don’t face pressure to engage in robust public dialogues. This is an issue that may well come back and bite China insofar as trying to fulfill Beijing’s stated objective of furthering the economic development of the countries.”

More concerns arise with accusations that China acts somewhat like a colonial power by importing Chinese workers, failing to develop local capacity, and extracting resources for local benefit.

Some larger and more developed recipient countries have begun to push back, such as Indonesia in a deal with battery manufacturer CATL which requires a certain amount of resource processing to be done in-country prior to export, but many are not in a position to do so.

Additionally, where Chinese-made products and services are incompatible with non-Chinese technology, they can effectively lock countries into purchasing any future upgrades from China.

“There is a role for China to play on a global stage in terms of standard setting for the future of technologies,” says Nedopil Wang. “The way things are, there is a short-to medium-term risk of countries being locked in to Chinese technology, so there is a need for more international standards to avoid this.”

Refocusing

The BRI is currently going through a period of change, something that is to be expected of any initiative of such a scale, and the need for these changes stems from both the natural progression of the initiative over time, as well as the shifting nature of the external environment.



The BRI is unique in its size and scope, in part due to deals being done between a variety of international and domestic stakeholders

The announcement of a shift in investment towards “small yet beautiful” projects is an example of natural adaptation combined with external pressures. At a fundamental level, there are only so many major infrastructure projects a country needs, and this means that for those that have already built major ports, railways and road infrastructure, any more would be surplus to requirements.

“Smaller is also more sustainable from a financial perspective because Beijing is currently holding a lot of debt from a lot of countries that are not necessarily able to handle that debt,” says the analyst. “The BRI must continue, but doing that in a way that doesn’t saddle China with even more debt relies somewhat on smaller projects.”

At the same time, headwinds at home, caused by domestic economic struggles and exacerbated by the results of growing geopolitical tensions, mean that the state financing of projects may be becoming more difficult.

Also discussed has been the promotion of more yuan-denominated projects as part of BRI investment, which tracks with China’s increasing desire to have the RMB provide a legitimate alternative to US dollar hegemony in international trade. But, as with China’s other efforts to increase international usage of the RMB, how fruitful these efforts will be in the long term remains to be seen.

The other major change in focus of the BRI relates to the types of investment being made and in which sectors, many of which align with the existing national economic priorities in China. This is something of a mirroring of the overcapacity for infrastructure that was originally at the heart of the BRI.

China’s progress in renewable energy has been remarkable, and the country is

now a global leader in sectors such as solar power and battery technologies. For solar energy in particular, prices within China are dropping due to an abundant supply, and domestic firms are under pressure to expand beyond the country’s borders.

“There may well be a shift towards diversification in BRI projects, moving beyond traditional infrastructure development to include investments in digital infrastructure, green energy projects, and initiatives focused on sustainability and climate change mitigation,” says Ranaraja.

Alternatives

The BRI is unique in its size and scope, in part due to deals being done between a variety of international and domestic stakeholders from both the public and private sectors. Although there are several multilateral institutions worldwide that offer financing for development projects, such as the World Bank, the Asian Development Bank (ADB) and the IMF, there is no single-country-led initiative that matches the BRI.

There are many infrastructure development ‘corridors,’ such as the Japan-led East-West Economic Corridor, several of which pre-date the BRI and may have even facilitated the Chinese initiative to some extent, with many recipient countries viewing them as complementary. After all, for a participant country, receiving a power plant and an industrial park are two separate benefits, regardless of whether they were funded through different initiatives.

In recent years, the US launched the Development Finance Corporation, which partners with the private sector to finance solutions to critical challenges in the developing world. The Biden administration, alongside G7 partners, also announced the Build Back Better World (B3W) initiative

as a direct alternative to the BRI in terms of funding, but also with a focus on climate, health and health security, digital technology and gender equity and equality.

But despite their goals, tangible results, particularly in the case of the B3W, have been lacking, and publicity for the initiatives is sparse. “Even at the time of the announcement it was not exactly clear what the B3W was trying to accomplish,” says Broadman. “It came across both through its structure and timing as something of a knee-jerk reaction and doesn’t appear to be particularly well thought out.”

Hitting the road

The BRI is not without its difficulties, including financial fairness, the sustainability of how and with whom deals are made, and the potential impacts of China’s domestic economic slowdown. But on the whole it has been positive for China over the past decade, fulfilling many of its original goals and broadening the country’s role on the international stage as a development actor.

This growing influence means that the initiative has been somewhat subsumed into a larger question of how the world is organized. For some, it is an indicator of an increasingly polarized world, while others argue that it is a part of an overall shift in the global status quo.

“The BRI has 100% been part of a large political and economic shift,” says Nedopil Wang. “China would probably not have been able to do this 20 years ago, but it was 10 years ago and still is now. And it’s able to do it now in a greener way than 10 years ago.”

What also seems clear is that the initiative will continue to exist and develop for as long as the political will domestically remains strong.

“The BRI is here to stay and it’s going to continuously evolve and adapt,” says Chiu. “Over the next few years, it will have to deal with the legacy problems from the first phase, such as debt, and it also has to keep focusing on expanding its new phase, being more targeted, selective in recipient countries, and looking more at the profitability of its projects.”

Spend or Save?

China's post-COVID consumer spending recovery has not happened as quickly as some predicted, but there are some sectors which are showing promise



by Amy Ying Huang, Senior Economist, CKGSB Founding Dean's Research Center

The 2024 Chinese New Year (CNY) holiday marked a notable resurgence for the film and entertainment industry in China, outpacing the performance of both the preceding year and the pre-pandemic era, demonstrating a resilience that has not yet been seen across all consumer industries in the country.

Box office revenues during the 7-day holiday reached ¥8.02 billion (\$1.11 billion), a record high and an increase from ¥6.76 billion during the same time period in 2019. But, while these numbers show promise of a return to pre-pandemic spending trajectories, there remains a lack of overall momentum in the economy, underscored by faltering consumer confidence.

To understand the extent to which the resurgence seen in the film industry is an indication of a broader recovery within China's consumption market, we need to examine the country's historical spending

patterns and their relationship to wider economic shifts. Analyzing Chinese household expenditure—the amount of final consumption expenditure made by resident households to meet their everyday needs, such as food, housing, transport, health costs, education and leisure—through a historical lens is crucial to obtaining a comprehensive understanding of the prevailing market dynamics.

Free spending

China boasts the world's largest middle-class demographic, and there were already over 140 million middle-class households in the country by 2017, according to the definition provided by China's National Bureau of Statistics. This typically encompasses a three-person household earning between ¥100,000 (\$14,082) to ¥500,000 (\$70,414) per year.

As income levels grew and property

ownership rose, China's middle-class demonstrated a growing penchant for spending. And this shift extended beyond basic necessities to encompass various entertainment-related items, mirroring consumption patterns among the middle-classes in developed Western economies.

Consequently, Chinese urban households were progressively allocating more of their budget to discretionary expenditures such as healthcare, entertainment and education prior to the onset of the pandemic, trends underscored by notable annual growth rates in these categories from 2014 to 2019.

But the emergence of the COVID-19 pandemic led to significant shifts in consumer behavior, disrupting these growth patterns and, as a result, growth in discretionary spending decelerated, with expenditure increasingly favoring non-discretionary essentials.

The lockdowns and restrictions imposed due to COVID-19 then put limits on almost all in-person consumption, a persistent decline in consumer confidence, resulting in lower household spending on non-essential goods and a growing inclination towards saving.

The enduring effects of the pandemic have also prompted a reassessment of Chinese household expenditure, marked by a noticeable pivot away from discretionary expenses towards essential non-discretionary items. Notably, food emerged as the sole category exhibiting growth surpassing pre-COVID levels during the period spanning 2019 to 2022. Over the same period, spending on entertainment experienced a downturn, reflecting constraints on outdoor activities imposed by pandemic-related restrictions.

Stunted recovery

In early 2024, a year after the relaxation of COVID restrictions, there were signs of a gradual resurgence in household spending. In particular, travel activities serve as harbingers of recovery. High-frequency data associated with the Spring Festival holiday, including metrics such as subway ridership, highway congestion and railway passenger volume, all indicated a rebound in mobility levels across China.

According to statistics from the Ministry

of Transport, between January 26th and February 13th, the cumulative interregional population movement within the country totalled approximately 4.16 billion person-times (the total number of individual cases of travel), with an average daily flow of about 220 million. These figures represent increases of 15.3% and 11.0% compared to 2023 and 2019, respectively.

This boost in travel statistics during the holiday reveals encouraging indicators for China's household spending. But when looking at the wider picture of China's consumption market, there are reasons for less optimism when it comes to a complete return to pre-pandemic trends.

On the surface, headline growth figures suggest robust retail sales performance in 2023, but a deeper examination reveals a different story. The 7.2% year-on-year growth in retail sales in 2023 was largely driven by the exceptionally low base of the previous year, which actually contracted by 0.2% compared to 2021. When considering the average growth rate for the period spanning 2022-2023 to mitigate base effects (which can occur when previous data is either unusually high or low), it becomes evident that the recovery in domestic consumption remains a prolonged endeavor.

On average, retail sales grew by a modest 3.5% during 2022-2023, notably

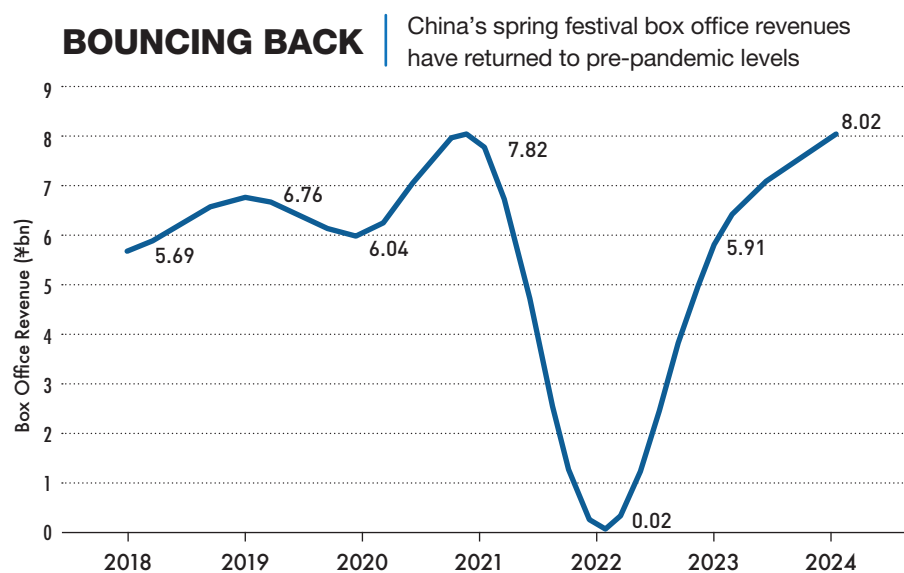
lower than the 8.4% growth recorded during the pre-pandemic period of 2018-2019. Besides, retail sales growth moderated in the last month of 2023, standing at 7.4% year-on-year compared to the previous month's figure of 10.1%. While some of this deceleration can be attributed to the waning impact of favorable base effects, quarterly data indicate a broader moderation in consumption growth momentum during the fourth quarter. This aligns with the persistent fragility in consumer confidence and sluggish growth in household income.

Extra charges

Overall, there are several obstacles impeding the full recovery of China's household purchasing power. Firstly, the country's real estate market is enduring a prolonged downturn, underscored by a persistent decline in both property investment and sales. Official statistics revealed a 6.5% decrease in housing sales in 2023, while projections from Bloomberg Economics suggest that the housing sector's contribution to China's gross domestic product (GDP) may diminish to approximately 16% by 2026, down from its current level of around 20%. This downturn has particularly impacted China's middle class, who heavily rely on housing as a significant portion of their assets, with around 70% tied up in property.

This situation can also be exacerbated by the wealth effect, a phenomenon whereby individuals' perception of their wealth influences their spending behavior. When property values rise, individuals feel financially secure and are more inclined to make substantial purchases. Conversely, as housing prices fall, consumers experience a contraction in their spending power and become increasingly hesitant to engage in high-value transactions.

This intricate interplay between real estate dynamics and consumer behavior underscores the profound impact of the housing market on China's economic landscape. As the market continues to grapple with challenges, including affordability concerns and regulatory interventions, navigating this terrain



Source: CEIC, CKGSB Analysis

requires a nuanced understanding of the underlying dynamics shaping both household wealth and consumption patterns.

Additionally, low family incomes have been compounded by a weakened labor market and sluggish income growth during and following the pandemic period. In 2023, the nationwide per capita disposable income stood at ¥39,218, equivalent to approximately \$5,300—significantly below China’s overall GDP per capita of \$12,622.

Despite the lifting of restrictions, job creation remains subdued, with official data indicating a total of 12.44 million jobs created in urban areas in 2023, marking an 8% contraction compared to 2019’s figure of 13.53 million. A substantial and sustained improvement in hiring is necessary to stimulate income growth and, subsequently, household spending.

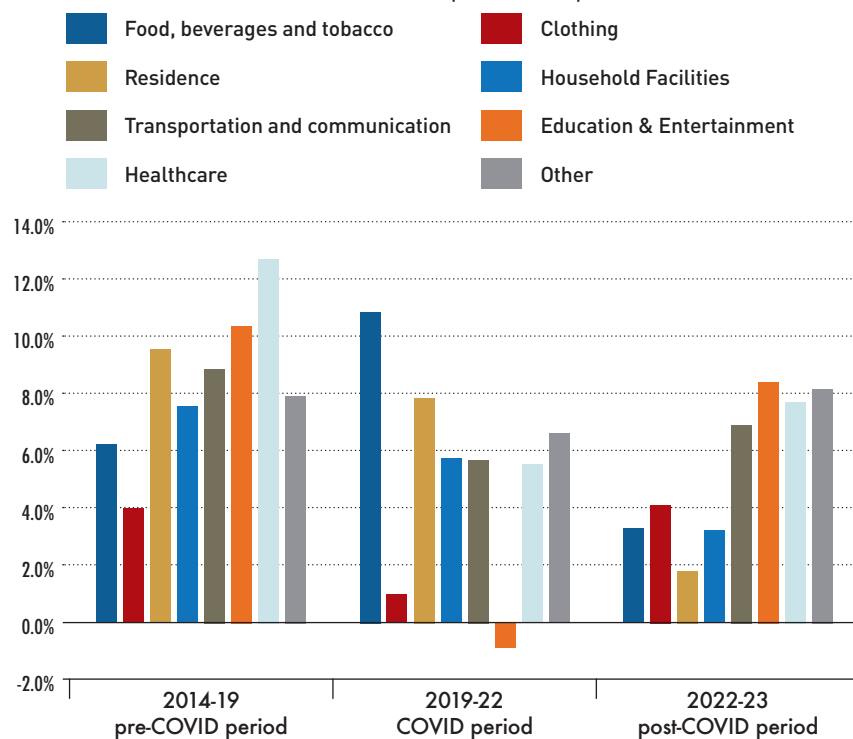
Furthermore, consumer confidence has also been dented by the pandemic and subsequent economic slowdown. The Consumer Confidence Index plummeted to 86.7 in April 2022, a stark departure from historical levels well above 100, signalling a major shift into negative sentiment. To date, the index continues to languish in negative territory.

While marginal improvements were seen towards the close of the year, concerns persist regarding the effects of this prolonged economic adversity on consumer behavior and confidence levels, particularly among a generation experiencing their first encounter with a significant economic downturn.

While we are again witnessing a positive trend in households engaging in some discretionary activities, particularly in domestic and international travel, there have been other shifts in consumer behavior. Spending per instance of travel has diminished and despite having more disposable income due to reduced spending on major investments like property, there’s a reluctance to splurge on luxury items.

Value for money and enjoyable experiences are now taking precedence, indicating a preference for mobility while maintaining frugality. This trend is anticipated to persist in the coming years.

SHAKY RETURN | China’s household consumption is still noticeably lower than prior to the pandemic



Source: CEIC, CKGSB Analysis

Tightened belts

In summary, domestic private consumption recovery appears to be gradual in the near term. The absence of a favorable low base effect, alongside subdued consumer confidence, underscores the challenges ahead. The resurgence of consumption hinges on stabilizing the property sector, improving labor market conditions, and fostering income growth.

During the 2024 Two Sessions in March, China announced an annual GDP growth target of 5%, along with the creation of an additional 12 million new urban jobs. This goal aligns with that of 2023.

Thanks to a better-than-expected Q1 GDP performance of 5.3%, many entities have upgraded their forecasts for China’s 2024 overall economic growth. For example, the IMF now projects GDP growth for the year at 5%, up from its previous forecast of 4.6% made in April.

But despite overall economic growth, the consumption market still shows signs of weakness. In the first quarter of 2024, retail sales of consumer goods increased by only

4.7% year-on-year, a deceleration from the 8.4% growth seen in Q4 of 2023. Thus, achieving a significant overall improvement in China’s consumption market presents a considerable challenge.

While both central and local governments have recently tried to bolster the real estate sector by stimulating home purchases with interest rate reductions and the lifting of purchase restrictions, it is unlikely that such efforts alone will lead to a robust short-term housing market recovery. As a result, households may find themselves with discretionary cash for expenditure on tourism and entertainment due to deferred property investments. Nevertheless, they may also continue to exhibit frugality in their spending habits, opting for less spending for each outing and restaurant meal, as evidenced by heightened caution in post-COVID consumption behavior and amidst uncertain labor market conditions.

This cautious approach to expenditure may potentially become a prevailing trend in household spending patterns over the next five years.

Influence Through Infrastructure

Richard Carney, author of *China's Chance to Lead: Acquiring Global Influence via Infrastructure Development and Digitalization*, discusses the correlations between recipients of Chinese overseas spending and the growing importance of digital exports

China's overseas spending has, in recent years, refocused away from Western economies towards the low- and middle-income countries of the Global South. This has, from the China side, been largely driven by the Belt and Road Initiative (BRI) over the last decade, but there are also some clear correlations between the political structures of many of the recipient countries which make them fertile ground for Chinese lending.

In this interview, Richard Carney, author of *China's Chance to Lead: Acquiring Global Influence via Infrastructure Development and Digitalization*, discusses the political conditions in many countries that facilitate greater Chinese overseas lending, the generally positive impact of Chinese infrastructure projects for recipient countries and the growing importance of digital exports.

Q. Where has Chinese overseas spending been targeted in recent years and what are the trends in terms of investment channels?

A. Prior to COVID, spending on infrastructure projects specifically focused a lot on low- and middle-income countries, such as those in Southeast Asia, the Middle East, Africa and Central Asia, with some important exceptions in higher income countries.

COVID, of course, had a big impact on those projects and what resulted was a shift in emphasis towards digital exports, partly by way of the BRI, and global health concerns, which created a very good justification for introducing Chinese digital products, both physical infrastructure and services, to help with the tracing of COVID in recipient countries.

After COVID, there has been a reorientation away from the very large construction projects towards “small yet beautiful” and more sustainable projects. There has been a clear pre- and post-COVID divide in focus.

Q. To what degree are there similarities between the recipient countries?

A. While “low- and middle-income countries” can function as umbrella terms, there are also links between the political structure of a country and the level of demand for Chinese spending. Most

noticeably this appears to be in countries where there is a high level of state ownership in the corporate sector, combined with a high reliance on the ability of political leaders to deliver resources to specific groups.

In turn, this occurs most prominently in what would be called ‘semi-competitive’ political territories, which tend to be countries



that have a dominant ruling party and allow for opposition, but those opponents don't typically get that many seats in the legislature—Malaysia and Singapore are both good examples.

Q. What is your sense of the impact of Chinese spending on recipient countries over the last decade?

A. The impact varies, and in a large part that can depend on the political structure of the recipient country. If you're in one of the semi-competitive territories or even a non-competitive one such as the UAE, there is often less voice given to concerns about environmental impact or local community impact, and this will change various aspects of the overall impact of the project.

But when you get to these more competitive jurisdictions such as Indonesia, for example, you see more concerns being expressed over such issues, and you end up seeing more thought being given to solutions. The Piraeus port in Greece is a good example, as China was very aware of the need to proactively address certain issues in a country such as Greece to placate local concerns, and they did a good job there.

In general, though, spending has largely been beneficial. Projects, as long as they are finished, have positively contributed to growth in many of the low- and middle- income recipient countries. There are, of course, some important caveats such as debt and project quality, but generally there is a positive correlation.

In advanced economies, the OECD countries for example, there has also been a bit of blowback due to concerns over China's ownership of various strategic assets, including ports or companies producing certain technologies.

Q. China has been criticized by some for the conditions attached to its loans. To what degree is this criticism valid and what changes, if any, do you expect in the future?

A. A vital part of the argument in the book is that these loans and projects are primarily driven by the interests of the recipient countries. China has obviously offered help to complete projects, but it is the recipient country that will initiate the discussion.

In many cases, the loan itself is not necessarily full of difficult caveats, it more depends on how and why the projects are being implemented. There are a number of examples of China-financed projects being undertaken for the domestic leaders' own political gain, without consideration for the broader economic gains, and there is then a potential for these projects not to deliver as well as perhaps they could.

One such example is the railway project in Kenya. They had four options to choose from in terms of price, and the World Bank recommended the second least expensive, but Kenya, with China as the contractor and financier, went for the most expensive option. This choice was not made because of Chinese pressure, which is often how it is portrayed; it was because the Kenyan government preferred that option as it would provide solid political credit for the upcoming election in the country, rather than producing the best long-term ROI for the country as a whole.

Richard Carney is the author of *China's Chance to Lead: Acquiring Global Influence via Infrastructure Development and Digitalization*. He is also associate professor of Global Studies and Director of the Division of Global Studies at the Chinese University of Hong Kong, Shenzhen.

Q. To what degree is digital infrastructure an important part of China's overseas investment strategies?

A. It is becoming increasingly important. The initial impetus for the BRI was the export of surplus infrastructure capacity, alleviating debt burdens and maintaining employment. But that quickly transitioned into introducing Chinese digital infrastructure like 5G Wireless, telecommunications and related services such as e-commerce and logistics etc., which were either introduced as part of the infrastructure projects, so smart infrastructure, or as additional or complementary digitally-related projects. And this has really become the main driver of outbound spending in recent years and economically where a lot of the big opportunities lie.

These opportunities are for Chinese companies to enter foreign markets, to introduce smart manufacturing into host economies and for the local economies themselves. And in many cases, it is as simple as getting these places connected to the rest of the global economy.

Another big strategic benefit for China is that introducing its technical standards through the export of digital products such as 5G towers often locks users into future purchases or continued Chinese project management. Many of the technologies tend to only be compatible with other products using Chinese standards and may not be compatible with Western devices, meaning long-term benefits for China.

Q. To what extent has China's investment been successful in terms of creating new markets for Chinese goods?

A. An interesting case study here are the number of semi-competitive jurisdictions in Africa and Central Asia that have displayed a high demand for Chinese infrastructure spending, which in turn contributed to an elevated demand for Chinese digital technology imports. Initially this was largely bilateral between China and each recipient country, but because there's a concentration of them regionally, it led to the opportunity to create a regional economy where countries can trade or communicate and engage in all kinds of services and other related economic functions with each other. China is playing a central role in all of that because they are the one providing the infrastructure and hardware, but also software and cloud services.

Q. To what degree are the types of projects important for China when compared to the overall benefit of being an investor?

A. It really depends on which company or SOE is involved on the Chinese side. But more generally, China is looking to upgrade its manufacturing capabilities and is therefore interested in promoting the building of industrial parks in foreign locations, where

companies can take advantage of low-cost labor and relocate their low-skilled manufacturing. This allows China to upgrade its domestic manufacturing sector whilst maintaining some control of the lower end of the supply chain. There is also the securing of natural resources that has a high level of importance, which in turn requires solid infrastructure. And of course, digital exports.

The key is that China is looking for long-term projects. The project is not just about constructing the asset, but also managing the asset and these tend to be public-private partnerships. Take a port, for example. China will build the port in three to five years and will then manage it for another 20 years. It is quite a notable long-term commitment and this helps sustain the relationship, as well as helping with initial interest from the Chinese side.

Q. Given the recent announcements of a shift in BRI strategy and China's various economic headwinds, how do you expect the BRI approach to shift?

A. There is a clear need for sustainable infrastructure investment over the next few decades and much of this demand will come

In advanced economies...there has also been a bit of blowback due to concerns over China's ownership of various strategic assets

from developing countries. The challenge is finding investable projects where the risk is not too high, the product is well specified etc. But I do also think the reason China is placing an emphasis on the "small yet beautiful" projects is because it is concerned with its own capacity to fund larger projects, as well as the recipient country's ability to carry debt.

Q. To what extent have there been international responses to the BRI and how effective have they been?

A. There has been the American B3W [Build Back Better World], and other initiatives by the EU and Japan, as well as joint initiatives like those between Japan and India. Japan has arguably been the most successful in its attempts, but it has been limited and it is certainly not on the same scale as what China is doing with the BRI. Additionally, with the Asian Development Bank it's more of a multilateral initiative, rather than the hybrid bilateral approach of the BRI.

There is a recognition, particularly in the West, that this is a hugely important topic and there needs to be some sort of response, because when you look at the share of global GDP coming from low- to middle-income countries it's now around 60%, and rising quickly. We're currently in a moment where, over the next 25 or so years, there will be a complete change in the structure of the global economy relative to the past 75 years.

So, the advanced economies recognize they need to do something to compete with China during this period of change, and given that these emerging economies are likely to become major economic powers, maintaining influence is critical. But although they recognize this, so far they've not been particularly successful.

Q. How do you see Chinese spending targets and motivations changing over the next five to 10 years?

A. There are some basic trends in the global economy that favor China and in some ways, they are independent of what China's domestic economic policies are. The first relates to the non-democratic nature of many developing countries, which is not in the interests of the OECD and, by default, is in China's interest. The second relates to their speed of growth, which given China's involvement, proves beneficial to China.

The third point is urbanization, which is happening predominantly in these low- and middle-income countries, especially Sub-Saharan Africa. And this urbanization creates a demand for sustainable or smart infrastructure which is precisely what China is good at. Never mind whether China can meet all of the demand, you can be confident the West won't, or at least will do so with conditions that the leaders of recipient countries will not favor. If that's the case then China is the only real alternative at this time. I do think that China will be able to address a larger share of the demand than many expect because of its surpluses in exports, manufacturing, and forex. ■

Interview by Patrick Body

Two Modes, One End Game

China's new energy vehicle manufacturers are taking two different approaches to the production process



By Huang Chunyan, Professor of Finance at CKGSB; Shi Yingbo, Research Assistant at the CKGSB Case Center

One of China's largest mobile phone manufacturers, Xiaomi, recently unveiled a new product, one that was much too large to be handheld. It was a car, the Xiaomi SU7. What is of interest about the car, aside from the fact it is produced by a phone company, is the manner of its production.

The SU7 was manufactured through a 'dispersion' model, whereby a number of different independent manufacturers all make parts for a product to be sold by a specific company under its brand. The model has been wildly successful for consumer electronic goods, and Apple's iPhone is a good example. But this is now being experimented with in China's new energy vehicle (NEV) market, with major

players Li Auto, Nio and US firm Tesla also using a similar model.

BYD, on the other hand, the world's largest NEV manufacturer, is the lead proponent of an alternative production model, which could be called 'consolidation.' This involves the brand controlling as much of the supply chain as possible and using outsourcing only when in-house production and management of a given component is untenable. This approach has made BYD dominant. According to the China Association of Automobile Manufacturers (CAAM), BYD's current domestic NEV market share is 33.5%—meaning for every three cars sold in China, one of them is a BYD.

The dispersion model seeks to harness

the power of the market and the innovation potential of a large collection of smaller firms to produce a high-quality new product both quicker and cheaper. The consolidation model seeks to harness one's own resources to compete in the market, bringing together as much of the supply chain as possible under one banner to beat out the firms whose bottom lines are at the mercy of the market.

There are several benefits to the consolidation model where dependence on outsourcing is limited. Given that keeping things in-house can lower transaction and information costs when compared to those of competitors, companies are able to price their products more competitively. Additionally, the ability to closely observe

the entire production process tends to ensure quality.

There are also drawbacks. Organizational sprawl and bureaucratic inefficiencies can pose significant challenges, particularly during economic downturns or shifts in market dynamics, leading to what is called the “big company disease.”

Conversely, the dispersion model embraces a more decentralized approach to resource allocation. By tapping into a diverse network of suppliers and partners, companies using the model can achieve greater agility and cost-effectiveness. Apple did not invent it, but is by far its biggest beneficiary and proponent, having invested heavily in its supply chain and outsourced to myriad smaller firms which can produce faster and innovate more.

But coordinating activities across such a wide network of suppliers can be challenging, potentially leading to logistical bottlenecks and quality control issues. Moreover, heavy reliance on external partners exposes companies to risks such as supply chain disruptions and intellectual property vulnerabilities.

In essence, while both models offer distinct advantages, they also present unique challenges. Achieving a balance between internal capabilities and external collaborations is key to navigating the complexities of today’s business landscape effectively.

Model comparison

China is the undisputed center of the NEV industry and everything from core

components such as batteries, electronic drive control and electronic management systems to seat cushions and steering wheels can be acquired, and most importantly, assembled quickly and efficiently in China. In this booming market, there is steady competition between the dispersion and consolidation models of business.

BYD

Successful development in the early stages of any industry requires large amounts of capital, expertise and innovation. The consolidation model allows for the entire iterative process to be kept in house, meaning there is no back-and-forth with the supplier over necessary modifications to ensure a working prototype and eventual final product. If a firm invests the necessary industrial and R&D costs, they can enter on the ground floor of an industry and benefit from having a first-mover advantage.

Originally a battery manufacturer, BYD has benefitted substantially from investing in the development of a consolidated NEV business. Their H1 2023 performance report shows that the company’s gross profit margin grew to 18.33%, up from 13.51% the year before, exceeding Tesla’s gross profit margin of 18% in Q2. BYD now has around 30% market share in China when it comes to NEVs, and was the first auto manufacturer to produce 5 million NEVs.

This success is largely down to its early investment in developing a consolidated production model, which the company still uses today. External inspections by both UBS and Nikkei Asia have confirmed that

the majority of high-value components in the BYD SEAL, such as the electric drive axle, batteries, circuit boards and high voltage components are all produced in-house.

But, to say that BYD is a consolidated company does not mean it has no outside sourcing. The company has around 60 core suppliers, a third fewer than Tesla.

Tesla

The dispersion model can be especially difficult to implement, requiring both heavy capital and innovation investment as well as active reputation and client management. Tesla, which has seen success using the model, faced similar issues when getting started. Automobile manufacture is a capital intensive industry and without the necessary reputation and finances, suppliers are hesitant to participate, making the dispersion model available only to a select few firms.

A key part of Tesla’s success in making inroads in the China market has been developing its own local supply chain. The company has developed relationships with a number of local firms, including CATL for batteries, Ningde Tuopo Group for lightweight aluminum alloy chassis, structural parts and other components, Wencan Group for other body parts and Guangdong Hongtu for aluminum alloy brackets.

As of 2022, Tesla had 89 Tier-1 suppliers and 1,195 Tier-2 suppliers. Comparatively, traditional car manufacturers such as Volkswagen and Toyota generally have over than 200 Tier-1 suppliers and more than 1,800 Tier-2 suppliers, but those vehicles can also require around three times the number of parts.

Huawei

Huawei provides another angle to analyze the dispersion model in China. Given that NEVs can be thought of as smart terminals on wheels, rather than using a number of suppliers to help create individual car components, or build it entirely itself, Huawei simply adds the final component—software. Since 2019, they have invested over ¥30 billion and 7000 staff to R&D in



A key part of Tesla’s success in making inroads in the China market has been developing its own local supply chain

the smart car segment.

Unlike many of its competitors, Huawei has, as a result of this strategy, seen remarkable success in the short-term. Essentially all new entries into the NEV market, save for Nio and Tesla, lose thousands of dollars on each new vehicle rolling out of the plant. But Huawei, just three months after its entry into the sector, approached the break-even mark, with ¥4.7 billion in sales revenue for its smart car business for 2023.

Huawei plans to spin-off the smart car division of the company, and it is hoping to attract equity from investors to build up the business. Their strategy is certainly distinct when compared to other new players in the market, but it has yielded them considerable short-term success.

Xiaomi

The dispersion model did not originate with NEVs, and Xiaomi has also used the approach to great success in their cell phone business, generating hundreds of billions of RMB. Utilizing that cash, Xiaomi has attempted to replicate their success in the NEV market and it now has a supply chain that includes around 90 enterprises, on par with Tesla.

But unlike Tesla, Xiaomi's late market entry has provided a number of benefits: significant speed in zero-to-one iteration—creating an entirely new product from scratch; mature consumer education and market cultivation; and a large pre-existing brand image that provides huge marketing potential.

Even with all of these benefits, Xiaomi is still playing catch-up. One major challenge now is ensuring the quality of its cars and whether the dispersion model can stand the test of mass production. But an even more important challenge is improving profit margins. From the beginning of its cellphone business, Xiaomi marketed itself as having the ultimate price-to-performance ratio, but doing the same with cars will be difficult. Even if the company manages to pass the two hurdles of quality control and mass production, gaining a comfortable profit margin and the confidence of investors will take a long time.



Different Paths: EV manufacturers in China are divided between diversified and consolidated supply chains

Staying in lane

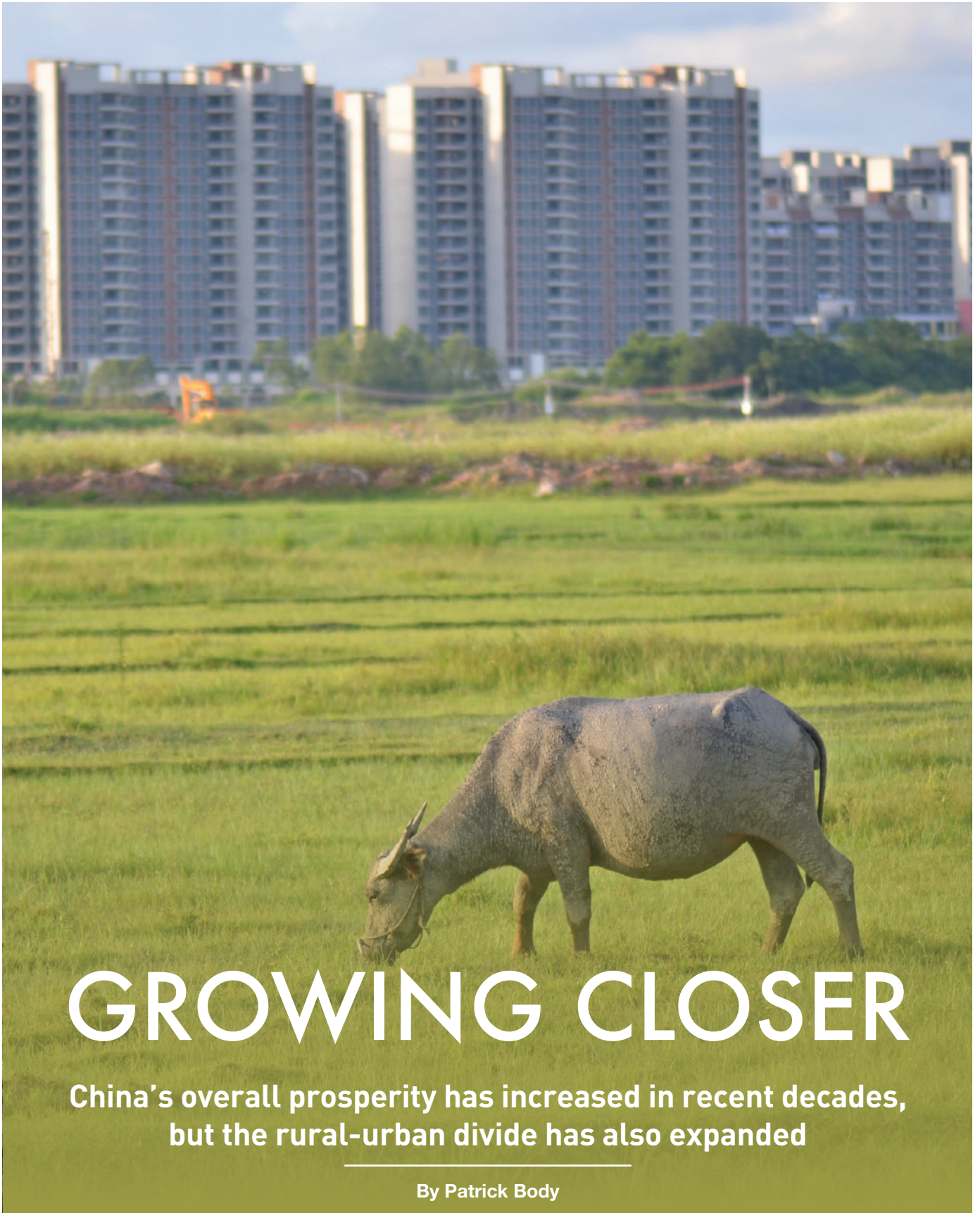
These contrasting models of production—consolidation versus dispersion—offer unique advantages and challenges, particularly within the context of the NEV industry in China. BYD's success exemplifies the consolidation model, where internalizing production processes significantly reduces transaction and information costs, leading to competitive pricing and high levels of quality control. BYD's substantial market share and impressive profit margins highlight the efficacy of this model, demonstrating how early and extensive investment in in-house capabilities can yield long-term benefits.

Conversely, the dispersion model, utilized by companies like Xiaomi, Huawei and Tesla leverages a decentralized network of suppliers to achieve flexibility and innovation. Tesla's ability to tap into a diverse supply chain has facilitated rapid product development and market responsiveness, though it also entails logistical complexities and a dependence on external partners. Huawei's strategic focus on software integration within NEVs further underscores the potential for specialized approaches within the dispersion model

framework, achieving quick market penetration and approaching profitability within a remarkably short period.

The NEV industry's dynamic landscape in China underscores the importance of balancing internal capabilities with external collaborations. While BYD's vertically integrated approach ensures control and efficiency, Tesla's and Xiaomi's reliance on extensive supply networks fosters innovation and adaptability. This balance is crucial for navigating the complexities of today's business environment, where rapid technological advancements and shifting market demands require both robust internal strategies and agile external partnerships.

As the industry evolves, companies must continuously evaluate their production models to sustain growth and competitiveness. Whether through the comprehensive control of consolidation or the collaborative innovation of dispersion, the ultimate goal remains the same: delivering high-quality, cost-effective products that meet the needs of an increasingly discerning market. There will ultimately be only one true winner in this competition, and that is the consumer. ■



GROWING CLOSER

China's overall prosperity has increased in recent decades,
but the rural-urban divide has also expanded

By Patrick Body

A large portion of rural Chinese incomes come from remittances sent home by migrant workers

As China's rural-urban migration has increased over the past decades, so has its rural-urban divide. Remittances sent back to those remaining at home have grown into a large portion of rural incomes, with almost \$51 billion sent home in 2022 alone, but recent research by Wuhan University suggests that more needs to be done.

"China is currently undergoing an unprecedented urban-rural integration," said the report. "However, due to a mismatch between household income and expenditures, an urbanized lifestyle in rural areas is facing a dilemmatic trap, a pseudo-middle-class life."

As the country's rural-urban divide grows, so does the risk of China getting stuck in the middle-income trap. Effectively closing the gap is key to the country's development, especially given that China is also facing multiple economic headwinds. But while increased urbanization offers solutions, it is not the only option, and sustainable development of rural areas must be sped up.

"Despite, or perhaps because of, the country's increase in overall wealth in recent years, China now has one of the largest rural-urban income gaps in the world," says Martin K. Whyte, John Zwaanstra Professor of International Studies and Sociology, Emeritus at Harvard University. "And it isn't just income, there are large gaps in other areas which can have a compounding effect on how the country develops."

Aiming for urban

The Chinese government has been pushing to increase urbanization levels since the 1980s, and by 2023 the country had reached 66%, compared to 83% in the US. Still, there has also been an uneven level of economic development between China's rural and urban populations.

The late Premier Li Keqiang described China's approach in 2012, saying "Urbanization is not about simply increasing the number of urban residents or expanding the area of cities. More importantly, it's about a complete change from rural to urban style in terms of industry

structure, employment, living environment, and social security."

While China's urbanization rate has jumped significantly over the years, there is a long way to go before Li's goal of a complete change in style is achieved in rural areas. Also, the Chinese definition of urbanization is exceptionally broad, and includes swathes of rural areas around major cities, as well as rural residents who work in non-agricultural roles.

"You really have to split the 66% urbanization rate into higher and lower quality urbanization," says David Fishman, Senior Manager at professional services firm The Lantau Group. "The country still has quite a way to go before it reaches an urbanization level commensurate with developed nations, and China is well aware of this. China is very clear that it classifies itself as a developing nation, and while cities like Shenzhen and Shanghai don't fit that bill, if you really get out into rural areas, it is clear to see that the country is still developing."

Around 900 million people in China are classed as urbanized, a little more than 110 million of those are in first- and second-tier cities. That leaves around 800 million in various states of urbanization, from huge megacities all the way down to tiny villages. Add to that the 500 million classed as rural and it is clear that much development is yet to be done.

Mind the gap

The disparities between rural and urban areas of China can be quite pronounced, with a general economic focus on the Eastern regions leaving many other provinces less well-off. This has become more pronounced with recent economic headwinds, especially the dismal performance of the property market and land sales, which have historically made up the majority of local government finance generation.

Zhejiang province, on China's east coast, is home to many large cities and businesses, and has a GDP per capita of around ¥125,000 (\$17,275). In the northwestern province of Gansu, one of the country's poorest, that number is just ¥45,000 (\$6,185). This results in gaps in

Those in the informal sector are mostly migrant laborers, working in the gig economy



Michael K. Whyte
Professor of International Studies and Sociology
Harvard University

services such as healthcare and education, and low levels of potential for new business ventures.

Lack of access to quality education can have a lifelong impact on a person’s job prospects. “One of the reasons that China has been so successful in areas like solar panels has been because of those going through the urban education system,” says Whyte. “Many have experienced a quality of education that has allowed them to work and innovate in companies that are competing at a world-class level. But this is less the case for the majority of young

people who have a rural *hukou*, and that might dampen overall innovation in the long run”

The gap in access to healthcare and other services across the country can also have an impact on quality of life or ability to work. While the poorer rural areas and smaller cities have a theoretically high growth potential, the working-age population must be healthy and well-educated.

In 2021, the Chinese government announced that it had eradicated extreme poverty in the country, which was followed by a Common Prosperity goal aimed at

raising the prosperity level of the masses, largely in rural areas. But as Li Keqiang had noted a year earlier, there were still 600 million in the country with monthly incomes of less than \$140. This shows that although many people have been lifted out of poverty, rural living conditions haven’t reached what many would consider as ‘common prosperity,’ especially when compared with their urban counterparts.

Private companies in rural areas still face financing difficulties and banks and financial institutions are more cautious about lending to rural enterprises, citing higher risks and lower returns compared to urban ventures. In addition, there have been issues with over-investment in short-term trends that leave those in rural areas worse off.

“There is a real need for outside capital to come in because it is often the case that the locals in an area don’t have the capital required to start a business and also lack anything to use as collateral,” says Fishman. “Tourism is one of the major opportunities in some rural areas and there are several examples of investments made that have left people vulnerable, whether that be because of COVID, a shift in demand trends, or even just a too-optimistic operation projection before putting money in.”

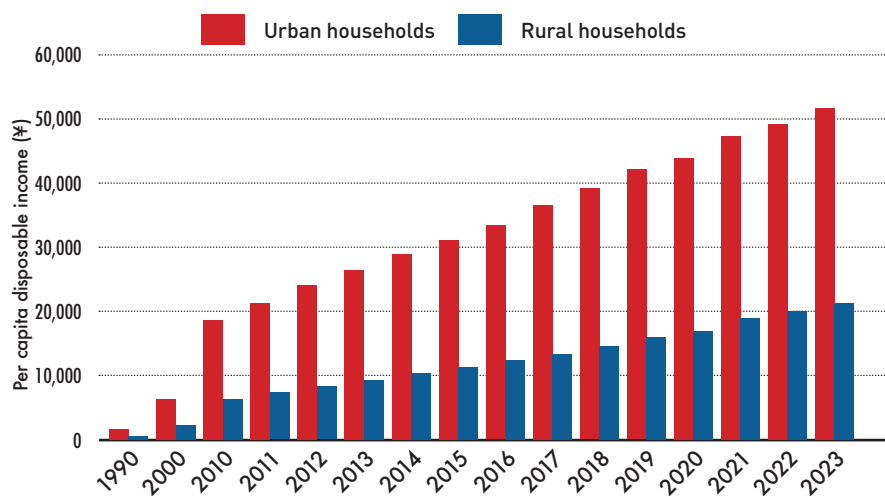
There are many reasons for the lack of parity between rural and urban areas in China. The government’s development policy has over the decades focused on the coastal areas with local government spending driven by centrally set priorities. This is why there have been successes in areas such as the Yangtze and Pearl River Deltas, with innovation zones driving economic development.

But for some provinces, there is a disparity between capabilities and government-set targets. In rural areas, there is lower consumer demand and a lower level of innovation and entrepreneurship, which in turn leads to lower commercial investment. Thus, rural areas rely heavily on government subsidies, and this dependency can create vulnerabilities, particularly if policy or funding priorities change.

“It ultimately relies on local economic development levels and how well the

DISPOSABLE DIFFERENCES

The difference between rural-urban per capita disposable incomes in China remains significant



Source: China National Bureau of Statistics

economy is determining how much money can be spent on certain priorities,” says Justin Wang, head of LEK Consulting’s China practice. “Taking healthcare as an example, for the eastern parts of China where the money is flowing, they have reached the point in the priority list where rural benefits are being considered more. But if you look at places that are struggling with their industrial output, how much money can they actually spare for these things?”

Bridging the gap

There is no one-size-fits-all solution to closing the rural-urban divide in China, and a variety of different approaches must be used simultaneously.

“The simplest solution is to aim for 100% urbanization, moving everybody from rural areas to cities, but that is obviously not sustainable,” says Fishman. “So, what to do instead? China has to be able to either make the urban lifestyle accessible to rural populations, or make the rural lifestyle attractive, and actually worth sticking around for. Because unless you figure out complete automation of food production, you need people there.”

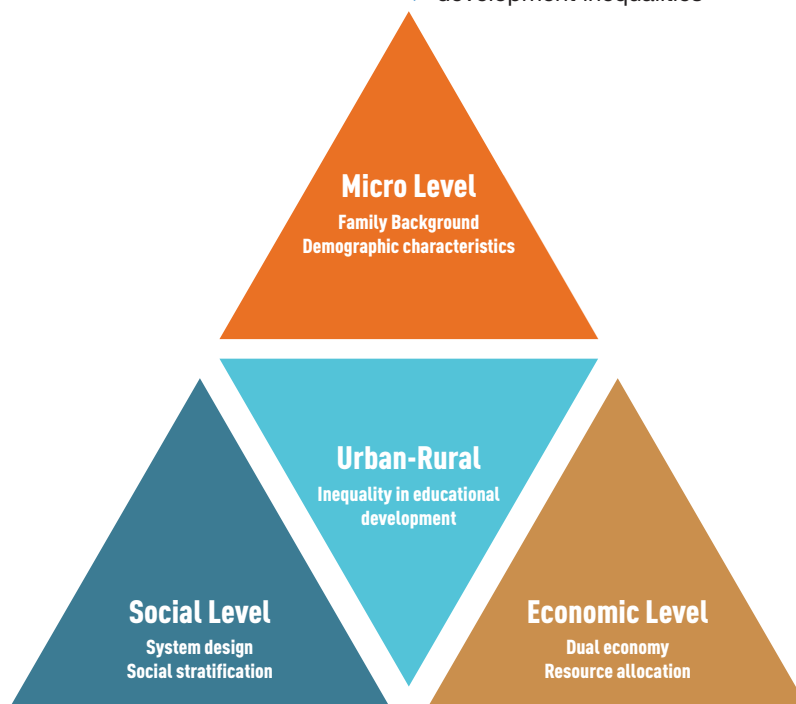
Migrant workers from rural areas are the backbone of China’s economy. This acts as a dual-positive, both labor for the urban markets, and also increased income for citizens in rural areas by virtue of migrants sending money back home to their families. Given its benefits, facilitating rural-to-urban migration makes sense for the government, but a major barrier is the household registration system.

All Chinese residents hold a *hukou*—an official document certifying residency of a particular place—which determines access to social services, including healthcare and education. If you hold a rural *hukou*, you can live in a major city for decades but never obtain a local city registration.

“The *hukou* system is behind so many of the difficulties migrants face,” says Scott Rozelle, the Helen F. Farnsworth Senior Fellow and the co-director of Stanford Center on China’s Economy and Institutions at Stanford University. “It limits access to healthcare and education

DEVELOPMENT CAUSES

There are both macro- and micro-level causes of China’s educational development inequalities



Source: ScienceDirect

opportunities and means that parents often have to leave children behind when they migrate, which also has effects on their development.”

“For my children and many others, the difference between a rural and urban *hukou* on their education was huge,” says Lily Wang, a migrant worker from Anhui who now lives and works in Shanghai. “Cities have a large number of good schools in each district, while the choice in rural areas is very limited. Getting an urban *hukou* meant they could get a huge increase in educational opportunities.”

Steps have been taken to relax the *hukou* system in some areas of the country and equalizing urban benefits could transform the lives of up to 180 million migrants. It would enable them to access basic services and social welfare tied to their *hukou*.

“There has been an increasing tendency in the last decade or so for the percentage of people in formal sector jobs to shrink and the number of people that are in informal jobs to rise,” says Whyte. “Those in the informal sector are mostly migrant

laborers, working in the gig economy, and are mainly not urban *hukou* people. And when things like COVID come along, it’s disproportionately migrant laborers who are laid off.”

In July 2023, Zhejiang province removed household registration requirements everywhere but in the provincial capital of Hangzhou. A month later, China’s Ministry of Public Security announced the scrapping of registration requirements for all cities with a population of 3 million or less and a ‘significant relaxation’ of requirements in cities with populations between 3 and 5 million.

The idea has considerable backing in Beijing. Former People’s Bank of China (PBOC) governor Yi Gang said in September 2023 that *hukou* reform should be advanced as research has shown it could boost consumption among migrant workers and new arrivals by 23%.

Lily Wang is one of those who have benefited from a change in *hukou*, having converted her rural *hukou* to an urban one. “Relatively speaking, it is a bit easier to

get the *hukou* now and that gives people access to more job opportunities and more money,” she says. “To me, it feels like smaller cities can’t offer these benefits at the moment.”

Outside of migration to top-tier cities, the other solution to bridging the rural-urban gap is developing smaller cities and rural areas. The ideal outcome is not to require people to stay in rural areas because it is their only choice, but to actually make them attractive places to live and work.

“You can allow more people to access urban infrastructure and you can improve the rural infrastructure at the same time, it’s not a dichotomy between urban and rural all of the time,” says Fishman.

In recent years, the Chinese government has promoted rural revitalization as a key part of the country’s development strategy. Agriculture, rural areas and farmers have become a top priority for the Chinese government. This includes pushing the adoption of modern farming practices by small-scale farmers, increasing the quality of rural incomes and purchasing power, and boosting the creation of agricultural brands.

Down to business

Aside from increased service access, there is also the need to increase incomes through the creation of quality jobs, and this is where China’s businesses have an opportunity to play a role. Much of the work done on improving China’s rural areas has so far been done by local governments, and there is still a lack of private enterprise involvement in these areas.

As far back as 2015, Jack Ma’s fintech firm Ant Financial began to facilitate small-scale investments by rural citizens through its *Yu’E Bao* accounts, and more recently Ant-backed online bank MYBank, which offers an online payment system, announced plans to serve 2,000 rural Chinese counties by 2025.

For businesses, urban areas offer excellent market access and infrastructure, high-quality talent pools, and a much larger potential for greater return on investments. Addressing the skills gap requires long-term investment in education and training, and by upskilling rural populations, businesses can create a more capable workforce while stimulating local economies.

“You can build a whole lot of infrastructure, but you can’t necessarily create the jobs until actual consumption is headed that way and this is where the concurrent development of small cities and rural areas can be difficult,” says Fishman. “The smaller cities are still going to draw people away from rural areas because there is consumption there, and in turn, jobs.”

Tailoring products and services to meet the specific needs of rural consumers, as well as leveraging technology, has proven successful for some companies. E-commerce platform Pinduoduo, for example, connects farmers and manufacturers directly to customers through the use of group buying, in which consumers team up to buy products in bulk. This increases both the buying power of rural consumers, as well as boosting direct income for those making the product.

Local healthcare outposts are also increasingly able to offer video consultations with doctors at top-tier hospitals in major cities.

“The private healthcare industry has an opportunity to assist with general health issues in areas across China,” says Wang. “If you have something severe, most people may consider going to a public hospital, but in terms of less severe diseases and check-ups, private businesses are already quite active in providing these services.”

But who pays for these services remains an issue. Centralized help is still required and engaging with local governments and taking advantage of rural development initiatives can provide businesses with valuable support. These partnerships can lead to subsidies, tax incentives, and necessary infrastructure improvements.

Searching for style

Solving the problem of China’s rural poor, as highlighted by the late Premier Li, is key to the country’s economic future and making sure it escapes the middle-income trap. There are enormous gaps in the market in China’s rural areas that could serve as fertile ground for private enterprise investment, but the fundamental issue remains that it simply is not yet profitable for businesses to operate in these areas, meaning that basic development must come first.

“Given the fairly ruthless requirements of private capital, there is still a need for government intervention in these areas first,” says Fishman. “There are certainly opportunities, but the risks of lending to what is still quite a vulnerable population might be too much right now.”

As China continues its journey toward modernization, the convergence of rural and urban economies will be a defining narrative, shaping the future of many businesses, as well as society as a whole.

“The real crux is the ability to pursue gainful employment for working-age people that can support your family,” says Fishman. “Without increasing the ability to do so in rural areas or smaller cities, it will be difficult to close the gap.”

You can allow more people to access urban infrastructure and you can improve the rural infrastructure at the same time

David Fishman
Senior Manager
The Lantau Group

Agility at Scale

Chris James, CEO of Scaled Agile, Inc., discusses the increasing adoption of business agility solutions across industries and the impact of AI on how businesses function

In a business context, agility is the ability of an organization to rapidly adapt to market and environmental changes in a productive and cost effective way. This concept of business agility is a relatively recent phenomenon, but one which has become increasingly popular in businesses across a wide range of sectors over the past two decades. However, it is not necessarily a simple process to do, especially at scale.

In this interview Chris James, CEO of Scaled Agile, Inc., discusses the development of business agility, the need for both leadership buy-in and bottom-up training for effective implementation of processes, and the cultural challenges of adopting agility solutions in different regions around the world.

Q. To what degree have the requirements for a business to remain agile changed over the past decade?

A. For the US and parts of Europe, it all really started with the creation of the Agile Manifesto [a statement of principles that support agile software development, agile methodologies and agile project management]



in 2001. That began to drive the agenda for agility at the team level, which worked well and various tools like Scrum were widely adopted by startups and others to really disrupt the larger companies, Apple disrupting Blackberry for example.

Seeing this, the largest companies in the world started to ask, well why can't we have a similar agility at scale? Which is something that SAFe has been doing for over 10 years now. Of course, demands on these large companies to maintain their market share and leadership have also risen, and there has been a lot of uncertainty across a number of business contexts, so the need for resilience and the ability for organizations to adapt has been important. This has resulted in a doubling down on agility at scale.

Q. What are the current challenges and opportunities in the global market?

A. Where we see a lot of growth is, for example, in the automotive industry. The sector is going through tremendous change in multiple ways, while they still value hardware and mechanical engineering, they've come to have to adopt software engineering

Chris James is the Chief Executive Officer of Scaled Agile, Inc. which is the creator of SAFe, a large-scale business agility solution

as a new capability required to produce competitive products. And this has permeated not just through the original equipment manufacturers, but also their suppliers and the tier two suppliers and so on, so we see the whole supply chain starting to adopt these new ways of working around SAFe, so they can speed up the work flow.

Another example is government agencies, many of which have suffered from being hierarchical or not being able to deliver citizen services effectively. This was really exposed in many countries, even in Germany where you were unable to renew your driving license online, and required a number of older ways of working to complete the process. There are a number of government agencies

There is something of a generational shift occurring in Asia as well, with an appetite amongst younger workers to work in a different way

now adopting agile at scale to try and change the way they operate to align with the newer ways users interact with products and services in their daily lives.

In APAC more specifically, we're seeing really strong adoption in financial services, such as banking and insurance, the automotive industry, telecommunications and airlines. Cathay Pacific has adopted SAFe, organizing their business around value delivery in the products, both getting bums on seats on planes, but also their loyalty and retail lines among other things. This is a change of approach from basing delivery decisions on projects, to basing them on product-by-product basis, as well as organizing their teams and teams of teams.

Q. To what extent is what you do dependent on technological inputs rather than human input?

A. Essentially, it's a way of working, and is about adopting specific practices and a certain mindset within the people of a company, rather than technology. It's about a set of practices and events to help teams and teams of teams, plan their work, manage backlogs and demonstrate progress. We do use technology and we work with some major global platform providers who help solve the same problem using systems that manage workflow through visualisations, and we also have some tools that do that, but primarily, we're talking about changing how people themselves approach work.

Q. Where do you find the largest barriers to adoption?

A. The processes work when they're implemented properly and supported by good partners across and within various parts of a business. We've generally taken the approach of landing and expanding, so we initially start with say a software director who has a team of 100 people, and once it has been proven to work in that team, we find other directors who become VPs and the opportunity expands for us within these companies.

So a first challenge is in the cases where we lose the sponsor, because it does rely heavily on having leadership commit to it, and having leadership committed to change is a really important ingredient to making it work. That can happen if it's poorly implemented, it does take practice and time to work, rather than being an out-of-the-box solution, so losing the person with the vision for what it could be, you're likely to fall back on your old ways of working.

Alongside the top-down leadership-driven approach that can guide the transformation, there is also the bottom-up part of the approach. This is mostly about having consultants and specialists go in and provide the training that people need to do the work in a different way. Providing this in as many key areas as possible avoids the problems that can arise when there is a lack of transparency and alignment in understanding and goals.

There is also a control challenge as well, because in the European and US context we have a workforce that increasingly doesn't want to work in the same way that previous generations would. They want to work in a more collaborative way, make

more decisions about their work, want more transparency in how things operate and want to contribute to the vision and what's next in their companies. So we're seeing a pull into those types of environments because the biggest companies in the world also want to be the best places to work. The war for talent, particularly with software skills or AI skills, is significant and firms want to be identified as a great place to work. So the slower companies that don't adopt, or don't recognize that change in their workforce profile, are going to struggle to attract the same caliber of people.

Q. To what degree do similar cultural changes play a role in the APAC markets?

A. The workplace culture is obviously quite different in Asian cultures compared to the US, Europe or Australia, and there are obviously the fundamental effective approaches such as making sure that the language barrier isn't a major issue, particularly in a very mindset- and approach-oriented sector.

In general, there is something of a generational shift occurring in Asia as well, with an appetite amongst younger workers to work in a different way, and companies can struggle to attract talent because of that shift. But at the same time, the hierarchical structure of business and leadership in the region is by no means a thing of the past, and is unlikely to disappear any time soon.

To deal with this we've taken something of a dual approach which both maintains the hierarchy of the organization, as well as introducing working in an agile manner across all levels. Companies don't need to let go of the functional roles, such as middle management, that are needed to support people's career progression, and those who look after legal matters, tax and accounting and all those other corporate functions. So that maintenance of structure is something that resonates quite well culturally.

Q. How do you see the need for business agility developing over the next five to 10 years?

A. Every company and in some cases every country economy will face a burning bridge, and that is what has driven adoption of SAFe so far. For example, for financial companies that were being disrupted by born-on-the-web financial services, they had to do something, so they really had a burning bridge of either get faster and stay in the game or lose market share. Similar things are happening across the automotive industry, airline production and all sorts of sectors, in part because technology is more widely-distributed than it ever has been, the cost of entry into a market is much lower, and changing suppliers for products or services is easier and cheaper. So companies have to identify whatever their burning bridge will be and adopt an agile way of working to deal with it.


There are huge changes coming down the pipeline, such as AI, that are likely to completely shift the landscape of so many industries and I think there are a couple of ideas that I have heard discussed that sum these things up. Firstly, the idea that the future is already here, it's just not evenly distributed yet. We're all seeing

The processes work when they're implemented properly and supported by good partners across and within various parts of a business



and hearing about AI and what it can do, and it's abundantly clear that it will disrupt what we currently see as normal ways of working. And this leads into the other idea, which is that it is unlikely that a person will outright lose their job to AI, but they will be at risk of losing their job to someone who is using AI to enable their working processes. And so these factors are going to impact major economies around the world unless they think forward about a new way of working.

Q. How does that apply to the concept of business agility?

A. We have to take a similar approach, looking at our core competencies and having a team focused on looking ahead and trying to see what's coming around the corner—what's next in terms of the development of software and new technology. What we're beginning to see is how quickly new products and services can be built with AI, how traditional services can be enhanced by AI and how, for us in particular, the learning and transfer of knowledge will be disruptive. It's obviously hard to tell exactly what is around the corner, but whatever it is will require an agile approach. 

Interview by Patrick Body



FLYING HIGH

China's state-owned enterprises play a pivotal role, both domestically and on the global stage

By Shi Weijun

Image by José Luna

China's SOEs dovetail with the country's counter-cyclical economic policy strategy

As a stock market rout in China deepened in early 2024—erasing \$6 trillion of value from equities in Shanghai, Shenzhen, and Hong Kong—investors, including one of China's sovereign wealth funds, ploughed ¥410 billion (\$57 billion) into mainland shares, a spree that helped Chinese stocks rally from being the world's worst performer in 2023 to the best in early 2024.

There are some indications that part of the rally is due to investment by state-owned enterprises (SOEs)—companies established by central and local governments, and led by appointed officials—underscoring their importance in the ruling Communist Party's economic approach as a tried-and-trusted tool for directing the economy and channeling resources into areas Beijing sees as strategic.

China is home to the most SOEs in the world, numbering some 362,000 in 2022, and they are a hallmark of China's so-called "state capitalist" model. These "red chip" firms comprise many of China's best-known companies, operating across a wide range of industries—from China Mobile to Kweichow Moutai—and they account for 97 of the 142 Chinese companies listed in the Fortune Global 500 for 2023.

"SOEs aren't just part of the furniture, under Xi Jinping there's no doubt that they've deliberately been put in pole position by the government," says George Magnus, an associate at the China Centre of Oxford University and former chief

economist at UBS. "That's different to previous leaderships and obviously has many different implications, from trade relations to interpretations of unfair business practices."

Party on

The strength and importance of SOEs have grown even as the private economy has evolved into a fundamental component of China's economic system, and in recent years their role has been upgraded as the Party switches from growth at all costs to "high-quality development."

At the end of 2023, SOEs made up 50% of the combined market capitalization of China's top 100 listed firms, up from a recent low of 31.3% and the highest proportion since 2018, according to PIIIE.

"We're starting to see another transition in the role of SOEs," says Rory Green, chief China economist at London-based macroeconomic forecasters TS Lombard. "We're at an inflection point where local governments, previously of greater importance than the SOEs in the economy, are being de-emphasized. In their place, SOEs and large private companies, not nominally SOEs, are going to come forward to be the key actors within the economy, as directed by Beijing."

This transition is important as part of China's shift towards high-quality growth based on innovation, technology and research and development (R&D). "The past decade has seen an increase in

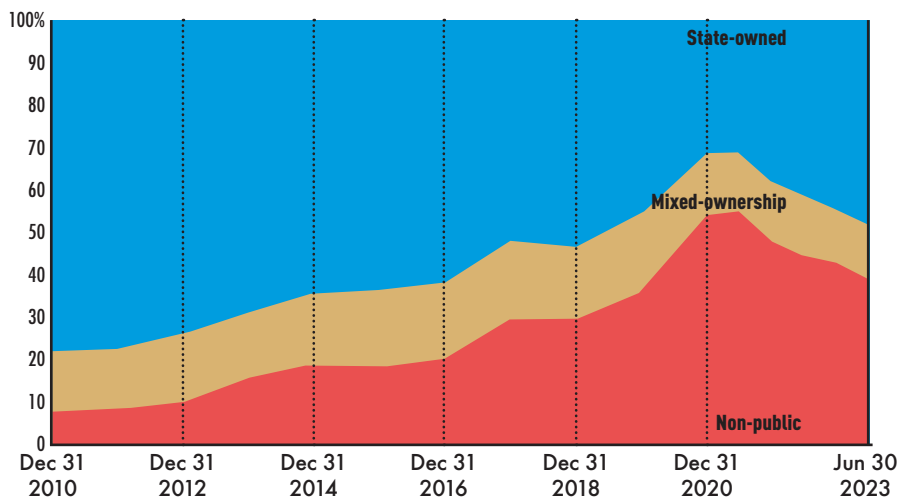
[SOEs] can take a long-term view of the necessary strategic investments to benefit China's economy, without being motivated by a short-term profit incentive



Joe Peissel
Economic Analyst
Trivium China

OWNERSHIP SPLIT

The share of aggregate market cap of China’s top 100 listed firms by state-owned enterprises is rising



Non-public — firms in which state entities hold an equity stake of less than 10%
State-owned — firms in which the state owns a majority stake
Mixed-ownership — firms in which the state owns an equity stake between 10 and 50%

Source: PIIIE

the importance of SOEs in the Chinese economy as Xi Jinping has doubled down on state-led investment, particularly in the “hard tech” areas such as semiconductors,” agrees Andrew Collier, managing director of Orient Capital and author of China’s Technology War: Why Beijing Took Down Its Tech Giants. “The history of state-led investment, such as in electric vehicles (EVs), shows some success but with a significant waste of capital.”

Stately affairs

The state sector has always played an important part in upholding the ‘iron rice bowl’ and preserving welfare and social stability, though this function started to fade somewhat after the economic reforms of the mid-1990s. “They did still play a crucial role as big state-directed employers that could be relied upon to not lay people off,” says Green.

China’s heavyweight SOEs are all wholly- or majority-owned by the government, which appoints their management and directs them to implement national strategic priorities. Some 98 central companies are administered by the State-owned Assets Supervision and

Administration Commission (SASAC) while another 145 operate under the Ministry of Finance.

In the case of State Grid Corporation of China, the world’s largest power utility and ranked third on the Fortune Global 500 for 2023 behind Walmart and Saudi Aramco, it is 91.68% owned by SASAC while the remaining 8.32% is held by the National Council for Social Security Fund.

Central government policy that explicitly seeks to blend state and private interests has been a major development for SOEs over the past decade, according to Joe Peissel, economic analyst at consultancy Trivium China. “One of the significant changes has been the push toward mixed-ownership reforms, where private investors are allowed to take stakes in SOEs,” he says. “This move is aimed at improving efficiency, reducing debt levels, and making these entities more competitive domestically and internationally.”

A case in point occurred in 2017 when a mix of state-owned and privately-owned companies—including Alibaba, Baidu and Tencent—paid ¥77.9 billion (\$10.76 billion) for 35% of China United Network Communications, part of state-owned

telecom company China Unicom.

Encouraging such private investment in some state firms, and vice versa, lured more than ¥2.5 trillion of private capital into SOEs from 2013 to the end of 2021. But the jury is still out on whether mixed ownership has resulted in more efficient, innovative and commercially-minded SOEs.

Estimates of SOEs’ contribution to China’s economy have fluctuated between 30% and 50% over the years, but what and where they contribute is often more important. They dominate many core industries, including energy, infrastructure development, transport, media, education, healthcare and finance.

“SOEs have been encouraged to merge and become more competitive, both domestically and internationally,” says Peissel. “They are being encouraged to focus on sectors deemed strategic by the government, such as technology, energy, and defense. There has been a realignment of SOEs to concentrate on core industries and exit from non-core sectors.”

In 2023, SOEs in China grew their combined net profit by 7.4% from a year earlier to ¥4.63 trillion (\$640 billion), while their total operating income increased by 3.6% over the same period to ¥85.73 trillion (\$11.85 trillion)—equivalent to 68% of China’s GDP in 2023. They also contributed ¥5.87 trillion of tax to state coffers.

R&D spending by central SOEs topped ¥1 trillion for the first time in 2022, and they have built more than 760 national R&D platforms and 91 national key laboratories, which employ one-fifth of China’s professional researchers.

Some 56.12 million people were employed by SOEs in 2022, earning an average of ¥123,623 a year, down from 81.02 million people in 2000, according to official statistics. Wages averaged just ¥48,357 in 2012.

We are the champions

The importance of SOEs in China’s economic landscape is hard to overstate. SOEs dovetail with China’s counter-cyclical economic policy strategy that stimulates growth during downturns and

tightens after growth improves. “If the economy is slowing, like when it did in zero-COVID two years ago, it is very easy for Beijing to just order SOEs not to lay off employees,” says Green.

“SOEs provide a targeted investment in strategic areas,” says Collier. “The US relied on the Defense Department for early investments in the internet, but the private sector within a few years quickly took the lead with consumer applications. Unfortunately, China tends to stick to the state investment path rather than allowing the private sector to engage.”

Beijing appears to consistently believe that SOEs may be more suited to projects of national importance. One reason is that they are not strictly profit-driven, enabling them to undertake major projects aligned with the government’s needs that their privately-owned peers would reject due to commerciality. “They can take a long-term view of the necessary strategic investments to benefit China’s economy, without being motivated by a short-term profit incentive,” says Peissel.

One example is China’s world-leading renewable energy buildout. SOEs have channelled massive capital expenditure toward clean technologies amid a green pivot encouraged by central authorities, putting China on track to meet its 2030 wind and solar installation targets as soon as this year.

“When the country needs infrastructure to be built, it can start at once,” says He Wei, China economist at China macro research firm Gavekal Dragonomics. “Backed by the government, those state-owned giants do not have to consider the financial returns of these projects.”

A different example is state-owned aircraft manufacturer Comac. The company showcased China’s first homegrown airliner at the Singapore Airshow in February, a project 15 years in the making which Beijing hopes will eventually rival jets made by Boeing and Airbus.

“SOEs are one of the few entities able to undertake such a project because they get government funding, can run at a loss, and are not accountable to shareholders every quarter,” says Green.

China’s is not the only approach to utilizing SOEs within an economy. Singapore, for example, set up Temasek to hold and oversee all of its SOEs, but employs market professionals to run them.

No time for losers

There are risks to putting SOEs back at the center of China’s economy, according to Magnus. For decades, economists in both China and the West have noted that SOEs inefficiently soak up resources for mixed economic gain. “It would be churlish not to recognize that China does have what I call islands of technological excellence, and there are probably SOEs that have done very well in terms of innovation or product development. But these islands of excellence exist in a sea of macroeconomic trouble,” says Magnus.

The criticism has been backed by research over decades. “Publicly listed SOEs in China are less productive and profitable than publicly listed firms in which the state has no ownership stake,” IMF economists reported in 2021.

“Inefficiencies found in SOEs can often be traced back to the principal-agent problem since they are owned by the state,” says Gavekal’s He. “SOEs as the agent, and the state as the principal, could have a conflict of interest or priority. For example, it is hard to create strong performance incentives for SOE management when their stake in the companies is low and

compensation is not quite at a competitive level.”

The relative underperformance of its SOEs has not gone unnoticed in Beijing. China’s government work report, delivered by late Premier Li Keqiang at the 14th National People’s Congress in March 2023, pledged to “deepen and upgrade SOE reform... to see that SOEs improve their core business, enhance their core functions, and increase their core competitiveness.” This echoed a similar directive by Xi at the Central Economic Work Conference last December.

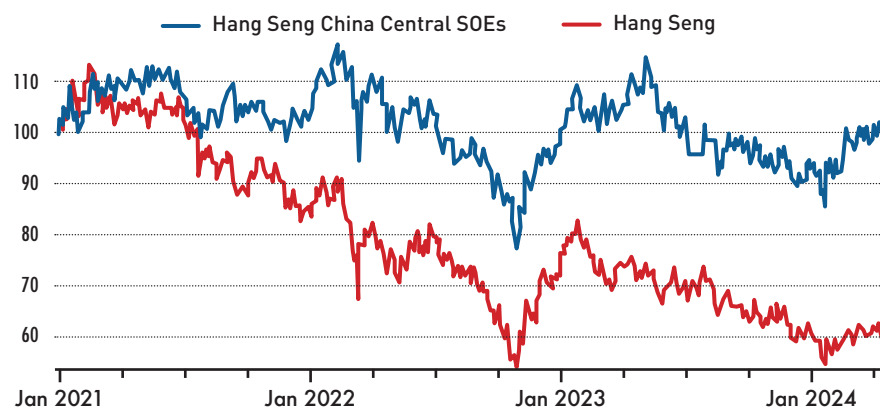
Another common criticism is that SOEs distort the allocation of resources in the economy as they often enjoy preferential access to capital, land and subsidies, crowding out private investment and entrepreneurship. Take China’s deleveraging campaign over the past decade as an example—as the scale of “shadow” financing channels and the level of indebtedness in the economy became apparent, Beijing took significant monetary tightening steps to control credit.

But SOEs were less affected by the deleveraging campaign, and generally less sensitive to credit risk thanks to higher quality bonds, lower borrowing costs and less reliance on shadow banking.

Peissel notes that while there are exceptions, SOEs generally also have less incentive to innovate due to their secure position in the economy and support from

STATE VS. STOCKS

Chinese SOEs have outperformed the broader stock market in the country over the past three years



Source: Financial Times



On the Grid: China's SOEs enable undertaking longer-term strategic projects

the government. “This can slow down overall innovation within the Chinese economy,” he says.

It remains debatable how much SOEs are part of the solution for addressing the slew of economic headwinds facing China. Collier says this is partly because Chinese SOEs—particularly in less well-off provinces—will be under pressure to reduce operations due to a shortage of

capital. The expected pullback will hurt local economies dependent on jobs. But in other provinces local governments will continue to prioritize SOEs due to employment considerations, potentially starving private firms of much-needed money for operations and expansion.

“In many ways, it is a political choice,” says Green. “Beijing still has this option of really pushing the stimulus

accelerator and leveraging SOEs to drive economic activity, but at the moment it seems unlikely. The SOEs will be more of a stabilizing role than accelerating growth.”

A private state

Given the state engine will remain a mainstay of the Chinese economy, questions have been asked about the future of the private sector. China boasts a number of innovative, dynamic private companies that wield global influence in their respective sectors. Examples include tech giant Huawei, the world’s biggest EV battery maker Contemporary Amperex Technology Ltd. (CATL) and computer manufacturer Lenovo.

“You’ve got these nominally private-sector companies that are fulfilling the role of a SOE in some cases,” says Green. “They are working towards longer-term political-economic objectives around innovation, self-reliance, and movement up the value chain.”

Dinosaurs or dynamos

SOEs are clearly not going anywhere anytime soon given their usefulness in underpinning the economy and providing social stability. An evolution, however, is on the cards as China embraces a new era of so-called “new quality productive forces” that will drive its economy in time.

“The traditional role of SOEs has been to carry out large-scale infrastructure projects or utility-scale extraction of raw materials, mopping up excess labor in the process,” says Peissel. “As China transitions from an investment-led to a tech- and consumer-led growth model, the role of SOEs will diminish.” Surviving the economic pivot will require SOEs to show greater emphasis on technology, efficiency, innovation and market competition, he adds.

“Are SOEs a dying breed or could they eventually evolve into dynamos? I think it’s still touch-and-go, but the key thing to watch is how they fit into this new emerging growth model,” says Green. At stake is their future; a successful reinvention could reaffirm SOEs as a pillar of China’s economy for decades to come.

SOEs and large private companies not nominally SOEs are going to come forward to be the key actors within the economy



Rory Green
Chief China Economist
TS Lombard

Computing Credit

Effective adoption of AI tools in the lending industry is already showing clear benefits, but human oversight is still necessary



By Charles Guan, CTO and co-founder of Rich Data Co

Business adoption of artificial intelligence (AI) is increasing rapidly, with a McKinsey report already putting the adoption rate at around 80%, with variations on degree of use and business sector. The importance of AI is undeniable, particularly in industries that have technology as a core competency, and Goldman Sachs estimates that Generative AI could increase global GDP by as much as 7%—around \$7 trillion.

We have certainly seen this to be the case in the financial world, with lenders benefiting from AI adoption through the development of considerable competitive advantages, such as improved risk assessment, that will only become more pronounced and act as key differentiators within the market.

The term AI itself is a broad one, covering more than just the generative AI tools, such as ChatGPT, that have grown to prominence in the past few years. As far

back as the 1980s we saw the introduction of expert systems—AI designed to emulate human decision-making, often through the use of “if-then rules”—and from around the turn of the millennium machine learning also became common place. Both of these tools continue to be widely used today.

There is, of course, the debate as to whether AI will be a net positive or negative for the world. For both parties, however, a consensus exists that, as AI technologies mature, their impact will be revolutionary, and we need to be ready to deal with that. Given the obvious importance of AI to businesses, and in this case specifically those in the credit industry, the key question is no longer whether to adopt, but how to properly harness the advantages it offers.

AI and lending

The credit market is a core facet of both domestic economies and the international economy as a whole, with bank and non-

bank lenders—which include fintech lenders—playing a vital role in financing businesses and individuals alike. Lending decisions are made based on a wide range of factors, including income, credit history and character, and many of these decisions are now being made with AI assistance, and in some cases by AI alone.

The industry’s AI technology providers have focused on streamlining the lending process by helping banks make high-quality decisions efficiently, safely and sustainably. For example, Rich Data Corporation offers a Software as a Service (SaaS) platform that uses a blend of AI and human expertise to improve lenders’ decision making with transparency, compliance and accountability.

At the same time, we’re trying to improve equity of access to finances by improving the efficiency and accuracy in lending decisions. Given the importance of finance to our societal infrastructure,

the ability for borrowers to access credit, and in turn resources, is integral to achieving whatever they set out to do, be that a business developing a product or an individual purchasing a home. From a lending perspective, aside from meeting the requirements of the equal opportunity legislation in place in many markets, providing equitable access can also offer an opportunity to grow the market and lower concentration risk and naturally help banks reduce their overall risk portfolio.

Benefits of AI

The impact of AI on lending processes and institutions so far has been quite clear. When assessing the more traditional measures of business success, such as revenue, costs and profit, McKinsey research clearly shows that adoption leaders are achieving higher returns in some or all categories.

Aside from these traditional metrics, there are also three other key benefits to adopting AI. Firstly, it can broaden the reach of a lender within or beyond its usual target markets. For example, for potential customers that don't have a credit history and would have previously been off-limits, lenders can now use non-traditional data and AI techniques to make predictions on their creditworthiness. This is particularly useful in developing markets, where credit histories are not so common.

Secondly, AI data analysis can help with risk identification and increase accuracy of predictions, helping lenders reduce their overall risk exposure. US banks using AI, for example, will now be able to identify early warning signs of problematic market trends, for both small businesses as well as

larger commercial firms and commercial real estate. Doing so will give banks a way to properly identify and manage credit risks, and potentially avoid significant credit losses.

The third benefit is relatively simple, and that is an increase in overall efficiency. Many AI techniques and tools can make the decision-making process significantly more streamlined, and in some cases automate it entirely, which helps lenders to reduce their costs.

There is also an increase in the recognition within the industry of the need for responsible lending, and this is something that AI can also help with. The lender often has the upper hand in the relationship, and exploitation of their borrowers can have an enormous impact. If lenders assess borrowers' capability to repay accurately and efficiently with the assistance of AI and offer the most suitable loans, borrowers will get the most benefit from the loans and lenders will get higher lifetime value from these borrowers.

Implementation

There is still a clear difference in the current landscape between the leaders and laggards, but it is clear that even taking the first steps of technological adoption can have huge consequences on business outcomes. What is unclear, however, is the impact that generative AI may have when it becomes more widely used, in part due to its impact on knowledge work.


In the banking world, companies generally need data to be sourced and processed into a state where AI can be applied on top. The processes also require

a lot of knowledge, usually coming from talent that knows different aspects of banking, how software systems generate and process the data and data discipline. There is also a need for a data-driven culture to help with adoption, because AI decisions are currently still driven by data.

Today, AI tools in lending streamline decision-making processes by combining calculative elements, like financial ratios, with behavioural factors like repayment and historical delinquency. Larger loans involve more human oversight and evaluations of character such as management capabilities, while simpler decisions can be automated. Continuous monitoring and audits are required to ensure the accuracy and fairness of AI decisions, identifying and addressing issues such as bias in facial recognition technology. AI's integration with human expertise allows for flexible and controlled decision-making and implementation, allowing lenders to scale AI solutions as needed, maintaining control over core competencies and ensuring compliance with regulations.

The rapid evolution of AI also necessitates partnerships between lenders and AI vendors to stay competitive, which is why we see an increase in SaaS providers. There are a number of reasons for this: the total cost of ownership is lower; scaling-up usage is easier; switching vendors is relatively simple; and overall there is a flexibility and consistency to updates and technological developments without the need for extra in-house resources.

There is still some pushback against the SaaS model from some businesses, mostly due to the perception of where control lies in the partnership. SaaS vendors need to ensure that lenders still maintain control of the software and the underlying data, otherwise we will face internal concerns that things are moving away from them. For example, a previous client which was a major bank often discussed the idea of the "gravity of data"—where control of data lay—and the feeling that, because they saw data as their core competitive element, they needed to make sure it wasn't falling outside of their business reach. We managed to reduce their concerns by setting



AI tools in lending streamline decision-making processes by combining calculative elements with behavioral factors

up an instance in virtual private cloud with a major cloud provider and storing the data there.

In the past, the key competitor to SaaS solutions was on-premise software and in-house builds, but now, with AI advancing so quickly, such builds have sometimes become impossible to maintain and update to keep up with the new emerging technologies.

Difficulties and solutions

There are a number of difficulties associated with using AI in the lending industry and this differs between banks and non-bank lenders. Banks are regulated in a way that generally requires the models that they use to have high levels of transparency and explainability. There is a huge amount of compliance required to adopt a model, so dealing with the perceived lack of control or even a lack of understanding can be a major difficulty.

In our experience, building a model in the banking area normally takes weeks, but getting a model approved normally takes months and can even get up to 12 or 18 months if you need regulatory approval. It's difficult, but obviously necessary, to manage risk and assuage cautions, given that banks are the heart of all financial systems. From the technology provider perspective, it is important to build in transparency from the start, rather than trying to tack it on at the end.

On the non-banking side, smaller companies have more trouble with AI adoption because they lack sufficient data to make the most accurate decisions. This is not a problem for larger companies such as PayPal or Alipay, but in general the majority of firms are smaller lenders. Unlike for banks, data privacy compliance can also be a major issue for non-bank lenders as there tends to be less oversight, meaning a greater temptation to misuse data for financial gain can exist.

Resisting that temptation and making everything controlled and compliant is generally quite difficult to balance. Here, we come back to the idea of responsible lending and responsible use of AI, and the difficulties of working out how to



Helping Hand: AI intergration can help with lending decisions

maximize lender profit as well as being fair to the borrower. Hopefully, we will see more governments implementing clear regulatory frameworks in this area to make this less of an issue.

There are also limitations to solely data-driven approaches, which were particularly evident during the COVID-19 pandemic, where historical data did not adequately represent future events due to a slew of unforeseen circumstances. This emphasized the importance of incorporating human expertise and reasoning to supplement data-drive models, allowing for more reliable decision-making. Considering scenarios and adjusting parameters to fit current challenges in this way will be particularly useful for tackling issues such as climate risk and supporting green lending, where historical data may be lacking.

Automation is possible and already in use for certain straightforward cases, but complex situations, such as freelancers with fluctuating incomes, may not be suitable for automated decisions. To prevent exploitation of the system, various controls and anti-fraud measures are in place, including verification processes and monitoring for unusual activities. The balance between automation and security is crucial, with lenders adjusting their level of automation based on the risk involved, such as lending of larger amount requiring stricter security measures.

Using technology to enhance lending processes ethically is crucial, and AI can

be effectively utilized when objectives and constraints are clearly defined, but without well-defined processes, implementing AI in ethical lending can be challenging. AI as a tool should align with business principles and ethical considerations, with emphasis on data security, fairness and human-centered values.

Growing role

AI's role in lending will continue to grow, disrupting traditional processes and enhancing decision-making accuracy and efficiency overall. In the consumer sector, technological advancements in payments and transactions will continue to drive significant changes. On the lending side, AI, combined with human expertise, will challenge traditional roles, providing competitive advantages through improved decision-making processes.

AI is excellent for a number of reasons, but it has its limits, and whilst speeding up processes it raises issues about accuracy in the face of unexpected events and misuse of data by nefarious players. This means that AI's integration into lending is not about replacing humans but about enhancing the capabilities and efficiency of financial institutions, and effective regulation is absolutely required. By balancing AI technology with human expertise, lenders should be in a position to ensure responsible and equitable lending practices, benefiting both lenders and borrowers in the long term.

Doing Business

Lele Sang, author of *Winning in China: 8 Stories of Success and Failure in the World's Largest Economy*, discusses the major changes in the Chinese market over the past decade and the difficulties of business localization

The draw for companies to the China market has grown, particularly over the last two decades, as it has become an integral part of global economic development. But the risk-reward trade-off of entry into the market has also grown. Huge global businesses have tried and failed, but many others have entered, or grown up in, the China market and succeeded. So what is it that sets them apart from the likes of Amazon and eBay, which both failed in China?

In this interview, Lele Sang, author of *Winning in China: 8 Stories of Success and Failure in the World's Largest Economy*, discusses the successes and failures of business adaptation to the China market, the growing strength of domestic competition, and their successes in penetrating international markets.

Q. What are the main challenges to doing business in China today and how does this compare to five to 10 years ago?

A. Firstly, I would mention the regulatory environment, which has always been challenging for businesses in China. In the past, regulation has been known to change quite quickly and it differed quite significantly across industries and locations, whereas today, compared to five or 10 years ago, the regulatory changes have accelerated with a greater focus on national security and data privacy. So understanding and navigating an environment like this requires significant effort and expertise.

Secondly, competition in the market has intensified quite a lot as well. Over the last decade, Chinese companies have become

extremely competitive, both in terms of innovation and scale. This is in part thanks to the government support and promotion of indigenous innovation.

The last major difference has been the growth in geopolitical tensions. Relations between China and Western companies have become even more strained, especially following the trade war between China and the US in 2018. This is definitely posing challenges for foreign companies operating in China, but it has also had an effect on domestic companies, too.



Q. What are the keys to business success in the China market, both for domestic and international firms?

A. To succeed in China you have to meet three necessary conditions, as well as competently make several managerial decisions.

The three necessary conditions include demand, access, and advantage. For demand, you obviously need to have your product or service meet a specific demand in the China market. For a market like China, it's easy to think that there must be a demand for every single product or service under the sun, but that is not the case. For example, the demand for online professional services in China is not yet evident, and that was one of the main reasons why LinkedIn failed in the country. The second condition is to enter the right arena to compete, where your firm is allowed to operate legally and has a chance to be successful. The third is to possess and maintain competitive advantage, and in the China market, it is quite easy to lose that advantage. For instance,

in the book, we covered an Indian tech company called InMobi, which, when it first entered the China market, possessed a strong technological advantage, but that competence was threatened as Chinese competitors caught up. The company responded by both further investing in R&D and also developing other competitive advantages and it has proven to be successful by keeping that leading position.

In addition, there are also managerial decisions that need to be made, which center around a commitment to the Chinese market as well as decisions regarding governance structure and leadership strategy, such as levels of localization, and product-market fit.

Q. What are the key differences in doing business in China compared to other places in Asia or Western markets?

A. First of all, the Chinese government still plays an outsized role in guiding its economy, from Five-Year Plans to industrial policies, the influence is quite visible. The second key point is China's speed, the market evolves incredibly fast and sometimes up to 10 times the speed of a mature market. So Chinese companies also operate and innovate at unprecedented speeds, meaning they'll respond to opportunities in days, rather than months or quarters. This in turn means that they can emerge as major threats almost overnight.

Additionally, there is the evergreen issue of the English language typically playing a larger role in other markets, so language can often be a larger barrier in China than it might be elsewhere.

Q. What sectors are foreign businesses most involved in in China and what do you see as the biggest areas of opportunity?

A. Except for a few sectors that are closed to foreign businesses, such as air traffic control, I think the vast majority of business categories are open to foreign companies to some degree. Of course, some sectors are more attractive than others, given China's large consumer market, manufacturing capability, and technological landscape, for example. You can see foreign companies involved in consumer goods, retail, the auto industry, manufacturing and healthcare.

In terms of the major opportunities, one would be technology and innovation, despite the wider challenges facing the industry I still think there is a market for things like AI and biotech. Another area is healthcare, given our declining population, increased healthcare awareness and expanding healthcare coverage, companies specializing in pharma, medical devices or even healthcare services, will have big opportunities. I also think that the service sector will hold opportunities as China's economy shifts away from manufacturing, things like financial services or even entertainment have room to grow.

Q. Can you provide an example of a unique approach to the China market that proved successful?

A. Sequoia is one of the most successful VC firms in China and one of the main factors that set it apart from other businesses is

Lele Sang is a Global Fellow at the Wharton School of the University of Pennsylvania and author of *Winning in China: 8 Stories of Success and Failure in the World's Largest Economy*. She is also a contributor to Harvard Business Review and writes about international business.

that it adopted a unique decentralized and centralized operational approach. Many global companies tightly control their China unit, so every single decision has to be approved by the headquarters, which often leads to delays that can stretch for months or even years, Amazon is a good example of that. But Sequoia gave its China unit real autonomy, it allowed its China unit to make its own investment decisions. So even though sometimes those decisions seemed unconventional or even odd from a Silicon Valley perspective, they still allowed them to be made. This decentralization ensured autonomy, allowing Sequoia China to act fast, seize opportunities and generate tremendous returns on investment. But decentralization alone wouldn't have been effective without the incorporation of centralization, where the company's cultural values and shared financial interests tied the organization together. For instance, partners often invest their own money in funds controlled by other partners in other regions, sharing each other's profits.

It is hard to set up and execute this sort of strategy, often it is difficult for leaders to relinquish control, but over a period of several years, Sequoia managed to work it out and master it.

Q. To what degree has localization played a role in business success in China in recent years and how do you see this trend developing?

A. Localization is a very interesting topic, it involves adapting your products, operations, governance and supply management to

The [Chinese] market evolves incredibly fast and sometimes up to 10 times the speed of a mature market

better align with your local conditions. In China, localization has proven to be critical for business success in most cases, but when it comes to localizing products the answer might be different. In some cases, the foreign nature of goods is an attribute that consumers value, for instance, many luxury brands have attempted to incorporate Chinese characters into their products, only to find that Chinese consumers are simply interested in exactly the same products that they can find in cities like Tokyo, New York or Paris.

Another example is Norwegian Cruise Line, one of the top cruise companies headquartered in Miami. It invested heavily in localization by including many Chinese features on its cruise ship, including interior design, Chinese restaurants and teahouses or games like Mahjong. But their effort missed the mark because it turned out that Chinese consumers were looking for an exotic ‘Western-style’ cruise experience, and the Chinese style was too familiar for them. This mismatch, along with a few other factors, led the company to eventually spend another \$50 million removing the Chinese elements from their ship and exiting the China market completely.

Q. What are the trends in terms of foreign businesses entering into partnerships or joint ventures in China?

A. In the past, foreign businesses usually entered into partnerships or joint ventures because it was necessary, especially in some sectors where it was a legal requirement to have a Chinese partner. But now many businesses remain willing to do so even if they have

access to that sector because of the government incentives that are available to Chinese companies. Additionally, the historical JVs tended to be with well-established Chinese companies, but a growing trend now sees foreign firms willing to collaborate with startups in China.

Many foreign companies, despite not being VC firms, are also investing in a variety of companies, for instance, Intel has invested in more than 100 Chinese companies. These emerging trends seem to stem from China’s enhanced R&D and innovation capabilities as well as the quality of its talent pool.

Q. To what degree are Chinese companies proving successful in entering international markets and to what degree are they adapting their existing business strategies to do so?


A. Chinese companies have become incredibly successful in entering international markets in the past couple of decades, especially in sectors such as telecommunications, electronics, the auto industry and e-commerce. Notable companies including TikTok, Xiaomi and BYD have exhibited a variety of degrees of adaptation to their existing China strategies.

For instance, Pinduoduo primarily replicated its low-cost strategy in the US through its subsidiary Temu, and that has resulted in Temu becoming one of the most downloaded apps in the US through the price points resonating with consumers. It is still too early to claim Temu as a complete success as the company hasn’t reached profitability yet, but it has done well in terms of growth.

Another example is Xiaomi, which became successful in China through its online selling strategy, but when it initially went to Europe it hit a wall. European consumers are very used to purchasing their cell phones in person, rather than online, so Xiaomi partnered with several cell phone carriers and retailers, as well as opening its own stores. It is now a leading player in the European smartphone market.

Q. How do you see the challenges and opportunities for businesses in China changing over the coming five to 10 years?

A. China’s economy is currently transitioning toward high-quality growth, which could lead to challenges for businesses in adjusting to new market demands. Secondly, the regulatory environment is likely to continue to change and evolve, posing compliance and operation challenges for businesses. And again, how geopolitical tensions change in the coming years could impact market access and potentially disturb supply chains and investment flow.

In terms of opportunities, China has masses of room to expand its innovation and research, which in turn presents opportunities for collaboration between Chinese domestic firms and international businesses, particularly in emerging industries like AI, robotics, and big data. Another field is China’s booming digital economy, which offers opportunities for businesses in FinTech and online services. 

Interview by Patrick Body

Chinese companies have become incredibly successful in entering international markets in the past couple of decades



SEARCHING FOR SUCCESS

Baidu is the dominant search engine in China, but international and AI success are still elusive

By John Reid



Baidu is hoping that AI success will boost the company's growth prospects

When Baidu launched its AI chatbot in March 2023, there was an air of skepticism in the audience because the large language model (LLM) demonstration was not live, it was pre-recorded.

Despite this embarrassment, Apple and Samsung now use the AI from Baidu, China's leading search engine provider, on many of their phones on sale in China. But, adoption aside, the AI has yet to distinguish itself from its competitors, and any level of market penetration outside the country has not been forthcoming.

Baidu is one of China's three legacy tech giants known as BAT—Baidu, Alibaba and Tencent—and, although the smallest of the three, it still registers as a substantial tech company worldwide. The company has seen the least international success and faces several major barriers to achieving a breakthrough.

“Baidu has comfortably established itself as China's leading search engine and one of the country's largest tech firms,” says Tom Nunlist, Associate Director at China-focused research and consulting firm, Trivium. “The company has made it clear that it sees a future path in AI.”

But it is yet to really distinguish itself from any of its competitors. “Baidu has a history of attempting to expand into markets and failing,” says a China-based tech analyst who wished to remain anonymous. “The question really is whether it can learn from past market-entry mistakes and push itself to prominence.”

Search criteria

Founded in 2000 by entrepreneurs Robin Li and Eric Xu, Baidu was one of the first internet companies in China, offering search engine services to Chinese users. The company grew quickly and by 2010 had become the dominant search engine in the country by a large margin. Google meanwhile has been banned for at least the past 14 years.

As of September 2021, Baidu controlled 82.5% of the market and boasted around 580 million monthly active users, with its closest Chinese competitor

Sogou managing only a 7.6% market share. By February 2024, Baidu as a whole was valued at \$36 billion. For comparison, Tencent is valued at \$455.53 billion and Google is worth over \$2 trillion.

“The search engine has been their bread and butter since it started,” says Kai Wang, Senior Equity Analyst at Morningstar. “It is the core of their revenue, bringing in around 80-85% mostly through online advertising.”

The company also has an array of smaller product offerings. So-called Baidu Core consists of the company's mobile ecosystem and includes applications such as the Baidu App, its AI Cloud and other AI services and short-video platform Haokan. iQIYI, which Baidu has fully owned since 2012, is an online entertainment service that is often compared to Netflix. The service offers video streaming, including the platform's original content and other professional productions.

“There have been many examples of trying to copy a market incumbent and not really getting it right,” says the analyst. “It has tried both e-commerce and food delivery and subsequently exited them quite quickly.” The company closed its e-commerce venture Youa in May of 2024, after failing to gain traction against Alibaba's dominant Taobao.

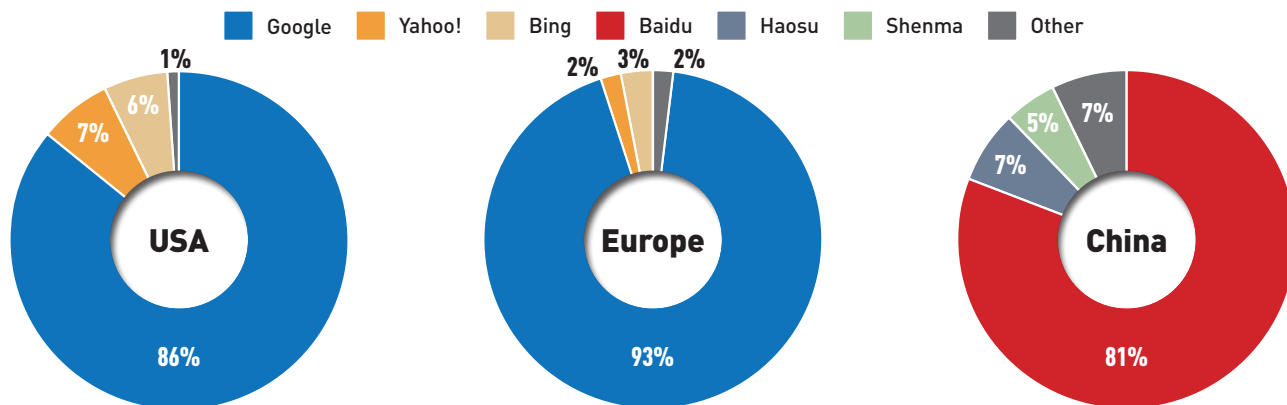
Baidu is increasingly focusing on various AI tools, with ERNIE Bot, the AI chatbot launched in 2023, its flagship in the sector. Company statistics show it is spending around 20-25% of its budget on R&D—although this also includes iQIYI. But as other companies make headway in the China AI race, Baidu's stock market performance has fallen behind. At the end of June 2024, Baidu's New York stock price had fallen around 36% over the previous year, whereas those of Microsoft and Google stocks had grown by nearly 50%.

“AI development is definitely the play for them,” says Nunlist. “But the same can be said for the other BAT companies as well as a number of smaller startups.”

Baidu's operations are concentrated in China, but the company has established a small presence elsewhere. Baidu has

SEARCH SHARE

Baidu's share of China's search engine market is similarly dominant to Google's in the US and Europe



Source: techreport.com

a \$300 million R&D center in Silicon Valley which opened in 2014, with the goal of conducting AI research, primarily in self-driving software.

b-AI-du

The importance of AI to the future of the global economy is well understood and, in Q1 2024, Baidu's revenue for generative AI services reached ¥656 million (\$90.39 million), making up just 2% of Baidu's total revenue. The company's most prominent AI project is ERNIE bot, and a new iteration of the LLM, ERNIE Bot 4.0, was released in October 2023, containing updates including English compatibility.

The chatbot has seen a reasonable level of success, with more than 200 million users since its initial launch. For comparison, Chat-GPT had around 627 million monthly users in June 2024. "Gross margins in Q1 2024 ticked up a bit, which is somewhat surprising, but also AI costs get lower once you can reduce the amount of data you need to pump into it," says Wang. "At the same time, they are yet to really monetize the consumer side, so that is an option for them."

In Q3 2023, ERNIE Bot's enterprise client numbers jumped by over 150% year-on-year to 26,000, and the company has entered into several partnerships with major firms to boost its presence.

In March 2024, Apple, which itself is currently facing dented sales in China,

announced that the Chinese versions of its iPhone 16, MacOS and iOS18 would come equipped with ERNIE Bot services, as will Samsung's Galaxy S24 handsets. Baidu has also partnered to do the same with Lenovo laptops and tablets and smartphones will soon follow.

In terms of user experience and query results, ERNIE Bot, as with other AI models, has proved somewhat unreliable in certain areas. In some cases this can be chalked up to the language barrier—an English request for a haiku resulted in a 9-line poem, while the same instruction in Chinese returned a successful 14-syllable result—but given the need for accuracy, such mistakes are important.

There are several competitors in the China AI space, including Zhipu and Moonshot.ai which both offer similar functionality to ERNIE Bot. But none seem to stand out in terms of user experience and results.

"From anecdotal discussions with various Chinese AI users there is a wide mix of preferences," says Wang. "Some prefer Zhipu, some Baidu and others Moonshot.ai, it's still difficult to tell who the clear winners are yet."

Baidu has also released other AI projects. Comate, an AI coding assistant released in 2023, has been used in the company's own business operations accounting for 27% of the newly added codebase as of April 2024.

Baidu has comfortably established itself as China's leading search engine and one of the country's largest tech firms



Tom Nunlist
Associate Director
Trivium China

Baidu's focus on profitability at the expense of user experience has negatively impacted perception of the company



Ivy Yang
Founder
Wavelet Strategy

There are around 10,000 corporate Comate users, including podcasting app Ximalaya and Shanghai Mitsubishi Elevator. There are also three smaller versions of ERNIE—Speed, Lite and Tiny—that Baidu offers for different aspects of coding assistance.

With the recent popularity of AI, the video streaming app iQIYI has also announced an interest in utilizing AI tools to improve the efficiency of its content production. Some of the tentative ideas for using AI include imitating multi-camera

shots and analyzing novels that could be turned into production projects.

Baidu has also created a \$145 million venture capital fund, similar to the OpenAI Startup Fund, to help generative AI startups in China, and is an investor in over 100 other companies, many focused on bolstering the company's own AI ambitions.

The other major focus for Baidu's AI technologies has been in navigation. The company has partnered with Tesla in China for several years, providing its mapping

services for the company's electric vehicles (EVs). In June 2024, the company announced the inclusion of Version 20 of its mapping services with Tesla models, which is likely to help bring Tesla closer to providing its Full Self-Driving system to China. Nissan has also announced that it will explore a strategic partnership with Baidu.

Baidu has also had its own go at autonomous self-driving with the Apollo project, which focuses on autonomous self-driving with robotaxis. The project began in 2017 but has been operating at a loss ever since. In Wuhan, where the robotaxis debuted, the company's autonomous driving services only make up 1% of daily ride-hailing orders.

"Baidu's tech is currently at L4, with L5 being fully-autonomous driving," says the analyst. "They are close numerically, but the jump between L4 and L5 is huge and as such they are still quite a long way from autonomy."

Baiding their time

Despite Baidu's shift towards AI and its long-established dominance in the search engine market, domestic issues with its reputation, access to key technologies and a seemingly calcified management system, coupled with an almost total lack of international presence, mean that there are a lot of problems for the company to solve.

In terms of the company's cash cow, its search engine business, ad revenues are currently down. "They're depressed at the moment as they should traditionally be growing at slightly higher than GDP, but only grew around 2-3% in 2023," says Wang.

Macroeconomic headwinds are one reason for this, but the sluggish growth is also compounded by the fact that many Chinese tech users are starting to find their information elsewhere, particularly on social media apps such as the Instagram-like Xiaohongshu.

Another reason for the reputational and reliability slip appears to be Baidu's decision to skew towards profitability over usability. While Google faces similar issues of lower ad revenues and the diversification



Competition: Baidu's ERNIE Bot provides a similar service to Chat-GPT

of app use in the rest of the world, the company has taken a more balanced approach between the two, reducing trust loss and user experience issues.

“Some users are gravitating more towards social media, such as Xiaohongshu (RED), for their information needs, partly due to usage patterns, but also because of a general drop in trust in Baidu’s results,” says Ivy Yang, Founder of Wavelet Strategy and author of Calling the Shots newsletter. “One common complaint from users is that top search results are populated from Baidu’s own ecosystem of content, rather than what would be considered the so-called ‘best’ results. Baidu’s focus on profitability at the expense of user experience has negatively impacted perception of the company.”

The company is also facing several organizational issues, in particular a recent public backlash when head of PR, Qu Jing, released videos on China’s TikTok equivalent, Douyin, glorifying China’s work-till-you-drop culture. Qu said she would not take responsibility for her staff’s wellbeing “as I’m not your mother,” as well as stating that “If you work in public relations, don’t expect weekends off.”

China’s younger workers have been increasingly vocal about their dislike of working requirements in the country’s tech industry, in particular 996—the expectation of working from 9-9 at least six days a week. And while Qu Jing has since left Baidu, her views speak to a wider calcification of the managerial approach in the company.

“Baidu has always had a problem retaining talent that it has attracted, for example Lu Qi who went on to work with Y Combinator China or Andrew Ng who also had a stint at Baidu,” says Yang. “I think the fact that Baidu has not been able to keep the high profile and top talent points to a broader culture issue in the company. There also hasn’t been any suggestion that it has changed in recent years, especially with the recent crisis within the PR department.”

Baidu is at risk of getting outmaneuvered by new AI startups that, through developing technologies, now have much more of an ability to challenge incumbents in China.

“AI is becoming more competitive as smaller companies are also entering the

If Baidu fails in its quest to do AI, then the company will likely just trade as a utility

Kai Wang
Senior Equity Analyst
Morningstar



industry,” says Wang. “Interestingly, Zhipu just received a massive investment from Saudi Aramco, so that might be indicative of where the race is going.”

The lack of international expansion is also becoming more obviously an issue for Baidu. Other companies are now taking a different approach to enter markets including Latin America. Shein or PDD, for instance, try to distance themselves from their Chinese origins in order to avoid the reputational difficulties that come with it.

But a poor showing in international markets has not stopped the company from facing a slew of troubles. This includes a lawsuit from its US investors in 2021, which has since been dismissed. It accused Baidu of defrauding shareholders about its ability to comply with Chinese regulations governing internet content.

“They have maintained analyst relationships, but there are no longer any Western journalists that have Baidu in their beat,” says Yang. “Without these relationships their image internationally is largely negative as the only stories that get written are about the company’s issues. In turn this can impact investors’ willingness to buy into the company.”

Geopolitical headwinds are also a major challenge for Baidu and other Chinese tech companies more generally. AI software such as ERNIE are dependent upon high performance memory chips; but with increasing global restrictions

on semiconductor chips, investors are concerned about how Baidu will face this issue. In addition, there have been concerns over linkages between Baidu’s research and China’s military, which have further exacerbated the issue of access to semiconductor chips as well as trust in using the product.

New generation?

Given Baidu’s history of disappointing entry into and exit from many new markets and a seemingly outdated managerial structure, there are concerns about its ability to adapt to the fast-changing tech environment in China. Baidu is throwing money at new products, particularly related to AI and autonomous driving, but there are always newer and more agile competitors doing much the same thing.

The company is likely to continue to make money in the coming years, thanks to its dominance in the search engine space. But its long-term future is not guaranteed, particularly if it repeats past mistakes and consequently fails to take a lead in the AI space.

“They have a reputation, are well known and are one of the pillars of China’s tech environment,” says Wang. “If Baidu fails in its quest to do AI then the company will likely just trade as a utility, its ad revenue will grow around the rate of GDP and the markets will follow that. But without AI, Baidu will have no catalyst for future growth.”

CKGSB BUSINESS CONDITIONS INDEX

Below Par

CKGSB’s Business Conditions Index, reflecting confidence levels in China business, shows a downward trend in China’s economy



The BCI is directed by Li Wei, Professor of Economics at the Cheung Kong Graduate School of Business

The CKGSB Business Conditions Index (BCI) registered 48.8 in July, falling from June’s overall score of 49.3, and below the confidence threshold of 50.0. Together with growth in the second quarter only reaching 4.7%, it appears China’s economy is trending downwards.

Introduction

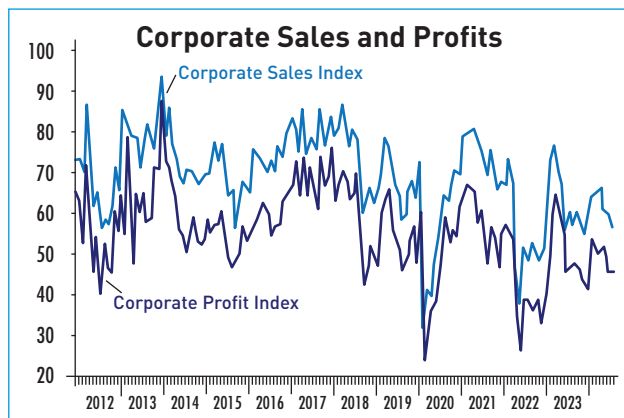
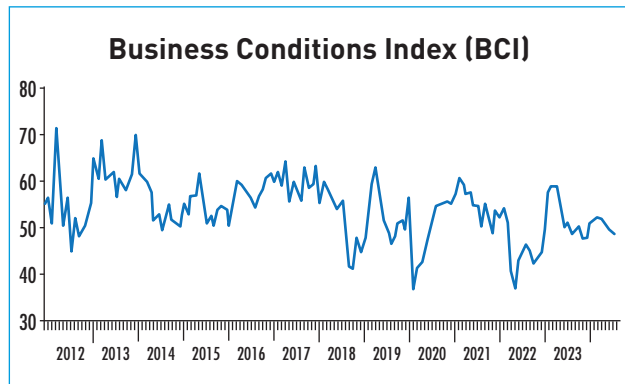
The CKGSB Business Conditions Index (CKBCI) is a set of forward-looking diffusion indicators. The index takes 50 as its threshold, so a value above 50 means that the variable that the index measures is expected to increase, while a value below 50 means that the variable is expected to fall. The CKGSB BCI uses the same methodology as the PMI index.

Key Findings

- The findings from July’s BCI suggest an overall downward trend in the Chinese economy
- Cost predictions show that most companies anticipate rising expenses in the next half year
- Production-side price expectations are hovering at an all-new low, a sign of major price pressure in China

Analysis

The CKGSB BCI comprises four sub-indices: sales, profit, financing environment, and inventory. Three measure prospects and one, the corporate financing index, measures the current

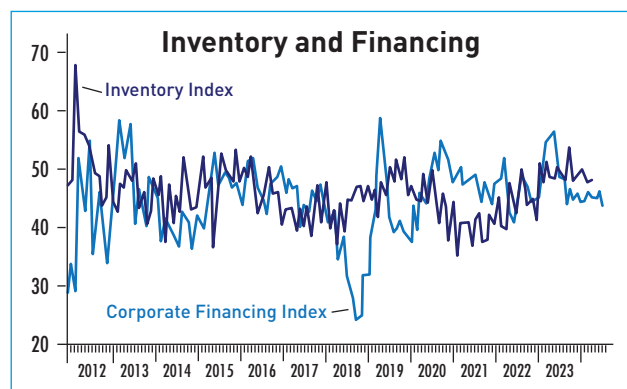


state of affairs. In July 2024, they performed as follows:

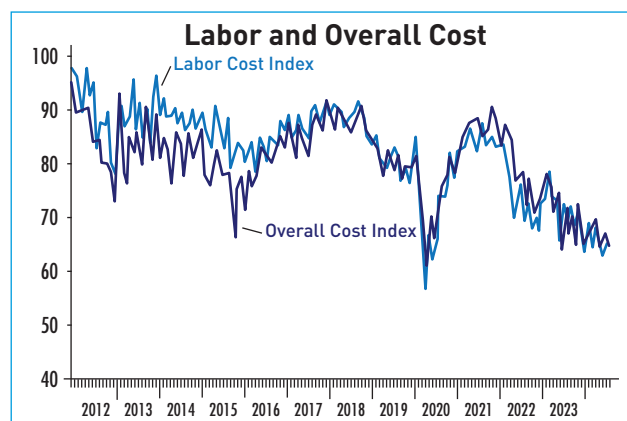
One of the four subindices rose, and three fell this month. The corporate sales index continued to slide, from 60.2 to 57.1, accompanied by the corporate profit index which also slid, from 45.7 to 45.6.

Corporate financing prospects continued to fall, from 43.4 to 42.1. The index for inventory rose again, from 48.0 to 50.9, the only one of the four sub-indices to do so.

While for the other subindices — sales and profit — a positive trajectory indicates growth, for inventory, a positive trajectory indicates falling warehoused stock and a negative index points to overcapacity. The four sub-indices of sales, profit, financing and inventory have different meanings as a result. Put simply, when the first three sub-indices rise, it means that the situation is improving, and when they fall, the situation is deteriorating. For inventory the reverse is true.



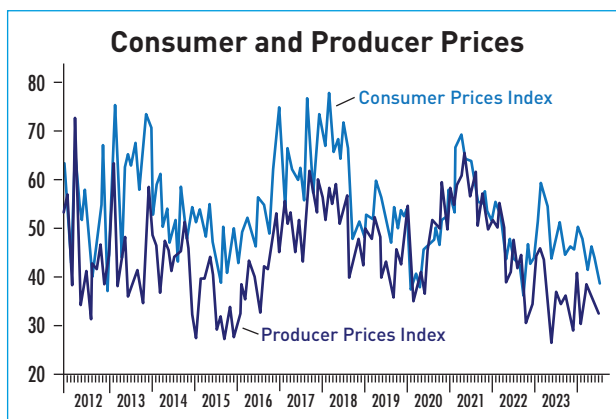
Aside from the main BCI, we also forecast costs, prices, investments and recruitment demand over the next six months.



This month, the prognosis for labor costs improved somewhat, from 63.6 to 65.1. The overall costs index slid from 66.2 to 65.4. These cost predictions show that most companies anticipate rising expenses in the next half year. Although high labor and overall costs increase pressure on companies' bottom lines, they do not necessarily mean a deterioration of business

conditions in China over the next six months. It could instead be telling us that the economy is heating up, and companies are feeling the push to spend as demand recovers.

Let's look at price prospects. The consumer price index fell back further this month, from 44.6 to 38.8. The producer price index fell again, from 35.3 to 32.3, showing price pressure among primary goods producers. Production-side price expectations are hovering at an all-new low, a sign of major price pressure in China.




We now turn to investment and recruitment. These indices have both been at the more confident end of the scale since the BCI began. In the past few months, they have slid significantly.



These two indicators offer a glimpse at plans for expansion in China's business world. The index for investment fell somewhat from 56.5 to 54.7; the index for employment fell again, from 54.4 to 50.0.

Conclusion

The BCI registering 48.8 in July, together with growth in the second quarter only reaching 4.7%, it appears China's economy is trending downwards. 

Reducing Enterprise Emissions

Alibaba's Energy Expert tool helps Chinese SMEs with aggregation and analysis of their carbon emissions data



By Chen Hong, Professor of Management Science, CKGSB; Associate Dean of Markets for the Americas; Director, Center for Clean Energy and Carbon Neutral Development Research

Meng Fanyi, Researcher at the CKGSB Case Center

In recent years, there has been a marked emphasis on the importance of countries and companies undergoing a green and low-carbon transition. In this vein, September 2020 saw Chinese leader Xi Jinping announce to the UN General Assembly China's goals for combating climate change, namely striving to peak carbon dioxide emissions by 2030 and reach carbon neutrality by 2060.

Meeting these dual carbon goals will require broad systemic changes across many sectors of the Chinese economy, and the announcement kick-started a new era of low-carbon development. Businesses will of course play a major role in the low-carbon transformation, but for small- and medium-sized enterprises (SMEs), this will not be a simple task.

This case discusses the needs and challenges encountered by SMEs in the process of transitioning to a green and low-carbon environment, through the lens of the Energy Expert platform provided by

Aliyun, Alibaba's cloud services unit. It will also look at a series of energy saving, emission reduction and carbon management solutions that digital technology can provide to enterprises and social groups.

Enterprise environmental regulation

Enterprises around the world are increasingly required to disclose carbon emissions and participate in the carbon market. For example, the Hong Kong Stock Exchange (HKEX) now requires listed firms to disclose carbon emissions data and the US SEC has launched a draft of new carbon emissions regulations, while China's National ESG Evaluation Methodology emphasises ESG values with Chinese characteristics.

Within China, specific emission units are required to account for and report carbon emissions, and energy consumption standards often require involvement in carbon trading. At the same time, carbon

tariffs proposed by the European Union and the US have presented new challenges to enterprises operating in those regions, including China's export-oriented firms.

But carbon reduction is not just a response to regulatory pressure—there are other benefits to the process. Firstly, carbon reduction can help reduce costs and increase efficiency through reducing raw materials and transport costs, as well as energy usage. In addition, emission reduction facilitates the integration of enterprises into green supply chains, demonstrates a level of social responsibility—enhancing brand image—and improves listed corporate ratings, potentially reducing financing costs, among other things.

To date, it has mostly been large enterprises driving China's green and low-carbon transition, but SMEs are also an important part of the country's market, and despite coming to the table late, they have huge potential for energy saving and carbon reduction. But there

are two key issues that stand in the way of the SME transition, the lack of awareness of green development, and no clear path for businesses to take when transitioning. Thus, enterprise awareness of the incremental and long-term business performance gains of a low-carbon transition needs to be improved, and a clear path set out for them to follow.

Energy Expert

In 2021, Alibaba released the Alibaba Carbon Neutral Action Report, defining its carbon reduction strategy and goals. It was the first such report issued by an internet company in China. The company spent two years exploring low-carbon options, including the implementation of digital energy-saving and emission reduction measures, the adoption of green electricity and the creation of a “Scope 3+” emissions concept to guide the carbon reduction actions of the platform’s enterprises.

That year, Aliyun launched Energy Expert, a Software-as-a-Service (SaaS) product designed to provide energy saving, emission reduction and carbon management services to the rest of the Group, its partners and customers. Over the past three years, Aliyun has provided services at the government, enterprise and community levels, providing solutions supported by low-carbon technology.

Energy Expert provides two main services for enterprises: carbon accounting and carbon reduction. The carbon accounting function helps calculate the carbon emissions of organizations and their products through a one-stop service, supplying tools such as carbon emission monitoring and certifications, among others. The use of digital technologies significantly shortens the time and reduces costs when compared to traditional carbon footprint accounting.

Additionally, Energy Expert also provides energy saving and carbon reduction guidance and optimization suggestions through real-time monitoring of energy use data, helping improve energy efficiency, reducing carbon emissions and helping with carbon emission management and reduction practices at both the

The demand for green and low-carbon transformation of enterprises is increasing



organizational and product levels.

At the individual level, Energy Expert targets people in communities, campuses and other social organizations, encouraging them to participate in low-carbon behavior and helping cultivate a green mindset. For example, individuals are able to record and upload behaviors such as green travel, recycling and reducing food waste, etc. on the platform to accumulate points, which can be exchanged for rewards.

As of October 2023, Energy Expert manages 30,000 pieces of equipment in over 3,000 enterprises across 14 industries, which boast an average energy saving of 12%. The carbon visualization tool Carbon Vision has also been deployed in over 20 regions both in China and abroad.

Carbon accounting and reduction...

...For products

The goal of Energy Expert is to provide an online product carbon footprinting service designed to help companies address carbon tariffs, fulfil ESG disclosure obligations and participate in supply chain management assessments. By utilizing both Chinese and international carbon emission databases and tools such as cloud computing and big data, the software improves the efficiency and accuracy of carbon footprinting while reducing costs.

But Energy Expert is not limited to carbon footprinting, also including guidance on carbon reduction through the use of algorithms to identify opportunities and providing advice and resources on how to design low- or zero-carbon products or access green energy sources. This is particularly beneficial to SMEs, which often

find it difficult to access similar resources on their own. In addition, the platform’s green certifications can help companies with marketing and public awareness.

There are a number of successful examples related to low- or zero-carbon product creation, one of which was the mascot for the 2022 Hangzhou Asian Games. Energy Expert was used to track the carbon footprint of the mascot throughout its lifecycle, covering emissions from raw material acquisition and transport to production and packaging. Using this calculation, the mascot manufacturer implemented a series of emission reduction measures, including adopting environmentally friendly digital printing processes, reducing packaging material usage and building a photovoltaic power plant to provide green electricity.

Emissions were reduced by 0.15kg from a starting point of 1.63kg per unit, the remaining 1.48kg were then offset through the UN-run Clean Development Mechanism (CDM) emission reduction credits. Additionally, each mascot came with a label that can be scanned to learn more about its zero-carbon journey, providing a new avenue for Aliyun’s green marketing and to help raise public awareness.

The company also uses blockchain technology to promote multi-organizational schemes where businesses can work together to help generate a circular economy and reduce emissions. In 2022, Energy Expert successfully partnered with instant noodle producer Master Kang, utility firm Veolia and Tmall supermarket to produce rPET eco-friendly storage boxes. The boxes were made using Master Kong’s waste PET bottles, Veolia’s recycling

technology and were sold through Tmall. The process included carbon accounting at all stages from recycling, reprocessing, manufacturing and sales, ensuring data traceability along the entire chain.

Energy Expert can also provide carbon footprint calculation services for digital products, especially cloud service products, including calculating the carbon footprint caused by the comprehensive usage of cloud resources, the power consumption of cloud hardware and while also generating corresponding ESG reports.

Energy Expert has supported customers, including Vanke, to account for the carbon footprint of their cloud resources on many cloud service platforms (e.g., AliCloud, Microsoft Azure, Huawei Cloud, etc.).

...For organizations

Energy Expert focuses on carbon management and reduction services at the organizational level, providing planning, monitoring and optimization solutions to support companies.

For carbon accounting, Energy Expert adopts the industry-standard monitoring, reporting and verification (MRV) model to optimize the collection of comprehensive, timely and standardized emissions data. At the same time, the system supports international standards for carbon emission accounting and simplifies the processes of emissions checking and online certification.

For carbon reduction, Energy Expert helps enterprises reduce costs and undergo the low-carbon transformation through energy consumption management, providing time-phased electricity consumption monitoring, analysis and energy-saving suggestions, and guiding enterprises to fine tune their energy use management.

Services also include energy self-generation management, photovoltaic system construction support and optimization of power consumption for large-scale equipment. Energy Expert also provides carbon reduction programs for communities and schools as well as hosting low-carbon events, expanding its target audience.

Hangzhou Huaju Composites is a typical case in the manufacturing industry. After connecting to the Energy Expert platform, Huaju obtained energy use optimization suggestions through online data analysis, such as adjusting equipment pre-heating time to reduce energy consumption. The platform also helped Huaju understand its electricity consumption and carbon emission levels and made recommendations based on new energy sources and load forecasts.

With these measures in place, in 2022, Huaju saved 170,000kWh of electricity, equivalent to more than 120 tonnes of carbon reduction, managed 2MW of new energy, generated 2.21 million kWh of green electricity and reduced carbon by over 1,500 tonnes. This was a 16% reduction in carbon emissions per unit area of Huaju's products.

There are also options for Energy Expert to help SMEs develop carbon assets. XinKeDi is a leading biomass power generation company that uses the Energy Expert cloud technology for online power generation management, reducing its operation and maintenance burden. The carbon asset development and audit process was also moved online, establishing a carbon account for XinKeDI and developing its biomass power generation into a carbon asset recognized by the VCS and GCC, helping the company participate in the international carbon trading market.

When it comes to helping communities reduce carbon, one example is the China Academy of Art campus project that calls on students to participate in low-carbon actions, such as reducing food waste, recycling old books and clothing, paperless learning and green travel. The award-winning scheme rewards the actions through the award of vouchers and cultural and creative gifts.

Energy Expert also undertook a low-carbon construction project for the Asian Games Village at the Hangzhou Asian Games, promoting energy saving and emission reduction through energy consumption optimization, as well as promoting technologies through the Asian

Games Village App. Residents of the village could accumulate points through participation in green behavior, which in turn could be exchanged for rewards. During the campaign period, there were more than 15,000 new users, with over 640,000 participants and a total carbon reduction of more than 15 tonnes.

Future planning

With the promotion of the dual-carbon strategy, the demand for green and low-carbon transformation of enterprises has increased. The Aliyun team provides carbon management, energy saving and emission reduction services for enterprises and wider parts of society based on data and with the help of digital technology.

In the future, Energy Expert will establish a broader and more inclusive low-carbon energy integrated service cloud platform, enrich the supply of digital technology services, enhance the supply capacity of digital energy-saving and carbon-reducing products and lead the low-carbon transformation of enterprises.

As well as Energy Expert, the realization of the dual-carbon goals needs to be led by the government, business leadership and include active participation by the public. Transformation of business can be aided by the cultivation of a low-carbon consumer market. Consumers are willing to pay a premium for green and low-carbon products, and through platforms such as the Asian Games Village app, Energy Expert hopes to influence consumers and motivate individuals and enterprises to contribute to green development.

As part of AliCloud, Energy Expert aims to accelerate the development of digitalization and bridge the digital divide between businesses of different sizes. On one hand, it will help with the digital transformation of SMEs and provide energy-saving and carbon-reducing digital solutions that are low-cost, fast-acting and highly-applicable. On the other, it will strengthen the foundation of digital services for SMEs, integrating the capabilities of eco-partners, improve the efficiency of enterprises and reduce implementation costs.

NEW THREADS

Previously heavily influenced by international pop culture, China's fashion industry now places a strong emphasis on domestic creativity

By Lu Zhao



Image by Lorena Liu

Social media is a major driver of fashion trends in China today

In 2021, a lonely user on a Chinese social media platform posted in search of makeover advice, and received a huge amount of feedback from China's fashion-savvy netizens. In the three years since, "Classmate Xiao Ai" has become an online phenomenon and a symbol of the love of China's youth for an entirely new approach to fashion.

Following diverse feedback ranging from his hairstyle and clothing to fitness and career, he has transformed from a nobody to heartthrob blogger. He boasts almost 300,000 followers, and in his offline life he has lost weight, developed a style and also found a wife. Soliciting fashion advice online, dubbed "tingquan" (听劝), has become a major trend, and there are even thousands of international users posting pictures holding pieces of paper bearing the Chinese characters "听劝" to get tips from Chinese netizens.

This is just one of a number of new fashion trends sweeping young people in China and the country's youth are now drawing from domestic and external influences to define their own style.

"China's youth is using fashion to express themselves and creating their own styles," says Gao Liwei, a Chinese fashion blogger. "I'm sure we'll see more excellent Chinese designers and brands rising up and having a greater impact on the fashion industry."

Pushing boundaries

Fashion trends in China have undergone dramatic changes in past decades, spurred on by the country's rapid social and economic development. "In the 1980s and 1990s, Chinese fashion was primarily influenced by Hong Kong, as Guangdong was the main focus of China's reform and opening up policies, serving as a commercial trade gateway with Hong Kong," says Wang Junjie, a freelance writer and former editor for Vogue Business.

"Hong Kong's entertainment culture also thrived during this period. Concurrently, China's booming economy and opening-up policies spurred a strong interest among Chinese youth in free and exaggerated styles of dressing," he adds.

"For instance, rock-style clothing like bell-bottoms, which were introduced from Hong Kong, gained significant popularity."

After China's accession to the WTO in 2001, fashion in the country began to develop under the influence of greater globalization. It was influenced by developed countries across the world, such as the US, Japan, South Korea and several European nations.

South Korean K-pop in particular has had a notable influence on Chinese fashion, as well as on global trends as a whole. Korean fast fashion brand Chuu opened its first store in Hangzhou in May 2021 and has since experienced almost exponential growth, reaching 73 stores across China by May 2022 and double that number by January 2023.

"Recently, brands like Chuu that emulate the style of Korean girl groups have enjoyed success in China," says Wang. "Korean girl group members are typically very slender, and they often dress in *lamei* style [meaning 'hot chicks' in Chinese], which has become popular among Chinese youth."

Other than international influences, the resurgence of music festivals, concerts and other performances after the lifting of COVID-related restrictions has also significantly contributed to shaping recent Chinese fashion trends. And these trends tend to be more domestically driven.

The result of this growth has been a booming fashion industry in China, consisting of international mainstays but also a huge number of local, creative and sometimes unique brands popping up across the country.

Major Chinese fashion companies are also playing a greater role in the supply of clothing and accessories to Western markets, with Shein being the key example. The company has rapidly developed into the third-largest online fashion retailer in the US by net sales, selling over \$8 billion in goods in 2023, trailing just Amazon and Walmart. The company has also filed for a prospective \$63.3 billion IPO in London, after a possible US IPO fell through.

As of 2023, China was the world's second-largest apparel market, boasting

revenues of \$313.82 billion, surpassed only by the US market with \$351.35 billion. Both markets have grown by around \$40 billion since 2018, and the gap is expected to continue to narrow, with China matching the US market size by the end of this decade.

China today

While Chinese fashion has been happy to absorb international styles and trends, there has also been a consistent interest in drawing on aspects of Chinese culture, and this has become very much more pronounced in the past few years.

A prominent example of the inclusion of Chinese culture, history, and mythology within design is Chinese designer Guo Pei, who is perhaps best known in the West for crafting Rihanna's iconic trailing yellow gown at the 2015 Met Gala. According to Guo, the dress was inspired by her grandmother's stories and a photo of her in a 19th Century Qing dynasty dress.

More recently there has been the launch of the Yu Prize in 2020, which is aimed at recognizing rising Chinese designers. A Yu Prize event helped kick off the 2023 Paris Fashion Week, bringing together a number of well-known Chinese designers, including Ruohan Nie, Caroline Hu and Rui, in order to showcase the growing talent from the country.

More and more young Chinese designers are also drawing inspiration from traditional Chinese clothing. They are infusing it with a modern sensibility to create the latest chapter of *guochao* (国潮)—'national trend'—fashion, known as neo-Chinese style (新中式). *Guochao* is fueled by Chinese consumers' growing interest in domestic brands that celebrate Chinese traditions, customs and culture.

Initially dominated by streetwear and athleisure brands such as Li-Ning, *guochao* has evolved to subtly incorporate Chinese elements into modern aesthetics, often complemented by dyed hair and bold makeup, regardless of gender.

"More and more Chinese people are taking pride in our culture and heritage, and are eager to showcase our traditional clothing to the world," says Gao. Gao also

Many Chinese designers are working hard to bring Chinese fashion onto the global stage



Gao Liwei
Chinese Fashion Blogger

acknowledges a growing trend of individuals wearing traditional *hanfu* and neo-Chinese attire as well as the proliferation of *hanfu* rental shops in cities like Xi'an and Suzhou, akin to the availability of rented *kimonos* in Kyoto, Japan.

Another emerging trend is urban outdoor fashion, primarily driven by domestic travel needs and consumption behaviors after the pandemic. "Individuals unable to travel during the pandemic have turned to outdoor activities, such as camping, hiking, and climbing," says Wang. This shift has led to a flourishing outdoor economy in China, with brands like Arc'teryx gaining popularity.

"Following the acquisition of Arc'teryx's business in China by Chinese sports brand Anta, it has adopted marketing strategies from streetwear brands like

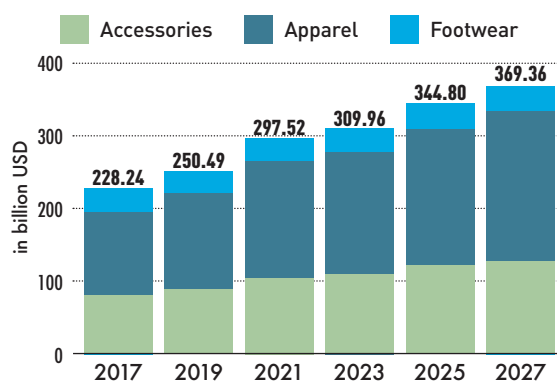
Supreme and other luxury labels, which aligns well with the interests of China's emerging urban middle class, particularly their penchant for outdoor activities," says Wang, referring to strategies such as using lookbooks and visual merchandising.

Post-pandemic, the concept of Citywalk has become popular, which encompasses everything from aimless wandering to hopping between foodie destinations. This laid-back and budget-friendly travel style has also spurred the rise of urban outdoor fashion.

Another company that has jumped to fill the demand gap is An Ko Rau. Established under the Chinese fashion house Zuc Zug in Shanghai in 2017, the urban athletic-wear label focuses on crafting apparel suitable for daily, casual and fashionable wear. The brand often features non-professional

MEGA-MARKET

China's fashion market has shown consistent growth and is expected to continue doing so



Source: Fashion China Agency

China is the biggest fashion market in the world, with a CAGR of 6.79% (2022-2027)

More fashion items are bought online than offline (the ratio for 2022 was 54.9% to 45%)

Sustainable wear, outdoor fashion, sportswear and niche brands are among the biggest trends

models in its promotions to highlight its focus on the everyday.

Social media-driven

The key driver for both fashion trends and business popularity in China is social media, with platforms such as Bilibili—akin to YouTube—and Xiaohongshu—akin to Instagram—serving as primary sources of fashion inspiration for Chinese youth.

Social media platforms not only feature users seeking advice from others, as with the *tingquan* trend, but also serve as key drivers of both fashion trends and sales. Brands, influencers and regular users alike leverage social media as a major, and in some cases singular, marketing tool.

Many social media platforms in China integrate e-commerce functions, and according to CBNDData, nearly 40% of clothing sales in the country took place online in 2023. Among these platforms, clothing sales on Douyin, China's TikTok, contributed to nearly 70% of the online sales increase that year.

Social media also provides a direct route to the mass market for newer brands, albeit those with enough capital to spend on endorsements from major online influencers. Founded in 2023, the outdoor brand MissWiss immediately began promoting its lifting yoga pants, known as “shark pants” in China, on Douyin, and posts featuring celebrities and influencers

wearing its products, generating a gross merchandise value (GMV) of ¥130 million (\$17.88 million).

Another example is the Italian athleisure brand Fila—exclusively licensed to China's second largest sportswear brand, Anta, in the country—which collaborated with Xiaohongshu and the platform's top influencers to pioneer ‘old money tennis outfits,’ after noting the rise in popularity of both tennis and ‘old money’ styles on the app.

As a result, within one month of the promotion, Fila's tennis dresses became the most searched-for on Xiaohongshu, while the overall sales of its tennis skirts increased by 370% year-on-year. A key aspect of Fila's success was the company's online consumer research, where, through interactions with consumers on social media, they identified the celebrities and influencers that most resonated with their audience.

Trends and beyond

While trends within China always develop at a break-neck pace, the country's fashion industry is also beginning to have an impact outside the country. Even though it can sometimes be challenging for international users to access and understand China's subcultures and entertainment products, Chinese culture is having an increased impact on global youth culture and

entertainment.

For example, fashion designer Lei Liushu, along with co-founder Jiang Yutong, runs fashion label Shushu/Tong which has grown approximately tenfold in international markets over the past few years.

Lei, who attributes the rise of K-pop and the influence of feminine designer brands to the broader recognition of his label, notes that certain China-related styles are now becoming more accepted in Western markets. “We used to receive feedback that our brand was ‘too girly’ or overly ‘Asian-oriented,’ but now we’re witnessing a greater acceptance of our style,” says Lei.

Shushu/Tong's international success is clear, with endorsements from celebrities such as singer-songwriter Olivia Rodrigo, BLACKPINK's Jennie, and Euphoria actress Sydney Sweeney. The brand has also attracted international collaborations, including partnerships with Estee Lauder, Charles & Keith, and Dover Street Market in London. Lei attributes much of their success to their active presence on social media.

“We’ve been managing our Instagram account since 2016, consistently sharing our designs and campaigns,” he explains. With about 200,000 followers on the platform, the Shanghai-based duo remains relevant in the global fashion market.

Although still a niche, Western luxury brands are also increasingly embracing Chinese design and culture. For instance, British luxury department store Harrods has celebrated Chinese New Year in its flagship London store for two consecutive years through an exclusive collaboration with Chinese design incubator Labelhood. During these celebrations, Harrods adorned its shop with traditional Chinese elements, presenting designs by Labelhood's designers alongside them.

However, transferring fashion trends from China to elsewhere is not necessarily an easy process. Kevin Lee, COO of consumer insight agency China Youthology, notes that although China transitioned from manufacturing to creative capabilities long ago, there hasn't been a surge of strong local brands that can successfully penetrate



Old and new: Chinese fashion is melding together traditional and modern influence

other markets.

“Chinese creatives are more focused on a narrative that speaks to Chinese consumers, and they have not emerged with ideas and narratives that break through for other markets yet,” he says.

Wang also believes that China lacks a significant advantage in pop culture, which often dictates the popularity of fashion trends. Additionally, Europe continues to have considerable influence in the fashion industry, with many Chinese designers heavily influenced by the British fashion education system and the French fashion industry.

“China’s primary advantage lies in its consumption power. The post-COVID urban outdoor trend is largely consumer-driven, but its consumption needs remain domestic-centric and have minimal impact beyond China,” says Wang. “I believe that as Chinese people increasingly embrace Chinese brands and Chinese consumers become more fashion-savvy, the Chinese fashion industry will become more locally oriented and less influenced by international trends.”

Future trends

With high domestic demand along with significant international exports, fashion creatives remain keenly focused on the domestic market and this is also leading to some innovations well beyond the ordinary.

Many Chinese designers are moving past the contemporary and exploring futuristic concepts. Xander Zhou, the first menswear fashion designer from China to participate in London Fashion Week Men’s, frequently explores futuristic themes in his collections, known for their “techno-orientalist” aesthetics. His latest collection delves into sci-fi themes and utilizes generative AI tools, envisioning a future where cyborgs and humanoids coexist seamlessly.

This is just one example of emerging Chinese designers who are exploring the fusion of fashion with cutting-edge technology. Marcela Godoy, Associate Arts Professor of Interactive Media Arts at NYU Shanghai, has observed a growing number of Chinese designers experimenting with

China’s booming economy and opening-up policies spurred a strong interest among Chinese youth in free and exaggerated styles of dressing

Wang Junjie
Editor
Vogue Hong Kong

technology and AI. The results range from creating filters and avatars for social media to designing digital garments and integrating robotics into fashion.

“In China, you see that now we use phones for everything. I think China is more futuristic than other countries, that it’s super digital,” says Godoy. “That’s why I think there’s a rise in this trend towards digital fashion, Augmented Reality (AR) and these experiments.”

During major shopping events like Singles’ Day, e-commerce platforms like Tmall incorporate AR experiences, enabling online buyers to play brand games and earn rewards through AR interactions. By blending entertainment and shopping, these AR activations attract younger Chinese consumers to luxury brands in the digital space where they then spend significant time. Interactive AR ads in China have seen triple the engagement compared to static ones.

Godoy also cites reactive 3D-printed clothing as an example—garments designed with technological elements that respond to stimuli such as movement, sound, or emotions.

“That’s something our skin does, but we tend to cover it. We’re the only animals that are covering our bodies,” says Godoy. “So how these clothes can become another skin is something that people are interested in experimenting with.”

On a practical level, Godoy also notes


the emergence of wearables designed for the elderly on Taobao, China’s e-commerce giant. One item features airbags that deploy upon detecting a fall, aiming to prevent injuries.

Threading through

China’s fashion industry is thriving domestically, increasingly drawing on traditional influences while also spearheading fashion into the digital era.

“China is dictating the fashion trend, for example, Shein has become the big brand of fast fashion [low-priced but stylish clothing that moves quickly from design to retail stores to meet trends],” says Godoy. “People in China are super interested in seeing what you can do with technology. I expect they’re going to start to invest more in fashion and technology.”

While the industry has made some forays into international markets, there are still inherent challenges, such as a limit on China’s pop culture influence on the outside world and a traditionally domestic focus. However, it’s evident that the trends and culture are on an upward trajectory, and China is going to have an ever-greater impact on international fashion trends.

“Many Chinese designers are working hard to bring Chinese fashion onto the global stage, and I am very confident that Chinese trends will exert even greater influence on the world in the future,” says Gao. 



East v West

China's stock markets are relatively young when compared to the long-standing institutions in the US, and they play a different role in relation to each country's economy. For the most part, trading on the Chinese markets is dominated by domestic retail investors rather than the mix of institutional investors that dominate trading on US bourses.

There are three mainland entities in the Chinese stock market system—the Shanghai Stock Exchange (SSE), Shenzhen Stock Exchange (SZSE) and the National Equities Exchange and Quotation (NEEQ)—plus the Hong Kong Stock Exchange (HKEX). The Shanghai and Shenzhen markets are mainland China's oldest and largest bourses in the modern era, and each have a subsidiary market, the STAR and ChiNext, respectively.

The third mainland entity, NEEQ, is an exchange for over-the-counter trading of stocks in smaller 'public limited companies,' and is seen as an entry-level platform for smaller companies to raise capital prior to listing on one of the larger bourses. The SME-focused Beijing Stock Exchange (BSE), operated by NEEQ, is the mainland's smallest bourse, with just 248 companies listed as of April 2024.

State Share

Mainland China's stock markets offer two types of share, one denominated in Renminbi and the other settled in foreign currencies. According to UBS, it is estimated that around 62% of A Share market cap is now held by state-owned entities. The highest-valued SOE remains distiller Kweichow Moutai, worth ¥2.13 trillion (\$293.51 billion), followed by Industrial and Commercial Bank of China, as has been the case continuously since 2020.

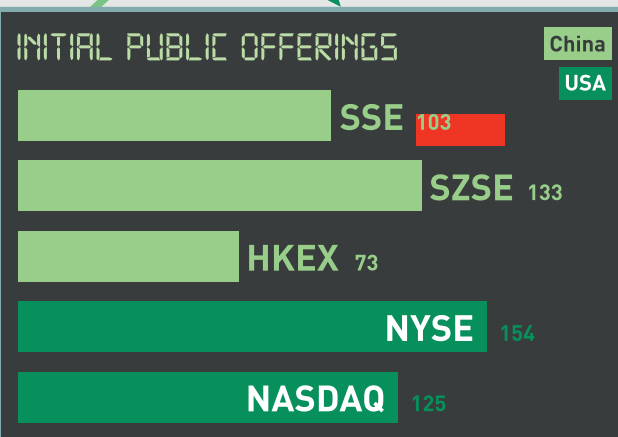
'A' SHARES

This class of shares is primarily traded by domestic investors on the Shanghai and Shenzhen exchanges, although foreign investors are allowed to participate through the Qualified Foreign Institutional Investors (QFII) channel.

'B' SHARES

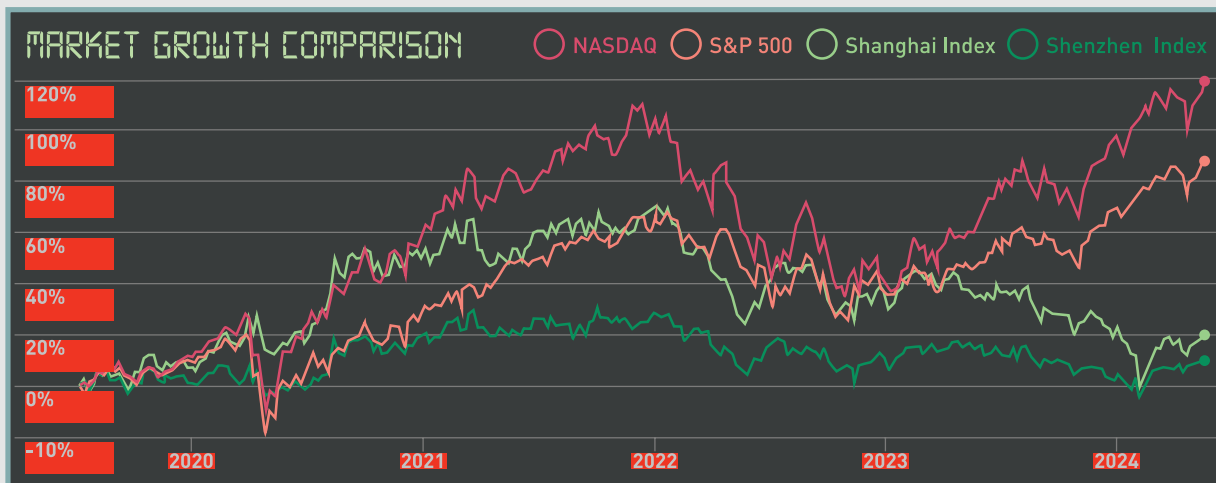
These shares are basically the same as A Shares, but trades are settled in foreign currency.

STOCK STATS



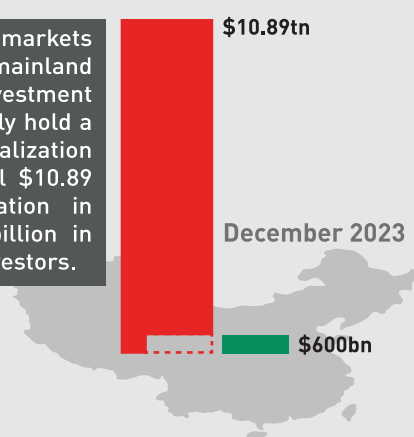
Economic Role

Stock markets in the US are considered to be more reflective of the real economy with trading much more based on macroeconomic factors and company results than in China, at both the individual investor and institutional levels. China's markets operate in a different way, there is an approval process for listing, the market is dominated by SOEs and the regulations regarding information disclosure are much less rigorous than the US.



Foreign Investment

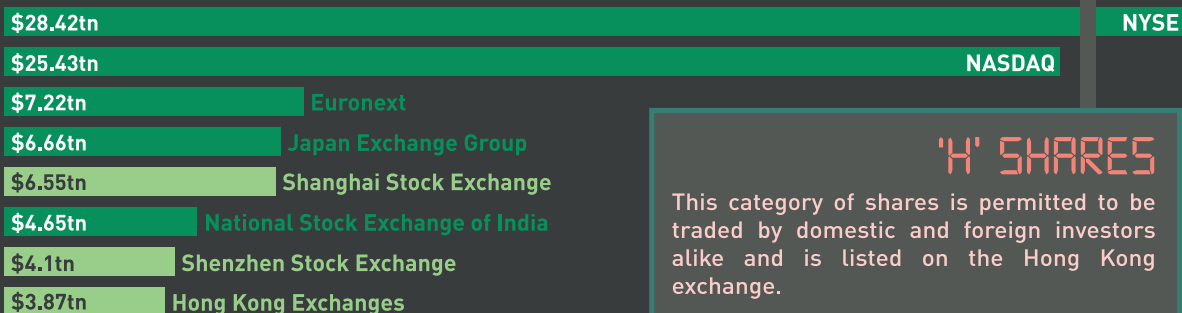
Unlike most other major stock markets around the world, China's mainland markets restrict foreign investment and international investors only hold a small portion of market capitalization on the mainland. Of the total \$10.89 trillion in market capitalization in December 2023, just \$600 billion in stocks were held by foreign investors.



Going Global

The HKEX has over 2,600 listed companies and is also the eighth-largest market in the world in terms of market capitalization. It also has the advantage of being a truly international market thanks to the convertibility of the Hong Kong Dollar. Many large Chinese companies now hold dual-listed status on the HKEX and another Western bourse. The exchange is also used by Chinese companies to raise money from international markets.

LARGEST STOCK EXCHANGE OPERATORS WORLDWIDE [AS OF MARCH 2024]



'H' SHARES

This category of shares is permitted to be traded by domestic and foreign investors alike and is listed on the Hong Kong exchange.

data CHINA data

The stats you need to know

Macro



All aboard!

An agreement committing to a new **\$8 billion** rail link connecting China, Kyrgyzstan and Uzbekistan has been signed by all three countries, providing a new transport link from Asia to Europe and the Persian Gulf. The **325-mile (523-km)** railway, which will start in Kashgar, China, could reduce the freight journey between China and Europe by **559 miles**.

Source: SCMP

Yuan, two, three

Around **92%** of trade settlement between Russia and China is now conducted in Russian rubles or Chinese yuan, according to Russian officials. The news comes at a time when the two countries are placing greater emphasis on trade in local currency and de-dollarization.

Source: Global Times



Low Inflow

Net foreign direct investment (FDI) into the Chinese mainland plummeted to a 23-year low in 2023. The **\$42.7 billion** inflow was less than a quarter of that seen the previous year, but had been revised up from the **\$33 billion** preliminary numbers published by China's State Administration of Foreign Exchange (SAFE).

Source: Caixin

Business



Salary Stall

The average annual salary of top executives at Chinese listed companies fell for the first time in two decades in 2023, as companies' profitability was dented by the sluggish economy. The average stood at **¥1.66 million (\$229,000)**, representing a **3.27%** decrease from 2022.

Source: SCMP

Blue Boost

The popularity of blue-collar jobs has surged among China's young adults as demand has grown and wages risen compared with pre-pandemic levels. Q1 2024 saw the number of people under the age of **25** who applied for blue-collar jobs rise by **165%** compared with the same period in 2019.

Source: Caixin



Fertile Grounds

China bred an average of one new unicorn each week in 2023, amid frenzied growth in the country's artificial intelligence (AI) sector, bucking a declining trend in global venture capital investments. The nation added 56 unicorns—start-ups valued at more than **\$1 billion**—trailing only the US, which minted **70** unicorns.

Source: SCMP

Stock Standard

China's major stock exchanges are facing a tough start to the year as proceeds from initial public offerings (IPOs) in Hong Kong, Shanghai and Shenzhen have dwindled. Twelve companies raised **HK\$4.73 billion (\$604.4 million)** from first-time stock sales in Hong Kong in the first quarter, representing a **29%** decline from a year earlier.

Source: SCMP



Technology



Shrinking Web

The number of Chinese language websites has plummeted in recent years, going from **5.3 million** websites in 2017 down to **3.9 million** websites in 2022. Additionally Chinese language websites' share of the global internet has declined drastically, currently only comprising **1.3%**, perhaps in part due to the fact that China has pushed its infrastructure away from website interfaces and towards app based interfaces.

Source: CINIC

Big Battery

Top Chinese battery maker CATL has overtaken LG Energy as the biggest supplier of electric vehicle batteries in markets outside of China for Q1 2024. CATL's share of non-China markets reached **27.4%** of installed capacity, up from **26.9%** during the same period in 2023.

Source: Caixin



Chip Fund

China's largest-ever chip investment fund has been established with a registered capital of **¥344 billion (\$47.5 billion)**. It is expected to bolster Beijing's support for the nation's leading contract semiconductor manufacturers and other enterprises in the value chain, including equipment and material suppliers. The third phase of the China Integrated Circuit Industry Investment Fund is also known as the "Big Fund."

Source: SCMP

rEvolution

BYD has produced its **7 millionth** electric vehicle (EV), just three years after their **1 millionth** and seven months after their **5 million** milestone. BYD's breakneck pace in the NEV sector is setting records in record time.

Source: Green Car Congress



Consumer



Taking a Bite

Apple has lost its throne as China's bestselling smartphone brand, for now, after sales declined **19.1%** in the first quarter amid rising competition from Huawei Technologies and other local rivals. The US tech giant, which topped smartphone sales in China in the fourth quarter last year, saw its market share in the past quarter shrink to **15.7%**, ranking third overall.

Source: SCMP

Game On

Tencent's new game Dungeon & Fighter Mobile more than doubled the sales of longstanding Chinese best-seller Honor of Kings in its first month. The new title brought in **\$270 million** on iOS in the 30 days after its launch on May 21, taking the top spot in both downloads and revenue in the country.

Source: Bloomberg



Order Up!

Meituan has become the largest food delivery service provider in Hong Kong with more than **40%** share of the market since its debut in the city in 2023, thanks to generous discounts and rapidly expanding services. KeeTa, Meituan's Hong Kong focusing platform captured **44%** of Hong Kong's food delivery orders in March, surpassing rival Foodpanda's **35%** to become the top player.

Source: Caixin

Trade and the Economy

Research associate at Oxford University's China Centre and at London's School of Oriental and African Studies, George Magnus discusses perspectives on China's rural-urban divide and the country's approach to trade policies

George's career has been spent as an economist, working sequentially at the UK Foreign Office, Lloyds Bank, Bank of America, SG Warburg and then for over two decades as Chief Economist at UBS. He writes and presents a lot on China, commercially and otherwise. He wrote *The Age of Aging in 2008, Uprising: will emerging markets shape or shake the world* in 2011, and *Red Flags: why Xi's China is in Jeopardy* in 2018, with an expanded paperback in 2019.

What would be your number one book recommendation for someone looking to learn more about business in China?

The most interesting and revealing book on the Chinese economy I think I have read in the last 2-3 years is *Invisible China* by Scott Rozelle and Natalie Hell. It's really accessible, not too long, and has a wealth of insight into China's economic development seen from the perspective of the significant regions of China that most tourists don't know well, or at all. The core of the book exposes some surprising things about educational attainment, and throughout this lens, about China's economic capacities in the future.



What book on business in China have you re-read the most?

I'm going to take a small liberty with 're-read,' by highlighting Barry Naughton's writings which I dip into regularly for reminders and often still to learn. The first is the second edition of his *The Chinese Economy: Adaptation and Growth*, and the second is the even more recent *The Rise of Chinese Industrial Policy 1978-2020*. Given the ubiquitous emphasis now on industrial policy and its flip side, trade policy, nowadays, certainly as they affect geopolitics and international relations, it's really important to get a grip in these areas.



Which China business book are you reading currently?

I am currently working my way through Frank Dikötter's *China After Mao: The Rise of a Superpower*. Dikötter is a historian not an economist or business guy, but the book is a great read in the space of political economy, with an obviously heavy emphasis on politics and governance. But these two phenomena are essential parts of the CCP's rule and critical to understanding its approach to the economy and to business. So I think this is a 'must read' for economists and for anyone doing business in and with China today.



What book totally changed your perspective on a certain topic?

There are quite a few candidates for this. Adam Tooze's *The Deluge*, featuring the author's expertise in history, was an eye-opener to some of the things that pass as received wisdom of the politics and international relations in the early decades of the 20th century. Regarding China, but not only China, I think *Trade Wars Are Class Wars* by Michael Pettis and Matt Klein didn't so much change my mind as enrich my whole perspective about mercantilism, beggar-thy-neighbour trade and industrial policies, and globalization.



Which China business book do you think is the most underappreciated?

This is perhaps a choice that will raise a few eyebrows but it's a very recent book that merits a wider airing. It's called *Wild Ride: A short history of the opening and closing of the Chinese economy* by Anne Stephenson-Yang. She went to China in the mid-1980s, spent over 25 years there, and offers here a quite personal account, written from the standpoint of an entrepreneur, business person, and raconteur of China's wild ride through capitalism, as the CCP flirted with capitalism and openness, and then reverted to the status quo ante. She not only writes engagingly, but offers some different perspectives and revelations about China's rise, and what we might now regard as its plateauing at the very least.

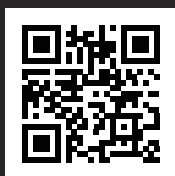




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Global Unicorn Programs

▲ A Global Unicorn Ecosystem

1,188

founders of companies with at least Series A funding studied at CKGSB

151

founders of unicorn companies

41

unicorn companies listed on CB Insights (2017-2022)

70%

founders gained series A financing upon joining the program

▲ Upcoming Programs

UC San Diego

9-13 September 2024

**CKGSB-UC San Diego
Biotech Innovation Program**

Biotech | Life Sciences



28-31 October 2024

**CKGSB-ESMT
Global Unicorn Program in Deep Tech**

Deep Tech | AI | Computing

Stanford

Center for Professional Development

9-13 December 2024

**CKGSB-Stanford
Global Unicorn Program:
Scaling for Success in the Age of AI**

AI | Disruptive Technology



11-14 February

**CKGSB-University of Sydney
Disruption of Traditional Industries**

Renewable Energy | Disruptive Innovation

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