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CHEUNG KONG GRADUATE SCHOOL OF BUSINESS

Volume No. 46
FEBRUARY 2023

ROAD TO THE FUTURE

China is home to half of the world's smart cities, but is convenience worth the cost of privacy?

- China is transitioning to a new economic growth matrix
- Both job and labor shortages are troubling China's economy
- There is still a long way to go before China reaches its carbon goals

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Cover Story

Economy and Policy

Issue: February 2023
Vol. No. 46

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ISSN 2312-9905

Publisher
CKGSB GLOBAL LIMITED
Suite 3203, 32/F, Champion Tower,
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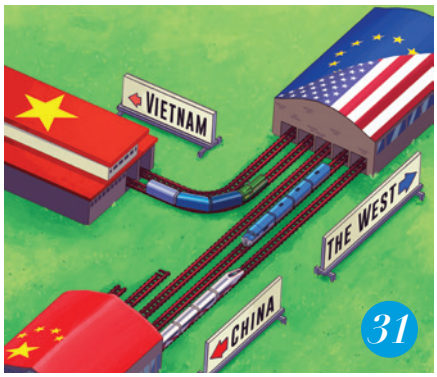


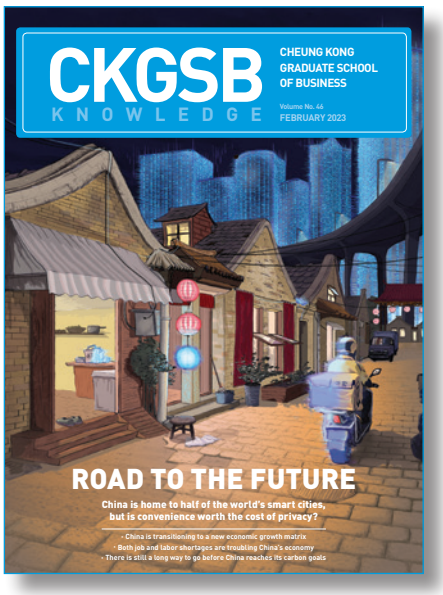
Business Trends

Companies

Downtime

Times they are a'changing

China's economy is at a major turning point. Many industries across the country have been struggling under the lasting effects of the COVID-zero policy, and the impact of these difficulties is reflected most clearly in the country's slowing GDP growth, something that has historically been the cornerstone of measuring Chinese development. But, although slowing growth is not a positive sign, underneath these statistical changes there is a fundamental shift taking place within China—away from GDP growth at all costs and towards a joint consumption- and innovation-driven growth model, underscored by the holistic integration of digital technologies into the country's manufacturing sector. This shift is discussed in more detail in this issue's Commentary "**Connecting to the GRID**" (page 5).



The increasing digitalization of manufacturing, supported by a raft of government policies new and old, is intended to move China further up the global value chain, away from low-cost, low-margin goods and toward more high-value physical goods such as EVs, solar panels and microchips. This change will also provide the opportunity for other emerging economies around the world to develop a manufacturing base that can provide for them the growth that China has seen over the last two decades, although not at the same scale. One such country is Vietnam, which has seen an influx of investment from companies, including a large number of Chinese businesses, seeking to set up at least part of their supply chain within its borders. "**Changing tracks**" on page 31 takes a closer look at this phenomenon.

As we have shown over the past few issues of *CKGSB Knowledge*, digitalization in China is not just limited to one sector, and this issue's cover story details the country's leading role in the development of smart cities. But the convenience brought about by the intertwining of technology and infrastructure may come at the cost of privacy, a dilemma we explore further in "**A new digital dawn**" (page 8).

China's domestic changes also impact on its role internationally, and while the US-China relationship is a topic of much discussion, there is plenty to be said about European-China relations too, particularly after the start of the war in Ukraine. The article "**Growing disconnect**" (page 26), as well as Q&As with Agatha Kratz, director at research firm Rhodium, and Sir Vince Cable, former UK Secretary of State for Business, Innovation and Skills, all seek to shed more light on the topic.

Elsewhere in the issue, we look at China's progress in the pursuit of its ambitious carbon goals (page 16), the contradictory state of the country's job market, in which there is a simultaneous labor and job shortage (page 39), and the quest to reinvent baijiu, China's national alcoholic beverage, in order to attract a new generation of consumers (page 61).

We hope you find the topics addressed in this issue to be exciting and illuminating at this time of great change. As always, if you have any comments or opinions to contribute, please feel free to contact us at (lzhou@ckgsb.edu.cn or ckgsb.knowledge@ckgsb.edu.cn).

Yours Sincerely,

Zhou Li
Assistant Dean, CKGSB
Editor-in-Chief, *CKGSB Knowledge*

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

COMMENTARY

Connecting to the GRID

There are plenty of opportunities for private companies, both Chinese and foreign, to capitalize on China's new growth strategy, despite widely perceived challenges

Zhou Li, Assistant Dean of the Cheung Kong Graduate School of Business, Editor-in-Chief of CKGSB Knowledge

All commentaries reflect the personal opinion of the author and are not necessarily the official position of the school and the magazine

China's new top leadership team, unveiled at the 20th Congress of the Chinese Communist Party, has confirmed the political direction for the country in the years ahead, but the economic outlook is still to be fully clarified.

The country's economy has been impacted negatively by a number of major trends in the past few years. Internationally, there has been the decoupling of China and the US, particularly in terms of technology and finance, excarbated by the ongoing trade war. Domestically, there has been a real estate crisis, an ever-greater government debt overhang and problems in big tech and other industries resulting from a series of policy tightenings. China's demographic problem—an aging population and shrinking labor force—underlies longer-term concerns for the country's economy, with some now predicting that China may never become the world's largest economy as once expected.

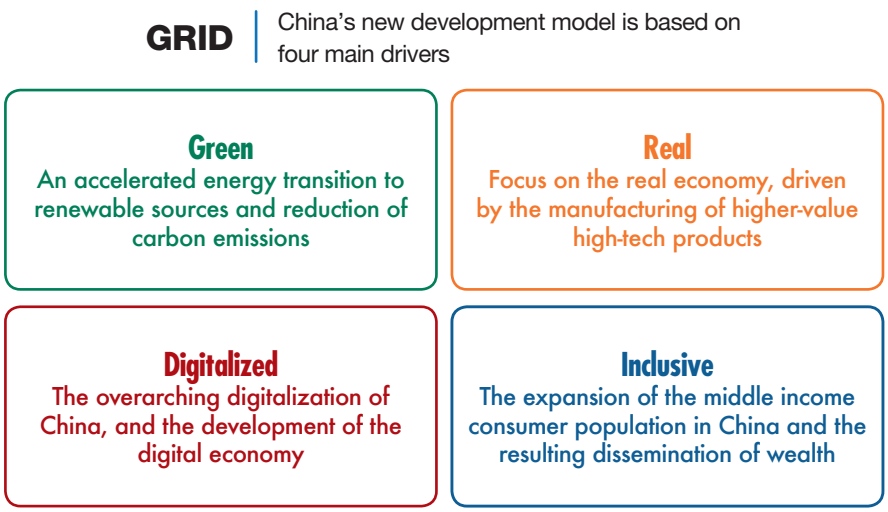
These challenges, among many others, have led to a situation where, in our view, the biggest challenge is regaining the confidence of the private sector and foreign investment in China. While there are clearly still opportunities in the China market, many private sector business people are considering shifting their focus in terms of future investment to other countries.

Despite these issues, and the effects of the erstwhile zero-COVID policy, those businesses which understand and can harness the new drivers of the country's economy will be well rewarded. To make it easier to understand these driving forces, I will summarize them in the acronym GRID: Green, Real, Inclusive and Digitalized.

"Green" represents China's accelerated energy transition to renewable sources and the reduction of carbon emissions by both consumers and companies. "Real" refers to a focus on the real economy for goods and services, at the heart of which is the trend towards manufacturing of higher-value high-tech products. "Inclusive" refers to the expansion of the proportion of the Chinese population who are active middle income consumers, and "Digitalized" looks at the overarching digitalization of all the above elements, as well as the growth of the digital economy as a whole.

GREEN

China's green transition has been particularly evident in recent years. The simplest example is the incredible decrease in air pollution levels in many major cities. Recent reports show that China achieved in seven years the same levels of pollution



Source: CKGSB Knowledge

reduction that it took the US three decades to get to.

The transition was accelerated two years ago, when Chinese leader Xi Jinping announced that "China will strive to peak carbon dioxide emissions before 2030 and achieve carbon neutrality before 2060." The new energy sector in the country has been booming, thanks to these aggressive goals.

Companies, mostly private rather than government-run, across a wide range of sectors have created an almost complete supply chain for green technologies. Examples include CATL, which is the world's largest lithium-ion battery maker and LONGi which is a world-leading solar technology company, and there are a number of new energy vehicle (NEV) manufacturers such as Nio and BYD, that are looking to compete on the world stage.

China is already the world's largest producer of wind and solar energy, and the cost of solar is now so low that the government has stopped offering subsidies in the area. As a result, we will see rapid and widespread adoption of solar installations across China, and hopefully around the world. According to the International Energy Agency, 36% of the world's solar energy growth and 40% of wind energy growth over the next five years will come from China.

China's relatively well-developed green technology and manufacturing capacity will not only continue to help improve China's air quality, but it will also help the country become energy self-sufficient. The importance of self-sufficiency has been highlighted by the difficulties faced by many European countries as a result of the war in Ukraine.

There is also the opportunity for the world's second-largest polluter behind China, the US, to utilize these Chinese products and technologies, although some Chinese companies have found it increasingly difficult to export their products to the US. It would make sense for the US to increase its import of these goods, allowing them to put more emphasis on their R&D for next-generation green tech and providing a springboard for a more collective approach to tackling the global climate challenge, at least before the next generation of technologies such as nuclear fusion energy becomes feasibly deployable.

REAL

It is no secret that China is determined to improve its position in the global supply chain by upgrading its industry base from low-cost and high-pollution assembly lines, to become an advanced technology- and innovation-driven manufacturing center.

Clearly, due to geopolitical, economic or security factors, import replacement for core technologies such as semiconductors will continue to be one of the key drivers for China's manufacturing sector.

The refocusing on the manufacture of higher-quality goods is partially guided by Marxist value theories, studied by China's current leaders during the 1960s and 70s, which emphasise the "use value" over the "exchange value" of goods and services. Another motivating factor is concern over the general reshoring of manufacturing around the world, initiated by the US after the 2008 global financial crises and intensified as a result of growing populism, COVID and the war in Ukraine.

Chinese leaders have been repeatedly emphasizing the importance of the real economy over a financial product-dominated economy characterised by Wall Street banks which, according to the Chinese leadership's viewpoint, leads to the exchange of goods without any addition of real value and was the primary cause of the Great Finanical Crisis in 2008. The share of the manufacturing industry in US GDP has now dropped to 12%, down from 28.1% in 1953. However, more strategic manufacturing capacity is now appearing in the US, including significantly the semiconductor maker TSMC moving production from Taiwan.

The recent explosion of digital and virtual services has changed China, but "Real" in the GRID acronym refers to the next challenge, which is producing high-quality hardware and core technologies, mirroring the successes of Germany.

INCLUSIVE

The "I" of GRID is Inclusive, referring to the common prosperity policy rolled out in 2021, aimed at spreading prosperity to hundreds of millions of people rather than concentrating wealth in the hands of a smaller upper- and middle-class. As Xi Jinping reminded the 96.7 million CCP members when he became leader in 2012, this more inclusive redistribution of wealth was the original aspiration of the Chinese Communist Party when it was founded in 1921. Looking after the interests of the majority has always been the foundation of the Party's legitimacy. The increased purchasing power created by such a shift would in time make up the majority of consumption driving the country's economy.

China's market consumption can be split into two key demographics, high-net worth individuals and ordinary people, with the larger part of the expected increase in growth coming from the latter. Current upgrades of the welfare system are also designed to facilitate higher consumption by low-income families by more effectively meeting their basic needs.

Policies aimed at further urbanization and rural revitalization—addressing the rural-urban divide, food security and poverty issues—will help the low-income population in China move up to the middle-income group and generate a new wave of consumption.

DIGITALIZED

Digitalization within the GRID acronym is the key transitional element that over-arches the global shift to the next stage of growth. While China is already one of the most digitally-enabled societies in the world, the holistic digitalization of its manufacturing sector is key to the country moving up the value chain and promoting the "Real" economy. Rather than simply focusing on digitalization in the last mile of e-commerce as most internet companies in China have been doing, digitalization in fact needs to permeate all stages of a company's processes. This ranges from developing in-house customer intelligence, utilizing influencers, reshaping the entire supply chain and production process, through to after-sales service leading to positive customer reviews and then higher sales. The use of AI in China has already vastly improved manufacturing processes and expanded utilization is necessary for the country to remain highly competitive internationally.

With eyes focused on the real economy, the Chinese leadership clearly does not wish to miss the boat when it comes to the virtual economy either. For example, the Digital RMB is now well into a public trial stage, and although cryptocurrencies are illegal in Mainland China, Hong Kong is now allowing markets for virtual assets, including those that were banned by Beijing. IDC estimates suggest that the value of China's digital economy will reach over $9 trillion, or nearly 55% of the country's GDP, in 2023 with direct digital business ICT spending of over $2.4 trillion expected between 2022 to 2026.

Advanced technology: Manufacturing in China is moving up the value chain

By shifting in the direction of the GRID approach, China will be in better shape to remain competitive in a world economy becoming ever more dependent on innovation.

Effects on enterprise

There will continue to be abundant opportunities for private companies, including those that are foreign owned, alongside the robust state-owned enterprise (SOE) sector of the economy, as long as their strategies are aligned with the new national priorities summarized in GRID.

This shift in priorities also applies to foreign companies and foreign investment into China in general. There have always been and continue to be issues around access to the China market for foreign companies. But there are also many success stories, one highly-visible recent example being Tesla, which is ramping up production in its wholly-owned Shanghai factory for the Chinese market and others overseas. Li Qiang, the former Party secretary for Shanghai spearheaded the project on the Chinese side, and is now a member of the Politburo Standing Committee.

The spirit of the new era in China is support for private enterprise and foreign investment as part of a larger matrix that includes governmental organizations, SOEs and domestic capital. Anyone working within the guidelines set out for economic development can freely innovate and pursue development and profit, and their contribution will be very much welcomed by the center.

What the future holds

The GRID strategy for keeping China's economic growth on track would be unique. Using consumption growth as well as holistic, high-value manufacturing as the key drivers offers a multitude of opportunities for China to maintain its global position, despite current geopolitical issues.

But it will not be without its challenges. Convincing Chinese consumers to spend in times of economic uncertainty may be problematic, and the full digital transformation of manufacturing and associated business processes will not be easy. Learning to combine the two effectively requires innovative approaches and the joint efforts of private enterprise and governmental organizations, with the aim of moving China at least in step with, and probably ahead of, the rest of the world.

A NEW DIGITAL DAWN

The efforts to digitalize China's cities are a double-edged sword, bringing many clear benefits for citizens but also raising questions about privacy

By Matthew Fulco

With just one click, you can now analyze all 3,750 kilometers of the sprawling streets of Shanghai, receiving detailed information about a wide range of elements including waste management, traffic flow and energy consumption, as well as public security. The application of the city's "digital twin," created by Beijing-based 51World, is just one of the many cutting-edge technologies facilitating Chinese cities' transition into the digital era.

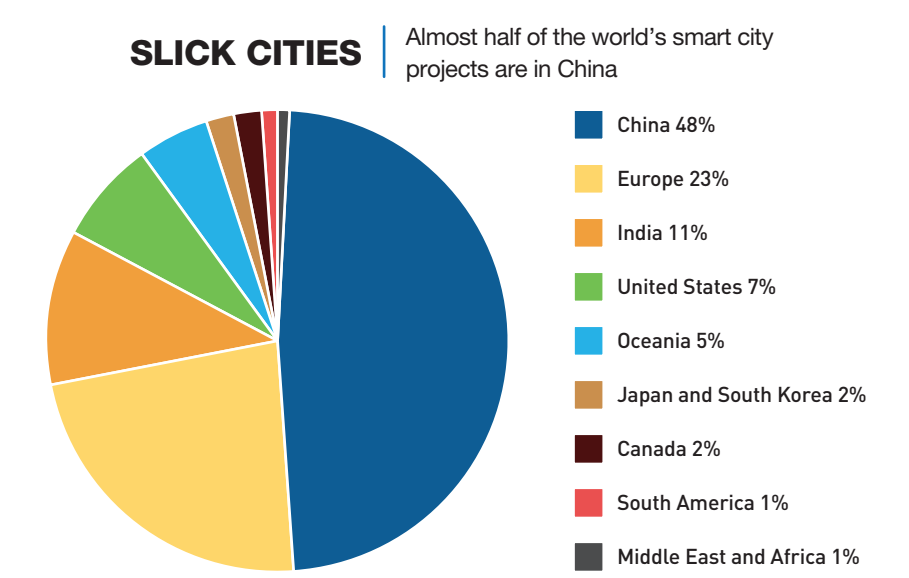
What 51World is doing is creating digital twins of all China's megalopolises and updating them with sensors in the real world, generating real-time insights that can be used to improve the overall performance of the cities for the benefit of residents.

Estimates by market research firm Juniper Research suggest that global spending on smart cities—which use technology to increase operational efficiency and improve quality of life for residents—will double in the next five years, reaching almost $70 billion per year by 2026. China already makes up the majority of this spending and is expected to shell out $40 billion in 2022 alone.

Massive finance injections, as well as wide-ranging policy support, have put China at the forefront of the global smart city movement. The country is home to 500 smart cities, half of the world's total, and, in January, Shanghai was named the world's top smart city by Juniper Research.

"China adopts a top-down approach towards urban development," says Daniel Tu, founder and managing director of Active Creation Capital, a venture capital fund, and former CTO of Ping An Insurance. "To a large extent, it has been able to marshal its industries and resources to support the national goal of developing smart cities."

For the Chinese government, the two main goals in the urban digitalization process are "being responsive to social needs and ensuring social control," says Rebecca Arcesati, an analyst at Mercator Institute for China Studies (MERICS) in



Source: ResearchGate

Berlin whose research focuses on China's technology and digital policy. "It may sound counterintuitive, but they are not mutually exclusive. These two things are at the core of what makes China's political system legitimate."

Increasing intelligence

Government interest in the digitalization of urban spaces in China dates back to the 1990s, but it was thanks to the introduction of IBM's "smart city" initiative in the mid-2000s that Beijing began to see the concept as integral to urban planning and governance. Smart cities began appearing more prominently in top-level planning from the promulgation of the 12th Five-Year Plan (2011-2015) when the Chinese government called for the "digitalization of cities."

What especially resonated with Chinese policymakers about smart cities was "the idea of interconnected urban systems equipped with sensors and a deep integration of digital technologies that help city administrations better manage public services, as well prevent incidents and threats," says Arcesati.

The 12th Five-Year Plan called for China to accelerate the construction of next-generation IT infrastructure, mobile communication networks and internet infrastructure. In the document Beijing also prioritized the construction of broadband connections through urban and rural areas with the intent to realize mass interconnectivity.

Initially, smart city applications in China focused on security and traffic management. "However, 5G networks, cloud, AI, Big Data and computing advances have elevated digital platforms in these smart cities," Tu says. "This infrastructure now serves as the critical foundation of China's smart cities."

Real-time tech

Beijing has since honed in on smart city development. The State Council has diverted significant resources toward advancing tech innovation and public-private partnerships. The Chinese government's "political prowess allows it to bring on China's tech giants as key partners in smart cities," Tu says, adding that smart cities in the West use a more decentralized approach in which the private sector plays a larger, more autonomous role.

The public-private partnership and the adoption of targeted technological innovations have helped China develop smart infrastructure that has been applied to many of its metropolises and their key industries. "Shanghai, Beijing, Shenzhen and Hangzhou were among the earliest cities to begin the transformation process," says Tu. "Their progress provided a blueprint for lower-tiered cities in their smart city initiatives."

Hong Kong has also clearly committed to embracing smart city status. It initially released the Smart City Blueprint for Hong Kong in 2017, and published version 2.0 in December 2020. The initial plan set out 76 initiatives across six areas, namely "Smart Mobility," "Smart Living," "Smart Environment," "Smart People," "Smart Government" and "Smart Economy," and version 2.0 has expanded this to a total of 130.

In a speech in October 2022, Hong Kong's chief executive John Lee reiterated the importance of the city's smart transformation. He announced the aim to shift all government services online within two years and provide one-stop digital services by fully adopting the city's "iAM Smart" portal within three years. He added that the government would continue to open up data access and encourage public and private organizations to follow suit to promote innovative applications by industry.

According to Tammy Yu, an industry analyst at the Market Intelligence & Consulting Institute (MIC), China's telecommunications giants Huawei and ZTE have both played key roles in the country's smart city development. Huawei has focused on building urban digital platforms such as its Integrated Operations Center (IOC), which integrates data from multiple sources to assist urban resource scheduling and emergency management, boosting government decision-making efficiency. The company "has many proven records of accomplishment across China assisting local governments building urban digital platforms," she says, including in Shenzhen's Longgang District, Jiangsu's Zhangjiagang City, the Tianjin Eco-city and Shanghai's Huangpu District.

Huawei's Intelligent Stand Allocation solution at Shenzhen Airport, which is linked to the city's IOC, intelligently manages and maximizes the positioning and availability of airport vehicle stands. The efficiency brought about by the system

has resulted in 2.6 million fewer passengers per year needing to use an airport shuttle bus, saving both time and resources.

ZTE's smart city solution emphasizes the networking of communication technologies and a data analysis platform that focuses on analyzing artificial intelligence data and visualizing outcomes. "ZTE has built central management and information centers in Xining and Xuzhou as well as in other regions, and promoted 5G security and other applications in Suzhou with digitalization in mind," says Yu.

Xining, the capital of western China's Qinghai Province, is home to what is called the Xining City Hyper Brain, which ZTE says has effectively streamlined government services, and improved traffic efficiency and emergency response efficiency. The new "Mobile Xining Platform" consists of service modules enabling the citizens to access government services and supervise city operations more easily and has resulted in a 40% reduction in the average time taken to resolve a query.

The Xining City Hyper Brain has also reduced the average stop time for vehicles—time spent by cars at traffic lights, for example—by 25% and reduced average travel times in the city by 15%. This has been achieved through a network of 30,000 cameras, which monitor the density of people in key business areas, analyze traffic flow and implement precaution and rectification plans, such as traffic signal regulation, temporary closure of roads/areas, reducing traffic pressure and avoiding congestion.

On the other side of the country, the Shanghai government has introduced its Citizen Cloud, a public service platform that offers more than 1,000 services to the city's residents. Accessible through both Tencent's WeChat and Alibaba's Alipay, the services cover everything from health and social security to education, transport, legal services and senior care; even births and marriages are included.

As well as Huawei and ZTE, other key players in China's smart cities include internet giants Alibaba, Tencent and Baidu. Their technologies also form the building blocks for "digital brains" which utilize cloud computing, AI, and IoT to create foundations for smart city infrastructure, says Tu. No foreign companies play a significant role.

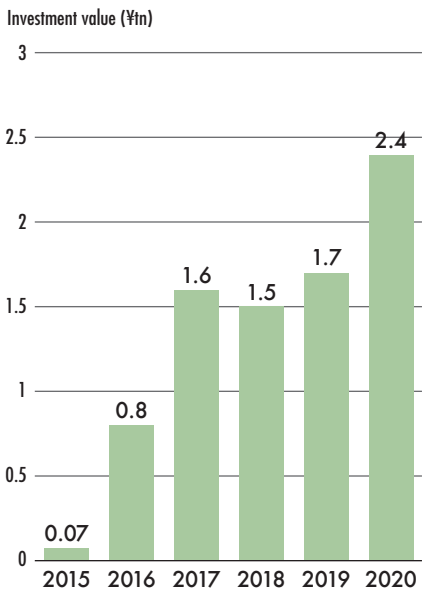
Alibaba's City Brain system offers similar utility to the smart city products offered by ZTE. It uses AI and network infrastructure to automate traffic systems and optimize public transportation grids, intending to drive efficiency in public resource management. By 2018, Hangzhou's City Brain was monitoring every vehicle in the city, and by early 2019, Hangzhou had gone from being the fifth most congested Chinese city to 57th.

Alibaba has since exported City Brain to Kuala Lumpur, Malaysia, the first city outside of China to use the solution. The Chinese internet giant launched the project in 2020 together with the Malaysia Digital Economy Corporation (MDEC) and the Kuala Lumpur City Hall.

Energy efficiency is another area where China's smart city policies have borne fruit. According to recent research published in the journal *Sustainability*, data from prefecture-level cities across China showed a sizable increase in energy efficiency, between 4-7%, after the introduction of a smart city project. It also appears that the impact of smart city projects on energy efficiency increase over time, although effects vary from city to city.

SMART MONEY

The investment value of smart city projects in China has increased by over 3,300% since 2015



Source: National Bureau of Statistics of China

Privacy concerns

Since 2003, China has rolled out various surveillance programs including the Golden Shield Project, Safe Cities, SkyNet, Smart Cities and Sharp Eyes, which together utilize more than 200 million video cameras nationwide.

"For many years, China has been actively using video surveillance technology for public security and traffic management, and China's development of this technology is expected to continue to expand in the future," says Lin Chan-yu, an industry analyst at MIC.

While China's surveillance systems were already well developed by the outbreak of the coronavirus pandemic in early 2020, the strong measures taken in China to corral the pathogen provided an opportunity for technology firms in the surveillance business to sell many more of their products, says MERICS' Arcesati.

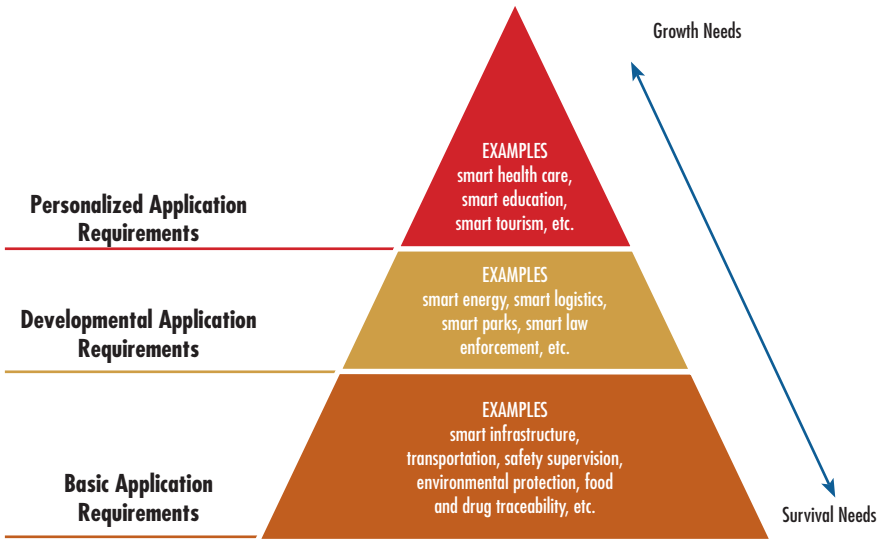
"Surveillance infrastructure was used to fight COVID and that gave market opportunities to companies like SenseTime and Hikvision that were already driving surveillance work," she says. "The same camera that is used for traffic congestion can be used to identify people who break mask mandates. Thermal cameras were adapted to track body temperature."

And the opportunities are not just limited to China. In Ecuador, Chinese technology systems, including a Huawei-built AI-powered diagnostic system and a comprehensive public security platform designed by Chinese engineers, have become strategic tools for central authorities in their fight against COVID-19.

Yet China's core COVID surveillance solutions may not be fully applicable outside the country. One such example is the digital health code that documents contact information, identity and recent travel history and was, for a long time, mandatory for someone to enter stores and take public transportation.

WHAT IS SMART?

The development of smart cities takes place in stages, moving from survival needs to growth needs



Source: ResearchGate

Beyond the privacy concerns raised by such a solution, this type of system requires an extremely high degree of social cohesion, advanced digital infrastructure and obedience in the population. A combination that is unique to China.

As of late 2019, Chinese tech companies, notably Huawei, Hikvision, Dahua and ZTE, had supplied artificial intelligence surveillance technology in 63 countries, according to the Carnegie Endowment for International Peace. Of these countries, 36 are part of the Belt and Road Initiative (BRI).

"Chinese companies exporting such technology must be mindful of data security," says Ross Feingold, lawyer and political risk analyst. He notes that data leaks are becoming more common in China with the growth of its immense digital network. In July 2022, an anonymous user on a popular online cybercrime forum put up for sale data of an estimated 1 billion Chinese citizens that was allegedly stolen from a Shanghai police database stored in Alibaba's cloud. The heist included highly sensitive information, such as government ID numbers, criminal records and detailed case summaries.

"Government agencies and private sector companies involved in smart city implementation would understandably be reluctant to purchase from, or outsource to, Chinese companies that have a history of data protection failure," says Feingold. "Thus, if Chinese companies want to succeed in Africa, the Middle East, Central Asia and Latin America, they'll have to continually show they can compete on data security as well as price."

Utopia and dystopia

Following the police database leak, there were other large-scale data breaches, including roughly 290 million records of people in China which appeared on an online hacking forum called Breach Forums. In August 2022, a database that reportedly contained the personal information of 48.5 million citizens gathered from Shanghai's health code system also appeared on the forum. Leakes, a database tracker, estimates an additional 700 terabytes of Chinese data remains exposed on the internet with no security, the largest volume for any country.

The data leaks create genuine data security problems and illustrate how Beijing's mass digitalization efforts can backfire on the government. "In China, the belief that digital technologies are a panacea that can solve all governance challenges is sometimes at odds with the reality," MERICS' Arcesati says. "They are going too far in thinking that digital technologies are this quick fix."

Meanwhile, fundamental cultural differences between China and the West will likely limit the implementation of key Chinese smart city technologies elsewhere. "Europe and the US emphasize the privacy of citizens and the legal right to use data," says MIC's Lin. "Therefore, there is a lot of backlash in both the public and private sectors when it comes to smart city surveillance camera installation plans."

He notes that the city of San Diego in California introduced a Smart Streetlight program in 2016 to monitor air quality, traffic flow, parking availability and street safety. After concerns about civil liberties were raised in 2020, Mayor Kevin Faulconer ordered that the more than 3,000 cameras installed on streetlights throughout the city be turned off until the city could craft an ordinance to govern surveillance technology.

In China, however, it is unlikely that urban digitalization efforts will slow. "Although some may view the rise of smart cities and the necessity of giving our data to engage in daily activities as dystopian, some will see it as a utopia," says Feingold. "Whether it is cashless transactions, iris scanning to take public transportation or enter venues, or a hospital able to easily access a patient's medical history in the cloud, for some the convenience trumps the worries." Robin Li, the founder of Baidu, expressed a similar opinion on the Chinese people's willingness to trade privacy for convenience at a high-level forum in 2018.

So, to the extent that there are some concerns in Chinese society, Feingold does not expect it will have a significant effect on Beijing's digitalization strategy. "Although there might be some pushback from critics of the surveillance state, such as NGOs or tech experts who often have a large following on China's micro-blog services, the policy direction is already decided," he says.

A New Relationship

Sir Vince Cable, former UK Secretary of State for Business, Innovation and Skills, discusses how China's relationship with the UK has changed after Brexit

The UK-China relationship is one that has had its ups and downs over the centuries, and the last few years have seen something of a negative trend in relations between the two countries due to growing geopolitical tensions, Brexit and now the Ukraine war. Much needs to change in order for ties to be mended.

Sir Vince Cable, former UK Secretary of State for Business, Innovation and Skills, believes that there is hope for improving the relationship, but a lack of in-person contact due to COVID is hindering developments. In this interview he discusses these problems, alongside the effects of Brexit on the UK-China relationship, grassroots options for developing ties and the state of globalization overall.

Q. How would you characterize current UK-China economic relations and what are the key issues at work here?

A. I would characterize it as generally businesslike, across a wide front, but with increasing encroachment of geopolitical concerns. The Cold War philosophy has entered into certain areas that could be described as "strategic" or having some kind of quasi-security aspect. And we're seeing that in more and more instances, including the announcement of the ban on the export of research technology from Manchester University. But apart from that, I think the relationship continues on a businesslike footing. I am conscious that we are in a fast-moving situation and my answers may well be different in a few months time. We have, for example, recently seen that Xi Jinping has consolidated his position as uncontested leader for the indefinite future; the disorderly collapse of the zero-COVID policy following remarkably widespread and outspoken public protests; and the intensification of American sanctions through a ban on the supply of sophisticated chips and the equipment to make them.

Q. To what degree has Brexit had an impact on UK-China relations, particularly economically?

A. I think it's had a very profound impact, as it has on many aspects of British life. Specifically in relation to China, I think it's had two consequences. First of all, from a Chinese point of view, I think it's diminished Britain's importance. I think the Chinese did see Britain as something of a gateway to the European Union, as an "in" for its investors and for negotiating on trade issues. And indeed, we had a sense 10 years ago that the Chinese prioritized Britain over Germany, even in terms of the European Union, because it was a point of access, and the attractions of doing business in London in the English language, and so on, were considerable. But now we've lost the idea of Britain as a gateway to the European Union.

I think the second thing, which will have an increasingly considerable effect, is that Britain has now drifted much more into

Sir Vince Cable is the former UK Secretary of State for Business, Innovation and Skills, and the former leader of the Liberal Democrat Party. He also previously served as the Shadow Chancellor and is currently a visiting professor at the London School of Economics.

the American sphere of influence. Looking at the world, Britain is now very firmly a transatlantic power rather than a European power, and Brexit has reinforced that. And the increasingly tense geopolitical relationship between the United States and China has affected the UK indirectly. Linked to that, Britain's attempt, which you might think is rather strange, to position itself as an Asia-Pacific country has also become absorbed in this US-China competition. So I think in those two ways, it's had a profound effect.

Q. There appears to be a general negative view of China in much of the world these days, whether that be governmental, business or public opinion. What are the reasons for this and what are the solutions?

A. I think that there is a considerable growth of negativity. Back in 2015, the conversation was around the so-called "golden era" in UK-China relations, although there were a few obvious points of difference. And that has profoundly changed since for several reasons. First of all, the whole geopolitical environment, the split between the Western democracies and their allies, and China has gathered momentum. The Ukraine war has further polarized relationships, with China being portrayed as being on the wrong side of that dispute. The fact that it has taken the same position as India, South Africa, Mexico and so on is largely overlooked. China is basically seen in Britain and the rest of the West as a Russian ally.

> "Whereas many millions of Chinese are now developing an English capability, very few British people have any knowledge or understanding of Mandarin

Secondly, there have been a whole lot of factors which have brought together right-wing and left-wing people in the UK, in terms of a more critical approach to China. One was Hong Kong, and the second is a mobilization of people around human rights issues.

Thirdly, COVID has had really quite damaging effects in reducing day-to-day contact, changing perceptions of China in a much more negative way. In terms of what can be done about it, it's not obvious because these are quite deep-rooted problems. I would hope that we continue with businesslike relationships in terms of trade, investments and exchange of students. That's the kind of thing that generally helps relationships to function well. But beyond that, I don't have any magic solution.

Q. How is China's position on the Ukraine war viewed in Britain and what are the potential economic consequences?

A. There is now a worry among companies who do business with China, that they may get caught up in a much more comprehensive sanctions regime. We've seen what happened when Russian foreign exchange reserves were impounded. At the moment, there is no suggestion that that kind of regime would be applied to China, but investors have at the back of their minds the fact that if relationships worsen or some military activity were to break out over Taiwan, they could be caught up in a sanctions regime such as the one that affects Russia currently. So I think the effect is kind of chilling on people wanting to do trade and investments in China.

Q. What opportunities do you see for British businesses in China and vice versa? And how can both governments facilitate greater involvement in each other's market?

A. My impression is that companies that take a long-term view and are willing to incorporate a higher level of political risk, will continue to see opportunities in China. Because, after all, it is by some measures the biggest market and economy in the world. Indeed, many British companies have done well in China and they've developed good long-term relationships there. I don't see why that shouldn't continue. But of course, they and other companies will just factor in a higher level of political risk than existed before and will be inhibited by that.

Q. What can be done at a grassroots level, particularly in terms of company-to-company and people-to-people relationships, to keep China-UK relations on the right track?

A. Simply just having people going backwards and forwards again, like before. One of the things which has always struck me as being particularly attractive about China was that, whatever complaints people had about their political system, the simple point was that large numbers of Chinese traveled abroad every year as tourists, students and business people. There was a lot of

interaction with Chinese people in universities, in commerce and elsewhere, and that kind of thing created good vibes, certainly on the Western side, and I hope with Chinese visitors, too. If we can build that kind of interaction at a personal level again, that cannot be anything but good.

I think linked to that is the issue of language. The point that many of us continue to make is that whereas many millions of Chinese are now developing an English capability, very few British people have any knowledge or understanding of Mandarin or the Chinese language. And the fact that it is such a very small number means that there is a barrier to communication. So in the long term, we should be trying to build up a number of Chinese speakers.

Q. To what extent have China's COVID restrictions affected the ability of businesses from each market to operate in the other?

A. I think they have had a really bad effect, in both superficial and deeper ways. The fact that expatriates found it difficult to come and go, means it was very difficult to keep a close eye on their business, and operationally, it's a major handicap. I think that there are also deeper issues here. First of all, it has increased this sense of isolation, and the perception of China being a remote place that we have nothing to do with, and I worry about that.

The second thing I think it has done is undermined the view that many of us has that China's government was highly competent. I think the view of many Westerners was whether or not they agreed with the political system, they could at least say that it's a very competent state. It's efficient, builds good infrastructure and delivers competent, sensible economic policy. But the combination of vaccine nationalism and these totally disproportionate lockdown measures, has really undermined that.

Q. What are your thoughts on the state of globalization, given its historical importance to both the China and UK markets?

A. Globalization and international economic integration has been one of the dominant trends in our lifetime. And it has overwhelmingly been a force for good, not just in improving the living standards of Western societies, but helping China, India, and increasingly African countries to a higher standard of life, as a result of free trade and investment flows.

It's now being questioned, from both the political right and the political left. However, I have to say that the statistics so far don't suggest that much has changed. Whenever lockdown measures have been removed, trade has continued to flow freely and in growing volumes. But I fear that over time, the combined influence of the political consensus which is skeptical of globalization in the West, is going to take its toll. And I get a sense in China that there is a growing nationalist tendency, as opposed to a more liberal outward-looking tendency. And if the nationalistic feeling grows, then globalization will be undermined, but so far, it's more rhetoric than actually having an impact on trade and investment.

> **I think the decoupling process ... will have a negative impact on China in particular**

Q. What are your thoughts on what some see as the decoupling of China from much of the rest of the world? How will this affect, among other things, the sharing of technology and research, and business relationships?

A. It's bound to have a negative impact, and it's happening on both sides. In the United States there is a growing emphasis on self-sufficiency in advanced technology, supply chains and chip development. And within China, we've had the dual circulation strategy for several years and growing emphasis on an industrial strategy which is based on self-reliance. This unpicking of interdependence is making the Western world and China less dependent on each other. You still have companies like Apple, which are heavily embedded in both the Western world and China, but that appears increasingly to be exceptional. I think that this decoupling process is largely negative in its impact and it will have a negative impact on China in particular.

Q. With a particular focus on business, how do you see the China-UK relationship developing over the next five to 10 years?

A. In the short run, there is room for considerable improvement, simply because of the end of the COVID pandemic. And if China does, in the next year or so, go back to normal in terms of fulfilling supply chain obligations, and Chinese students and tourists start traveling again, we will get a return to more of a sense of normalcy and welcome exchanges between our countries. So that will be positive. After that, I think it depends very much on how the geopolitical tensions resolve themselves. Given that there is a growing expectation of a military conflict around Taiwan, if these military alliances start to consolidate, things could get quite a bit worse. So I think the answer to your question is in the short run, we should see some improvement, once we get to the end of COVID. After that, it depends very much on how the geopolitical questions resolve themselves.

Interview by Patrick Body

Image by Jamie Stevenson

PEKING EMISSIONS

The ambiguity of China's carbon reduction goals has resulted in short-term emissions increases, and the targets may not be realistic

By Shi Weijun

On a cold winter's day in late 2021, operators at the Shanghaimiao coal-fired power station in Inner Mongolia marked a milestone with steamed dumplings, fresh fruit and cake. The power plant—currently the biggest in China—had just completed its seven-day-long commissioning, generating enough energy to power one million homes, but it was not necessarily something to celebrate.

Shanghaimiao is a symbol of the collision between China's longstanding coal addiction and its lofty climate ambitions. In 2021, China reaffirmed its goal of peaking carbon dioxide emissions by the end of this decade and pledged to zero them out by 2060. But since then, China has continued to fire up even more coal power capacity, raising concerns that China is using these last few years to create a high base level for the peak of carbon emissions.

Two years ago, a low-carbon pathway for China's development seemed to be within grasp. But hopes have since receded, as disruptions ranging from a domestic energy crisis last winter to the Russia-Ukraine conflict, have buffeted the world's second-largest economy.

"Climate is still very much a priority for policymakers, for enterprises and for provincial officials," says Alvin Lin, China climate and energy policy director at the Natural Resources Defense Council. "But we are facing a very different environment than envisioned two years ago when those targets were made, and so that is complicating things."

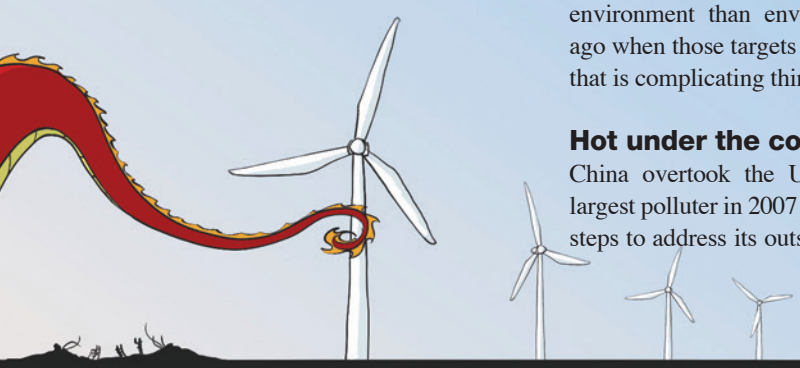
Hot under the collar

China overtook the US as the world's largest polluter in 2007, and started to take steps to address its outsized role in global warming soon after China's current leader Xi Jinping came to power in 2012. The 2030 deadline to peak carbon emissions dates back to 2014 when Xi and US president Barack Obama signed a historic climate accord.

Under international pressure to do more, Beijing tightened up the wording of its commitment in 2021, to say that emissions would peak "before" 2030 or "as soon as possible," rather than "around" that year. But the wording of the pledge effectively gives China free rein to pump out increasing volumes of planet-heating carbon up to that date.

In 2019, China's Greenhouse Gas (GHG) emissions exceeded those of all developed economies combined, and even the global pandemic failed to dent China's emissions growth. The economic recovery that followed pushed emissions in 2021 up by another 5% to a record 14.1 billion tons of CO2 equivalent.

But Dimitri de Boer, head of China for environmental law charity ClientEarth, says the timing of the commitment doesn't mean that China is just polluting with abandon until the deadline. The 14th Five-Year Plan (FYP) which covers 2021-



2025 sets targets for emissions and energy intensity that should lead to a plateau in the years between now and 2025.

"Much of the permissible emissions growth during the 14th FYP period was taken up when emissions rose steeply from 2020 to 2021," he says. "The curve must flatten as otherwise the intensity targets for 2025 will be missed."

King coal

In April, Xi pledged at an international climate summit convened by US President Joe Biden that China would "strictly control coal-fired power generation projects, strictly limit the increase in coal consumption over the 14th Five-Year Plan (FYP) period and phase it down in the 15th FYP period."

The promise speaks to the titanic role of coal, the worst energy source for GHG emissions, in China's emissions. The fuel was responsible for generating 56% of China's primary energy consumption in 2021—twice the global average of 27%. But this is actually an improvement on previous years, its proportion of China's energy footprint fell by 5.1% between 2007 and 2013, and then dropped by 9.8% in 2014-2021. It is forecast to further decline to 51% by 2025.

The proportion of oil in the primary energy mix has declined more slowly, from a peak of 22% in 2000 to 18.5% last year, while natural gas grew its share from 2.2% to 8.9%. Over this period, renewables have surged, rising from 1% in 2012 to about 7.2% last year, and the share of non-fossil fuels—including hydropower and nuclear—in the energy mix reached 17.3% in 2022 and is expected to grow to 25% by 2030.

While the share of coal has declined over the years, absolute consumption has grown, from 3.91 billion tons in 2017 to 4.02 billion tons in 2019, due to the growth in overall energy usage. China experienced widespread power shortages in 2021, which required more coal to shore up energy security—provincial economies approved the construction of 8.63 GW of coal power in the first quarter of 2022 alone, nearly half the 18.55 GW endorsed for the previous year.

"Coal power plants have not been profitable for a long time now," says Hu Min, principal and co-founder of Beijing-based public policy consultancy IGDP. "They're getting the green light from a political and energy security perspective, rather than from a climate or economic standpoint."

Coal is also integral to several provincial economies. Two-thirds of China's approved coal power capacity from the start of 2021 to the end of Q1 2022 was concentrated in the six provinces of Hunan, Shaanxi, Gansu, Anhui, Zhejiang and Fujian. Coal production meanwhile, mostly takes place in the three northern provinces of Shanxi, Shaanxi and Inner Mongolia, which mined 72.5% of the 2.19 billion tons extracted nationally in the first half of 2022.

Such coal dependence highlights the contradiction between climate and decarbonization goals on one hand, and economic stability and energy security on the other. "These provinces still really struggle to walk the fine line between decarbonizing and supporting economic growth," says Lin. The national government has not set out specific provincial goals so provincial governments are left to decide how to approach emissions reduction.

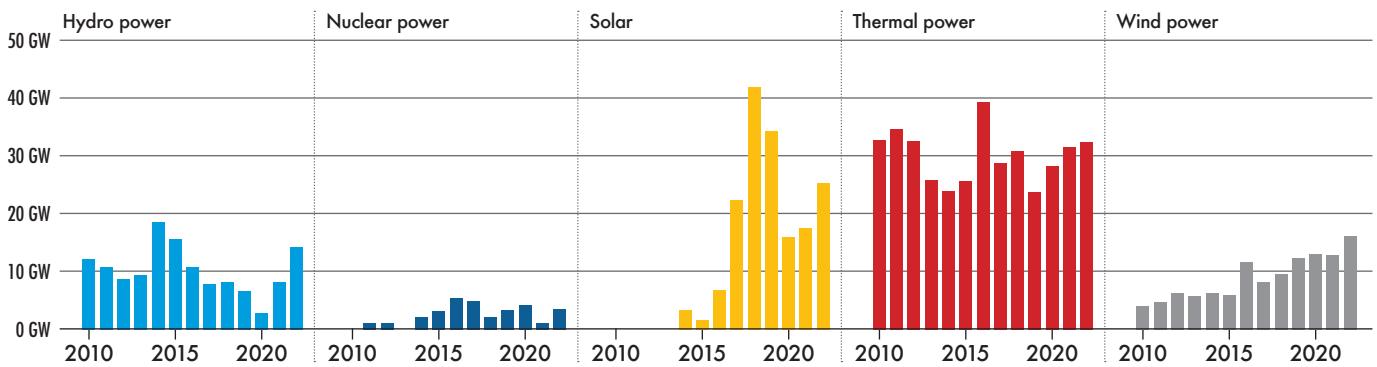
For Hu, the issue is more about adaptability. "Every healthy economic structure needs to be diverse. With or without the dual carbon goals, these provinces need to worry about their economic structure."

But the heyday of coal as China's cheapest energy source ended some years ago. Independent research has determined that renewable power is already cheaper than coal in China—an onshore wind farm built today would undercut a new coal power plant on price. Average power generation costs for renewables have been falling steadily for years, with solar dropping from an average of $91.50 per megawatt-hour (MWh) to around $52, with similar cuts for wind power generation. In contrast, coal-fired power cost around $73 per MWh in 2022.

At this point nuclear power is the cheapest energy source at $33.50 per MWh, and it is a key pillar of China's fossil fuel-free strategy. In April 2022, the national government announced the construction of six new reactors.

ENERGY EXPANSION | Addition of new capacity per year for various sources of renewable energy to China's energy makeup over the last 10 years

First nine months of the year (Gigawatts)



Source: Carbon Brief

The 14th FYP calls for an extra 70 GW of nuclear power capacity to be installed by 2025, and half of the reactors under construction in China have been approved in the past three years. China currently has 55.78 GW of nuclear capacity and the China Nuclear Energy Association has forecast this to more than double by 2030.

Clean colossus

In the midst of all of this, China has become the renewable energy superpower, the biggest solar and wind energy producer by far. By the end of June 2022, China boasted one-third of global solar capacity, and also 342 GW of wind capacity, together accounting for 27.8% of China's total installed power generation. Forecasts indicate renewable capacity will scale up massively again in 2022—modest predictions see 144 GW added this year.

"Going green is definitely the policy direction and goal," says Yan Qin, lead carbon analyst at financial software and analytics company Refinitiv. "But energy security issues are emphasizing more than ever that coal will remain the mainstay for a while."

Other than shifting the balance of energy production, China has embraced new energy vehicles (NEVs)—hybrid and battery electric vehicles—to lower emissions. Chinese cities were early NEV adopters as they sought to clean up emissions from public transport to improve air quality. China's operational fleet of NEV buses surged to two-thirds of the total bus fleet by 2020. The 14th FYP for green transport in January 2022 called for the share to hit 72% by the end of 2025.

Ongoing urbanization—targeted to reach 65% of the population by 2025 compared with 60% in 2020—means buildings and the built environment are a focus of decarbonization too. By one estimate the construction and demolition of buildings in China was responsible for nearly a fifth of the country's carbon emissions in 2015.

The Beijing Winter Olympics in early 2022 provided a platform for China to underline its low-carbon commitments. The government invested heavily to ensure a climate-friendly sporting spectacle—all new venues were built to the highest national sustainability standards, and all venues were powered by renewable electricity for the first time in Olympic history. "The Winter Olympics was a showcase for what China's future zero-carbon energy system could look like," says Lin.

Green financing

China is counting on the firepower of its immense financial system to fund the decades-long transition to a net-zero carbon economy. The country has embraced green finance, but while green bond issuance more than doubled last year, the amount of capital is still only a fraction of what is needed to meet the multi-trillion-dollar cost of the transformation.

According to China's central bank governor Yi Gang, China needs to invest RMB 2.2 trillion per year this decade to cap carbon emissions and then RMB 3.9 trillion per year between 2030-2060 to fully achieve carbon neutrality. The RMB 809 billion of green bonds issued by industry and local governments last year amounted to slightly more than one-third of what is currently needed.

China's green finance market also suffers from a lack of transparent data and poor information quality, which has complicated efforts by domestic banks and other institutional lenders to assess projects seeking green funding. Four companies were criticized by environmental officials in March 2022 for falsifying carbon data.

For these reasons, de Boer says the reliability of the Chinese green finance market is hard to gauge. "I am a bit worried that there could be quite some greenwashing going on," he says. "There needs to be more disclosure around this, to get a sense of how effectively this money is really being deployed."

Official support

Xi's announcement on the dual carbon goals two years ago was the strongest political signal yet that China would accelerate its climate efforts, and it has since been confirmed as a top policy priority.

"China's climate pledges are serious and that has triggered a top-down all-of-government response: targets, planning, projects, funding… it all adds up," says Hu.

These political incentives have driven decarbonization of highly-carbon-dependent sectors into a new era, spurring related government agencies such as the powerful National Development and Reform Commission (NDRC) and Ministry of Industry and Information Technology to push forward the agenda.

In a sign that China's clean energy economy is maturing, Beijing has been gradually removing fiscal subsidies on renewable energy sources, NEVs and other green industry areas. In August 2021, China ended central government subsidies for new solar power plants, commercial rooftop solar projects and onshore wind farms.

This does not mean fiscal policy support has slackened. In May 2022, the Finance Ministry and State Tax Administration released guidelines for supporting key climate targets and green development, which include measures such as fiscal funds, tax incentives and preferential tax policies.

Backsliding

The question is whether all these measures will be enough given the significant headwinds. According to official data, the economy barely avoided a contraction in Q2 as GDP growth slipped to 0.4% year-on-year, a massive step down from 4.8% in the previous quarter.

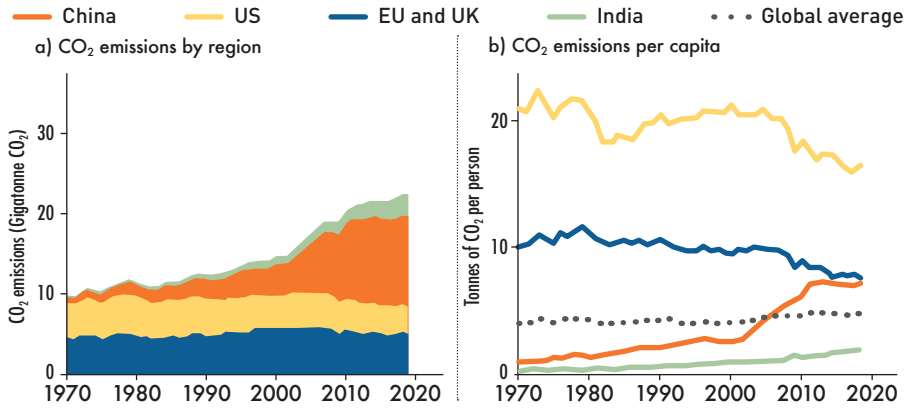
More recently, China's zero-tolerance policy toward COVID-19 has severely disrupted supply chains, including those in the energy industry. The strategy has seen multiple provincial and municipal lockdowns over the past two years, hitting some energy industries such as NEV production and coal mining.

There has been a degree of policy backsliding, too, most visibly in the 14th FYP for renewable energy released in June. The plan set a target for renewables to make up more than 50% of new power demand during 2021-2025, but this was down from a previous expectation of two-thirds given by an National Energy Administration official in March 2021.

Lin is sanguine though, arguing that

BLOWING SMOKE

China's carbon emissions have been growing rapidly but per capita emissions remain well behind the US



Source: Nature

the downgrade reflects short-term concerns about hedging energy security, and leaving space for more coal power if needed. "It depends on how quickly power demand grows," he says. "But I think it's quite likely if we see somewhat lower electricity demand growth, that renewables can surpass that 50% share of additional electricity."

Climate champions

For all of Beijing's policymaking, the job of actually curbing China's emissions lies mostly with businesses given that 98% of China's emissions come from industry, power generation and transport. Qin says the most important corporate stakeholders are China's centrally-administered state-owned enterprises (SOEs), which include its big five power utilities, three national oil companies, two nuclear power developers, two grid operators and the world's biggest coal mine operator.

"There's no doubt the central SOEs will be the most important in helping fulfil the carbon pledges," says Qin. "No one else can carry out such a vast scale of renewable investment."

But private players will also have a key role in certain niches. Fujian-based Contemporary Amperex Technology (CATL) is already the global leader in manufacturing EV batteries, supplying the critical component to almost all of the world's automakers including Tesla and Volkswagen.

China's ranks of domestic EV carmakers such as Nio and BYD will also be important as the road fleet becomes increasingly electrified. They stand to expand globally too, as consumer demand for EVs overseas catches up with China—Nio opened its first overseas plant in Hungary in September 2022.

China's clean energy industries are also having a global impact in other ways. Leadership in renewable energy generation means homegrown solar companies are supporting buildout in the rest of the world. Chinese solar equipment exports more than doubled year-on-year to $25.9 billion in H1 2022, not far off the $28.4 billion exported for all of 2021. A tightening ban in the US on certain solar equipment shipments from China has prompted some Chinese manufacturers to set up factories in Vietnam to evade the crackdown, according to Shan Guo, co-founder and partner at consultancy Plenum.

"Renewable energy is the product that every country wants to have more of, including the US, so Chinese solar companies are building capacity in Asian countries to be able to export there," says Guo.

China is also leveraging its multi-trillion-dollar Belt and Road Initiative (BRI), whose 143 members made up 29% of global emissions in 2019. Green energy has become the new focus of the BRI—solar, wind and hydro comprised one-quarter of China's energy investment in BRI members in H1 2022, while cleaner-burning natural gas made up 56%. Recent research also suggests Chinese direct investment has helped BRI countries clean up, with every 1% increase in investment shaving 0.02-0.04% off emissions.

In September 2021, under international pressure before a major UN climate change conference in Glasgow, Xi committed China to no longer fund construction of new coal-fired power projects overseas. The move was a step in the right direction but "does little to change the domestic picture", says Qin. "A lot of the affected projects had actually already been stopped because the host countries are becoming more conscious of net zero as well."

Getting back on track

It is not an exaggeration to say that successfully dealing with climate change globally depends upon China, and while efforts to reign in emissions continue, its near- and long-term climate targets appear to have been overtaken for now by more immediate worries. There is little prospect of meaningfully slowing global warming and preserving a livable world unless Beijing goes green far more aggressively than it currently plans.

"China must get it right or else we can't achieve this goal," says de Boer. "There's simply no way to solve climate change without China's leadership."

"Climate has never been the sole top priority for China even though it has been working to decarbonize the economy for a long time now," says Hu. In recent years, climate change has acquired a political dimension because it is often linked with geopolitics—an example being Beijing's suspension of US-China climate diplomacy in response to US House Speaker Nancy Pelosi's visit to Taiwan in August 2022.

An unwillingness to separate climate issues from geopolitics points to conflicting priorities. "China's climate ambition still needs to be translated into a solid long-term action plans towards 2050," says Hu. "If that happens, it may be the peak moment for showcasing political support for climate goals."

A Global View on China's Tech Innovations

China has become highly innovative in recent decades and is set to become even more so due to geopolitical changes

By Edward Tse, Professor of Managerial Practice at CKGSB

In the early 2000s, Chinese entrepreneurs began to experiment with new business ideas. With the increasing popularity of the PC-internet, e-commerce started to emerge and Chinese consumers started to take notice of the new phenomenon.

Fast forward to the early 2010s, and wireless internet had been introduced and placed in the pockets of the masses through smartphones, with entrepreneurs then beginning to use this to experiment with new business models addressing the "pain points" of Chinese society, such as logistics blockages. In the subsequent ten years, innovation expanded massively as did the number of Chinese entrepreneurs, and internet companies such as Alibaba, Tencent, JD.com, Baidu, Meituan and ByteDance became household names. Besides the internet, other Chinese tech companies such as Huawei, Xiaomi and DJI also grew phenomenally.

Entrepreneurs in the internet sector typically built speedy and agile companies that fearlessly experimented with new business models and subsequently improved and refined their models based on the market's feedback. Sectors like e-commerce, social commerce, fintech, O2O (online-to-offline) retail and mobility grew rapidly.

The development of innovation in China during this period was driven by policies, such as wide-ranging subsidies, that led to improvements in technology and demand pattern changes. And these are still the three drivers that push tech innovation forward today.

The Chinese government has developed a vision for the nation and for over a decade has been finetuning it, constantly synchronizing it with the evolving context, placing innovation and entrepreneurship at the center of the country's policies. Today, technological innovation remains a key focus area in China's policies.

There's no doubt that technology plays a major role in innovation. After the wireless internet started to lose steam as the platform for innovation, other disruptive technologies such as artificial intelligence (AI), cloud computing, Big Data analysis and blockchain technology surfaced, ushering China into a new era of technological change.

Patterns of demand from consumers and organizations are also changing as digital technology permeates all aspects of Chinese people's lives, as well as as a result of the pandemic.

The three drivers of innovation interact with each other, generating further waves of innovation. Innovation based on

hard tech is the new game, epitomized by deep technological expertise and breakthroughs, precision and patience. Capital and entrepreneurship are now being channeled to areas such as new energy, semiconductors, robotics and automation, biomedicine and life sciences, as well as security. A new generation of entrepreneurs has emerged, including Robin Zeng of CATL, He Xiaopeng of Xpeng and Tang Xiao'ou of SenseTime.

The common denominator in all this is the "China model." The central government formulates the overall plan for the national economy and businesses pursue goals that are generally in alignment with government policies and plans. Local governments act as the bridge between Beijing and individual businesses, providing funding support, subsidies and incubation support.

China's dual economic structure of state-owned enterprises (SOEs) and privately-owned enterprises (POEs) is also a source of resilience. While at times, there are glitches between these two types of companies, especially when they compete in the same space, they can also be complementary to each other in a broader sense. SOEs play a major role in providing public goods to the Chinese society beyond narrow economic considerations so that people and businesses, both Chinese and foreign, can benefit from supplies of these public goods. This three-layered system and the dual economic structure together generate a positive flywheel for progress of innovation in China.

Other underlying drivers, such as the growing number of students studying STEM, the increasing number of patents filed and scientific papers published, all provide evidence that China is heading in the right direction.

The West's view has evolved from seeing China as a "copycat nation" to recognizing its successes in development and technology. This process has taken well over two decades. Today, the West's views vary from acknowledging China's ability to innovate but calling it fragile and having "peaked," to taking the view that "China is overtaking, or has overtaken, the US in technology already." However, geopolitics continues to create uncertainties. The risk of decoupling is an overhanging concern for many Chinese entrepreneurs.

Despite this, the Chinese system and entrepreneurial zeal continue to drive the nation's innovative spirit. From China's perspective, growth in the last four decades could not have taken place without being a part of the global system. However, innovation could not have leapfrogged that of other nations without strong internal self-initiation and determination at both entrepreneurial and government levels. The West did provide initial inspiration, but subsequently the Chinese also figured out ways to propel innovation forward, in sync with the context under which they operate. Sanctions against a range of Chinese technology companies have also compelled these companies to achieve technological breakthroughs on their own.

In the semiconductor sector, for instance, China has historically used imported chips in the manufacture of finished products, rather than designing and producing its own. This tactic was based on the nature of the then-prevailing globalization in which natural division of labor across countries and around the globe was the governing assumption. For such highly-capital-intensive industries as semiconductors, a global division of labor makes sense.

The current sanctions on China's semiconductor industry are having a significant effect and there is speculation that such measures could cause havoc for Chinese industry. But Chinese companies are now beginning to make measurable progress in chip design computer software, lithographic machinery, and production capability, on top of their pretty strong position in testing and packaging, though they are yet to catch up fully with leading global semiconductor players.

China's innovations have had a definitive impact across many sectors, particularly in new energy vehicles, renewables, sustainability, intelligent manufacturing, advanced medical devices and fintech. Global companies in these sectors are now investing more in China to tap into its local R&D and product development capabilities. Volkswagen has announced investment of €2.4 billion ($2.37 billion) in a joint venture with Chinese tech firm Horizon Robotics, to build best-in-class autonomous driving capabilities. Daimler is investing $154 million to expand its R&D in China and Intuitive Surgical of the US is to build an R&D center in Shanghai for developing local innovations.

It is essential for global companies to be clear on the intent behind political rhetoric and understand China's innovation capabilities for formulating their own strategies, particularly in cases where China is, by definition, at the core of their businesses. For many, China is not only a major market but also a key source of knowledge and inspiration. This is becoming even more prevalent as Chinese innovators have started to set new standards of technology and business practices of relevance to the whole world.

> The West's view has evolved from seeing China as a "copycat nation" to recognizing its successes in development and technology

Digital Transformation: Path to the Future

Tianshu Sun, Visiting Professor of Information Systems and Director of the Center for Technology, Big Data and Digital Transformation at CKGSB, discusses the key drivers of the global digital transformation and the opportunities that are available to companies and countries alike

On a day-to-day level, it is impossible not to notice the increasing presence of technology in every aspect of life. Companies are going through a similar digital transformation, with the integration of digital technology across all areas in order to create greater value for themselves and their customers, as well as facilitating further innovation and technological development.

In this interview, Tianshu Sun, Visiting Professor of Information Systems at CKGSB, discusses the importance of technology, data and regulation in digital transformation, the differences between consumer and enterprise technologies and the different barriers to success that a company may face depending on which market they operate in.

Q. What would you say are the main drivers of the global digital transformation?

A. I think there are three key drivers underlying the global digital transformation: technology, data and regulation, and I think you can rank them in importance in that order. On the technology side, there are two different types: consumer technology and the enterprise technology. Consumer technology mostly takes the form of the mobile internet and the massive digital platform it enables, while for enterprise technology, the most significant disruption from previous technological generations is cloud computing.

The second driver is data. Thanks to the aforementioned technologies, we now live in a world where a digital platform model has become part of our day-to-day lives, both on a personal level and in business. As a result, there is now a massive volume of different types of data generated every second. The data is stored, processed and returned to our lives in various ways.

As for regulation, this comes as both a driver for change in the form of supportive policies and subsidies, as well as affecting the digital transformation by introducing extra challenges for businesses. Data privacy, algorithm fairness and cross-border data flow regulation are all good examples of the latter.

Q. How have consumer and enterprise technologies developed over the last decade or so and to what extent does this differ between China and other global markets?

A. For consumer technology, the network effect is the dominating force behind a lot of the disruption enabled by the mobile internet-

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based digital platforms, while scale is the driver behind the development of enterprise technology.

On the consumer side, the biggest revolution in the past 10 to 15 years has been how the emergence of the smartphone and its surrounding ecosystems have fundamentally disrupted how consumers interact with different content services, products and goods. This has resulted in the digital platforms we see now in both the US and China. But the platforms in each country are quite different, with China having an advantage, simply due to the size of the market. In general, production and consumption in China are huge, and very fierce competition leads to a variety of new innovations and differentiation in this mobile platform ecosystem. For instance, we have a lot of new business models in China, such as social shopping, an e-commerce process in which shoppers' friends become involved in the product purchasing process. And that doesn't exist yet in the US.

> "I think that digital transformation is irreversible, because technology in general is progressing, consumer technologies are still developing, and enterprise technologies are scaling

On the enterprise side, we see a lot more Platform as a Service (PaaS) and Software as a Service (SaaS) solutions that are now based on and have been transformed by cloud computing. All the major enterprise software and service companies are, willingly or unwillingly, embracing this trend. In general, US Cloud Computing providers have had an early mover advantage and enjoyed wider adoption of their public cloud services. They also have a larger share of the international cloud computing market, providing them with the scale they need to continue expansion.

Q. What role does data play in digital transformation and what are the fundamental challenges to effective data usage?

A. The more technology is embedded in society, at the consumer and enterprise level, the more data of varying types will be collected and processed, especially on the enterprise side. Effective data usage is the key bridge between the basic functions of technology and the generation of true business value. For example, cloud computing without data is like having plumbing with no water in it. The infrastructure is there, but there are none of the raw materials required for it to be useful. If the data is there, the computing power we have can begin to extract value from it. And then the question is how exactly we go about extracting that value. Effectively leveraging data is still a challenge, but things like AI-powered automated systems have really helped at all levels. We're definitely still at an early stage of this process, but there is certainly a lot of potential.

That is not to say that there aren't fundamental challenges to more efficient data utilization. Around the world, and especially in China, there is a significant lack of data literacy and a lack of digital talent in general at all levels, because digital transformation requires more than just top-down expertise. While C-level executives can run the company on a macro level, skilled middle management is required to really leverage the data and correctly transform the business processes of their specific departments, and frontline employees are required to understand how to incorporate data into their decision-making. The decentralization of data-driven innovations is something I think is of great potential for companies in both China and the US.

Q. There are an increasing number of laws governing data usage and transfer. How does this affect digital transformations within countries and the companies that work in digital spheres internationally?

A. They have a fundamental impact and shape the landscape of both consumer technology and enterprise technology globally. On the consumer technology side, it has become much harder for tech companies to scale globally, both from the US to China and also

from China to the US and elsewhere. For example, the restrictions on, say, TikTok that hampers data transfer across the globe will reduce their network effect both in the pooling of content as well as building a larger consistent global market for their businesses. But the hardest part for companies is the massive variations that exist in global regulations, which means that it becomes increasingly difficult for them to scale properly globally.

There is also geopolitical risk, which breeds uncertainty. It raises the entry requirements for a company to start out in many markets, and can even result in a lack of entry into a market altogether. This is also not something that can be solved easily in the next few years, but I do remain optimistic.

Q. What are the key factors to bear in mind when regulating digital transformations?

A. I would say homogeneity is important in the standard setting and regulation of data and algorithms. Software is the coding of human knowledge and it needs to be able to properly interact in order for society to extract the most from it.

Within a country, this can be driven by government regulation and then backed up by industry standards setting. Areas such as financial compliance or environmental regulation, are excellent examples of where this approach has been adopted. But looking globally, there are much greater challenges to creating homogeneity. There is no global decision-making body. Geopolitical tensions are kicking in, and there is a wrestling match going on for value chain dominance and to be the ones setting the standards. Who is ahead at the moment really depends on which industry you are talking about and is a combination of both political action and technological strength.

Q. What barriers do companies face in pursuing the digital transformation?

A. As well as data literacy issues and the barriers posed by governmental regulations, a major problem that many companies face in China is the speed of change. Firms need to go through multiple stages of transformation at the same time, condensing their development to within a very short space of time. They need to standardize management, integrate technology, increase data literacy and adopt a different mindset, and it's very hard to squeeze all of those together.

This isn't really something that US companies face because they have gone through and sorted out these problems over a much longer period of time. There is an idea that China and other Southeast Asian countries are in a position to leapfrog technologically, and while this is easy enough to do with consumer technology, enterprise technology takes much more time and effort.

Q. How do you see the digital transformation process progressing over the next five to 10 years?

A. I think that digital transformation is irreversible, because technology in general is progressing, consumer technologies are still developing, and enterprise technologies are scaling. So I am optimistic that firms will have to embrace cutting-edge technologies in the long run.

For example, in the US the public cloud is already prevalent and most firms are joining the public cloud from their local machines, whereas in China there is still a lot of deployment of the private cloud. But the common forces behind the public cloud are very attractive and over time will convince companies of its security and opportunity, which means that firms will start to move from private to public over the next decade or so. I'm sure such a future will come, but for the top tech firms, the question is how to survive long enough to reach that future. What strategic paths should they take to ensure development in the right direction.

A similar future is there for things like virtual and augmented reality. Both technologies are still in their very early stages, but they will likely become the next generation of computing infrastructure, alongside things like the mobile internet. The next 10 years will see a slow accumulation and acceptance of both the hardware and the operating systems and aesthetics that come with these new realities. But again, the key question is how we get there.

And over-arching all of that are questions around who will take the lead and guide the rest towards the future iterations of tech, and this is the beauty of the ever-evolving nature of the digital transformation. I think there are massive opportunities for the top tech firms to stay ahead and also smaller firms to challenge them. There are also chances for entire industries and countries to take a pioneering role. It is clear that we can all benefit from this progress, so it's important to understand and develop a pathway towards this bright future.

Interview by Patrick Body

There are three key drivers underlying the global digital transformation: technology, data and regulation

GROWING DISCONNECT

China's relationship with Europe is at an all-time low and compromise is needed to improve relations

By Patrick Body

Image by José Luna

Trade and business interactions between China and Europe are becoming increasingly lopsided

In early 2022, standing in front of a screen emblazoned with the EU and Chinese flags, a serious-looking European Commission President Ursula von der Leyen told journalists that the video conference she and Chinese leader Xi Jinping had just finished "was certainly not business as usual, it took place in a very somber atmosphere."

The tone of the meeting was reflective of the new low that the China and Europe relationship has reached, troubled by a whole host of economic, business, trade and geopolitical issues. Although not yet as dire as the China-US relationship, there is acknowledgment from both sides that things need to change, and soon, in order to avoid the tension becoming the status quo.

"The relationship is at a historic low, and there are several reasons for this," says Henry Huiyao Wang, founder and president of the Center for China and Globalization. "The pandemic has meant almost no people-to-people exchanges in the last three years, the deterioration of Sino-US relations has had a knock-on effect on Europe and China, and furthermore, the war in Ukraine has solidified Europe's view on China. There is more, but it all results in an unstable relationship."

Growing difficulties in business access to each market and the sudden deterioration of European public opinion on China, as a result of the war in Ukraine and human rights concerns, also plague the relationship. But a fundamental issue underlying all of these problems is the deep systemic difference between the highly-centralized, one-party state that is China and the generally diverse and transparent systems of Europe and the European Union.

State of the Union

China's development as a technological and economic power and Europe's sustained economic growth since the 1990s have been deeply intertwined. With China becoming more open to the world, European countries, particularly Germany, and their businesses saw the opportunity to utilize Chinese original equipment manufacturers (OEMs) to produce their products cheaply. At the same time, Chinese manufacturers realized that this was an excellent chance for them to absorb the technological capabilities of these advanced European businesses. For China, it meant rapid development and building of skills, while for the European companies it meant bigger short-term profits, but resulted in limited access to a market that would eventually outstrip them.

China's accession to the WTO in 2001 resulted in a surge in trade between China and Europe, but the balance became increasingly lopsided. In 2021, the EU imported €472.2 billion ($464.86 billion) of Chinese goods, while exporting €223.3 billion ($219.83 billion) to China, and the gap is continuing to widen. The UK has had a similar relationship with China since its exit from the EU, with the UK exporting around €22.24 billion ($21.89 billion) in goods to China in 2021, but importing €75.22 billion ($74.09 billion).

"China is basically relying twice as much on the European consumer as the European companies are on China," says Joerg Wuttke, president of the EU Chamber of Commerce in China. "So the economic relations are very deep, but also very unbalanced."

When it comes to foreign direct investment (FDI), things have been more evenly balanced over the last two decades, with European companies investing around €148 billion ($145.70 billion) into China in that time, while Chinese FDI into Europe totaled €117 billion ($115.18 billion).

But the numbers are now trending downwards, with European FDI into China falling by 72% year-on-year in Q2 2022. "It has been declining quite a bit, especially over the last year or so," says Wuttke. "This is in stark contrast to the size of the Chinese market and the possibilities it holds. The market is vital for some European companies, particularly in automobiles, machinery or chemicals, but we're entering a new phase of economic uncertainty here."

Chinese FDI in Europe in 2021 increased to €10.6 billion ($11.3 billion), compared with €7.9 billion ($7.78 billion) in 2020. But it remained well below the peak of just under €50 billion ($49.22 billion) in FDI in 2016, as tight capital controls in China and additional European

investment screening have slowed deals.

Over the past decade, China has tried to build a separate relationship between itself and the countries of Central and Eastern Europe through what is currently called the 14+1 initiative. It was formerly 17+1, but Lithuania, Estonia and Latvia withdrew in 2022. It was intended to promote business and investment relations between China and these countries in Central and Eastern Europe but has, to a large extent, fallen flat over the years, with many investments and developments either postponed or still under discussion.

"It's basically defunct now," says Jamil Anderlini, editor-in-chief at *POLITICO Europe*, who spent over 20 years in China in previous roles. "China had an opportunity to split its approach to Europe, but instead they just alienated a lot of Eastern Europe."

Equal opportunities

Market access for companies on both sides of the European-China relationship has not necessarily been equal, despite the changes to China's market since it acceded to the WTO. For the most part, non-Chinese companies wishing to operate in China have been limited to joint ventures with Chinese companies, typically state-owned enterprises (SOEs), where the foreign firm would only be able to hold a maximum of a 49% share in the business.

Recent changes to investment rules have allowed some non-domestic companies full ownership rights to their Chinese operations. Truck manufacturer Scania bought out their Chinese partner in 2021, and there have been several financial institutions such as BlackRock and J.P. Morgan that have opened wholly-owned subsidiaries in China over the last two years. But only a small number of companies have so far managed to do this, and many barriers to successful operations in the country remain.

In the most recent EU Chamber of Commerce Business Confidence Survey, 42% of firms reported that regulatory barriers still resulted in missed business opportunities. One such barrier is the country's Negative List, which delineates industries that are prohibited or restricted to private investment. The original list applies to both domestic and foreign firms, however there are two further Negative Lists that apply exclusively to foreign firms. In total, the lists limit access to almost 200 sectors, ranging from domestic water transportation to medical institutions.

Additionally, although two-thirds of EU businesses experienced revenue increases during 2021, 60% of those surveyed noted that business became more difficult year-on-year, an increase of 13% from 2020.

For example, there has been a proliferation of new regulations governing the automotive industry in China over the past year, many of which require companies to produce reports on various aspects of their business. However, standardized reporting templates have not yet been provided and there have been circumstances where local authorities in different regions are unable to specify report requirements, or where two authorities in the same area have different requirements for report submissions.

"European companies' access to China's market remains difficult and only partial," says Alicia García-Herrero, chief economist for Asia-Pacific at investment bank Natixis and a senior fellow at European think-tank Bruegel. "Even though there have been some changes, there is no longer an expectation that the situation can improve much."

Aside from this, COVID-related travel restrictions, including potential quarantines for inbound travelers, were the top issue facing European businesses in China in 2021, according to the survey, followed by concerns of a general economic slowdown in the country, meaning less abundant opportunities and slower growth than China has previously offered.

"The lack of movement of business people has been a huge factor," says Henry Wang. "The consensus of the business people I have met is that lower or no quarantines will mean a flood of people returning to China for business, and that's how the issue will be solved."

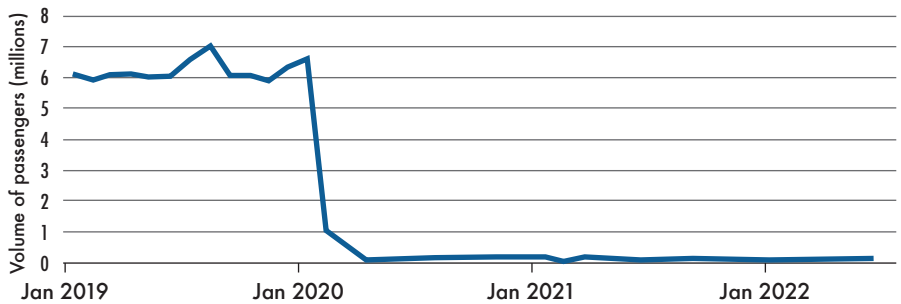
Moving the other way, Chinese companies operating in Europe have enjoyed a much greater level of freedom. Up until recently, they have been allowed free rein over business control and mergers and acquisitions. This has resulted in a growing number of Chinese companies operating in Europe across a huge range of industries, demonstrated most recently by Chinese energy storage giant CATL announcing it will invest €7.34 billion to build a battery plant in Hungary, its second in Europe.

"The number of Chinese companies in Europe is similar to trade and investment numbers," says Chen Dingding, professor of international relations at Jinan University. "They are not going up at the moment, but they're also not dropping, they're staying stable."

Some European countries are now implementing a greater number of checks and balances due to the rise in national security concerns associated with Chinese companies. Germany recently refused to allow the Chinese Aeonmed Group

COMPLETE STANDSTILL

Trips by international inbound and outbound passengers from China had almost completely disappeared



Source: Civil Aviation Administration of China

to procure medical devices firm Heyer Medical AG. Although the acquisition was originally agreed to in 2020, a two-year review by the government ended in a rejection of the takeover on the grounds that it would impair Germany's public order and security. In July 2022, the UK also used new national security legislation to ban the sale of computer-vision technology owned by Manchester University to an unnamed Chinese semiconductor company.

In contrast, the European market is still very open to Chinese investment. "From the thousands of Chinese business interactions, the EU authorities have rejected three," says Wuttke. "And compared to the Negative List in China, there isn't really a similar counter policy in Europe. So Europe remains open and should remain open for Chinese business, we need this engagement."

Attitudes toward each side

While the trade relationship is largely stable, the China-European relationship in other ways is increasingly challenged, with business and political attitudes in both camps becoming increasingly adversarial.

At the same time, China's view on Europe and European business remains positive, with many suggesting there is room for growth. "Europe's GDP is more than sufficient to call it an economic power alongside China and the US," says Henry Wang. "I'd like to see something like a G3, with China, the EU, and the US."

In a China Chamber of Commerce to the EU survey, 70% of businesses believed that EU-China economic ties would keep improving and the bloc remained an attractive destination for Chinese investors. Around 80% of respondents said the EU would become more important in their companies' global strategy, with the majority planning to expand their presence across the industrial chain.

And there are clearly plenty of opportunities for China and Europe to work together on major global issues. "They have certain shared global goals," says Chen Dingding. "Like climate change, energy security, regional security and fighting global inflation, so I'm cautiously optimistic about the relationship."

> **European companies' access to China's market remains difficult and only partial**
>
> Alicia García-Herrero
> Chief economist for Asia-Pacific
> Natixis

But Europe is still a grouping of nations with varying points of view, a situation that requires careful consideration to properly navigate, as exemplified by the difficulties faced by the 14+1.

"I think Europe is different to deal with than many other relationships," says Chen Dingding. "You have to remember that no two countries are the same. Some of them are more aligned with the US in some aspects, but not in every aspect, and in between European states you have a lot of differences on certain issues. So that can be both a benefit and a drawback"

China is also keen on pursuing the Comprehensive Agreement on Investment (CAI), a bilateral investment deal that would institute a new legal framework for China-EU economic and trade relations, which has been under negotiation for the past decade. Importantly for the EU, the CAI would provide EU companies with much greater access to the Chinese market. It would be the first international deal of its kind which includes obligations for the behavior of SOEs.

"Both Chinese companies and European companies would benefit from the CAI," says Henry Wang. "There are a lot of parts of the deal that would give EU companies access to China that even US companies don't have."

But the ratification of the CAI was put on hold in 2021 after China imposed sanctions on several high-profile members of the European Parliament, three members of national parliaments, two EU committees, and several China-focused European academics. The EU had previously sanctioned Chinese officials and the Xinjiang Public Security Bureau for alleged human rights violations in Xinjiang Province.

"The ratification is never going to happen while the sanctions on EU parliamentarians remain in place," says Anderlini. "Lots of people are very supportive of the idea, but until the sanctions are lifted, it's just going to be talk."

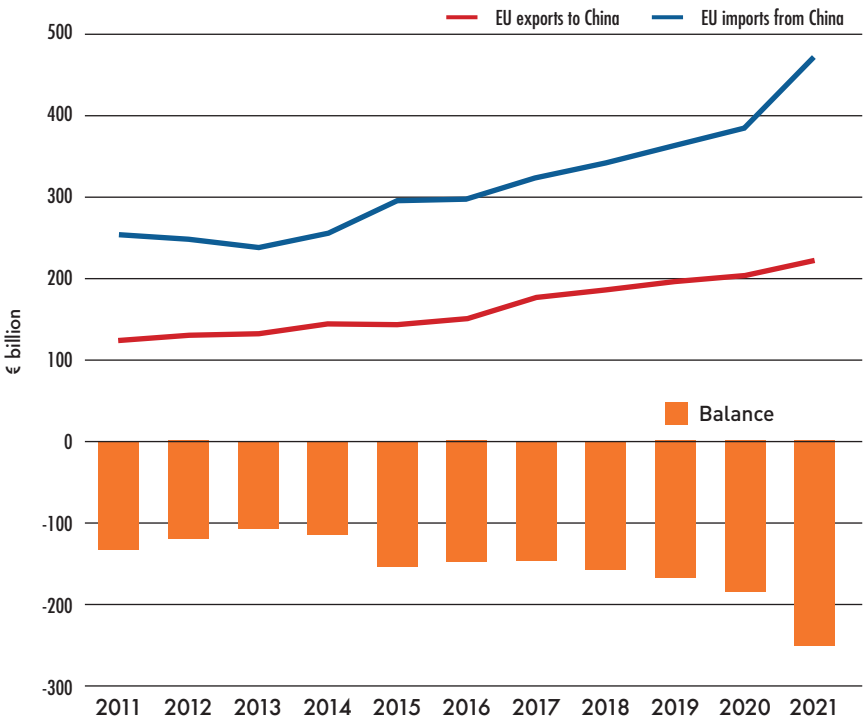
In Europe, countries and businesses are becoming increasingly wary of China, particularly seeing it as a threat to national security. The Russian war in Ukraine has cemented this view in the minds of many in Europe, now viewing China with increased skepticism thanks to its refusal to clearly acknowledge Russia as the aggressor in the conflict, a view held almost unanimously by the Europeans.

"Ukraine is clearly a priority for Europe," says García-Herrero. "The situation has had a very negative effect on EU-China relations and will continue to do so the more China remains ambiguous in its stance, which for many Europeans is a pro-Russia stance."

The US hardline approach to China isn't yet the status quo in Europe, and attitudes vary across the continent, from countries such as Lithuania which has been involved in diplomatic disputes with China, to Turkey, which is seeking to accelerate ties with the country. But the consensus is edging away from China, and if forced to choose, it is clear that the EU and the large

GROWING GAP

There is an increasing imbalance in the EU-China trading relationship, with the trade deficit breaching €200 billion in 2021



Source: Eurostat

majority of European countries would fall on the US side.

"If the relationship continues to deteriorate there will come a point where Europe has to choose," says Anderlini. "They shouldn't have to, but if there does come a time, it's not even a choice, really. They will side with America. They might not like Trump, or Biden, or the US imperialism, but it's a democracy, at least for now."

Street-level opinions

As for consumer attitudes, each market still enjoys the fruits of the other, but perceptions are shifting.

Within China, European goods have always been viewed as being high-quality. The luxury goods market, and until recently the automobile market are good examples of legacy European behemoths faring well in China. Luxury brands like Gucci, Balenciaga and Louis Vuitton have all prospered in the China market, and car manufacturers such as Volkswagen have had a strong presence for decades. Chinese brands are starting to take back some areas of both markets, thanks to increased production quality rather than a change in attitudes towards European companies.

"China is going to be the largest middle-class market in the world with 400-500 million consumers," says Henry Wang. "And that market still enjoys the cars, fashion and cosmetics from Europe, it is all selling extremely well in China."

Something more complicated is happening in Europe. Over the last 20 years, European consumers have been more than happy to have cheap goods supplied by the rapidly-growing Chinese manufacturing sector, benefiting from their lower prices and generally good quality. However, consumers in Europe are now hyper-aware of the geopolitical, national security and human rights concerns associated with goods coming from China.

"Recently I have been considering the origin of products a lot more, especially when it comes to China," says Frank Lucas, a 30-year-old working at an internet company in the UK. "I think the same can be said for my friends as well. Cotton is the main issue for me, because of the links to Xinjiang, but I worry about tech, too."

But while the consensus has shifted away from some Chinese products, Europeans are still purchasing Chinese goods in vast quantities.

"European consumers have not shown any concerns in terms of quality or anything of Chinese products, they like them." says Wuttke. "The notable exception is in some areas of textiles where you have the issue of human rights in the supply chains. Some companies have withdrawn, and have subsequently been penalized for that on Chinese social media, but they can keep selling, just on a lower level."

Together or apart?

The European-China relationship is faltering, even though trade flows and other economic interactions between the two sides are fairly stable, and in some cases growing. But increasing geopolitical tensions are starting to have knock-on effects on business through sanctions and national security laws.

The fundamental differences between the European and Chinese systems is the biggest barrier to improving relations, and they revolve around centralized versus dispersed governance, transparency and the role of the state in the economy. The attitudes of many Europeans towards China have solidified since the outbreak of the war in Ukraine and China's muted response. China, in turn, is trying to push through the CAI as a way of clearing away many of the obstacles to business access in each market.

But without acceptance and understanding at a deeper level between the two sides, the gap between them looks likely to grow, mirroring the US-China decoupling process.

"Relations between China and Europe are bound to deteriorate as systemic rivalry becomes more important," says García-Herrero. Jamil Anderlini agrees, "Unless there are some major shifts in approach, I think the relationship is only going to get worse and worse."

CHANGING TRACKS

Vietnam is becoming an increasingly attractive option for manufacturing and even Chinese companies are making the switch

By Sean Matthews

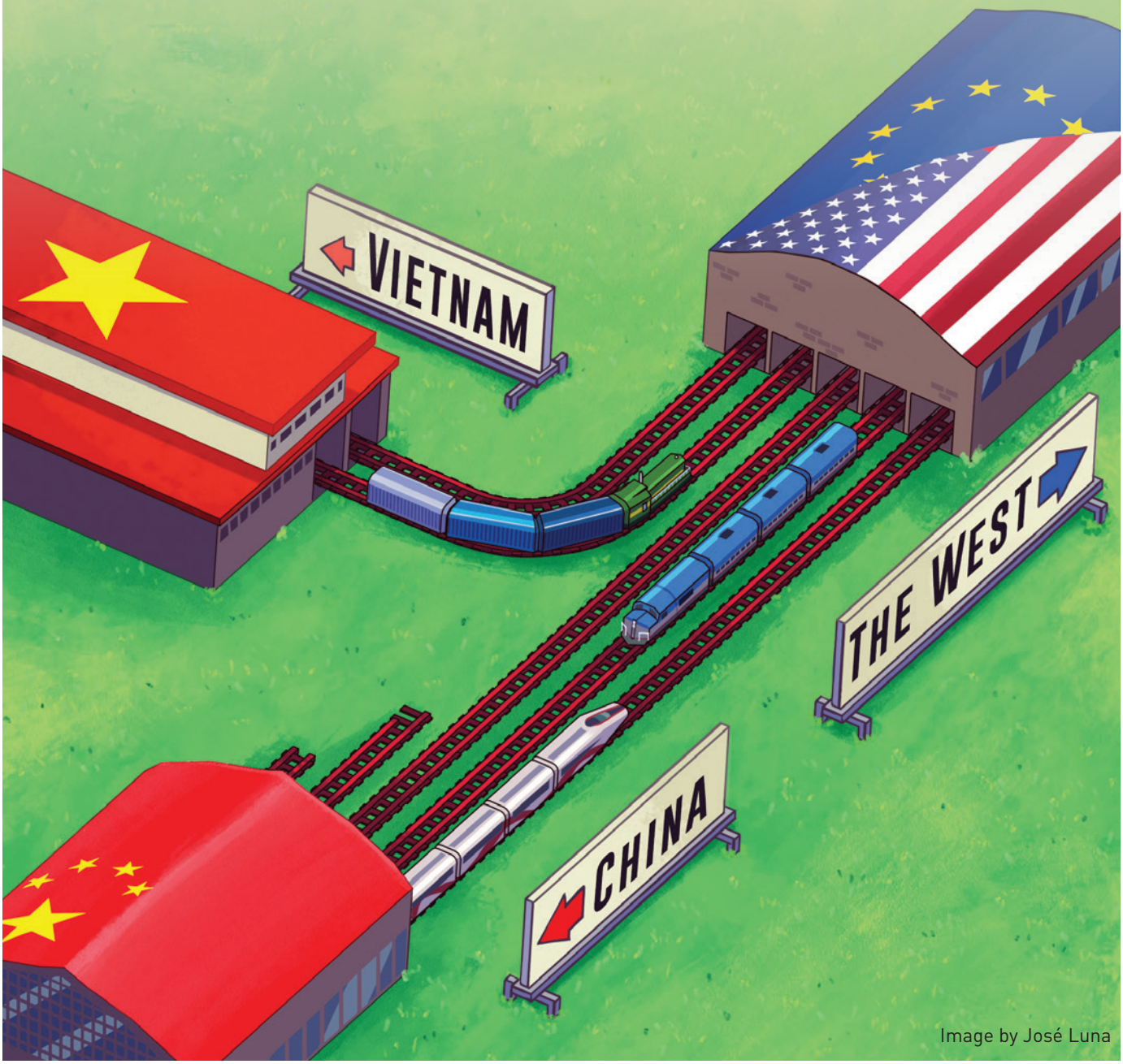


Image by José Luna

Vietnam's logistics infrastructure does not yet match China's, but it is developing alongside the growth of manufacturing in the country

The back of an iPad is not the first place you would look for information on trends in global supply chains and manufacturing, but some of the new tablets will soon come embossed with these words: "Designed by Apple in California Assembled in Vietnam." The US tech titan is just one of many companies relocating some of its manufacturing outside of China.

The addition of Vietnam to Apple's ecosystem will not mean much to most consumers, but it points to how a trickle of tech manufacturing from China to Vietnam is now gathering momentum and beginning to capture higher-margin products. Vietnam has long been a hub, albeit a small one, for tech and electronics production—Intel invested $1 billion to build a chip assembly plant there as early as 2006, while Samsung's spending has topped $18 billion since 2008—but manufacturing iPads for Apple, the world's most valuable company, is a coup for Hanoi.

"The offshoring of low-wage manufacturing has never been the big story for Vietnam," says Trinh Nguyen, senior economist covering emerging Asia at French investment bank Natixis. "The big story has really been Vietnam's ability to also attract electronics."

"The velocity with which Vietnam has gone from making t-shirts and tennis shoes, to chips and solar panels has really been remarkable in a historical context," says Fred Burke, a senior adviser for law firm Baker McKenzie in Ho Chi Minh City.

Already a topic of discussion in boardrooms pre-pandemic, the movement of production out of China has accelerated this year in the wake of severe disruption to global supply chains convulsing with virus-induced lockdowns in key manufacturing hubs across China, including Shenzhen and Shanghai.

"In terms of 2020, China was first in, first out for COVID-19, so it recovered faster than other economies, dampening chatter of relocation until Shanghai's lockdown," says Shan Guo, partner and co-founder of Beijing-based consultancy Plenum. "When that happened, companies once again started asking, 'if my Chinese operations cannot continue, do I have an alternative?'"

Answering this question has led more and more companies to consider up-and-coming Vietnam, which tops the list of options when it comes to shifting tech orders from China to Southeast Asia. And while China's leaders have made no secret of their desire to move up the value chain, they might not like the consequences in terms of the country's current near-ubiquitous presence in global supply chains.

Rewiring supply chains

'Made in China' is still ever-present and Beijing is still central to global manufacturing. China carved out a dominant position by producing the world's goods cheaply with high output and efficiency. Through the building of ports, railways and telecom networks, low labor costs and a relatively skilled workforce, China created a manufacturing ecosystem of production that dominates the world in a way unmatched in human history.

This is reflected in China's share of global manufacturing output, which climbed from 22.5% in 2012, to nearly 30% last year—close to the US, Japan and Germany combined.

But nothing stands still. The path became bumpier after the US imposed sanctions starting in early 2017, and the US-China trade war kicked into high gear the shift of manufacturing from China to Southeast Asia. "The trade war really scared a lot of people, including Chinese companies that look to the US market," says Burke.

Since the pandemic, however, the main driver for relocation has been China's strategy toward COVID-19. A survey from the European Chamber of Commerce in China in May found 23% of respondents were considering moving current or planned investments out of China to other markets as a result of the strategy—more than double the share at the start of 2022 and the highest proportion in a decade.

As restrictions began to bite in April, another survey found one in five US manufacturers in China said they would

shift operations if the disruptions continued for another year. "Companies were panicked about China. This was the height of talk about divestment or relocation of capacities," says Guo.

Foreign enterprises are not alone in seeking a change of locale, Chinese manufacturers are seeking to diversify as well. For instance Xiaomi—China's fifth-largest smartphone brand and the second-biggest in Vietnam—started producing devices at a new $80 million production plant north of Hanoi in July, news of which generated some consternation on Chinese social media.

Worries that Vietnam could challenge China as the new manufacturing powerhouse have been fanned by difficulties ranging from Beijing's hitherto zero-tolerance policy toward COVID-19 and unresolved US-China tensions to the war in Ukraine. While the country will not be able to offer the scale that China can, these issues have prompted businesses and governments to reevaluate the risks resulting from supply chain overreliance and interdependence.

The economic cost of China's lockdowns in the first half of 2022 was reflected in meagre GDP growth in the second quarter, with China's economy decelerating sharply to 0.4% year-on-year, a massive step down from 4.8% in Q1. One study estimated the restrictive measures in April and May were likely costing China at least $46 billion a month in lost economic output.

The severity of the lockdowns was also reflected in CKGSB's Business Conditions Index (BCI), a gauge of business sentiment on China's economy, which nosedived from a positive 51.3 in March 2022 to 40.8 in April and then 37.3 in May—tied with February 2020, China's first month of the pandemic, as the lowest ever in the BCI's 11-year history.

Beyond the direct economic impact, China's zero-COVID strategy exacted something of a psychological toll. Companies that depend upon contact with the rest of the world have faced difficulties in doing so, with flights into China still limited and travelers facing compulsory quarantine. Multinationals have struggled to convince foreign staff to relocate and deal with China's strict policies, while anecdotal evidence suggests many are departing.

Trade tensions between Beijing and Washington have not abated either, with the Biden administration picking up the baton from Trump on China's pernicious supply chain dominance. A 250-page review of vulnerabilities and gaps in US supply chains ordered by Biden last year did not explicitly single out China, but mentioned the country 566 times.

As China has modernized, manufacturing labor costs have also increased. The average annual wage of manufacturing and related personnel in urban China in 2020 reached RMB 82,783, up by 5.9% from the previous year and a sixfold increase from RMB 12,671 in 2003.

High-velocity Vietnam

Vietnam's exports surged to an all-time high of $336 billion last year, up by 20% from $283 billion in 2020, 96% of which were manufactured products. Foreign direct investment (FDI) last year was at a near-record high of $38.85 billion.

There are some similarities between present-day Vietnam and China 20 years ago, when it emerged as a manufacturing powerhouse, says Manu Bhaskaran, chief executive of Centennial Asia Advisors in Singapore.

"There are resemblances in terms of cheap labor that is hungry for progress and willing to work hard at low wages," says Bhaskaran. "Plus a government keen to draw in foreign investment and to undertake reforms to make its economy more investable, along with low costs in other areas such as land and industrial estates."

Another way in which Vietnam is emulating China is its massive investment in infrastructure to facilitate manufacturing exports. Like China in the early 2000s and after, Vietnam is now splurging on everything from industrial parks, ports and expressways, to new coal power stations, solar plants and wind farms.

"Vietnam is putting a lot of effort into building the infrastructure to support industrialization." says Nguyen. "I'm not talking about just building ports, but also on the energy side… It's very aggressive in being able to supply the energy needs."

But Vietnam's biggest advantages are clear. It has a young and hard-working labor force that is cheaper than China's, supportive government policies including a host of free trade agreements that give investors substantial market access, good industrial estates, decent supply chains and good-enough infrastructure, says Bhaskaran.

Vietnam is also strategically positioned at the center of ASEAN with close proximity to China and Singapore. Its long 3,260 km coastline provides direct access to the South China Sea and major shipping corridors.

GROWING COMPETITION

Vietnam has been climbing the global manufacturing competitiveness index

2016

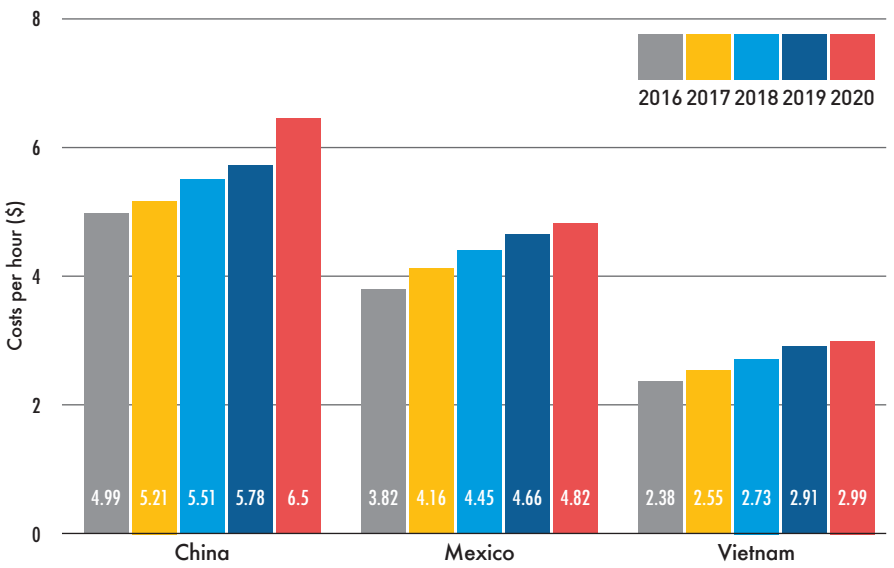
Country	Rank	Index Score
China	1	100
India	11	67.2
Thailand	14	60.4
Malaysia	17	59
Vietnam	18	56.5
Indonesia	19	55.8

2020

Country	Rank	Index Score
China	2 (↓-1)*	93.5
India	5 (↑+6)	77.5
Thailand	14	62
Malaysia	13 (↑+4)	62.1
Vietnam	12 (↑+6)	65.5
Indonesia	15 (↑+4)	61.9

*the US was the top ranked country in the 2020 index
Source: GMCI

LABOR COST | Vietnam's hourly labor costs have been increasing, but they are still half of those in China



Source: NBSC, VMLISA

"For the aforementioned reasons, and as China becomes more expensive and encounters trade barriers and geopolitical troubles, Vietnam looks more attractive," says Bhaskaran.

Korean giants like Samsung and LG have so far been the biggest investors in Vietnam's tech manufacturing base, pushing South Korea's cumulative FDI into Vietnam up to $79.9 billion by the end of June 2022. But many Chinese companies—particularly contract manufacturers in Apple's supply chain such as AAC Technologies, Luxshare ICT and Goertek—have also established themselves in Vietnam. "There are whole industrial zones specially tailored for the Chinese," says Burke. One such example is the Shenzhen-Haiphong Economic and Trade Cooperation Zone, which is wholly-owned by the Shenzhen government and offers financial incentives for relocating Chinese businesses.

Vietnam's trade surplus with the US in the first seven months of 2022 reached $48 billion, widening by $10 billion from a year ago. At the same time, thanks to increasing imports of raw materials for manufacturing, Vietnam's trade deficit with China has grown by $6 billion to $35 billion. "It's kind of obvious what's going on," says Michael Kokalari, chief economist at VinaCapital, one of Vietnam's largest investment managers. "The Chinese manufacturers are moving their stuff to Vietnam to avoid all the tariffs."

Vietnamese vexation

But for all its impressive progress, Vietnam is not on China's level. "Vietnam still has a long way to go to deepen its industrial capacity, even if it's getting a lot of geopolitical support from the rest of the world," says Nguyen.

Despite robust infrastructure spending—with 6% of GDP in 2020 channeled into infrastructure investment, more than twice the ASEAN average—Vietnam still remains well behind China in terms of overall development. It placed 47th out of 160 countries in the World Bank's most recent infrastructure rankings, while China was 20th.

The massive amounts of investment flowing into Vietnam also present opportunities for corruption. An estimated $9.1 billion left Vietnam illicitly in 2005-2016 due to trade misinvoicing. In mid-2022, the Vietnamese Communist Party—which has disciplined more than 7,000 members for corruption in the past 10 years—said it would accelerate an anti-graft campaign.

However, Kokalari says corruption is a relatively minor issue in Vietnam compared with the rest of Southeast Asia. "The scale of the corruption here is not really on the same level as what you see in some other countries. There's some low-level stuff but it's not really enough to move the needle on GDP."

But COVID-19 has proved a bigger issue. Recent variants have challenged Vietnam's previously effective response to the pandemic.

"In the first phase of COVID-19, Vietnam did really well in controlling the pandemic so it attracted further investment, including from Apple," says Giang Le, a political risk analyst focused on Vietnam at global risk consultancy Control Risks. "In 2021 Vietnam did not do very well because the Delta variant was just impossible to contain. We had to impose some of the worst-case containment strategies and as a result, Samsung had to ship some of their production to India and to South Korea. Apple had to temporarily delay their partial relocation to Vietnam."

Vietnam has taken a multipronged approach to incentivizing companies to relocate there, offering a competitive corporate income tax rate of 20% and a 0% withholding tax on dividends remitted overseas. "But the more you attract, the less desperate you become so those incentives will not be as important moving forward once you hit a certain critical mass," says Nguyen.

China and Vietnam are both one-party states governed by communist parties, but this has not made for a problem-free relationship between Beijing and Hanoi. China's last war was fought against Vietnam in 1979 and periods of turbulence have dotted their history, such as a 2014 maritime standoff near Vietnam's coast.

"Vietnam is just more manageable and accessible than China for a lot of people, [where] to get to the Prime Minister and have a conversation about something

that's going wrong with the investment environment is not easy," says Burke. "But here, we do it twice a year. He'll sit there for four hours listening to the complaints of the business community. Things really get done and that's why Vietnam has been able to be so nimble and resilient."

Vietnam's main competitor in terms of luring companies away from China is Mexico, which emerged as an alternative at the peak of the China-US tariff war and following the passage of the US-Mexico-Canada free trade agreement in 2020.

Proximity makes Mexico a tantalizing possibility for both American firms and exporters to the US because companies do not need to wait weeks for goods to be shipped from China. Even some Chinese factories are finding their way to Mexico, with home appliance maker Hisense said to be among them.

But companies are mostly opting for Vietnam over Mexico, especially when it comes to the tech supply chain. "Generally speaking, the supply chain reshuffling is happening in Asia," says Nguyen.

Head-to-head

Instead of relocating entirely, many manufacturers are pursuing a "China+1" strategy in Asia, setting up factories in lower-cost countries like Vietnam to serve other markets or hedge against disruption in China.

This strategy is especially visible in the clean energy sector, and China's biggest solar manufacturers, including Shanghai-listed players JinkoSolar and Trina Solar, have built factories in Vietnam to produce key solar panel components for export. This has coincided with a jump in Vietnam's solar shipments to more than $3.4 billion last year.

"Renewable energy is the product that every country wants to have more of, including the US, so Chinese solar companies are building capacity in Asian countries to be able to export from there," says Plenum's Guo.

But present-day Vietnam cannot overtake China either as a market or as a business destination. Vietnam's GDP per capita, last year, was less than one-third of China's, while the Vietnamese labor force was only 7% the size of China's.

"China has developed rapidly and is ahead in terms of its per capita income, which is now almost upper middle income, and the sophistication of its businesses and regulatory structures, while Vietnam is poorer and cheaper," says Bhaskaran. "The supplier ecosystem is much more extensive and sophisticated in China and it will take time for Vietnam to replicate this ecosystem."

Good neighbors?

China is also determined not to relinquish its role as a manufacturer for global businesses. The 14th Five-Year Plan (FYP) released in March 2021 pledged to keep the share generated by manufacturing "basically stable" at 25%—a sign that China wants to become a developed economy without losing its industrial base.

Beijing aims to achieve this through a broad push into nine emerging industries including next-generation information technology, clean energy and aerospace, which aligns with its long-term goal of moving up the value chain. But it does also suggest that China's leaders are concerned about manufacturing capacity being siphoned off to low-cost exporters like Vietnam.

"As China moves up the value ladder, it is natural that low-value added activities are no longer appropriate for its economy," says Bhaskaran. "So, if it is low-value manufacturing moving out, that's fine. It is exactly what happened in Japan, South Korea, Taiwan… it is part of the development process. So long as it is still competitive in higher-value activities whether manufacturing or services, it has nothing to worry about."

Guo says senior bureaucrats in Beijing tend to be more relaxed than local cadres on the ground. China's leaders may welcome the trend under a belief that domestic manufacturers offshoring some capacity to ASEAN will strengthen its economic links and industrial chains with the region.

"The central government wants to help Chinese manufacturers globalize," says Guo. "It has always considered foreign trade and investment as important leverage to maintain China's cooperation with the world, and to some extent curtail any disengagement with China."

And as Chinese businesses offshore more of their low-end, lower-skilled manufacturing, their hope is that it will help them grow into globally competitive players.

For local officials, however, the concerns are more basic, like keeping unemployment down. "They are worried because these companies are very important to their local economy, so they want to retain their investment," says Guo.

Not out for the count

Now more than ever amid geopolitical tensions and COVID-19 disruptions, companies both foreign and domestic are questioning the wisdom of concentrating all manufacturing in China. Multinationals face a judgment call on the extent to which rising uncertainties outstrip the comparative advantages of access to a large domestic market with an expanding middle-income class, high production efficiency, good supply chain resilience, advanced infrastructure, rich labor supply and vibrant innovation ecosystems.

"Vietnam will never be China, it's such a small economy in comparison, and you'll never be able to replace China as a manufacturing source," says Burke. "What we're talking about is one alternative to China in the global economy which has a lot of different places competing for investment. It's not something bad for China because China is developing, becoming richer and more expensive. It's actually a good thing if they can keep it going."

Vietnam will increasingly benefit from supply chain diversification as more companies adopt "China+1" strategies, but this will also end up benefiting Beijing too, as China-Vietnam linkages deepen. "Vietnam's global market share will continue to rise and because of this, it will have stronger links to China," says Nguyen.

Economic Expansion

Bin Zhao, senior economist at PwC China, discusses China's economic expansion and the systemic barriers to furthering the country's development

China's economic expansion over the past 40 years has been spectacular, but continued double-digit GDP growth is not sustainable for any economy. With growth slowing, the country has been shifting towards a more innovation- and technology-driven development model, building on the strong foundations laid over the past four decades.

In this interview Bin Zhao, senior economist at PwC China, discusses China's strong economic foundations and their benefits for future growth, the different stages of the country's economic growth leading to this point and proposals for more measured policy changes.

Q. How would you describe the state of China's economy today and how does this differ from 10 or 15 years ago?

A. Overall, the past 10-15 years have been an important period in which China's economy has been gradually moving towards higher quality development. In the run up to the recent 20th National Congress, many central government agencies produced a series of summaries of "the last 10 years in China," from which I feel there are three main conclusions that can be drawn.

First, although the rate of GDP growth has declined from its previous double-digit highs, there is now a good foundation for strong future economic development, a requirement for long-term prosperity. Compared with the developed economies in Europe and the United States, the time China has devoted to developing a market economy has been very short and there have been many lessons to learn, and quickly. For example, China's initial development was brash and environmentally destructive, but in the past decade we have gradually undertaken more benign, sustainable and green development.

Secondly, the past 10 years have been a period when China's economy has shifted from only developing hardware, to developing both software and hardware. Hardware includes infrastructure, real estate and manufacturing, while software includes business environment, science and technology and consumer-oriented and business-oriented services. China's economy is also experiencing a shift from being driven by exports and investment to being driven more by consumption and the service sector. But there is still a high proportion of industrial and manufacturing sectors and a lot of

room for the tertiary and service sectors to continue to develop.

Thirdly, the beginnings of a technologically innovative economy are gradually emerging in China. On the one hand, due to the imperfection and incompleteness of the market economy, productivity is low in many sectors in China, especially those with a high proportion of state-owned enterprises (SOEs) and those with more stringent regulatory policies, such as petrochemicals, aviation, the financial sector and especially the banking sector.

On the other hand, some fully competitive industries and sectors, such as e-commerce, new energy vehicles and online social networking, have become globally competitive and in certain areas have reached a world-leading level of development due to the active presence of private and foreign enterprises. The logic is clear: industries and sectors with sufficient reform and a high degree of marketization are developing fast. Industries and sectors that are slow to reform and have been monopolized or dominated by the state economy for a long time, or are strictly regulated, have been less efficient. There are of course a few exceptions, such as China's high-speed rail, nuclear power, infrastructure construction contracting and aerospace, which are also dominated by SOEs but are still among the world's leaders.

For China to become a developed economy by 2035, building a science and technology innovation-driven economy is the only way forward. Therefore, it is necessary to continue to deepen reforms and improve the market economy system.

Q. To what extent can China's economic transition over this period be categorized into different stages?

A. There are several landmark events in China's economic development, for example, the first was the accession to the WTO at the end of 2001, after which China was rapidly integrated into the world. The country's imports and exports grew significantly, thus allowing China to develop into the "world's factory" and the number one country in global trade.

The second landmark event, the marketization or commoditization of the real estate market, is rather vague in terms of time. But the rapid development of real estate post-2000, led to urbanization and promoted a number of areas such as infrastructure.

The third event was the 18th National Congress held at the end of 2012, which sought to put an end to growing environmental pollution, frequent worsening of hazy weather, serious corruption and prominent social conflicts, such as the tainted milk powder incident in 2008. Had it not been for many policy shifts and adjustments after the 18th National Congress, China ran the risk of falling into the middle-income trap and the potential Latin Americanization of China.

The fourth landmark event was the focus on improving the business environment from 2013 onwards. The most obvious difference between developed and developing economies is overall economic maturity on the one hand, and the infrastructure and business environment on the other. As the business environment is invisible and intangible, it is more difficult to improve, but the impact is significant.

The fifth is the supply-side reforms that started in 2015, and the deleveraging and de-stocking that came with it.

Bin Zhao is the senior economist at PwC China and also leads the firm's Strategic Research team. He is currently joint secretary general of the Tsinghua Innovation Economy Forum and guest research fellow at the Chinese Academy of Social Sciences.

Q. To what degree are there issues with the transparency, reliability and availability of data in China?

A. Economic research in China, as with many developed economies, often faces a shortage of data, but the situation may be slightly worse in China, which is after all still a developing country. Due to the rapid development of China's internet-based digital economy, there has been a gradual diversification of data in China, as well as a significant increase in reliability and transparency.

In addition, the traditional Chinese culture of "reporting the good news but not the bad" is still the case today in the statistics sector, so when providing data, officials often tend to publish good news. Of course, this is also true of many governments, but we tend to have less tolerance for critical voices, pessimistic analyses and forecasts, early warnings of crises, etc.

Q. To what extent are China's economic problems the result of fundamental systemic issues?

A. Some policy changes in the last year or two have been too abrupt and have not left enough buffer time for businesses and other stakeholders to make adjustments. There should be a clearer process for the study, formulation or revision, release and implementation of major policies, and more stakeholders should be involved in discussing policy creation, with some policies perhaps even requiring public debate between multiple parties. An example is the banning of extra-curricular education and training. If we had consulted parents and the relevant businesses during the period of revising the regulations, and given a 1-2 year transition period for the regulations to kick in, there would not have been a large number of educational institutions closing down so suddenly, with many parents losing tens of thousands of yuan in advance payments. This is a result of China's institutional shortcomings, and these areas are in dire need of improvement.

From the central to the local level, we are actively improving the business environment, but the formulation and implementation of major policies is also one of the most important aspects of the business environment. If policies are changed overnight, the overall business environment will be hampered, even if we do well in other areas.

Q. What do you see as the prospect of supply chains shifting away from China, and to what extent can they actually shift?

A. There are several reasons for this phenomenon. Firstly, this is the result of the gradual increase in China's level of development. In the early days of reform and opening up, the vast majority of China's industrial chains were at the lowest end of the global division of labor, and after more than 40 years of development, many industries have begun to move gradually to the middle, or even higher levels. Secondly, rising costs in China, including the costs of labor, land and environmental pollution, are all on the rise. Thirdly, there are concerns about geopolitics, including the relationship between China and the United States, and that some industries that are highly dependent on the Chinese market may need to be dispersed to other countries.

But overall, I am not worried about this as much as I am about the continued decoupling of China and the United States in several areas.

Q. The US and China have recently reached a deal with regard to the auditing of listed companies in the US. What are your thoughts on the potential success of the deal and the implications for those listed companies?

A. China's capital markets are still developing slowly, so I think it is in the interests of China and the United States as a whole, and not just Chinese companies, to go public and raise capital in the United States.

> Some policy changes in the last year or two have been too abrupt and have not left enough buffer time for businesses and other stakeholders to make adjustments

From the US point of view, decoupling from China in the financial sector would be a huge loss, as the US profits far more than China from financial sector cooperation. The US economy is highly dependent on the financial sector, which is currently overstretched, and, given China's likely ascent to the number one global economy, without China's involvement it may well be at risk of collapse.

Q. Some economists talk about the need to transfer a significant portion of assets and responsibility from the state to individuals. To what extent do you agree with this statement?

A. This is difficult to implement. Some scholars believe that China, over the last 40 years, has been "a rich country with a poor population," but the situation has improved a little in recent years, especially with the increase in real estate prices. The goal for China's future development should be "a strong country and a rich people," however, in the three years of the pandemic, the government's revenue has fallen to a degree that it will be difficult to give tax cuts to the middle and upper income groups.

Policy changes should make it relatively easy to increase wealth for farmers. Chinese farmers basically have homesteads and land on which to grow food. Although they do not have property rights to their homesteads or houses, if they can determine the number of years of use and increase their levels of trade, we can see a significant increase in the wealth and assets of farmers.

Also, SOEs could consider allowing employees to hold part of the shares, which can increase the wealth of those individuals while potentially improving the productivity of the SOEs themselves.

Q. What are the prospects for China's economy over the next five or 10 years?

A. China's aim by 2035 is to reach a dispersed level of economic development that means the entire country is at the current level of major cities such as Shanghai, Beijing, Guangzhou and Shenzhen. In order for this to come to fruition we will need to see a continued rise and development of Chinese companies as global industry leaders, as we already see in the way that BYD and CATL are prospering.

China will also need to see a continued enhancement of national security policy alongside a significant development in the level of scientific research, a more market-oriented economic system and a business environment on a par with that of developed countries, leading to a fully fledged technological and innovative economy.

The rise of China has in many ways relied on learning from the West, and this will continue to be true, while at the same time the West can now learn some things from China. A developed China will be a boon for the world as a whole, and the country's expertise in things like poverty alleviation will help improve the living standards of people in developing nations around the world.

Interview by Patrick Body

JOBS, JOBS AND ... LESS JOBS?

China is in a unique position where it has both a labor shortage and not enough jobs at the same time

By Seb Murray

Image by Yuyu Zhou

Long-held prejudices against blue-collar jobs are hampering the filling of vacant positions

Mimi Wang looks exactly as you'd imagine someone would after a two-hour class baking bread. Covered in flour, she says, "I was interested in doing a class and the government will reimburse me once I'm finished, so I thought, why not? But I don't have any intention of going into baking as a career."

The 27-year-old, who has a day job in PR at one of China's larger internet firms, is one of many young Chinese taking advantage of government-sponsored vocational courses for fun, rather than for career development. In 2020, the Chinese government introduced a plan to create 35 million vocational skill training opportunities, ranging from baking to childcare, through to e-commerce and programming. But the fact that these courses aren't always being used for their intended purposes is reflective of the currently paradoxical nature of China's labor market.

On one side there is a labor shortage in blue-collar industries, while at the same time, there is a surfeit of unemployed university graduates. The issue is exacerbated by a widespread perception that blue-collar jobs are the inferior choice for any graduate, even though many university leavers have not acquired the requisite skills for the white-collar jobs to which they think they are entitled.

"There is something of a paradox in the labor market, with so many graduates coming out of higher education but being much more selective about the jobs they take up. As a result, there are huge numbers of vacancies in the factory sector," says Lu Feng, director of the China Macroeconomic Research Center at Peking University. "It's a very strange phenomenon."

The rat race

Around 70% of Chinese businesses are currently contending with some kind of labor shortage, and the Ministry of Education estimates that there will be a dearth of 30 million workers by 2025. The issue is particularly acute for those in the country's crucial industrial sector, as it contains 36 of the top 100 occupations with the most severe staffing problems. Countrywide, 55% of businesses report being unable to find enough blue-collar employees.

At the same time, there are record levels of unemployment among China's graduate youth population, with nearly one in five young people out of work, according to official statistics. The youth unemployment rate reached 19.9% in July, far above the overall urban unemployment rate of 5.5%, and up 25% year-on-year. Graduates from rural areas face an even tougher time, they are significantly less likely to be employed than their urban counterparts. This situation is also far worse than in other major economies. For perspective, the youth unemployment rate in the US is 8.1%.

"There is a mismatch between the supply of college graduates and the market demand in China to some degree," says Rockee Zhang, managing director of Randstad China Staffing and Outsourcing.

Although there are a vast number of open positions in factories, long-held prejudices around the quality or worthiness of blue-collar jobs make Chinese graduates reluctant to fill the vacancies. This has resulted in China's seemingly contradictory state of simultaneous labor and job shortages, a paradox that has previously appeared in other labor markets around the world, particularly in recent years thanks to the COVID-19 pandemic.

The market pressures in China were compounded in 2022 when a record 10.8 million graduates entered a cooling labor market. In addition, 2021 saw more than 800,000 Chinese students who graduated from universities overseas return home, further saturating the labor market.

The number of vacancies in companies looking to hire Chinese graduates actually increased by 8% year-on-year in the first quarter of 2022, but the number of applicants far exceeds this and is getting worse—the total number of applications grew by 75%. In mid-April, only about 47% of fresh graduates had received job offers, a substantial drop from nearly 63% in 2021.

The Chinese government has been promoting the country's vocational colleges as a route to resupplying ailing industries

and diverting people away from traditional universities. The sector is expanding, with 2,492 technical colleges in China at year-end 2021, 100 more than two years ago.

The number of new enrollments in higher vocational colleges did increase, but still fell 1 million short of the total available roles they would be expected to fill, and not all vocational graduates are continuing into the roles they are training for. Despite government efforts to boost promotion, the proportion of students in vocational education is actually down overall, with only 35% of students in vocational schools in 2020, down from 60% in 1998.

Rapid expansion

The current imbalance in China's labor market is in many ways the result of the rapid expansion of Chinese higher education since the 1980s when the government initiated reforms to support China's transition from a fully-centrally-planned economy to a more market-based economy. In 1993, the Outline for Education Reform and Development in China report emphasized the need for decentralized operations and management of academic institutions.

Today, China has the biggest higher education sector in the world in terms of total enrollment and degrees awarded every year. In 2020, a total of almost 42 million students were enrolled in 2,738 higher education institutions in China.

While the country now has a large supply of graduates, there is a gap between the skills universities are providing and the skills that industry needs. China produces around two million more STEM graduates per year than any other country, but there is a dearth of manufacturing workers and engineers in particular, which is worsening the pressure on China's factories.

Chinese people generally attach great importance to education as a means of improving their self-worth and economic prospects. But education for the sake of education may not be the right move. "There's a lot of educational inequalities across China, both in terms of availability and quality," says Margit Molnar, head of the China Desk at the OECD's Economics Department. "Many prospective students are not discerning enough about the quality of the institutions they wish to attend."

Molnar adds that Chinese graduates are also often more highly qualified than they are highly educated, pointing to a growing gap in quality between the handful of elite schools at the top and the majority of universities across the country. "The expansion of the tertiary education system also brought about the dilution of quality," she says. "With so many young Chinese graduates entering the system, it's impossible to maintain the same quality of education."

The widespread perception among graduates that factory jobs are inferior to office jobs has been one of the major factors leading to the current the job market situation. Children are told from a young age to dream of becoming a scientist or work in business when they grow up, but none are encouraged to want to work in manufacturing.

Economic reforms in the 1990s led to an increased portion of the labor force working in privately-owned factories, in sweatshop conditions, that led to an overwhelmingly negative impression of manufacturing work. Despite improvements in conditions and pay in the intervening years, many graduates remain unwilling to accept such jobs, having spent so much time and effort on their education.

But these manufacturing jobs have changed dramatically in the intervening years and, given the quality of education received by many of today's graduates, there may need to be some concessions made.

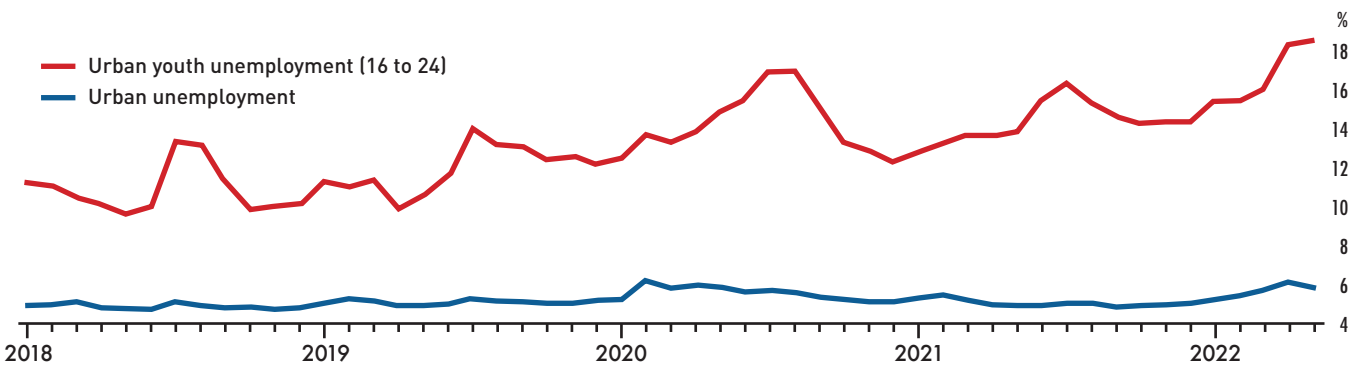
"Graduate expectations in a tough job market are unreasonable," says Julia Zhu, head of recruitment firm Robert Walters' Suzhou office. "But the younger generation doesn't want to compromise, and there is no real push factor for them to do so."

Looking for work

Private sector roles were once coveted by Chinese graduates, but faced with a scarcity of jobs, many are now interested in the more stable, albeit lower-paid, positions in the country's civil service.

According to a survey by the Chinese job-hunting website Zhaopin, some 11.4% of the newly minted graduates in 2022 were looking for jobs in the civil service, double the proportion from the

EVAPORATING EMPLOYMENT | China's unemployment rate, particularly for urban youth, has been rising alongside the country's economic downturn



Source: National Bureau of Statistics of China

year before. But again, these positions are highly competitive, with about 1.6 million applicants sitting 2021's national civil service examination, in a scramble for only 25,726 jobs.

Meanwhile, the percentage of graduates seeking jobs at Chinese state-owned enterprises has increased to 42.5%, from 36% in 2021. Others are considering careers in medicine or education because of the stability provided to those roles thanks to their being government funded.

The graduate employment problem has been exacerbated by strict lockdowns in major Chinese cities. Beijing's zero-COVID strategy diminished companies' ability to absorb new staff. "A lot of companies are cutting headcount in China because of the supply chain shock from the coronavirus lockdowns," says Julia Zhu. "This is a tough job market for graduates."

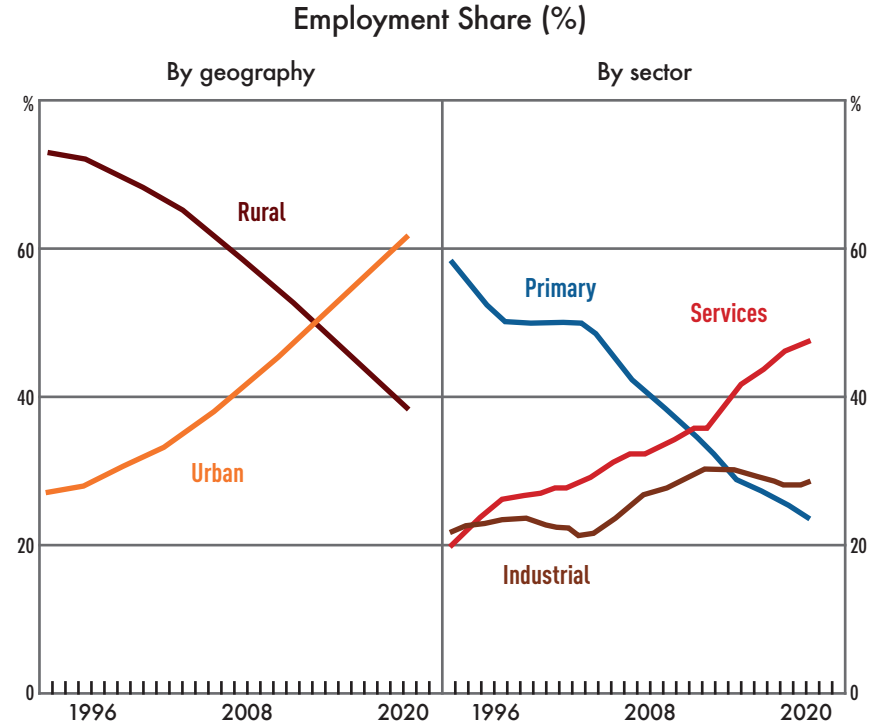
In addition, over the past two years, the government has launched a regulatory crackdown under the common prosperity initiative that has hit the value of technology companies, which until recently were significant employers of Chinese graduates. Chinese tech giants including Alibaba and Tencent have recently conducted widespread layoffs, according to media reports, further enhancing the appeal of more stable civil service jobs.

On top of this, the crackdown on the tutoring industry, in an attempt to ensure equal access to education, wiped out many jobs last year, adding pressure to an already tight labor market. The sector has shed tens of thousands of jobs, with one group, New Oriental, sacking 60,000 staff. Graduates and young people have been disproportionately impacted, as many worked as after-school tutors.

Furthermore, an increase in automation in the private sector has to some extent offset the labor shortage in the manufacturing sector but has also worsened the problems facing young people, as it is expected to lead to job losses. According to the McKinsey Global Institute, up to 31% of working hours in China will be automated by 2030.

"The introduction of artificial intelligence and robotics into the manufacturing sector has very important implications for the youth unemployment rate," says Feng from Peking University. "These digital technologies are expected to replace many workers because they can increase productivity on the factory floor."

CHANGING TIMES | There have been seismic shifts in the makeup of Chinese employment over the last 20 years



Source: CEIC Data

A top economic priority

Outgoing Chinese premier Li Keqiang has made the stability of the graduate employment market a top priority. The country is aiming to enroll 1.4 million students at technical colleges in the coming academic year, up from 1.09 million last year.

While many university leavers are unemployed, vocational college graduates are in high demand. Last year, 97.2% of them were employed, although not necessarily in their areas of expertise.

To make vocational training more attractive to high school students, some Chinese provinces including Shandong and Zhejiang now enable them to skip taking the grueling national Gaokao college entrance exam and go straight into higher vocational education. This is done through the newly introduced Zhongkao, a high school entrance exam taken at age 16, with many who fail ending up in vocational education.

China has the world's largest workforce, numbering close to 900 million people, of whom 350 million are migrant workers. But digitalization and automation mean that many millions of people will need to reskill and sometimes change occupations entirely.

"Overcapacity in traditional industries, transformation, and upgrading of automation has led to more laid-off workers in some fields," says Zhang. "But in the short term, the vocational skills of these workers do not meet the needs of re-employment positions."

Some of this can be attributed to a lack of quality in the courses themselves. An example is 29-year-old Fu Hetong, who works for an energy company in Shanghai and is doing a Classic Coffee Making course for which he will be fully reimbursed by the government once he finishes. "I have no plans to become a full-time barista. I'm just doing it for fun," says Fu. "The curriculum

is not suitable for today's specialty coffee trends anyway."

McKinsey estimates that up to 220 million Chinese workers may need to transition into a new job by 2030, and this will require a lot of retraining. The government wants to ensure that China's entire population has the skills it needs for a post-industrial economy. In mid-2019, it pledged the equivalent of about $14.8 billion to upskill the workforce through subsidies and a large-scale training plan in which 50 million people will receive vocational skills.

"China's next phase of economic development is inseparable from the upgrade of industry, which in turn requires the cooperation of education," says Liu Jing, professor of accounting and associate dean at Cheung Kong Graduate School of Business.

Access to training is especially difficult for China's rural-urban migrants, who numbered 291 million in 2019 and could grow to 331 million in 2030. China's Hukou household registration system restricts access to training programs for many migrants, who are especially susceptible to job losses caused by automation because they tend to work in low-paid and low-skilled jobs. But some provinces have relaxed residency rules for recent graduates, helping them to settle in cities like Shanghai and access training and expand the local talent pool. The city of Zhengzhou has recently scrapped Hukou registration hurdles altogether.

Reflecting fierce competition for talent in some fields, employers are approaching graduates who have the correct skills up to two years before their graduation dates, helped by sweeteners from the government. "Employers who take on fresh graduates can get subsidies, tax breaks and easier loans," says Zhu from Robert Walters.

Many employers have also strengthened their ties to vocational colleges through apprenticeship programs and mentorship schemes that help colleges better understand demands for skills and improve the design of training and strengthen pathways to employment.

In addition, larger firms are retraining graduates once they are employed, to address mismatches between skills and job requirements. McKinsey says the number of corporate "universities" is rising as employers retrain workers to improve productivity.

Many other countries such as Singapore have used immigration as the solution to the problem, especially in the construction sector. An analysis by the World Economic Forum suggests that, even with a stronger vocational training system, at least 4.95 million migrants would be needed annually in China to fill labor shortages.

But the likelihood of this happening in China is extremely small because of government restrictions on immigration.

In some sectors, technological advancements have helped ease various staffing problems. The Chinese working-age population has shrunk by more than 5 million in the past decade as the birth rate fell, worsening the shortage of labor. With wages also rising, many companies have begun to automate jobs in factories, warehouses and the transportation sector as they cannot find enough people to fill them.

"As the population ages, the phenomenon of re-employment in retirement may increase," says Zhang.

No easy solutions

China now has a glut of unemployed graduates, with universities churning out far more degree-holding workers than the slowing Chinese economy can absorb. And while many are seeking shelter in civil service jobs as the private sector has been battered by COVID lockdowns, many graduates still aren't willing to work on factory floors, where there are so many unfilled vacancies.

"Even in the coming years, for young people, the situation looks very grave," says Peking University's Feng. "There is still an oversupply of young labor but there aren't the jobs to match the growth."

Reskilling for millions of workers is required, and the Chinese government is encouraging the expansion of vocational schools and courses, to varying degrees of success. But ultimately, without a change in the national psyche around the perceived superiority of university education and a private sector or civil service job over blue-collar work, the labor mismatch in the country will continue to exist.

"With the qualifications they have, many graduates believe they have the right skills to match the jobs that they aspire to, but that isn't necessarily true," says Molnar. "This has built a perception in many that they are now at a certain level and blue-collar work is now beneath them. This is quite wrong, and a serious issue that China needs to deal with, in order to deal with their labor problems."

With the qualifications they have, many graduates believe they have the right skills to match the jobs that they aspire to, but that isn't necessarily true

Margit Molnar
Head of the China Desk
OECD Economics Department

The China E-commerce Model

The potential for foreign businesses in China's vast e-commerce market is huge, but growth can only be attained strategically

By Frank Lavin, CEO of Export Now

China is arguably the first country in the world to get to the point where everything can be found and purchased online. Whether it's a product or gig-economy services, you can log on to an app and find anything at any time. The country is the most e-commerce-intensive economy in the world, with e-commerce accounting for over 50% of total retail spending in China in 2021, compared to only 13.9% in the US.

Online shopping platforms, such as Alibaba's Tmall and JD.com, are ubiquitous in China and standardized to a degree that reduces the cost and complexity of setting up a shop to a minimum. Admittedly, it is probably not radically different in cost and complexity than setting up on Amazon in the US, but given the size of the Chinese market, the potential for profit in China is unmatched for foreign as well as Chinese companies.

Unsurprisingly, the scale and level of access on offer to individual consumers in every corner of China have led to a considerable number of small- or mid-tier brands from around the world looking to jump into the market. While the act of setting up shop in the market may be simple, there are several issues for a company to consider when shifting from the standard model in its home country, which is bricks and mortar with e-commerce on the side, to China where it is a core pillar of business strategy.

Understanding the landscape

In 2012, there were around 242 million online shoppers in China, but the two largest e-commerce platforms, Tmall and Taobao, both owned by Alibaba, now have around a billion monthly active users. B2C e-commerce sales in China are expected to surpass $1.5 trillion in 2022, with the two Alibaba apps accounting for over 60% of the sales volume. JD.com, which started with a more tech-related set of offerings but now offers a wide range of consumer goods, makes up another 30% of China's e-commerce sales.

But while e-commerce is somewhat of a duopoly, there is no limit to the number of companies that can register to sell their products through those platforms. Around 150,000 vendors are registered on Tmall, and 30,000 international brands are selling into the China market through its sister Tmall Global.

How did China get here?

Much of the original technology behind e-commerce originated outside of China, but there has been something of a leapfrog dynamic in play, with Chinese companies

enhancing various concepts such as online payments and QR codes to create the all-encompassing e-commerce platforms that operate in the country today.

Following World War II, the US and other Western markets developed the basic framework of pre-digital consumer retail, including chain stores and shopping malls. This resulted in the development of national retail distribution systems which were very efficient at supplying the mass market.

With that infrastructure already in place, including the existence of plastic credit and debit cards, e-commerce was slow to add value because there was already a means to access what you wanted quickly and simply. Only over time was e-commerce able to get some traction through offering specialty goods or niche items that were less readily available at local shopping malls—Amazon's books are a good example. China never developed any of this infrastructure to any extent, and so avoided a range of legacy issues and was in a position to leapfrog these Western markets.

The country did, however, have to overcome the prevalence of counterfeit goods. Tmall has done a particularly good job in maintaining brand integrity and authenticity, as you may only sell on the platform if you are the brand owner or an authorized agent. You can still find black or gray market goods in China, but one of the reasons Tmall does so well is that it only sells these authentic products.

Although traditional online vendor-to-consumer transactions are still the dominant model, the big change in the industry over the last two or three years has been the emergence of social commerce, where you can chat with others and get involved with the brands, and can purchase at the same time. There is now a greater mixture of shopping and entertainment, with people going online for news, to connect with people, and to be entertained.

These are dimensions of commercial behavior that the major e-commerce platforms don't fully account for yet, and this is why we have seen a rise in popularity in other apps such as Pinduoduo and Xiaohongshu, which offer a combination of social media, entertainment, live streaming and e-commerce.

Frank Lavin is the CEO of Export Now, a company dedicated to helping consumer brands sell their products in China. Previously he headed the International Trade Administration for the United States Department of Commerce and served as the US Ambassador to Singapore. He is the author of *The Smart Business Guide to China E-Commerce*.

Entering the market

For foreign firms looking to enter China's e-commerce market, it is no longer a geographical question of where to set up shop, the real challenge is more strategic. Most international businesses have only ever grown organically, meaning they just do what they did the year before but on a slightly larger scale—perhaps selling $30 million in product one year, and aiming for $35-$40 million the next. That was the successful approach and the entire DNA of these companies was oriented toward that organic growth model.

Entering China, you have to think about strategic growth instead. This means it is necessary to have an ad campaign that runs well ahead of sales. It's an investment that goes against the regular practice of calibrating ad spending against sales revenue, but without the brand recognition and word-of-mouth in your home market, it's a necessary step.

For several years, your ad spend and your ad spend ratio in China will be worse than it is in your home market because all of the strengths that bolster your ad spend at home don't exist in this new market. Strategic development is a priority and requires something like a three-year budget for China, which maps out spending and sales projections well in advance.

This is nothing new for big conglomerates such as Unilever which bring 20 new brands into China every year. They might give each of these brands a $3 million launch budget to raise awareness ahead of a sales launch. But this is a completely new approach for smaller brands, which might not even have the cash for such a budget. The biggest challenge in launching in the China market is being prepared to take a leap of faith and investing in an ad campaign upfront.

Prospects for foreign firms

The good news is that Chinese consumers are affluent, curious and quite comfortable with international goods. When you show up, they're receptive, open and willing to partake in whatever you are offering. The challenge stems from the fact that China is not only the largest but arguably the most competitive retail market in the world.

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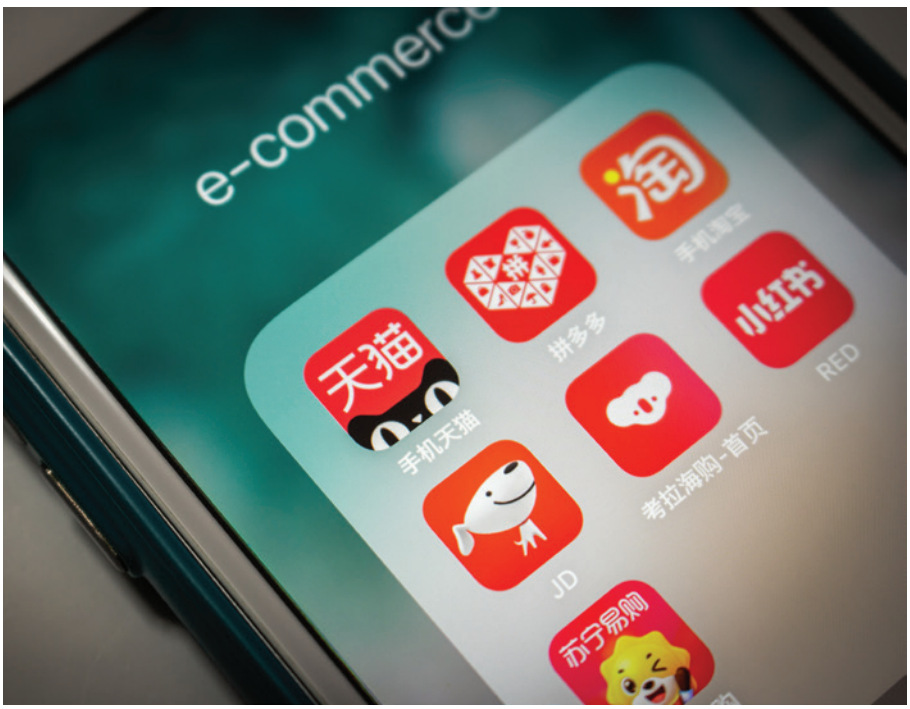
> Although traditional online vendor-to-consumer transactions are still the dominant model, the big change in the industry over the last two or three years has been the emergence of social commerce

There are several differentiating factors in China because of the digitally driven nature of the market, and one of them is that there is a premium on differentiation due to market size, and also on good communication and clear narrative strategy. Some brands have handled this well, but others are much weaker in that regard.

Many of the weaker brands tend to be those that have a dominant position in their home market, simply through longevity or because they were the first mover. They have never really had to do an extraordinary job of communicating with consumers, because of their ubiquity and strong legacy. This is something to respect, but when moving to a new country, it is not something you can rely on. You now have to explain yourself and explain your value proposition to people who didn't grow up with you and your products from childhood.

Take a company selling peanut butter that I worked with as an example. Everybody in the United States grew up with peanut butter, it's a common kitchen condiment and is pretty much found in any household. In China, on the other hand, nobody grew up with peanut butter even though peanuts are certainly an established part of the Chinese diet. This means that the company bringing the product into the country has to explain to the Chinese consumer why it is there and what it can do for them. Is it healthy food? Is it nutritious? Is it part of an affordable lunch?

But because of the ubiquity of peanut butter in the US, the brand had never actually had to answer these questions before. Courting the customer and explaining yourself in China requires more thought than many people assume.



A touch away: Tmall, Taobao and JD.com dominate China's e-commerce sector

Succeeding in the market

A lot of new companies end up dissatisfied after a year or two in the China market, but the main reason is that they did not define what a successful year would look like before entering the market. What are the gross sales, net profit, market share, or growth rate targets to be set? But then, perhaps the correct goals are none of those and what you should be doing is measuring your success in China relative to the whole market, or relative to your domestic competition. Pepsi, for example, would want to make sure they are not being entirely cleaned out by Coke in the China market.

Every company will have a different answer to this question. For many, the first year will be about breaking even, showing that they can resupply properly and their logistics systems work, building consumer sentiment, and maintaining good ratings on the e-commerce platforms. It's a preparatory year. If you sell $1 million of product in the first year, that's respectable and you can step on the gas in year two and push that up to $3-$5 million.

The issue is that a lot of companies don't necessarily have a consensus on what they deem as success. And that means that say you only sell $500,000 worth of product in your first year, crisis talks might be on the horizon.

But that result could still be considered a success. Yes, you spent a lot of money, and perhaps you lost money in that first year, but establishing a half-million-dollar market in China in 12 months is an impressive feat, and implies that you have traction and that something is working. After that, you get data and feedback, so that you can adjust, modify and recalibrate to build on that initial success. It's not perfect, but there is a lot of good news in such a picture, as long as you adequately capitalize on it.

Key issues to keep in mind

China's e-commerce market is remarkably fair, in that there's no discrimination by consumers against products from different countries. Whatever you are selling, you are going to be going head-to-head not just with indigenous brands, but also with all kinds of international competition. The issue is that all of these brands are saying the same things about their products and so you need to set yourself apart. You might be the top dog in your home country but you could be 99th out of 100 in China. You either need to prove your product is better or find a market segment to serve that isn't currently being served.

Secondly, to tell a story that engages the customer, you have to be able to connect effectively with consumers through the new digital formats. There are many ways to do this, for example through advertising, the use of celebrities, or gamification, but whichever option you choose, it has to be based on creativity, good communication, and offering something unique. The authenticity provided by live-streaming demonstrations from your own country is a good example.

The biggest single mistake that foreign brands in China can make is to do nothing different. They don't look at the market, they don't adapt the product or adapt their messaging. There are some attributes of Chinese consumers that are going to be similar to those in your home market, but there are also many others that are different. Chinese consumers might enjoy different flavors or colors, and if purchasing power is high, then perhaps you would want to emphasize your mid-range products over the higher-end. You need to think through how you are behaving in this market to reach as many consumers as you can.

Money first: Launching a product into China requires a huge initial ad spend

Take China's growing coffee market. Consumption is growing rapidly, but per capita consumption is still lower than in Western markets—per capita, Chinese people drink around four cups of coffee a year. Because of this, it is very unlikely that the average home in China will have a coffee maker. With less regular consumption and a lack of coffee machines in homes, there is a much greater skew towards instant coffee or single-serve sachets, compared to beans or ground coffee.

The future of e-commerce

In every country in the world, and every consumer segment, e-commerce continues to gain market share. China has a more robust e-commerce ecosystem than anywhere else, but other countries are going down the same path. Globally, we see a leap in pure-play e-commerce brands, the rise of social commerce, same-day delivery and other aspects of the digital economy that were pioneered or came to maturity in China.

For China specifically, as with all things related to China's economy, predictions for the future are difficult. But a few things seem clear. There will be an evolution of social commerce and these other attributes, meaning the pure traditional play e-commerce platforms like Tmall will see slower growth, whereas there will be more rapid growth of the social commerce platforms like Douyin. The same is true of gamification channels. If you're buying regularly in China, you almost certainly want something more than just a transaction platform, you're looking for a social dimension or a conversation, or some sort of augmented reality or virtual reality to keep you stimulated.

There is now a reasonable awareness and understanding of the China market amongst foreign companies. Some people know it's bigger than the US, but there is a big language gap and a big cultural gap in terms of setting up and being successful. So that is a little bit intimidating for many companies. The key is home-country brand management and integrity and China execution. Then you have the best of both worlds.

Loosening Ties

Rhodium Group director Agatha Kratz discusses the shaky nature of the current EU-China relationship

The relationship between Europe and China has been deteriorating and has particularly suffered since the start of the Russian war in Ukraine. While the tensions are not at the same levels as those in the US-China relationship, there is much to discuss for business leaders, politicians and academics, from both China and Europe, if relations are to get back on track.

Agatha Kratz, director at independent research firm Rhodium Group, believes that at this point, the best that both sides can probably hope for is keeping the relationship from souring further, given profound fault lines between the two partners. She also discusses some of the issues that sparked a degradation in the relationship, current challenges with China research and data, and shifting research priorities.

Q. How would you describe the current state of the China-EU relationship and how has it changed over time?

A. The current relationship is not good, and has been deteriorating quickly in recent years. The inflection point came in 2014-2015, when European businesses started expressing promise fatigue, and pointing to deteriorating business conditions for foreign firms in China—including persistent market access and reciprocity issues. The bigger change, however, occurred in 2019, with the formulation of EU's "three-pronged" position on China (partner, competitor, rival) and the development of a more strategic approach to Beijing. China's sanctions on members of the EU parliament and academics then upended the EU-China "positive agenda," which had relied heavily on the negotiation of the Comprehensive Agreement on Investment (CAI). Recently, actions taken against Lithuania, among other countries, have further ramped up tensions. So, at the moment, I would say the relationship is frosty at best and there isn't too much hope for returning to normal.

Q. To what degree is Europe's stance on China aligned with that of the US?

A. Europe has not fully aligned itself with US policy on China, but it has certainly come to many of the same conclusions as the US in terms of China's policy direction. The EU's reaction is still more centered on the economic realm, less nominally targeted at China, and somewhat more bureaucratic (rather than political), and therefore a bit more limited for the moment, but it comes from the same assessment of a divergent economic model, and deep concerns around China's industrial, tech, self-sufficiency and foreign policies, as well as an increasing protectionism and assertiveness in many fields.

Q. How has the war in Ukraine affected European opinions on China?

A. The war in Ukraine has certainly affected opinions on China in Europe. It is not the main turning point, because so much was already happening, but it is changing perceptions in three main ways. First, by putting Sino-Russian ties under the spotlight. The consolidation of a Russia-China axis is something that is making Europeans, who are now experiencing war on their doorstep, very uneasy.

Second, indirectly and perhaps in a more long-lasting way, the war has reminded everyone in Europe of the cost of excessive dependencies on any one country. Today we're talking about Russia and gas, but countless other European value chains, especially critical ones around green energy, are tied to China. And there is a growing understanding that the de-risking that hadn't happened with Russia, will probably need to happen with China because Europe is currently highly dependent on China for lots of highly critical goods.

Third and finally, is the rising specter of something similar happening in Taiwan, with yet starker consequences.

Q. What are the priorities for each side in terms of their relationship?

A. The priority now is almost just to prevent too much of a downward spiral by keeping the dialogue going and making sure that both sides are speaking to each other on a regular basis. The key here is to ensure that for the big items on the international agenda, from climate to global security, to preventing global food crises, that the EU and China can have a constructive discussion.

Q. What would you say are the biggest barriers for Chinese and European businesses operating in each market at the moment?

A. The European market remains extremely open to Chinese players, much more so than the Chinese market to European ones, in terms of trade, investment and especially procurement. Given the trends I mentioned earlier, the EU has decided to develop instruments to re-level the playing field between European and Chinese firms, and to screen for national security concerns. But the way these instruments are designed is keeping the European market very much open. The aim is to put up barriers where there are concerns about Chinese companies' ability to distort the playing field, but if competition is fair, and the level of reciprocity high, then Chinese players are very much welcome.

Chinese players do however have to manage a crisis of reputation and self-confidence in Europe. It is very possible that some Chinese players might self-censor and not dare to invest in Europe for fear of public scrutiny and the political pushback that might trigger. So there are some political barriers affecting Chinese players' appetite, but the market remains very open to them.

Q. Why has FDI into China been going up when, geopolitically, most countries have been moving away from China? To what extent does Hong Kong play a role in these rising numbers?

A. Hong Kong is a big factor, because of the significant level of round-tripping (namely Chinese companies investing into the Chinese market through Hong Kong subsidiaries). This of course isn't foreign investment as we usually understand it. Another key factor was the high interest rates in China in 2020 and early 2021, which triggered a wave of more speculative (or at least, financially driven) investment into China—channeled through FDI channels or within single companies. Finally, foreign investment into China has become much more concentrated around a few large foreign firms, rather than the diversity of transactions as in the past. So in short, foreign direct investment is still flowing into China, but less so than official numbers would show.

Q. How about FDI going the other way, from China into Europe?

A. That's come down quite drastically, as is the case for all of China's outbound investment, mostly for reasons that have to do with Chinese policy. China's outbound direct investment shot up in the early to mid-2010s, reaching a record high in 2016.

Agatha Kratz is a director at independent research firm Rhodium Group. She heads Rhodium's China corporate advisory team, as well as Rhodium's research on European Union-China relations and China's economic statecraft.

But since then it has receded, mostly because of much stronger capital controls in China. Of course, some of it has to do with policy in recipient countries too. For example, we've seen a very sharp decline in Chinese investment in the US, especially following the start of the trade war. And once again, there might be a level of self-censorship from Chinese players, not daring to go into the European market at the moment for fear of seeing their investment screened or even blocked. But most of the drop started and came from China's policy change around capital flows.

Q. What have been the major results of the current global geopolitical issues on investment and decision-making with regard to China?

A. There are two main reactions that we can observe. First, a "wait and see" attitude among a multitude of smaller foreign

The priority now is almost to prevent too much of a downward spiral by keeping the dialogue going and making sure that both sides are speaking to each other on a regular basis

investors, who are deciding to put China investments on pause before potentially moving to a "China plus one," "two" or "three" strategy in future (rather than leaving altogether, which is still quite rare). The alternative approach comes from a few very large companies, such as the big German automakers, that still have an appetite for the Chinese market, because they know it so well and see huge growth opportunities on the ground. They have good local partners and know local consumers. But because of local policy and geopolitical risks, these companies are doubling down on their investment to localize it more and make it more resilient. This means investing more in local IT infrastructure, local supply chains, local innovation—to respond to Chinese localization and self-sufficiency policies, but also to shelter from geopolitical pressures.

Q. What are the main issues Rhodium is addressing in its research on China now and how does this compare to a few years ago?

A. We're an economics shop, but one of the big changes has been the integration of much more geopolitics into our analysis. We're following US and EU policy ever so closely, because it is a key factor in China-world trade and investment patterns. Second and crucially, we are focusing on analyzing China's macro economic slowdown, something that we could already see happening five years ago. We're trying to understand the structure and timeline of that slowdown, as well as specific effects on individual sectors, industries and businesses, because a wider slowdown does not mean that every sector will contract at the same rate, or even at all.

> "I still believe that the European market is extremely open to Chinese players, much more so than the Chinese market to European players

Q. To what degree does ease of access to data and information on China differ from other countries and has this changed in recent years?

A. Accessing China economic data has gotten harder recently. A key difficulty naturally was not being able to be in China (this is changing finally), which had to be replaced with constant conversations with people on the ground. It's not perfect, but it helps you piece together what is happening. And of course it's also quite hard even for those in China to travel sufficiently, or get relevant access to policymakers.

In terms of data series, we've always known that different Chinese data series had biases and issues. The bigger problem is that some of them are being discontinued, often for political reasons. This is really hard for us because we need that to be able to interpret what's happening, and that's even harder with fewer data series.

Fortunately, a lot of people have invested tremendous amounts of time and energy in developing alternative data series that we are trying to use effectively. These range from alternative, high-frequency indicators of railroad traffic (which we used throughout the pandemic to try and understand if and when consumption was going to pick up), to proxies for trade or construction through single industries. You just need to get more creative, while maintaining as much objectivity as possible.

Q. How do you see the relationship between China and Europe developing over the next five to 10 years?

A. In the past, our job at Rhodium was mostly to tell people what we thought the next five years of China's economic development was going to look like. We had just one main scenario for it, based on our assessment of how much or how little reform we expect to happen. But today, this is not enough any more. Things are moving so fast and so abruptly that it is easier and more helpful to think about China's future in terms of plausible scenarios, and signposts for whether we are moving towards one of them or the others.

The main divide in our scenario is between a reformist China and a (continuously) statist one, to oversimplify. As economists, we don't think statism can work in the long run, without there needing to be a sharp drop in productivity and growth. In a statist scenario, besides, your key economic partners (advanced economies) will continue to push back. This is still our highest probability scenario, and clearly the most pessimistic one.

On the other hand, we also know that at key junctures throughout China's history, Chinese leaders have taken very bold reformational steps. The launch of similar drastic reforms is therefore not out of the question—and with the current growth slowdown, the likelihood of a reformist turn increases slightly. If it were to happen, growth would probably drop in the short term, but longer term you could return to potential growth and a much healthier trendline, both economically and geopolitically.

Interview by Patrick Body

HUAWEI OR THE HIGHWAY

The last few years have not been kind to Huawei and questions remain about how the company moves forward

By Patrick Body

Image by Jason Wong

Operating under US sanctions has become the new norm for Huawei, but income levels from the company's consumer segment are still way down

In August 2022, Huawei founder Ren Zhengfei sent a somber e-mail to all company staff predicting extremely tough times ahead. Having been caught in a growing geopolitical quagmire, Huawei has gone from being the global leader in both telecommunications and smartphone sales only a couple of years ago, to now facing a severely constrained future. Its hopes of matching and beating Apple have been dashed.

"With survival the main principle, marginal businesses will be shrunk and closed, and the chill will be felt by everyone," wrote Ren. "Huawei must reduce any overly optimistic expectations for the future and until 2023 or even 2025, we must make survival the most important guideline." Huawei's revenues peaked at RMB 891 billion in 2020, falling to RMB 636 billion in 2021.

Ren's letter highlights a fundamental shift in the company's outlook, sparked by US sanctions imposed on Huawei citing national security concerns. The sanctions restrict Huawei's access to a wide range of semiconductor chips and banned Google from working with the company, meaning no more access to key Android apps for Huawei smartphones. Other countries have followed the US' lead by imposing restrictions on Huawei's involvement in their 5G telecoms infrastructure.

Huawei's consumer business segment, which includes its smartphones, has suffered the most, with revenue falling by almost 50% between 2020 and 2021, down to RMB 243 billion. But revenue in Huawei's carrier segment, including all telecoms equipment-related business, has remained relatively robust, falling by only around 7% in 2021, thanks to strong domestic support.

Huawei has always denied accusations that it poses a national security threat of any sort. But in the past few years, it has been forced to pivot to new revenue streams to survive. The long-term viability of these new options is yet to be seen, but the company's enterprise segment, home to many of these new ventures, was the only part of the company to boast revenue growth in 2021, rising RMB 2 billion from the year before to a total of RMB 102.44 billion.

"Five years ago, they were a very strong company," says Brady Wang, associate director at Counterpoint, a technology market research firm. "Their technology was among the best and their capital expenditure was very high, meaning their market share was increasing rapidly. But now, unless something changes, there is no way they can get back to that growth."

Huawei's history

Founded in 1987 by Ren Zhengfei, a former Deputy Regimental Head in the People's Liberation Army, Huawei initially manufactured parts for telephone exchanges, expanding over the years into telecommunications equipment production and smartphones.

The company became the world's largest telecoms equipment manufacturer in 2012, overtaking Swedish competitor Ericsson, and for a brief period in mid-2020, it surpassed both Apple and Samsung in the number of smartphones shipped worldwide. The company also manufactures a wide range of consumer electronics.

Huawei has a unique ownership structure and has historically classified itself as a "collective entity, neither a private enterprise nor a state-owned enterprise." The company is not listed on any exchange and says it is an employee-owned company, with founder and CEO Ren owning around 1% of shares, while the rest are managed by a trade union committee—the internal workings and membership of which have never been publicly disclosed.

In late 2019, *The Wall Street Journal* said that over the years Huawei may have had access to as much as $75 billion in various forms of state support: around $46 billion in loans, $25 billion in tax breaks, $1.6 billion in grants and $2 billion in land discounts.

"A lot of the 'help' was from local governments rather than the central government," says Guang Yang, a Beijing-based telecom analyst. "Local governments competed to get Huawei to

locate its R&D or manufacturing facilities in their regions. They often placed their hopes on the fact that Huawei would bring investment, employment, tax income and consumption."

China's state-owned media has also invariably reported on Huawei in positive terms, significantly boosting its brand in the China market. International competitors including Ericsson, Cisco and Nokia have never had any serious share of China's telecoms market.

"As all Chinese telecoms operators are state-owned, the Chinese government has a direct or indirect influence on operators' business decisions and technology choices," adds Yang. "Operators often coordinate their strategies and roadmaps with Huawei, which gives Huawei a solid competitive position in the China market."

By around 2009, Huawei had reached an enviable position in the global market. The company was one of the only Chinese manufacturers that could compete with its Western counterparts and had a massive worldwide presence. It was also very atypical for a Chinese company at that time, in that it paid its staff world-class salaries—at the cost of eye-watering overtime expectations—and derived money from not only low-cost manufacturing, but also cutting-edge R&D.

Blocked numbers

In the early 2010s, security experts in the West started raising concerns over whether Huawei's technologies contained backdoor access that would allow for the secret siphoning-off of data. Then in 2018, Huawei was embroiled in a controversy that saw the company's CFO, Meng Wanzhou, Ren's daughter, detained in Canada, pending US extradition on charges related to Huawei allegedly breaking US sanctions on Iran.

In 2019, at the behest of the Trump administration, the US Bureau of Industry and Security added Huawei to its Entity List—an aggregation of people and companies that the US government deems to be national security risks. At the time, US Secretary of State Mike Pompeo threatened that the US would no longer partner with or share information with countries that adopted Huawei systems. Then in May 2020, the US Commerce Department issued new rules curbing Huawei's access to foreign-made semiconductor chips—vital parts of all telecoms equipment and smartphones.

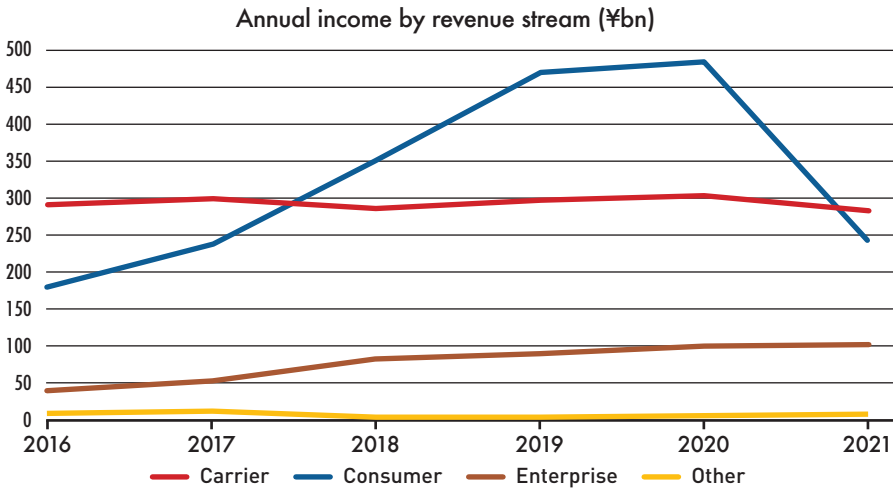
"Huawei was targeted by the US for several reasons," says Tom Nunlist, senior analyst at Trivium China. "These include Iran sanctions-breaking, alleged IP theft, concerns about security risks, power and influence in the 5G space. An aggravating factor with these has always been questions about the company's relationship to the Chinese government."

Once on the Entity List, Huawei was banned from being a customer to US companies selling a wide range of products and software that formed an integral part of Huawei's supply chain.

"Huawei's high 5G equipment performance and technical superiority could not be achieved without US technology," says Stéphane Téral, chief analyst at LightCounting, a telecoms market research firm. "By cutting the access to it, Huawei was forced to find new alternatives."

Since the US blacklisting of Huawei, several other countries have placed bans on Huawei's involvement in their national 5G telecoms infrastructure, crippling its telecoms business in the West. Sweden, the UK and Australia have all announced outright bans, and while New Zealand has not officially banned the company, it has rebuffed multiple bids.

CONSUMER CRASH | Huawei's consumer business was hit hardest by US sanctions, and is unlikely to recover soon



Source: Huawei Annual Reports

Keeping in contact

Telecommunications equipment has been Huawei's most consistent money earner from the beginning. The company developed a reputation for providing cheaper and better versions of equipment and systems produced and often invented by Cisco, Ericsson, and Nokia, including transmission lines and base transceiver stations to connect computers and phone systems.

Despite the business body blows it had been dealt, in 2021 Huawei still outpaced its competitors with a 28% share of the $100 billion global telecoms market, a share it had maintained since 2019. But sales in the China market, where its competitors have no real presence, make up over one-third of that 28%. Removing the China market from the 2021 numbers meant Huawei's market share dropped to 18%, behind Ericsson and Nokia at 20% each.

The China market has always been the heart of Huawei's revenues, and the

domestic market's contribution has been steadily growing for the past 10 years. In 2016, the China market contributed 45% of the company's revenue, but by 2020 this had become 65%. Over the same period, the EMEA share has dropped from 30% to 20%, and the US share has dropped from 8.5% to 4.6%.

"Huawei lost 5G market share in international markets where the ban was in effect," says Téral. "But Huawei's telecoms business should stabilize because the ban only applies to 5G so far."

Africa has offered some respite from overseas market share decline, as the company's components make up around 70% of Africa's 4G network infrastructure. But the continent may not be the answer to the company's revenue problems. Of the company's $105.2 billion in revenue in 2018, only $5.8 billion came from Africa, and adding new African contracts might prove difficult.

"They can maintain their current business in Africa," says Wang. "Those countries won't remove the Huawei equipment like the UK or other European countries did, but they won't choose Huawei as a future solution. If you were the decision maker in South Africa, for example, why would you choose a company that couldn't necessarily guarantee improvements in technology for future projects?"

Down the pan

Huawei's smartphone business has faced an even greater downturn. In Q2 2020, the company topped global charts with a 20% share of smartphone shipments, but by Q1 2021 it had plummeted to just 4%. Due to the sanctions, Huawei's equipment has become increasingly outdated and consumer sentiment has cratered. A once potentially cool brand is now very much tainted by the company's constant controversies.

"Huawei's smartphone business has been almost destroyed," says Yang. "Currently, they can only use the Qualcomm chipset to produce 4G smartphones, which are no longer competitive in the market."

Also, they can no longer ship their handsets with Google-owned applications pre-installed, since they are now unable to work with the company. This means no access to the fundamentals of Android smartphones, such as Gmail, Google Drive and the Google Play Store itself, the key point of access for a host of other major apps.

"Without proper access to Android, the company's smartphone business has suffered," says Wang. "They have produced an alternative operating system, but for the most part that has been applied to the company's Internet of Things (IoT) devices rather than its smartphones."

Huawei's smartphone sales have also crashed domestically, unlike the telecoms business. Without access to Android or the necessary chips, the company was forced to sell HONOR, its erstwhile budget brand, to a consortium of buyers including the Shenzhen government in 2020. The sale nearly doubled Huawei's 2021 profits, but the step back from the smartphone market will dent the company's future revenues. Ironically, HONOR now sits atop the Chinese market, with a 20% market share in H1 2022.

Internal strife

Even though the company is not in immediate danger of collapse, the view of the future from within seems bleak. Ren Zhengfei's recent letter reflects the gloom, and there have been job cuts, an exodus of talent in foreign countries and motivational issues.

"In Europe, there was a clear hierarchy in company operations," says an ex-Huawei staff member who wished to remain anonymous. "Where I worked in Germany, only the Chinese staff that had been hired in China and sent out to Europe made the decisions or were in line for promotions. There was always a Western counterpart for each job, but they were just a face. As a non-Chinese, you were expected to work incredibly hard, but with no real prospect of a reward for that effort. So why would you stay?"

The lack of solid direction appears to be having an impact on Huawei staff in China, too.

"It's very stressful here with all of the teams losing people, and everyone who remains is expected to pick up the slack," says a China-based Huawei employee. "I work on a team that is handling a product the company is pivoting towards and even we have lost people, so I dread to think of the stress on the teams in areas getting downsized."

Rising from the ashes

In September 2021, three years after her original detention, the company CFO Meng Wanzhou was released from custody in Canada, having agreed to a deal with the US Department of Justice in which she admitted that she had made untrue statements concerning the company's business in Iran. Meng immediately returned to China, and just hours later two Canadians, Michael Spavor and Michael Korvig, whose arrests were seen as a retaliation to Meng's in China, were released from jail and returned to Canada.

The resolution of the Meng issue marked a turning point for Huawei. How successful its diversification effort will be is not yet clear, and CEO Ren recently called for employee input into the new direction of the company. But Huawei is already searching for its new course, and presumably has the cash to do it after so many years of profit.

"Huawei is one of only six companies in the world to spend over $20 billion in R&D per year," says Téral. "The company is exploring many fields with fundamental research while trying to stay ahead of the curve in telecommunications with an articulated vision of 6G."

In August 2019, Huawei officially unveiled a new unified operating system, HarmonyOS, which had been originally slated for use only in the company's IoT products. But the problems with Android pushed them to extend its use to phones, tablets and smartwatches as well. The shipment of products using HarmonyOS has reached 330 million units, with over 115 million units shipped in 2021 alone, the company has said. IoT device sales in general clocked up a 65% year-on-year increase in sales in 2021 and raised RMB 891.4 billion ($136.4 billion).

"So far, the HarmonyOS has succeeded in China's IoT market to some extent, such as in connected home appliances," says Yang. "But there is still a long way to go."

Huawei Cloud, which provides industry-focused integrated hardware and software, linking IoT devices, computers, and other hardware together, is also a source of hope for the company. The Huawei Cloud suite includes internet hosting, virtual private networks (VPNs), databases, data storage, AI products and analytics services, among others.

While the company's sales and revenue have been in decline overall, sales at its enterprise division, which includes cloud computing services, jumped by 28% in the first half of 2022. Hunter Shao, Huawei Cloud's Asia-Pacific vice president of industry development, told ZDNet the company was aiming "to be amongst the top three cloud providers worldwide within the next three years."

Huawei has also stepped up efforts to raise cash through licensing arrangements with domestic companies—the company has been charging patent fees worldwide for years. It currently holds over 110,000 patents related to gaming, smartphones and wi-fi-enabled devices, among others.

Over the past five years, more than 2 billion smartphones have been produced using licenses to Huawei's 4G and 5G technology. There are also about 8 million internet-connected vehicles using licensed Huawei technology and over 260 companies in the video game sector—accounting for 1 billion devices—have made use of licenses from the Huawei patent pool.

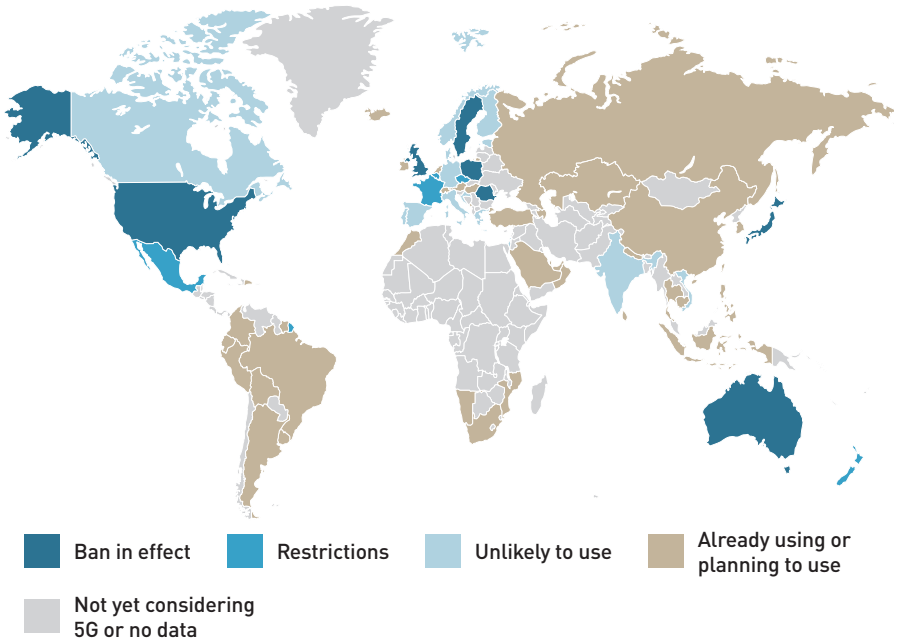
"They have stepped up their licensing deals recently," says Brady Wang. "But the actual amount of money it brings in to the company isn't that high, it is nowhere near what they lost from smartphones, for example." The company made around $600 million through patent licensing in Q1 2021.

In 2021, the Asia-Pacific was the fastest-growing region for Huawei's cloud business outside of China, and Huawei declares itself to be bullish about prospects there. The region is in the midst of a digital transformation, and has an enormous population and a high level of digital acceptance, making it an important strategic market. The company accounts for 31.7% of Indonesia's telecoms equipment market and has branched out into telecoms staff training in the country. Also, in mid-2022 it signed a $100 million infrastructure deal with the Solomon Islands.

"Countries in Southeast Asia, Latin America and the Middle East with a relatively large population base and a not too low GDP per capita will be priorities for Huawei to grow its carrier network business and new businesses such as Huawei Cloud," says Yang.

TO G OR NOT TO G?

An increasing number of countries are putting restrictions on the installation of Huawei 5G infrastructure



Source: CFR Research

Here for the long term

Huawei has experienced a spectacular change in fortunes over the past five years. The company has gone from an unstoppable force to now trying to prove that they are an immovable object. Its telecommunications equipment business has been hit hard by sanctions in the West, but ongoing, albeit low-margin, contracts in Africa, the promise of new options in Southeast Asia and Huawei's deep domestic integration mean that it will survive, although probably not as profitably as before.

The company's other core business of smartphones, however, has been decimated, and Huawei has pivoted to new products and services to recoup lost ground, but how successful this will be is as yet unclear. "The world has become so unstable and divided that it's difficult to say what avenue will be successful at this point," says Téral. "At least, Huawei has its domestic market to start implementing new ideas and gain economies of scale and scope."

But as long as the company stays in the good graces of the Chinese Communist Party (CCP), its future in some form is secure.

"As a Chinese private company, CCP support is critical for Huawei's survival in the current situation," says Guang Yang. "If the support can be maintained, Huawei can keep its share in the huge domestic market, guaranteeing Huawei's survival."

Stéphane Téral agrees. "China is vital for Huawei's survival and future development," says Téral. "Without its domestic market, Huawei would be dead by now."

CKGSB BUSINESS CONDITIONS INDEX

Tough Times Ahead

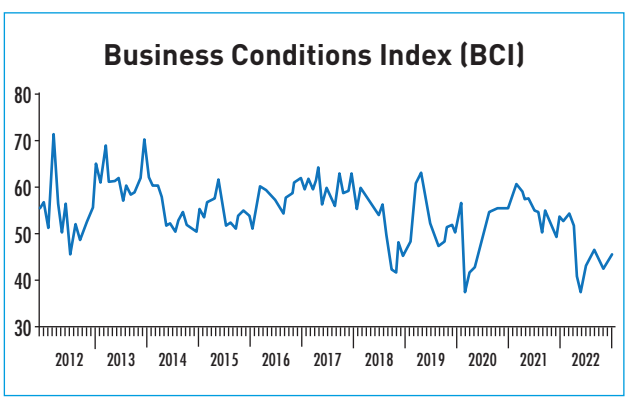
CKGSB's Business Conditions Index, reflecting confidence levels in China business, shows the Chinese economy remains in a depressed state

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

In December 2022, the CKGSB Business Conditions Index (BCI) registered 45.2 from 43.4 in November, a minor rebound, while still below the confidence threshold of 50.0. Albeit small, the possibility of improvement gives hope that company leaders are turning more optimistic about the upcoming six months of doing business in China.

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

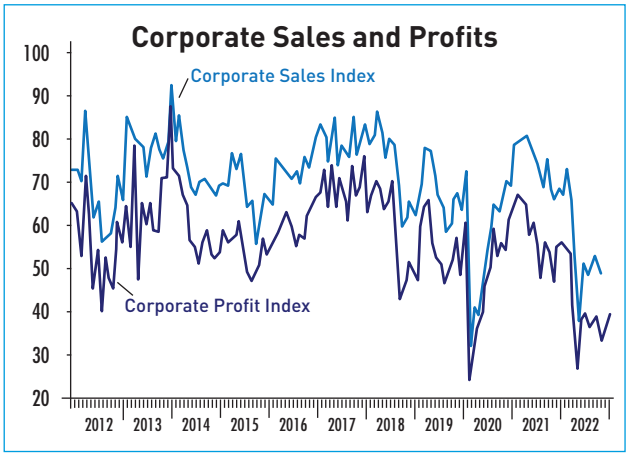
- The Chinese economy is in a depressed state and the BCI has remained below the confidence threshold for months
- The corporate sales index moved back to above the confidence threshold, reaching 50.3
- The downturn in the BCI, investment and recruitment indicates that China has a need to stimulate economic growth through continued reform

Analysis

The CKGSB BCI comprises four sub-indices: corporate sales, corporate profits, corporate financing environment and inventory levels. Three measure future prospects and one, the corporate financing index, measures current business conditions. In December 2022, these sub-indices performed as follows:

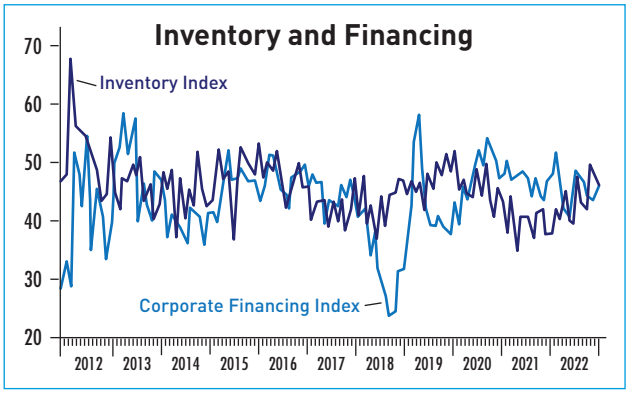
Of these, three rose and one fell this month. The corporate sales index went up marginally from 49.4 to 50.3, and the corporate profit index rose from 33.4 to 38.9.

Corporate financing prospects rose slightly from 44.0 to 45.9 this month. December saw the inventory outlook fall from 49.4 to 46.2. On these two counts, the surveyed companies

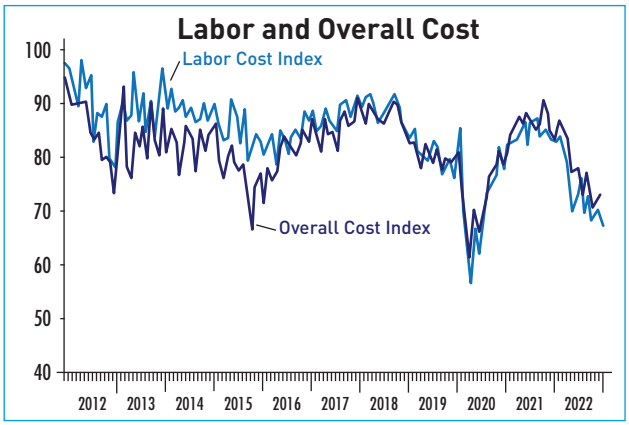


have shown a persistently negative outlook, and this month does nothing to buck the trend.

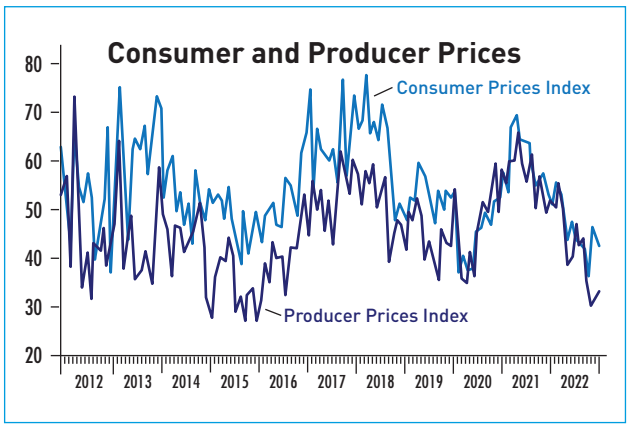
Aside from the main BCI, we also forecast costs, prices, investment and recruitment demand over the next six months.



The CKGSB BCI labor cost forecast fell from 69.5 to 67.5. Overall costs expectations carried on growing from 71.3 to 72.5. Turning to prices, consumer price expectations fell, with the index shifting downwards from 46.4 to 43.0. The producer price forecast headed in the opposite direction, rebounding from 30.7 to 32.7.

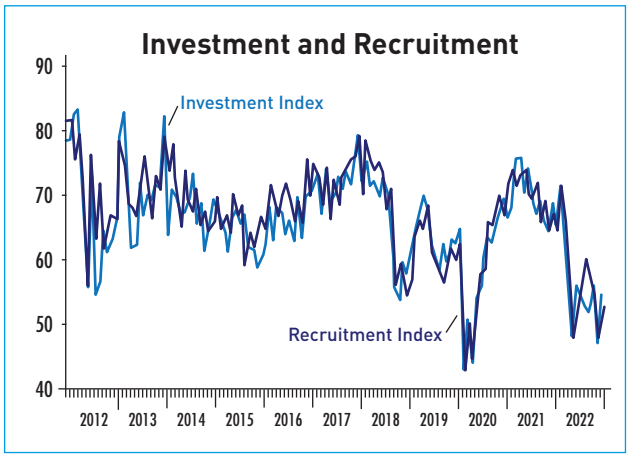


We now turn to investment and recruitment. These indices have both been at the more confident end of the scale since the BCI began. In the past few months, they trended downwards, now hovering at the confidence threshold. Confidence in investment prospects pushed above the confidence threshold, scoring 54.0, from 47.9 last month, and recruitment confidence fell from 48.2 to 52.1.



Conclusion

It has been 44 years since the reform period began. China has experienced countless setbacks and bright moments, but has recently fallen into a quagmire, as evidenced by our index, with the overall BCI for December 2022 at 45.2. Albeit slightly up on last month, this is very weak and in recent months, the Chinese economy has been noticeably depressed.



What's more, the BCI has hovered below the confidence threshold of 50.0 for months now. No matter what the growth target is for next year, the only way to get out of the current predicament is to deepen the reform and opening up process. Innovating through the current quagmire is key to shifting the economy in a positive direction, and also the only way to make a success of the current situation. Of this, the author has no doubt.

CKGSB CASE STUDY

Alibaba vs JD.com: Products at your fingertips

The rivalry between China's e-commerce giants has been a constant in the market, despite their different development models

By Li Wei, Professor of Economics, CKGSB and
Chen Jian, Assistant Director of the Case Center, CKGSB

On Single's Day 2021, China's largest online shopping festival, e-commerce app Tmall's gross transaction volume reached RMB 540 billion ($79 billion), a year-on-year increase of 8.5%, while rival JD.com grew even faster at 28.6% to reach RMB 349 billion ($51 billion). Competition this intense and long-lasting has both defined and stimulated the largest e-commerce market in the world.

Interestingly, while the revenues of the two players are almost at the same level, with JD.com's exceeding Alibaba's by just over RMB 100 million in 2021, Alibaba made ten times the net profit of JD.com, with twice as many active users. This case study will look at how Alibaba and JD.com have carved out their successes over the last two decades, despite distinct differences in their models.

The "flywheel effect"

The "flywheel effect," first coined by business author Jim Collins in his book *Good to Great*, provides a reference tool to understand the business models of Alibaba and JD.com. The effect refers to when a series of small successes build on each other over time, providing the momentum to grow a business, just as a flywheel provides momentum in an engine.

The rise of Taobao

Alibaba established its first consumer-to-consumer (C2C) e-commerce platform, Taobao, in 2003. The platform, which allows individuals and small business owners to sell their products by setting up their own stores on the platform, was the initial stimulus for Alibaba's future "flywheel" expansion. The company subsequently launched Alipay later that year, which provided an efficient and safe method for individuals to send and receive payments. A year later, Alibaba also established the communication software Aliwangwang to enable users to communicate with Taobao sellers.

Taobao managed to carve out a unique space in the Chinese market by offering niche and personalized products on its platform. By 2005, Taobao's annual turnover exceeded RMB 8 billion, surpassing that of Walmart China. Taobao also overtook Yahoo! Japan in terms of its number of transactions and the quantity of products on its platform, becoming Asia's largest online shopping platform.

JD.com and SARS

In 2002, at a time when Alibaba occupied half of China's e-commerce market, JD.com Multimedia (later to become JD.com) began to emerge in Zhongguancun, Beijing's technology hub, as a dealer in tech products including hard drives. But just as JD.com's founder and erstwhile CEO, Liu Qiangdong, was planning the company's expansion, the SARS virus broke out in China.

Beijing was one of the hardest hit areas, with almost all stores in the city having to halt operations. In response, Liu moved his business online, and by the time the economy reopened, JD.com had established itself as an online brand that offered high quality, low prices and fast delivery. Liu then closed the company's offline stores and placed his faith in the online business.

The C2C model, pioneered by Taobao, was becoming increasingly popular as it meant that intermediary platforms did not need to transport goods themselves nor build warehouses. As long as there is a protection guarantee on customers' orders and the platform provides a relatively good user experience, the intermediary can earn commission without any operational or inventory risk.

Liu and his team at JD.com eschewed the C2C model, as its main products were computers, communications and consumer electronics equipment, which often required after-sales service. This meant that control of pricing, product quality and services were fundamental. For this reason, Liu chose to launch the platform

with a business-to-consumer (B2C) model in 2004 under the name JD Multimedia. By June 2007, annual sales had reached RMB 360 million and since then JD.com has dominated the B2C e-commerce field.

Starting the wheel

Alibaba and JD.com took different approaches to getting the flywheel started.

Alibaba constructed a network of merchants and consumers but did not deal with or own the rights to any of the products on their platform. It acted as an "information intermediary" whereby the more information the platform obtains, the more successful the platform is.

The platform earns a profit from transaction commissions and advertising; as Alibaba's user base grows, it was able to reduce the transaction fees it charges. Four years after its establishment, Taobao had expanded to an annual volume exceeding 16.9 billion transactions, its registered users had reached 30 million and the range of goods on offer had expanded to include digital products, cosmetics, virtual goods, jewelry and apparel.

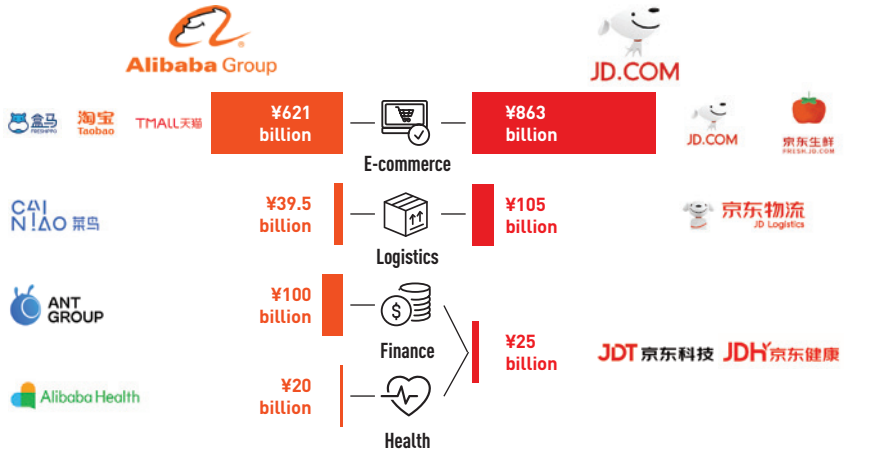
JD.com, on the other hand, positioned itself as a "merchant intermediary," where it profits from the price difference between product procurement and product sales. The company is more focused on the development of gross profit margins, asset turnover and product quality. The company also takes responsibility for inventory risks and costs.

In 2010, JD.com's business model shifted from being the sole seller, to providing space on its platform for third-party sellers, and an expanded product range. It started with book sales which gradually branched out into other categories including apparel, daily necessities and luxury products. Since then, JD.com has developed online music, travel, grocery delivery and health platforms.

According to JD.com's financial reports, in 2020 the platform had 5 million stock-keeping units (SKU), which are used by retailers to differentiate products and track inventory levels. In comparison, US retail giant Walmart, has less than 30,000 SKU and Costco only 4,000.

HEAD-TO-HEAD

The majority of Alibaba and JD.com's operating income in 2021 stemmed from their core e-commerce businesses



Source: CKGSB

Alibaba's revenue structure

Alibaba's largest revenue generator is its advertising business, run by subsidiary Alimama. Launched in 2010, Alimama was an instant success, surpassing Baidu as China's largest advertising platform after just a year.

In 2021, commercial transactions, including advertising, accounted for 87% of Alibaba's total revenue. This includes its retail business (Tmall and Taobao), its international business, wholesale, its logistics business (Cainiao) and local services. The remaining revenue stems from cloud computing, media and entertainment and its digital business. Within commercial transactions, retail contributed 66% of the total revenue. Moreover, within retail itself, 30% of the revenue came from advertising and 12% from commissions.

JD.com's revenue structure

According to JD.com's financial reports, the company's main sources of revenue are two-fold: first is the income from the products it sells on its platform; the second is the services it provides including fees from third-party merchants who use its platform, advertising and logistics services. Around 90% of JD.com's revenue comes from its self-operated businesses, which is in stark contrast to Alibaba.

Alibaba's traffic expansion

After Taobao's success, Jack Ma decided to expand into the B2C market. In April 2008, he established Tmall, a platform for third-party brands and retailers, enabling them to sell their products either directly or indirectly through franchised stores.

With Tmall, Alibaba took greater responsibility for quality control of its products with the aim to address the authenticity issues often associated with Taobao. In comparison to Taobao, which profits from transaction fees and advertising, Tmall enables Alibaba to obtain revenue from a wider scope of channels, including set-up fees, sales commissions, warehousing, optional delivery services and online marketing services.

Then in April 2010, Alibaba started to expand overseas with the launch of AliExpress—an online platform which allows businesses in China to sell to international consumers.

Alibaba was also exploring internet finance, thanks to the popularity of Alipay as a payment method for Taobao. In March 2013, Alibaba announced the establishment of a microfinance service group, which would go on to become the Ant Group. Ant Group lowered the entry threshold and cost for consumers and small businesses, integrating them into a financial ecosystem

Selling at scale: JD.com offers one of the widest product ranges globally

which covers credit and insurance services.

To add to its e-commerce ecosystem, Alibaba launched Cainiao Smart Logistics Network in 2013 to integrate logistics with smart supply chain management. Cainiao allowed Taobao to increase the efficiency of its returns capabilities and operate a "seven day free return" policy. By 2020, Cainiao was providing warehouse storage, express delivery and smart supply chain solutions to Alibaba, shipping more than 4 million parcels daily to 200 million monthly users.

More recently, Alibaba has moved into lifestyle services, purchasing the food delivery company Ele.me, which it merged with its own brand Koubei in 2018.

JD.com's traffic expansion

A big step in JD.com's expansion was the development of its own logistics network. Logistical services in China were not well-developed prior to 2007, when JD.com was using relatively unreliable third-party companies to deliver its products. JD.com developed its own delivery network in July 2007 which stretched across Beijing, Shanghai and Guangzhou, covering an area of 50,000 square kilometers. It also developed its own warehouse management system in 2010.

After JD.com allowed third-party merchants on its platform and expanded its product range, both the number of brands and users on its platform increased significantly. Brands were drawn to the platform due to the flexibility it offered. They could either ask JD.com to operate their online store for them or they could operate the store themselves and use JD.com's distribution network. Recently, JD.com has expanded its logistical services further, now offering warehousing, distribution and after-sales services. JD.com Logistics has become so successful that in May 2021 it was spun-off from JD.com, and went public with an IPO in Hong Kong.

Another important step for JD.com was the expansion of its financial services business. JD.com Finance, later renamed JD.com Digits, was established in 2013, offering financial services to consumers and small companies including loans, payment solutions, asset management and crowdfunding. JD.com Digits also assists self-operating suppliers and third-party merchants with purchasing, warehousing and processing settlement guarantee funds. Through supply-chain finance, JD.com Digits has mitigated the long-existing problem of financial risk in physical supply chains. Getting closer to suppliers has increased JD.com's supply-chain efficiency.

JD.com has not relied on procuring products at low prices from suppliers to increase revenue. Instead, the company has created an integrated supply chain—reducing losses, increasing inventory turnover, and thereby reducing costs. According to JD.com's financial reports, its fulfillment costs declined to approximately 6% in 2021. JD.com's inventory turnover has also shrunk from 50 days in 2011 to 28 days in the first half of 2021.

The new era of retail

While both Alibaba and JD.com have enjoyed the huge profits of the e-commerce industry over the past two decades, they are now striving to veer away from their "e-commerce-dependent" growth models, and branch out into other areas.

In 2016, Jack Ma proposed the concept of "new retail"—the idea that the era of pure e-commerce was coming to an end. Within a year, JD.com had also proposed the idea of "borderless retail," with Xu Lei, the company's current CEO, saying in 2017 that everything from consumers to supply chains to marketing are all going through major transformations.

Thanks to this transition, the growth rate of pure e-commerce has decreased in recent years. In early 2019, Daniel Zhang, the current CEO of Alibaba, made it clear in a letter to stakeholders that the company would move into new areas such as international expansion, Big Data and cloud computing.

Liu Qiangdong from JD.com said, "the nature of retail has never changed—it has always been about costs, efficiency and user experience. But as technology develops and consumption upgrades, the type of value created changes. In the future, JD.com will focus on service infrastructure and will provide Retail as a Service (RaaS) solutions to the whole of society."

The history of these two companies shows the 'growth flywheel' in operation. Alibaba essentially works as an "information intermediary," whilst JD.com is more of a typical "merchant intermediary." It is this fundamental difference in their e-commerce business models which gave birth to their individual distinctive flywheel structures, and which has led to the nearly two-decade-long rivalry between the two. Who will lose out, or can these two companies both continue their growth? Only time will tell.

LIQUID DIPLOMACY

Baijiu has been an integral part of Chinese culture for centuries, but manufacturers need to attract a new generation to the drink

By Mable-Ann Chang

Baijiu manufacturers have their work cut out for them before they can make significant inroads in markets abroad

Looking up from a menu in the corner of a bustling Beijing bar, Jiang Xianjia considers her options. "I don't drink baijiu if I have the choice," says the 26-year-old graphic designer. "It's sometimes offered to me at work functions, but I steer clear of it as much as possible. It's just much too strong."

Despite mostly being limited to China, the many variants of baijiu, a clear grain-based alcohol similar to vodka, are some of the most consumed liquors in the world, with over 5 billion liters drunk each year. They have been the mainstay at celebrations, business dinners, and government events throughout Chinese history. But in recent years, the country's older drinkers have been eschewing the liquor, and baijiu's billion-dollar manufacturers are looking to younger drinkers like Jiang to make up for falling sales.

"Through the ages, regardless of whether you drink baijiu or not, everyone has a connection to baijiu," says Lei Zhou, CEO of Cason Shanghai Brand Management, manufacturer of BYJOY Baijiu, which focuses on marketing Baijiu to Chinese youth. "It's a product that represents Chinese culture."

But young people in China today are being presented with a wide choice of alcohol options from around the world, and the baijiu drunk by their parents doesn't necessarily fit with their current lifestyles. So baijiu manufacturers are being forced to find a way to connect with this new demographic in a way that it has never had to before.

From releasing baijiu-flavored ice cream to promoting the drink in anime series, companies in the industry are trying different ways of making the drink more appealing to the up-and-coming generation of drinkers in China, but it has yet to have much impact.

Distilled for centuries

The word baijiu covers a diverse range of Chinese grain spirits distilled mainly from fermented sorghum, rice, wheat, corn, millet or barley. The clear liquor is traditionally taken in small shots, and not slowly sipped, as you would do with whiskey.

Production techniques differ significantly based on region, with different types of baijiu being classified according to the aroma. Presently, there are at least 12 recognized aroma types, including strong, light and rice. The most popular and widely produced is the strong aroma, which has a fiery and fruity taste and has regional ties to the country's largest alcohol-producing province of Sichuan in the southwest and the eastern provinces of Jiangsu and Anhui.

The distillation technology required to produce modern-day baijiu appeared in China as early as the Yuan Dynasty (1271-1368AD). Prior to this, Chinese alcohol was weaker and had more in common with European wine than hard liquor. Thanks to its long history, baijiu has become China's national drink and now plays a significant role in the country's culture. It is traditionally the drink of choice for everything from wedding receptions and business dinners to milestone birthdays and is also considered a gift suitable for many occasions.

"In serving the fine alcohol, hosts demonstrate generosity, and in consuming these drinks a guest shows their gratitude and respect," says Derek Sandhaus, Co-founder of Ming River Baijiu and Author of *Drunk in China: Baijiu and the World's Oldest Drinking Culture*. "I like to think of a baijiu drinking session in China as playing a similar role that a trust fall plays in Western team-building exercises: It is a time when one is forced to let down one's guard and demonstrate a willingness to take on a shared risk."

"The social attribute it provides is very strong and it acts as a social lubricant," says Zhou. "It encourages people to communicate and discuss things, and is something that is considered integral to business dinners."

A blend

The global baijiu market is valued at $893 billion and is expected to continue to grow to reach $1.1 trillion by the end of 2026, according to a Baijiu Analysis Market Report by US-based market researcher OG Analysis. But despite the massive size

of the market, it is still relatively unheard of outside of East Asia and has yet to gain international traction in the way that vodka, tequila and whiskey have. The vast majority of baijiu sales are still made in China.

"The overseas market share for Chinese liquor is almost nil," says Zhou. "There are some exports, but the distribution is mostly in Hong Kong and Southeast Asian countries. And what is exported is mainly consumed by Chinese people."

Each major brand of baijiu in China is also famous for its distinct aroma and there are both low- and high-end options available, meaning the industry is quite fragmented. China recorded a total of 1,040 baijiu manufacturers in 2020, with the top ten enterprises estimated to account for around 10.25% of the production market share.

Moutai, the baijiu brand of partially state-owned Kweichow Moutai, topped the market with a valuation of $500 billion in 2021. Kweichow Moutai surpassed London-based multinational Diageo to become the world's biggest liquor producer in 2017, and as a company is worth more than Toyota, Nike or Disney. Sichuan-province-based Wuliangye came in second with a value of $144 billion.

High-end baijiu typically costs more than RMB 1,000 ($145) per 500-750ml bottle, but some bottles of Moutai can sell for up to $20,000. At the other end of the spectrum, low-end baijiu can go for less than RMB 30 ($4.3) a bottle and is generally aimed at the working class. The market for low-end baijiu is significantly more competitive and is dominated by brands including Jiang Xiaobai, Niulan Shan and Er Guo Tou, according to a report by O2Omind, which monitors online liquor sales.

Sobering up

As the Chinese economy has grown, Chinese consumers' purchasing power and desire for luxury products have increased. In response, the baijiu market has been driven by a premiumization of the product. This has resulted in a rise in sales revenues despite yearly sales volumes declining. In 2019, around 7.56 billion liters of baijiu were sold in China, down from 8.55 liters in 2018.

"With the increased purchasing power of Chinese consumers, distilleries began creating more and more expensive blends of their products, and built national brands around these products," says Sandhaus. "Baijiu for the first time became a high-end luxury product and certain brands became status symbols favored by wealthy business people. It has acquired associations with conspicuous spending and overindulgence."

Historically, the main consumers of baijiu have been middle-aged businessmen and government officials. But in an effort to curb corruption, Chinese leader Xi Jinping began prohibiting alcohol at government meetings in 2012 and older people now generally consume less baijiu due to health concerns or retirement. Nowadays, younger people are not taking up the mantle in the way that their predecessors did. In 2021, just 14% of 18- to 22-year-olds reported having drunk Baijiu in the last six months, compared to double that for those between 37 and 40.

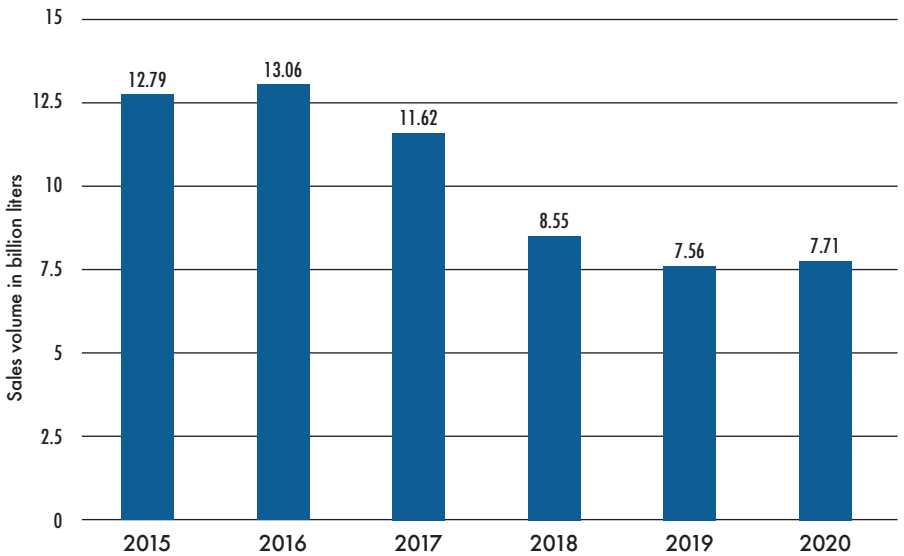
Pick your poison

A lack of cultural significance among younger consumers, less gifting of the drink as a status symbol, and consumers now having a host of alternative forms of alcohol that they not only have access to, but can afford, have all played a role in the diminishing sales of baijiu in recent years.

There has been a big shift in mindset among young 20- and 30-year-olds born under China's One-Child Policy. Drinking has become more about pleasure rather than building business relationships, which means brands need to find innovative ways to cater to this audience's tastes and needs.

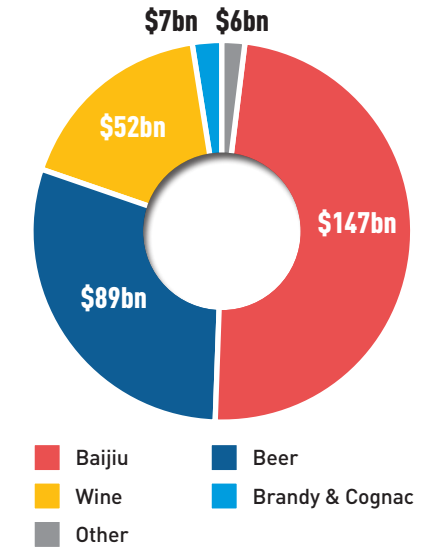
BASKING IN BAIJIU

Sales volumes of baijiu are dropping, but thanks to premiumization it remains the most valuable alcoholic drink sold in China

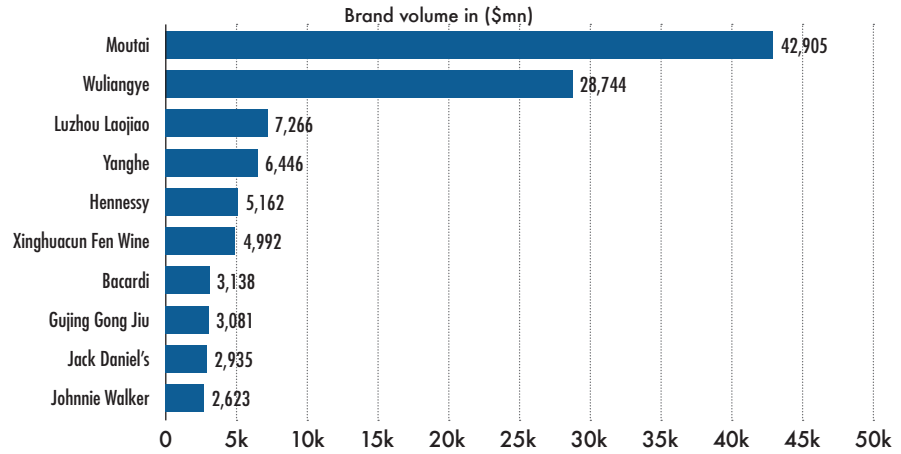


Source: Euromonitor International

Value of Alcoholic Drinks Sold in China, 2020



SILENT DOMINANCE | Although unknown to most people outside of China, Baijiu brands are exceedingly valuable



Source: Diageo

"Young people drink now to socialize and for the experience, not necessarily to get drunk," says 29-year-old Peiqi Yao, who works in the finance sector in Nanjing. "Many young people prefer ordering fruity cocktails or beer in bars because it's something you can enjoy. It tastes better and has a lower percentage of alcohol. If people are eating in a restaurant, they are likely to order beer or cocktails instead of baijiu."

Many big baijiu brands have also become too expensive for young consumers' pockets. Compared to other strong liquors available on the market, the price of baijiu is considered relatively high. High-end baijiu is more attractive to their parents, who still view it as an important status symbol when hosting important guests.

"I remember seeing older members of my family receiving bottles of baijiu as gifts when I was a child," says Jiang. "It was always seen as a respectable gift to give because it's so expensive. But when I look at what my friends and I gift each other, I have never seen a bottle of baijiu being given. It seems like such a strange gift now and the bottles are so big that we'd never be able to finish one on our own."

With young Chinese consumers now having a seemingly unlimited range of alternatives, baijiu is next to never the drink of choice for them.

"This is unlike 10-20 years ago," says Zhou. "People did not really have much of a choice then. Consumers now have more options and youngsters' demands are growing."

Craig Butler, Co-founder and CEO of baijiu producer Baijiu Society in the United Kingdom, sees this as a fundamental disconnect between generations that could ultimately cost baijiu the reputation it has built for centuries.

"If you wait for people to get into their forties, or fifties, to actually start enjoying baijiu, it's too late," he says. "Brands have to create that link with consumers when they're younger otherwise that cultural link could be lost completely. That connection is not happening as quickly as it was with previous generations if it all."

Gān bēi! Santé! Cheers!

Baijiu companies have attempted to revitalize the spirit to attract younger consumers by releasing a range of new products, including new flavors such as peach and grape, and selling smaller-sized, more affordable bottles.

"There's a great deal of effort and enthusiasm directed at attracting younger consumers in the baijiu industry," says Sandhaus. "Many distilleries are eager to shake baijiu's reputation as an old man's drink, and are experimenting with new products and marketing approaches to attract new consumers."

In 2021, Shanxi Xinghuacun Fen Wine Factory collaborated with Danish chocolatier Anthon Berg in creating baijiu-flavored chocolates—the first of its kind—which saw a warm reception at the 4th China International Import Expo in Shanghai.

In the same year, Wuliangye teamed up with Chinese comic studio Dongmantang to create *Biography of a Drunken Immortal*, a baijiu-inspired fantasy comic which was released on the platform Tencent Animation and in comic form.

With the ice cream industry growing, baijiu companies have also partnered up with ice cream producers. Moutai worked with dairy producer Mengniu Dairy to launch three flavors of ice cream: vanilla, milk and plum. The trendy dessert was initially very popular and quickly sold out, but with its staggering price tag, the fad quickly cooled down. Each tub of 78 grams contains 2% of Moutai and sells for the equivalent of $37.

"I enjoyed Moutai's ice cream as it has a strong baijiu aroma, but at the same time didn't taste like baijiu," says Yao, who in fact enjoys baijiu but is quick to acknowledge that she is an anomaly among her friends. "You don't feel the alcohol effect. I would only buy it again if it was cheaper."

Jiangxiaobai, a smaller baijiu producer that has made waves with its marketing tactics online, has released brightly colored bottles of the liquor, adopted catchy marketing slogans, and produced fruity flavors of baijiu with lower alcohol volumes, all aimed to entice Millennial and Gen Z consumers. The company even started promoting baijiu in popular television series and making use of music festivals to promote its products. It has also struck deals with restaurants while maintaining an online store on Alibaba Group's Tmall, China's largest business-to-consumer e-commerce platform.

Jiangxiaobai is not the only alcohol producer pushing forward on its e-commerce presence. China became the world's largest market for online alcohol sales in 2021 and has only continued to grow since. For the past three years, alcohol e-commerce in China has grown between 10% and 20% annually, with the country's thriving online drinks sector valued at over $6 billion in 2019.

"Jiangxiaobai has been seen as a trailblazer by focusing on inexpensive products marketed to younger consumers rather than the high-end products most other distilleries build their business around," says Sandhaus. But it appears that the intended targets of these marketing campaigns have not been as receptive as hoped. Online retailer JD.com reported that consumers aged between 21 and 35 who bought baijiu during the first quarter of 2022 on the platform only accounted for 23% of buyers.

Some have also argued that the efforts of Jiangxiaobai and others in making baijiu more youthful have not been so successful, with food blogs saying that some smaller baijiu producers deceive people who do not understand brand promotion and feel that exposure is equal to popularity and consumption.

"You don't see baijiu companies' efforts anywhere," says Yao. "They're not doing enough. They have to target restaurants and bars where young people actually go. I never see flavored baijiu drinks on the menu."

"The future development of Chinese liquor, such as targeting the youth, cannot come only from changes to the product itself," says Zhou. "It needs to come from the brand. More in-depth adjustments need to be made. You have to upgrade the tone and context of the brand and the ideas being conveyed. This will possibly lead to a better direction."

Missing the shots

Baijiu companies are also trying to take advantage of the huge potential of the global market, with many pursuing international recognition. High-profile campaigns have included Luzhou Laojiao marketing flagship brand Guojiao 1573 at the Australian Open tennis tournament in Melbourne, and Wuliangye being advertised in New York's Times Square.

Kweichow Moutai also became an official sponsor of Italian Serie A club Inter Milan in 2018 and signed a partnership to produce a co-branded baijiu with the club's players Valentino Lazaro and Dalbert Henrique participating in fan engagement activities.

> **If you wait for people to get into their forties, or fifties, to actually start enjoying baijiu, it's too late**
>
> Craig Butler
> Co-founder and CEO
> Baijiu Society

But the impact of these measures on revenues has so far been limited and baijiu's international success might depend on smaller and younger western-owned baijiu manufacturers who have a better understanding of foreign consumers.

"Based just on the raw numbers, it isn't much of an export product, with roughly 99% of all baijiu still being consumed within China," says Sandhaus. "That said, the growth has been remarkable in the past decade. Today, my business sells baijiu to more than a thousand accounts in the United States alone, mostly bars, restaurants and retail stores. And that's not even considering our sales in the rest of the world."

"The big baijiu manufacturers all have their own demographic and geographical strength," says Butler, whose company has sold almost a million pounds worth of Baijiu products in Western markets. "They're so focused on continuing to deliver their heritage to those specific people. They're not that interested in competing with gin and vodka, but that's where we want to compete." Butler's company promotes Baijiu & Tonic as an alternative to the popular Gin & Tonic.

On the rocks

Baijiu companies are increasingly moving beyond its traditional image and finding ways of making the drink more attractive to younger people, but to be successful in their endeavors, a middle ground needs to be reached in both remaining loyal to the liquor's roots while also embracing the reality of the role that alcohol plays in modern social settings.

"Big baijiu manufacturers have to let go of the past a bit and actually play a game that people understand," says Butler. "They have to both deliver that traditional experience of baijiu to a new audience while also creating a distance from the past. They're so proud and so involved in the history of baijiu and the heritage of it, it's just easier for smaller companies to make that change."

Younger consumers are also receptive to creative baijiu-based products. "Hearing about a cocktail-like baijiu has piqued my interest," says Jiang. "If I happen to see it on a menu somewhere, I'd be willing to give it a try."

Due to its distinct flavor and how the alcohol is relatively unknown outside of Asia, baijiu manufacturers have their work cut out for them before they make significant inroads in markets abroad. Given the challenges that baijiu faces both at home as well as abroad, it is going to be difficult. But some are hopeful.

"It's ultimately going to be up to Chinese consumers and the baijiu industry to decide," says Sandhaus. "If China can promote the industry more systematically, it has a great deal of potential. I hope that baijiu can become a cultural ambassador for China, in the same way that whiskey has been for Scotland and mezcal is for Mexico. If this happens, it's very possible that we'll see at least one or two bottles of baijiu in most international cocktail bars in the coming decades."

Cornering Commodities

The rule of thumb for commodity traders around the world is that China consumes "half of everything." While clearly not exactly correct, for many commodities even half is an understatement. The combination of China's massive population and the country's position at the center of global supply chains has resulted in a huge amount of the world's commodities passing through the country and its commodity markets.

In and Out

While China has an overall trade surplus with the rest of the world, in terms of commodities it spends significantly more on imports than it makes in exports. By far the biggest import expense is petroleum, both crude and in gas form, and this accounts for around half of major imports. The rest are mostly related to manufacturing or food. Fossil fuels also dominate exports with tea, once China's main export, now playing a much smaller role.

Top Exports

- Refined Petroleum ($23.9bn)
- Plywood ($4.12 bn)
- Petroleum Gas ($2.37 bn)
- Tea ($1.75 bn)

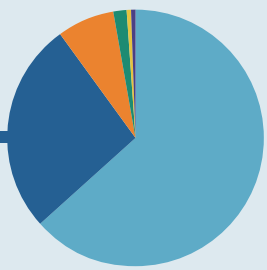
Top Imports

- Crude Petroleum ($150bn)
- Iron Ore ($99bn)
- Soybeans $37.4bn
- Petroleum Gas $36.6bn
- Refined Copper $31.7bn
- Gold ($7.39bn)

Bean and Gone

Feeding 1.4 billion people is not a simple task, and soybeans are at the heart of China's strategy to satiate its population. Around 80% of the soybean consumption in the country is through animal feed, and demand has been dropping slightly over the last year. China imports the majority of the soybeans it uses and the majority of those imports come from Brazil.

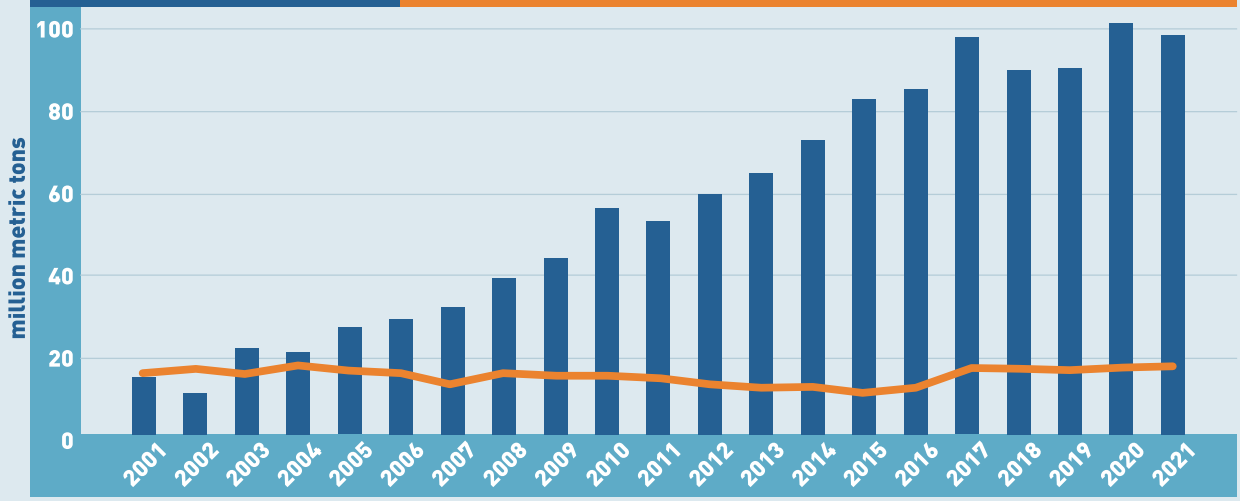
Leading Soybean Suppliers to China in 2020



Brazil	63.5%
United States	26.5%
Argentina	7.3%
Uruguay	1.7%
Russia	0.6%
Canada	0.3%

China's Annual Soybean Imports

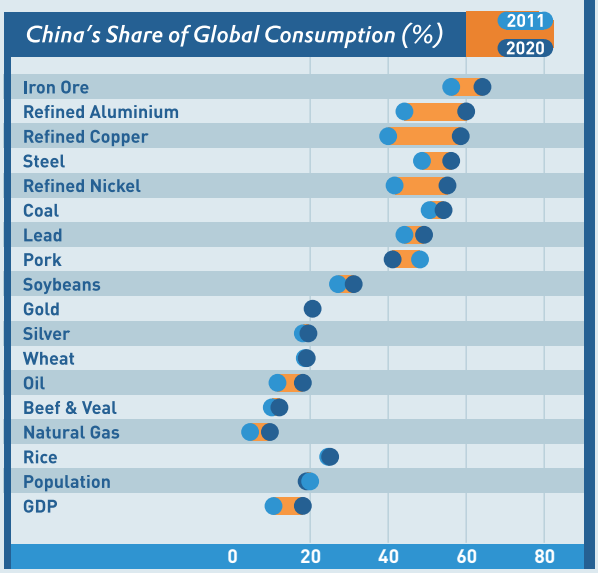
Soybean Production in China



Sources: OEC, China Customs

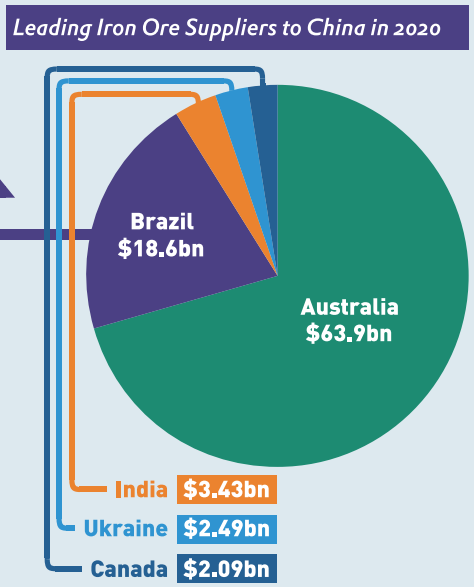
Increasing Consumption

With few exceptions, China's commodity consumption, as a percentage of the global total, has increased dramatically over the last 10 years. Items such as refined copper and aluminum have both seen close to 20% rises.



Ore Else

China consumes well over 60% of iron ore globally, and in 2020 it imported $99 billion in iron ore, making it the largest importer of the commodity in the world. The ore was the third most imported product into China that year and the majority came from Australia.



"Supermarket"

China is home to three major futures exchanges, each of which dwarf the international competition in the number of contracts exchanged per year. Only select state firms can trade on foreign commodity-futures exchanges, and only a small group of international traders can access Chinese ones. Of the around 80 commodity-futures contracts traded on its big exchanges, only nine are available to foreign punters.

Sources: OEC, World Bureau of Metal Statistics, World Federation of Exchanges

data CHINA

The stats you need to know

Macro

Rising RMB

China's currency, the renminbi, is now the **5th** most traded currency worldwide, and accounts for **7%** of total transactions worldwide. The currency only trails behind the dollar, the euro, the yen and the pound, having surpassed the currencies of Australia, Canada and Switzerland since 2019.

Source: *Nikkei Asia*

Fiscal pressures

China's broad fiscal deficit hit an all-time high in the first nine months of 2022 as COVID outbreaks and a housing market slump continue to erode government income. The deficit in the budgets for all levels of government reached **RMB 7.16 trillion ($980 billion)**, almost three times the shortfall in the same period in 2021.

Source: *Bloomberg*

Billionaire bust

The majority of China's billionaires saw their wealth decrease in 2022. Of those appearing on the Hurun China Rich List 2022, only **411** entrepreneurs saw their wealth increase, of which **133** were new faces. **1,187** saw their wealth decrease or remain unchanged and **293** dropped off the list. The fortunes of China's wealthiest have plunged by the most in over two decades.

Source: *Nikkei Asia*

Business

Property pressures

China's debt-saddled property sector has at least **$292 billion** of onshore and offshore borrowings coming due through the end of 2023, raising the specter of mounting payment pressure. The figures include onshore and offshore bonds and loans as well as domestic trust loans.

Source: *Bloomberg*

Blooming BYD

Chinese automaker BYD has shrugged off supply disruptions as well as foreign and domestic rivals to achieve year-on-year earnings growth of **350%**, underscoring the rapid rise of one of China's most formidable industrial conglomerates. The group's third-quarter net profit of **RMB 5.7 billion ($786 million)** smashed its previous record of **RMB 2.8 billion** set in the second quarter of 2022.

Source: *Financial Times*

Take off

China formally announced existing deals for Airbus jets worth **$17 billion**. China's state buying agency CASC said it had signed a bulk agreement for **140** Airbus aircraft including **132** A320-family jets and **eight** A350 wide-body aircraft during a recent visit by the German Chancellor.

Source: *Reuters*

Foreign exodus

Foreign investors pulled **$8.8 billion** from Chinese financial markets in October 2022 as stocks slumped. Outflows from China's equity market reached **$7.6 billion** while **$1.2 billion** was removed from bond markets. That was more than the previous month, when a combined **$2.1 billion** of foreign portfolio investment left.

Source: *Bloomberg*

Technology

Virtually here

China has released its first action plan dedicated to virtual reality, with an aim for its industry to ship more than **25 million** devices with a value exceeding **RMB 350 billion ($48.20 billion)** by 2026. It was published by five ministries in Beijing, led by the Ministry of Industry and Information Technology, and categorized virtual reality as a key industry for the digital economy under the country's 14th Five-Year Plan.

Source: *Reuters*

E-CeNturY

China's central bank digital currency transactions totaled **RMB 100 billion ($14 billion)** from the start of the e-CNY initiative in December 2019 to the end of August 2022. While that was up 14% from the **RMB 87.6 billion** total at the end of 2021, it was well behind the **154%** growth rate recorded during the six-month period from June to December 2021.

Source: *South China Morning Post*

Tech together

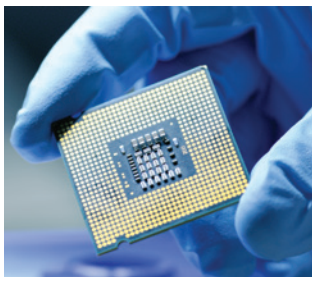
Tencent Holdings will set up a joint venture with state-owned telecom operator China Unicom that will mainly engage in content distribution networks and edge computing. A China Unicom subsidiary will hold a **48%** stake in the entity while a Tencent subsidiary will take a **42%** share. The remaining **10%** will be held by employees of the joint venture.

Source: *Nikkei Asia*

Chips ahoy!

GPU giant Nvidia has confirmed that it will offer the alternative high-performance GPU A800 to Chinese clients, which meets the US's new export controls. Chinese original equipment manufacturers (OEMs) are promoting new products with the new chips, according to Nvidia.

Source: *TechNode*



Consumer

Losing signal

Smartphone shipments in China fell **11%** year-on-year in the third quarter of 2022. Brands shipped a total of **70 million** smartphones to sellers in the period, down from **78.9 million** in same period last year. Apple was the only brand to buck the trend, with shipments jumping **36%** to **11.3 million**.

Source: *Reuters*

Caffeine craze

Starbucks opened store number **6,000** in China in September. It accounts for **4.4%** of the coffee outlets in China, behind the 8,500 stores of KFC's K-coffee, which accounts for **6.2%** of the outlets. Convenience stores Lawson and Family Mart's Par Cafe are also among the top five. China's on-premise coffee industry is set to triple to **RMB 189 billion ($26.3 billion)** by 2027.

Source: *South China Morning Post*

Coming together

The barriers between China's two leading mobile payment systems may have started to fall after Ant Group's Alipay rolled out a trial service that uses a QR code to enable the transfer of funds to users of rival app WeChat. It marks a small step towards bridging the two mutually exclusive payment services, which together account for over **90%** of China's mobile payments market.

Source: *South China Morning Post*

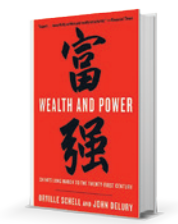
BOOKSHELF

Budding Business Books

Chairman & Chief Researcher of the Hurun Report Inc, Rupert Hoogewerf, recommends books that enlighten Asian entrepreneurship

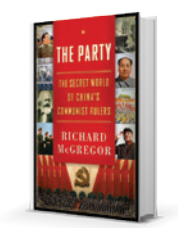
Rupert Hoogewerf is one of the best known foreigners in China, having published the China Rich list and other lists related to wealth and entrepreneurship over the past 20 years, under the banner of his company the Hurun Report Inc. His lists dovetailed well with the Dengist era rallying cry to China's would-be entrepreneurs to go get rich, and the company now runs events around the world celebrating those that did, as well as the young up-and-coming entrepreneurs of China's future. His speeches, articles and Q&As, regularly published in the Chinese media, have also had a huge impact over the years on the middle class and the perception of China's place in the world.

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



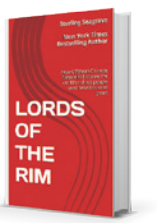
Coming up with an explanation of a country's growth and success is a difficult task in any case, but given the length and breadth of China's history, it poses a unique challenge. *Wealth and Power* by Orville Schell and John Delury approaches the problem by presenting the country's development through the stories of eleven different influential figures. This approach provides a level of practical, applicable and nuanced insight that I feel would benefit any and all wanting to learn about how we arrived at the China we see today.

What book would you recommend for someone looking to get a deeper understanding of China?



Given that the contemporary context of China appears to be somewhat shifting away from the economic pragmatism that has been a mainstay since the 1990s, it seems pertinent to understand the driving force behind the country, its successes and its issues over the last 70 years. In his book *The Party: The Secret World of China's Communist Rulers*, Richard McGregor provides a richly-textured look at the workings of China's political machinery.

What book had the biggest impact on your professional life?

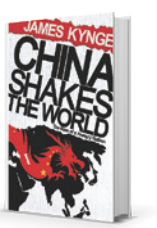


Lords of the Rim by Sterling Seagrave was fantastically influential to me at the time I read it. My work requires me to tell the stories of entrepreneurs in China and around the world, and I found that Seagrave's captivating tales of Southeast Asia's growing economies and the great businessmen therein provided a framework for how I present my work to this day. As well as the storytelling aspect of the book, it provided me a particular insight into the influence of Chinese-born entrepreneurs in Southeast Asia and beyond, with stories of how they emigrated and built up businesses that are successful today.

What book on China have you enjoyed the most?

Although they are works of fiction, James Clavell's novels *Tai-pan* and *Nobel House* have provided me with endless hours of entertainment and insight into the possibilities that abounded in the early years of the development of Western business in Hong Kong and elsewhere Mainland China. The contextualization of the story, which brings history to life, provides an insight, fictional or otherwise, into the drive of entrepreneurs in the region and an understanding of the real-life legacy that remains in the area today.

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



James Kynge's *China Shakes the World*, while both China and the rest of the world have moved on to some degree, is a must-read still because it documents the moment when China moved on to everybody's radar as being an important and even essential part of the global economy. Kynge looked at the reality of China's ever-growing involvement in the world, but also analyzed the reasons for it and extrapolated the potential implications in a way that gave me a valuable insight and shifted my views on many issues.

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GET IN TOUCH WITH US

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