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China is moving away from "GDP growth at all costs" to creating greater benefit for a greater number of people

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 Chinese companies are increasingly listing on domestic exchanges

 How is China adapting to a more circular economy?

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Make, Use, Return

How is China adapting to a more circular economy?

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Prosperity for All

ven for a country whose business environment is always so dynamic, the current period is notably vibrant. The Chinese government has declared the new fundamental goal underlying its policies is the attainment of common prosperity, a more even redistribution of wealth across the nation's population, and this is driving changes in many sectors. Some observers have suggested the policy could inhibit a continuation of the unprecedented growth China has experienced over the past few decades, but others argue, and with merit, that this change is merely a shift from one growth model to another.

China's growth has long been predicated on the idea of "letting some people get rich first"—a notable quote from former leader

Deng Xiaoping—but such wealth-led growth was inevitably going to plateau, to some extent leaving behind, in China's case, hundreds of millions of people. In contrast, promoting common prosperity for the vast swathes of Chinese people that stand to gain from a wealth re-distribution drive will offer another form of growth.

The issue is a complex one and therefore we have created a package of two pieces that we think will provide a springboard to a deeper understanding of this policy realignment. The future of China's new common prosperity will have a great impact on its citizens and the world at large, and there are also many things China can learn from different systems around the world, aspects CKGSB's Dean Xiang Bing covers in his commentary "Seeking Common Prosperity From a Global Perspective" on page 5.

As with any topic, to garner an understanding of the now, we need to understand the past. In our cover story "**Striking a Balance**" (page 12) we delve into the past 40 years of Chinese development and explore the ideological and economic balances that have brought the country to the position it is in today.

For China's big business, common prosperity has so far manifested itself as a regulatory readjustment of multiple sectors. The ride-hailing giant Didi Chuxing was flagged by China's cybersecurity regulator for risks over data control, just days after listing on the New York Stock Exchange. Didi's experience is part of a wider trend of Chinese companies shifting from raising money in the US markets to applying for IPOs on domestic exchanges. There has been "**A Great Homecoming**" of Chinese companies, something you can read about further on page 32.



Elsewhere in this issue, we cover the digitalization of the auto industry in China (page 42), the country's ongoing shift towards a more "circular economy" (page 21) and China's faltering pursuit of footballing success (page 61). Our company profile this issue builds on the theme of auto digitalization as we look at electric vehicle maker NIO and its unique battery-swapping and Battery as a Service strategies.

Given the changes to various business sectors in China, we are lucky to have the outgoing President of the American Chamber of Commerce in Shanghai, Ker Gibbs, providing valuable insights into the effects of these changes and the current US-China tensions on foreign businesses in the country (page 26). To complement the article on the circular economy, we also

have an insight into China and its role in the fight against climate change from Judith Shapiro, co-author of *China Goes Green: Coercive Environmentalism for a Troubled Planet*, who highlights, on page 18, the importance of social and not just technocratic solutions to the pervasive environmental issues we face.

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,

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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/

COVER PACKAGE: COMMENTARY

Seeking Common Prosperity From a Global Perspective

China's exploration and innovation in common prosperity is of great significance to the country's economic development and prosperity



Xiang Bing is Professor of China Business and Globalization and the founding Dean of the Cheung Kong Graduate School of Business (CKGSB).

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

Since 1979, the market economy and global free competition has created unprecedented economic development and wealth creation. However, this has also led to a massively uneven distribution of income and wealth, and a decline in social mobility, alongside a number of other issues.

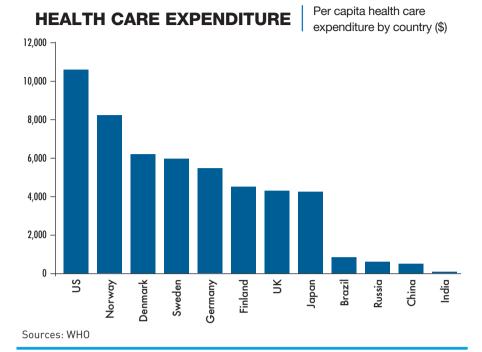
Regarding the uneven distribution of income, the UN Development Program's Human Development Report 2019, revealed that in 1980, the average pre-tax income of the top 10% of US citizens was 11 times greater than that of the bottom 40%. By 2017, this gap had become 27 times bigger and in Europe the wealth gap had risen from 10 times greater to 12 times the 1980 level. According to the World Inequality Database, wealth concentration has become even more pronounced. Between 1980 and 2019, the combined wealth of the top 1% of the US population rose from 23% to 35%, while the proportion of this group's income versus the country's total income increased from 10.5% to 18.8%. During the same period in India, the wealth of the top 1% rose from 7.5% to 21.7%. Between 1980 and 2012, the proportion of the income of this group rose from 12% to 31%.

UN Secretary António Guterres noted in a speech in July 2020 that the 26 richest people in the world own as much wealth as half the global population. Between 1980 and 2016, the world's richest 1% acquired 27% of the total cumulative growth in income.

In recent years, both developed countries, such as France, and OECD member countries, such as Chile, have experienced relatively high levels of social disruption. One of the reasons for this is the ever-widening wealth gap and the attendant decline of social mobility.

The amount of disruption brought about by technology, together with the impact of the COVID-19 pandemic, has exacerbated the already serious income and wealth gaps, highlighting the urgent need to promote inclusiveness and common prosperity within the global sphere.

In the post-COVID-19 era, some technology giants have led and shaped the



transformation from an offline economy to online, giving them the opportunity to increase their profits as a direct result of the pandemic. COVID-19 has accelerated the concentration of wealth. According to statistics released by *Forbes*, the total amount of wealth held by the over 2,200 billionaires worldwide, rose by \$1.9 trillion in 2020, an average increase of 20% compared with the end of 2019.

In China, data released by the National Bureau of Statistics shows that the domestic Gini coefficient has been on a downward trend since 2008, although the overall range is still within 0.46–0.47. Globally, 0.4 is considered a warning line for the gap between the rich and the poor. When

the Gini coefficient exceeds this figure, economies face the risk that it might trigger serious social instability.

Wealth inequality in China is also among the most serious in the world. According to the China Development Report issued by Peking University in 2015, the top 1% of households in China own about one-third of the country's property.

In response to the unequal distribution of income and wealth, the Fifth Plenary Session of the 19th Central Committee of the Communist Party of China listed "promoting common prosperity" across the country as a very important task in its 14th Five-Year Plan.

President Xi Jinping has emphasized

The goal of common prosperity requires the cooperation of governments, enterprises, nongovernmental organizations, civil society, and international organizations in many speeches that the promotion of common prosperity for the whole nation must be given more importance: "Promoting common prosperity for all people is an arduous, long-term task. It is necessary to select some regions where we can trial this initially [to] demonstrate the results." The Chinese government recently decided to support high-quality development in the province of Zhejiang as a model of common prosperity.

China's promotion of common prosperity is of strategic significance to the stability and long-term development of its economy and social harmony. Its experience in this regard could also demonstrate workable policies for solving the issue of unequal distribution of wealth and income.

Faced with future global changes and the impact of disruptive technology, this article focuses on the issue of how to achieve common prosperity, based on the "Three Distribution" theoretical framework. I will examine and reflect on the experience and lessons learned by different countries and regions from a more global perspective. Further, top-down thinking, the so-called "View of Earth from the Moon," will, I hope, help to explore possible paths for common prosperity and for building more equitable and inclusive societies.

The First Distribution by the invisible hand of the market: economic growth and wealth creation need to become more inclusive and balanced

The First Distribution, led by the market mechanism, has a decisive impact on the distribution of income and wealth.

There are many factors that affect income and wealth distribution. These include the political system, the relationship between state and business, whether resource allocation is market-led, industrial policy, the level of education among the population, population demographics, stage of economic development, level of infrastructure development, technological disruption, economic financialization and globalization, anti-monopoly regulations, mechanisms to promote fair competition, and so on. Chinese and other scholars have done extensive research on the relationship between distribution and inequality of income and wealth, so I will not repeat it here. Instead, I will focus on two changes that may help reduce the income gap caused by the First Distribution: the enterprise system and corporate value orientation.

In 1997 I proposed the concept of the enterprise system. Based on the degree of separation of ownership and management, companies can be divided into three categories: family type (Type A), modern enterprise system type (Type B), and stateowned type (Type C). Among them, Type B enterprises display the characteristics of the enterprises that have achieved the separation of management and ownership, dispersed equity, and established a modern corporate governance system.

Globally, major developed economies such as the United States, the United Kingdom, Japan, and Germany have the enterprise system, which is basically a combination of Type A and Type B companies. A common feature in these developed countries is the important role and presence of a batch of those Type B enterprises that transcend family ownership and control, that separate management and ownership.

In Germany, B-type companies include Siemens, BASF and Bayer, while in Japan there are Toyota, Honda, Sony and Panasonic. In East Asia, Japan is the only economy to date that has a significant presence of Type B enterprises.

The United States not only has traditional Type B companies such as IBM, General Electric, General Motors, Citi, Coca-Cola and Procter & Gamble, but also a new generation of Type B enterprises like Google, Amazon and Facebook, which have sprung from ground-breaking innovations and hold a leading role in influencing global development.

Since its reforms and opening up in 1978, China's social and economic development has been spectacular. From the perspective of the enterprise system, the current Chinese system represents a combination of Type A and Type C companies. In China, Type C state-owned enterprises play a dominant role, even a monopolistic role in many industries. At the same time, Type A enterprises have become the backbone of China's gross domestic product (GDP), employment opportunities and the creation of new jobs.

In the long term, China may need to spur and cultivate the development of Type B enterprises so as to build an enterprise system that combines Type A, Type B and Type C companies. This could be a necessary condition for deepening its economic transformation and promoting common prosperity. For a detailed discussion of this issue you can refer to my article, "Enterprise System and its Optimization" published in 2019 which is available on the CKGSB website.

In some countries and regions where Type B companies dominate, the income gap between the corporate senior management team and ordinary employees remains significant after the First Distribution. For example, in 2019 the salary of Google CEO Sundar Pichai was about \$280 million, or 1,085 times the average annual salary of a Google employee of \$258,000.

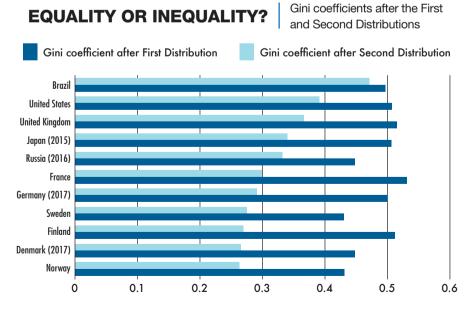
According to statistics from Bloomberg in 2018, among listed companies the ratio between the salary of a CEO and the average salary of their employees in the United States was 265:1. The ratio in the United Kingdom was 201:1, in Germany 136:1, and in Japan 58:1. In view of this, narrowing the income gap effectively may require companies to make fundamental shifts in their corporate value orientation.

Globally, there are different orientations in corporate value. The corporate value of "Shareholders First" has been very popular all over the world. Here, the goal of the company is to maximize the interests of shareholders.

Take the United States as an example, where around 6,600 companies had implemented employee stock ownership plans, covering 14 million employees, by 2021. At the same time, corporate highlevel management team incentive plans have become the standard. One of the goals is to align the interests of employees, the high-level management team and shareholders, so that employees and highlevel management can operate the company to better suit the interests of shareholders.

In recent years, people from all walks of life in the United States, including business and academia, have reflected on the potential limitations of the value orientation which emphasizes shareholder value maximization.

For example, in 2019 CEOs from 181 top US companies, including Apple and



Sources: Based on publicly available information

Cover Package



Senior Chinese legislators meet to discuss a speech on common prosperity by Xi Jinping

Amazon, jointly signed the "Statement on the Purpose of a Corporation" at Business Roundtable, declaring that creating value for customers, investing in employees, supporting communities and protecting the environment, plus continuing to protect the interests of shareholders, should be a company's five main value targets. This shows how American business leaders have begun to put more emphasis on their social responsibilities and have more diverse and inclusive value orientations.

The corporate value orientation of Japan differs markedly from that of the US. The two countries have very different cultural traditions. Japanese companies generally prioritize the interests of employees, suppliers and customers, and only then the interests of shareholders. Further, in Germany, the "Rhine Capitalism" model also pays more attention to the interests of employees rather than only the interests of shareholders. The above two corporate value orientations from Japan and Germany contrast with the US type of "Anglo-Saxon capitalism," being relatively more inclusive and more balanced. The salary ratios of their CEOs and employees also illustrate this point, as noted above, being much smaller.

In the future, global corporate value orientations will still be diverse. However, there is no doubt that it will be more balanced, more holistic, more long-term, and more inclusive everywhere, while having more emphasis on social purpose and functions.

In this new era of tectonic global transformations, social conflict is apparent and the expectations of society and government for enterprises' social functions have reached a new height. This further requires companies to redefine corporate social value propositions from a strategic perspective.

China can make further progress in leveraging innovation to solve the worldwide difficulties of common prosperity and inclusive growth Second Distribution by the visible hand of government: Social security programs need to become more proactive, more comprehensive, more fair and transparent and more effective According to the principle of balancing efficiency and equity, the Second Distribution led by government is through taxation, social security expenditure and other regulatory tools. This visible hand attempts to promote equity in their society.

Through the Second Distribution, the government intends to mitigate the income gap arising from the First Distribution, which constitutes an important solution to reducing uneven incomes and wealth.

Countries in the European Union, and especially Nordic countries, are well known for their high-welfare state models. This security system has effectively improved uneven income distribution and maintained good social mobility, helping to achieve more equitable and inclusive economies.

First, I will use the Gini coefficient to compare the impact of the First and Second Distributions on income inequality in EU and Nordic countries.

Comparing the Gini coefficient after both the first allocation and the second, we can see that the distribution policies in the Nordic countries and some other European countries have significantly reduced uneven income caused by the First Distribution.

According to the latest statistics from the OECD, in 2018 the income difference after the First Distribution among major Nordic countries was very significant with the Gini coefficient generally above 0.4. Finland even exceeded 0.5. However, after the Second Distribution, the Gini coefficient of these countries dropped significantly, to within the range of 0.26-0.27, which made them the countries with the smallest income gap in the world.

Meanwhile, according to data from the World Bank, the per capita GDP of these Nordic countries maintains a relatively high level. In 2019, Norwegian per capita GDP was around \$70,000. The per capita GDP of Denmark, Sweden and Finland were all above \$40,000. These countries are among the world's high-income countries and have achieved common prosperity. They are the successful examples of European social democracy, which differs from American neoliberalism.

Second, during the five years from 2014 to 2018, the EU's total social security expenditure and social security expenditure per capita increased steadily. In 2018, the total amount of social security reached \in 376.6 billion, and the average maximum amount of social security one person could use per year was \in 8,435. Social security accounted for 28% of GDP. Although there are differences in economic and social development within the EU, overall it has maintained a relatively high level of social security.

Third, fair income distribution can also promote social mobility. According to the World Economic Forum's 2020 Global Social Mobility Report, the major Nordic countries, including Denmark (1), Norway (2), Finland (3), and Sweden (4), have the highest social mobility ranking in the world. The United States ranks 27th. Among Asian countries, Japan has the best social mobility, ranking 15th. China ranks 45th.

Criticisms of the welfare model have not stopped since its emergence. Critics believe that high welfare encourages people's laziness and weakens the sense of competition, while increasing the financial burden for society and hindering economic growth.

From the analysis of indicators such as the Gini coefficient, which indicates the gap between the rich and the poor, social security and public finance expenditure, and income per person, European countries, including the Nordic countries plus Germany and Switzerland, have indeed solved the problem of a high Gini coefficient after the First Distribution and effectively promoted social equity and social mobility through a strong, active and comprehensive Second Distribution system. European countries have accumulated some successful practical experience in promoting social harmony and achieving inclusive growth.

The economic and social development of these European countries is advanced and mature, while China is still a developing The amount of disruption brought about by technology, together with the impact of the COVID-19 pandemic, has exacerbated the already serious income and wealth gaps

country. From this perspective, the situation of other such developing countries as Russia and Brazil is more worthy of reference and benchmarking for China.

Combined social security, education, medical care and pension expenditure account for a relatively large share of social security in various countries and regions.

China's public education expenditure accounted for only 3.5% of GDP in 2017, which is lower than the world average of 4.5%. It not only has a large gap of more than 6% compared with the Nordic countries, but also is lower than Brazil (6.3%), Russia (4.7%), and India (3.8%).

In health care, China's expenditure accounted for 5.2% of GDP in 2017, which was lower than Brazil (9.5%) and Russia (5.3%), and higher than India (3.5%). By the end of 2019, more than 1.35 billion Chinese people had basic medical insurance, with a participation rate of over 95%. However, medical expenditure per person was relatively low. According to data from the World Health Organization, in 2017, China's expenditure (\$841 per capita, per anum) was not only much lower than that of the United States (\$10,246 dollars), but also lower than Brazil (\$1,424) and Russia (\$1,404).

Regarding security for the retired, according to the OECD statistics, between 2015 and 2016, Brazil and Russia's pension expenditure accounted for around 9.1% of GDP, which was even higher than some developed countries such as the US (4.9%).

China's pension expenditure accounted for 4.1% of its GDP.

These statistics show that, at this stage, there is still a lot of room for China to increase its investment in social security programs. Especially when compared with developing countries with a similar GDP per capita, such as Brazil or Russia, China lags behind in education, medical care, pensions, unemployment benefits and spending.

In recent years, the Chinese government has attached great importance to common prosperity. In the 14th Five-Year Plan, it was proposed to improve the redistribution mechanism and increase the accuracy of adjustments on taxation, social security and transfer payment.

In the future, we need to have a stronger and more proactive Second Distribution, building a more comprehensive and equitable social security system that enables the results of reform and developments to benefit all people and achieve common prosperity.

Some of the successful experiences and failures of European high-welfare countries and some of the practices in BRICs (Brazil, Russia, India and China) are worthy of reference.

Third Distribution: Cultivate the culture of donation and charity, and promote social innovation

The Third Distribution is to use some of the personal and institutional wealth for public

Cover Package

The expectations of society and government for enterprises' social functions have reached a new height

welfare, and for social purpose on the basis of individual volition.

The US is remarkable for the spirit of fraternity and generosity embodied in its donations and charity culture, and the influence of various charitable organizations on its society. Charitable donations and non-governmental charitable organizations have made an important contribution to the relief of the wealth gap after the first and Second Distribution in the US.

According to the 2020 US Charitable Donations Report, released by Giving USA Foundation, the total amount of charitable donations in the US in 2019 was around \$449.64 billion, accounting for 2.1% of GDP. After allowing for inflation, this ranked second highest in its domestic history.

Personal donations are the largest source of charitable donations in the US. In 2019 these accounted for about 68.87% of donations, totaling \$309.7 billion, followed by donations from foundations totaling approximately \$75.7 billion. Legacy donations totaled around \$43.2 billion and corporate donations amounted to nearly \$21.1 billion.

In the US, charitable donations have become a general consensus across strata with 70-90% of American families donating every year. Each family donates an average \$2,500 per year, which is two to 20 times that of European families.

In 2019, China received a total of RMB 170.14 billion (\$26.45 billion) in domestic and foreign donations, of which the mainland received a total of RMB 150.94 billion, accounting for 0.15% of its GDP. The largest source of donations was enterprises (61.71%), followed by individuals (26.40%), social organizations (5.75%), public institutions and religious sites (2.49%), government ministries (1.67%), groups and organizations (0.21%), and others (1.77%).



The gap between China and the US is obvious. US GDP is about 1.45 times that of China, while the total amount of US charitable donations is about 20 times greater.

According to The Philanthropy 50 list in *Chronicle of Philanthropy*, the US in 2020 saw the top 50 philanthropists donate a total of \$24.7 billion, compared with \$15.8 billion in 2019, an increase of 56%. Such donations were mainly for various projects related to climate change, epidemic prevention and control, poverty relief and education.

Andrew Carnegie brought to the American entrepreneur and businessman the concept that it is shameful to die with wealth. Bill Gates and Warren Buffett initiated the Donation Commitment in 2010, advocating that billionaires across the US donate half of their wealth to charities. According to statistics from *Forbes*, to the end of January 2021, the top 25 richest Americans have donated a total of \$149 billion in their lifetimes.

In the future, the solution to the problems of income and wealth inequality and diminishing social mobility will not be achieved by individual action from governments, enterprises, nongovernmental organizations or international organizations. The goal of common prosperity requires the cooperation, coordination and joint undertaking governments, enterprises, nonof governmental organizations, civil society and international organizations, via the social innovation of consolidating all these resources and players.

The road to common prosperity

Looking at the development of major economies in the world over the past 40 years, China and the US have led the world in economic development and wealth growth. These two countries, despite their outstanding economic performances, have also experienced very serious problems with uneven income and uneven distribution of wealth. In 2019, the Gini coefficient was 0.48 in the US and 0.46 in China, ranking 3rd and 4th among world's major economies only after Brazil (0.53)

15.549

20%

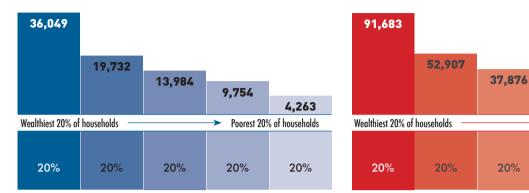
Poorest 20% of households

DISPOSABLE INCOME DIFFERENCES

Disposable income per capita in rural China (RMB)

There is a marked difference between household disposable income both within and between urban and rural areas in China

Disposable income per capita in urban China (RMB)



Sources: Caixin

and India (0.50).

How can the aforementioned observations and reflections bring light to China's future path to common prosperity?

First, China needs to maintain and strengthen its sustained and strong economic growth in the First Distribution, in particular relying on innovation and value competition rather than price competition, to create more high-valueadded employment opportunities, and to continue to sustain a new generation of economic disruptions. The reasoning behind this is that growth and continuous wealth creation are prerequisites for common prosperity.

Future economic development and growth must also be more inclusive and balanced, another necessary condition for common prosperity. China must optimize its enterprise system and focus more on building more Type B enterprises.

In terms of corporate value orientation, Chinese companies need to be more holistic, more inclusive, more balanced, and go beyond the concept of maximizing shareholders' interests. Chinese companies should also pay more attention to corporate social values and purpose, actively participate in promoting social innovation, and become a backbone for solving social problems.

Social values and purposes in the new era have become an indispensable part of strategy for many large-scale corporates. The superimposed influence of technological disruption, the COVID-19 pandemic and other factors have intensified the issue of income and wealth inequality.

Second, in the future, more active, transparent, and equitable redistribution of wealth thorough the visible hand of government is needed around the world. From this point of view, the rise of "socialism" globally may be one of the big megatrends of the new era.

Building а more complete, comprehensive and equitable social security system is a necessary condition for achieving common prosperity. At the moment, China and the EU countries are not at the same stage of development, and thus a high-welfare society is not entirely suitable for China's current situation. However, the EU's successful experiences with the Second Distribution, including its failures and lessons, are still worthy of reference. Developing countries such as Russia and Brazil have similar per capita GDP to China, which, compared with them, also has room for improving education, medical care, and pensions. In the future, China needs to increase investment to construct a more active, stronger, and fairer Second Distribution system.

Finally, regarding the Third Distribution, the US example offers some lessons. The US may have the most advanced market economy, unsurpassed innovation capabilities and unmatched generosity in giving, charity and philanthropy, but the US is not viewed as a good example of common prosperity. The US case illustrates the critical role of the visible hand of the government for common prosperity and highlights potential limitations of combining the invisible hand and the third redistribution for common prosperity. For the future, the third hand, social innovation which goes beyond charity and philanthropy, will become complementary to the invisible hand of the market and the visible hand of government, and may play a more important role for reaching common prosperity.

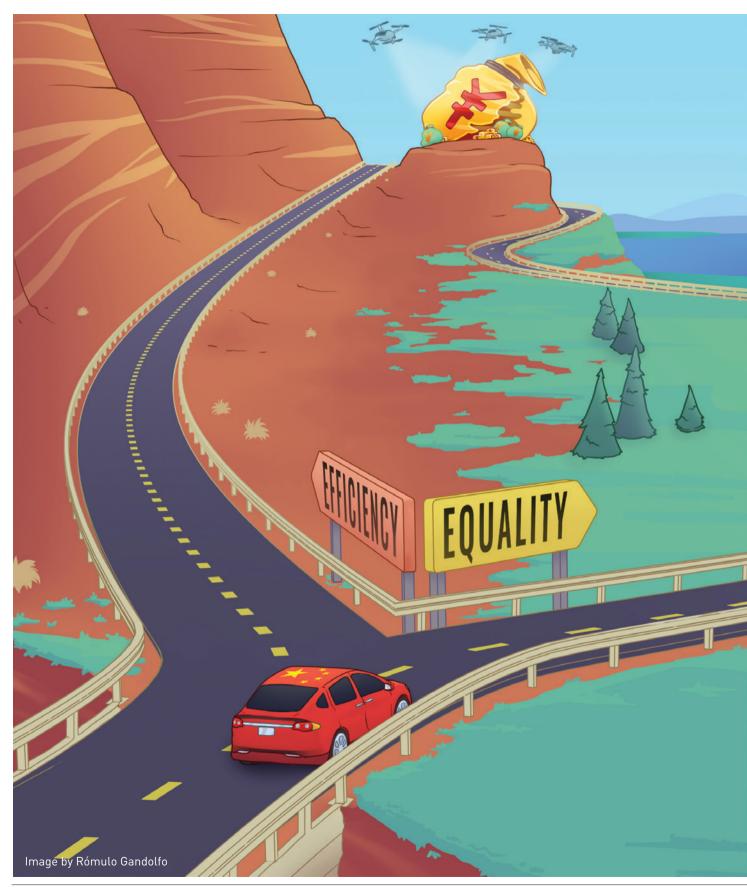
26,784

20%

For common prosperity, China needs to learn from many economies around the globe and to be innovative in exploring new paths to building a more equitable, sustainable and inclusive society. Exploration and innovation in common prosperity by China is not only of great significance to the country's economic development and prosperity, social harmony and advancement, it could also help contribute Chinese wisdom and solutions to the important challenges of human development worldwide.

The Chinese version of the article was published in the Caijing Magazine on June 21, 2021. This version was translated into English and adapted for a global audience by IMD Business School for their publication I By IMD

Cover Package



STRIKING A BALANCE

China has grown at an unrivaled speed over the past few decades, and the new direction of slower growth and broad-based prosperity could keep China on the right track

By Shi Weijun

ver the past year, several big private companies that play a crucial role in the Chinese economy have been brought to heel by the government in ways that can superficially seem counterintuitive. But for China, growth and development are being de-linked from the wealthy getting wealthier.

A massive share listing by Alibaba's Ant Financial was suddenly canceled in November 2020, and an IPO by China's biggest ride-hailing company Didi Global in New York turned ugly when the Chinese government announced investigations which slammed the company's share price. These and other moves were widely viewed as being aimed at pulling back the entrepreneurial and wealthy side of Chinese society, but the opposite is the case—there is a rebalancing of China's economy in progress to create broaderbased prosperity that could keep the growth model on track.

But the new measures have impacted significantly on a slew of companies in sectors including tech, gaming, education and courier services, and have raised the question of how the Chinese government sees the role of the private sector, in this new phase of more controlled growth. "A growth too fast will not be a steady one," said Chinese Premier Li Keqiang at the National People's Congress (NPC) in March. "We need a steady pace to sustain China's development. What we hope for such a big economy as China's is sustained and sound growth for the long term."

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Chinese leader Xi Jinping also stressed the importance of stability at a politburo meeting at the end of July. "We should... maintain the continuity, stability and sustainability of macro policies and make overall plans to effectively link up this year's policies with those for next year," he said.

There has always been an oscillation between the impulses of control and opening up

Orville Schell Arthur Ross Director Center on US-China Relations

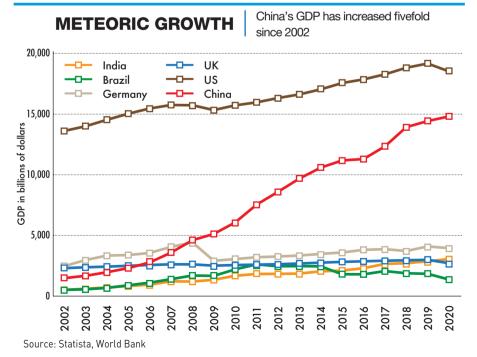
Beijing's turn toward economic certainty and social stability amid mounting challenges at home and overseas speaks to the Chinese fear of chaos that is deeply ingrained in the national psyche—China's history is suffused with turmoil, and there is a clear consensus that the precondition for prosperity is overall stability. And as the country's development plans come under pressure, the leadership is reacting by remaking the basic principles of the economic model to an extent not seen for thirty years.

"China, with its long history, has always had a sense of balance," says Philippe Le Corre, a senior research fellow in China with Harvard University's Kennedy School and the Carnegie Endowment. "If the stability is not there, then China will become somewhat unbalanced and tensions will grow."

Chugging along

The regulatory activism—which may not be over yet—symbolizes a seismic shift in China's development pattern, from the allout growth pursued for four decades under the reforms instituted by former leader Deng Xiaoping from the early 1980s, to an emphasis by the current administration on stability, security and managing risk.

In a major statement in August,



Xi announced that the new priority is "common prosperity," including creating a more equitable society in terms of wealth, resources and opportunities, as well as a more balanced and sustainable economy. Underlining its centrality to China's development going forward, Xi has said common prosperity would be "a major feature of Chinese-style modernization."

"Xi has tapped into a basic and popular idea that growth has to benefit everybody," says Orville Schell, Arthur Ross Director of the Center on US-China Relations at the Asia Society in New York. "He has identified something that actually also bedevils the US, which is the inequities between the rich and the poor."

At the same time, solving these inequities through common prosperity does not have to come at the cost of growth. "The aim of rebalancing Chinese society in favor of a modest improvement in the prosperity of a much wider swathe of people is not in itself anti-growth," says Xavier Naville, a Partner at Vision Management Consultants and author of *The Lettuce Diaries*. "It could, in fact, lead to a new wave of growth and a greater level of prosperity for a much broader section of society."

China's pursuit of common prosperity appears to represent a massive social undertaking but the generally rosy state of the Chinese economy post-pandemic provides a solid foundation for the first steps. The Chinese economy was again one of the fastest-growing in the world in 2021, expanding by 12.7% year-on-year in the first half of 2021 compared with H1 growth of 3.1% in the US economy.

But the new stress on common prosperity comes at a time of growing problems for the world's second-largest economy, including a rapidly aging population, problems with the property sector, the looming threat of the middle-income trap, worsening urbanrural inequality, continued reliance on dirty coal as a primary energy source, and an uncertain geopolitical environment.

Doubling Down

The concept of common prosperity is not new, it dates back to at least the 1980s when Deng put forward the vision of "modest prosperity" (*xiao kang*). Now, however, Xi has fleshed out the concept and given it new meaning. While the perception is that the ability to become very wealthy is being restricted, people generally sharing in the opportunity to be relatively well-off is the objective for the next stage of development.

This year has seen several top-down directives that seek to move towards the new goal. Examples include a ban on forprofit private tutoring, persistent calls on the wealthy to make large philanthropic donations, pressures on high-flying tech entrepreneurs and the cancellation of many private company IPOs.

This was precipitated by the contentious US listing of Didi Global this summer and official guidelines issued in late July pledged to crack down on illegal activities in the securities market and demanded greater oversight on data security and cross-border data flows. The national internet regulator meanwhile, has proposed new rules that would require companies with more than one million users to undergo a cybersecurity review if they are looking to list overseas.

Many of China's recent anti-trust actions have actually been aimed at making it easier for new entrepreneurs to share in the country's growth. Regulatory squeezes are encouraging interconnections between China's monolithic tech platforms which have started to resemble the single-service access of the early credit card market in the West. The previously loosely-regulated monopolies had curated a rise in access prices to the digital platforms which smaller entrepreneurs have no choice but to use, impeding the development of a new wave of businesses.

The new common prosperity system also encourages "Third Distribution," which manifests as corporate philanthropy. And companies already affected by the government's crackdowns have been chomping at the bit to give, with both Alibaba and Tencent promising RMB 100 billion to common prosperity projects, while e-commerce giant Pinduoduo has launched a RMB 10 billion agriculture initiative.

Moving away from prioritizing growth?

Vaclav Smil, a prominent Czech-Canadian scientist and policy analyst, and author of the book *Growth*, is credited with having established the idea that modern economies must move away from prioritizing growth while looking to level economic wealth across society.

A recent talk from Chinese Premier Li Keqiang that emphasizes the country's need for steady and stable growth, alongside the ambitious environmental targets that the country has put in place, imply a recognition, by China, of the finite nature of economic and environmental resources. But whether China's actions and progress align with their spoken promises, and are indeed aimed at reaching something close to degrowth, remains to be seen.

Smil coined the term degrowth refers to an economic situation during which the levels of economic wealth produced by a country neither increase nor decrease, this lack of a negative growth rate distinguishing it from a recession. The concept has been guided by three principles since its development by in the early 1970s:

- 1. A large part of the resources humans use and rely on are dependent on ecosystem services and are limited;
- 2. Each withdrawal of non-renewable resources has the potential to jeopardize the long-term survival chances of humanity;
- 3. Infinite growth, whether demographic, economic or other, in a finite world is impossible.

Growth or Prosperity?

Tight central control has historically been a feature of the Chinese system for more than 1,000 years. The strong party control from the center instituted after 1949 was in many ways a continuation of the traditions.

Key market reforms reshaped China's economy beginning in the late 1970s and early 1980s, but throughout it all the country has remained one of the most politically centralized states in the world.

"Over all the years that I've been looking at China, there has always been an oscillation between the impulses of control and opening up," says Schell. "When I first went to China in 1975, it was a period of intense control, economically speaking. There was no hint of what was to come with Deng Xiaoping's tectonic reform program and the economic changes that ensued."

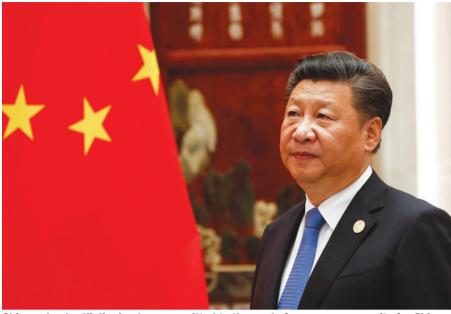
China's meteoric rise over the past half century is one of the most striking examples of the impact of opening an economy up to global markets but, seemingly counter-intuitively, it happened with China's political system remaining almost unchanged, with the Party remaining in full control and state-owned enterprises continuing to be the core of the economy.

The reforms introduced by Deng in 1978-1979—namely opening up to foreign trade and investment, and implementing free-market reforms—supercharged growth and were critical, according to David Dollar, a senior fellow in the John L. Thornton China Center at the Brookings Institution. "You can't really catch up if you don't integrate into the global economy," he says.

This process of market liberalization led to the establishment of China as a major global exporter and paved the way for its landmark accession to the World Trade Organization (WTO) in 2001.

The different factors that helped China become an economic power, ranging from rural-to-urban migration, the establishment of private businesses and a property market and a high savings rate, have waxed and waned in importance over the years,

Cover Package



Chinese leader Xi Jinping has committed to the goal of common prosperity for China

according to Dollar.

"Most of these factors tend to run out over time, and as you catch up there are fewer further opportunities," he says. "The sources tend to run out and that's why China's growth rate has slowed from 10% not long ago to more like 6%, and probably down to 5% in the coming period."

The period between accession to the WTO in 2001 and the global financial crisis (GFC) in 2008-2009 was the golden age of China's growth, according to Dollar. China's response to the GFC changed the calculus, as Beijing launched a massive investment-led stimulus effort—funded by banking system credit—to maintain demand in the wake of the shock.

Although China was not alone in turning on the credit spigots after the GFC, the sheer scale of accumulated Chinese debt that resulted is unmatched. Total credit to China's non-financial sector as a share of GDP ballooned from 143% in 2007 to 254% in 2018—by contrast, the same ratio in the US increased from 229% to 249%. Much of China's debt was disbursed to local governments that plowed it into infrastructure projects, and upstream sectors such as steel that are dominated by state-owned enterprises, but the rapidly rising leverage ratio was a sign that poor investments were being financed.

Still, Beijing has managed to thread a path through the various debt crises—

Our task at hand is to maintain stability as we continue our reform and development

> Xi Jinping General Secretary Chinese Communist Party

from the GFC credit build-up to shadow banking and the peer-to-peer (P2P) lending bubble. Much of this can be credited to the highly-centralized control system that has allowed China to develop into an economic superpower, characterized by many economists as the "China model."

"Two of the key words I would use to describe the Chinese model are gradualism and experimentation. There is a kind of trial-and-error process at hand, and then I would say also a certain level of state intervention compared with other countries," says Linda Glawe, a professor at the University of Hagen in Germany and author of an upcoming book about the economic rise of East Asia.

Finding the balance

Some people, especially in the West, question the effectiveness of China's new economic strategy, especially at a time of an apparent decoupling between China and the US, as well as the West in general. This, along with other problems such as a rapid ageing of society and a slowdown in economcic growth, are creating challenges for the government, but other observers see the shift from the helter-skelter growth model of the past 40 years as being timely and appropriate.

"I worry the most about the mixed trends in terms of openness of trade and investment. Of all the different factors, a key one is certainly keeping your economy open to foreign trade and investment. Any trend in China toward protectionism is seriously going to undercut the growth potential," adds Dollar.

How the new policy direction will effect growth will affect the overall economy and society is hard to tell but it appears that China's leaders are confident that they will be able to handle the change in direction effectively.

At a Communist Party study session in 2019, China's leader Xi Jinping made this clear. "[We are] confronted with unpredictable international developments and a complicated and sensitive external environment," he said. "Our task at hand is to maintain stability as we continue our reform and development."

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The Challenge of Climate Change

Author and academic Judith Shapiro, looks at China and its role in the future of the fight against climate change

Consistently been by far-and-away the world's biggest polluter over the last few decades. Reacting to the environmental tipping points that are getting ever closer, Beijing

has set out distinct carbon emissions goals and the country is increasing spending on solutions such as new energy sources. But the response is far from perfect and there is still a long way to go.

O&A

In this interview, Judith Shapiro, a renowned China environment policy expert and professor at American University, discusses the feasibility of China achieving its new carbon neutrality goals, its role in meeting global climate targets, and the advantages and disadvantages that the Chinese system offers in tackling these issues.

Q. How would you characterize the current state of China's environment compared to other countries, such as the US and India, and what are the biggest challenges China is facing?

A. In becoming the manufacturing hub for the world, China may have become wealthy, but it is also destroying much of its beautiful landscape and endangering the health of many of its citizens. Public health impacts from air, water and soil pollution are so acute that even the Party is questioning whether the economic growth and prosperity is worth all of the costs. China's environment is at a tipping point, with major efforts to restructure the economy to focus less on "dirty" industry and more on services and technology. China's rejection of foreign plastic garbage and e-waste is a good example of this shift, which will not only benefit the Chinese people, but also pressure developed countries to



confront the consumption model on which global commerce is based. In a best-case scenario, multinational companies will be forced to cut down on the waste they produce by extracting raw materials, manufacturing goods, transporting them to distribution

> centers and sales outlets, and disposing of them. The "displacement of environmental harm" which is despoiling not only China but our planet, is unsustainable, unjust and ultimately self-defeating.

Q. China's leader Xi Jinping has set ambitious targets for changes to China's energy usage and other environmental impacts. How achievable are these goals in the time frames that they have set out?

A. China's stated goals are within achievable range, but they may not be enough to stop irreparable climate change. Some environmental goals are easier to achieve than others. For example, switching from coal to natural gas is do-able, despite the widespread criticism of the continued construction of coal-fired power plants both at home and abroad on the Belt and Road.

I expect there will be continued improvements in air and water quality. Soil contamination is more difficult and is quite widespread since industry and agriculture co-exist closely in many parts of China. This affects food safety as heavy metals can be taken up in vegetables and grain. Biodiversity loss is also very difficult to stem, despite China's creation of vast national parks in the western regions. Habitat loss is one of the greatest threats to non-human life, and human development pressures have caused enormous loss of habitat. Moreover, the rising middle and upper classes of Chinese society have strengthened the market for endangered species used in Traditional Chinese Medicines, causing spillover to endangered species around the world, including pangolins, bears, turtles, sharks and the elephants whose ivory is prized in carvings.

The carbon-neutrality goals of peaking by 2030 and achieving net-zero by 2060 are also achievable, but we must ask ourselves how these goals will be met and what costs will be involved. For example, creating more renewable energy will mean the construction of more hydropower dams, which have enormous negative effects on human livelihoods and ecosystems. They involve involuntary resettlement, often to less-desirable situations. The construction of nuclear plants, also a major piece of the new energy plans, is risky, if not dangerous, as we saw with the recent problems at the Taishan Nuclear Power Plant. This is despite China innovating nuclear technologies that may be somewhat safer than the old ones.

Moreover, achieving many of China's carbon goals will involve increased controls over individuals, social groups, companies and local government entities, thus further centralizing Beijing's power and limiting personal and public freedoms.

Q. How does the nature of China's system play into its environmental situation? What are the main aspects of its approach in terms of the creation of and solutions to the problem and can this approach be used elsewhere across the world?

A. Many developing countries are envious of China's transformation from the extreme poverty and political chaos of the Cultural Revolution to the economic powerhouse it is today. China has transformed itself into a superpower in just a few decades. That transformation was achieved through economic decentralization that allowed the creativity, innovation and ambition of the Chinese people to have full rein. The reforms were also marked by significant government control of major commodities as well as support for certain industries. A gray area between the state and private enterprise allowed corruption to flourish, and it continues to flourish today. The profit motive is a core problem in the "implementation gap" between environmental protection and pollution control measures issued by the central government and what happens in practice at the regional and local levels. Outsiders often misunderstand how difficult it is for the central government to enforce environmental laws; they think that since China is an authoritarian country, the CCP should be able to carry out its directives without opposition. But the enforcement of Chinese laws is a messy process and local officials often benefit from maintaining polluting factories, either as investor/owners or because they provide jobs. The officials are rewarded for economic growth and maintaining social stability, although increasingly they are being evaluated for environmental protection as well.

The historical moment of outsourcing manufacturing to China has passed, and it is unlikely that other developing countries will be able to replicate China's success, not least because the extraction of resources is becoming more and more problematic and contentious, and because climate change is forcing a rethinking of carbon-intensive growth models. Judith Shapiro is professor and director of the Masters in Natural Resources and Sustainable Development for the School of International Service at American University. She was one of the first Americans to live in China after US-China relations were normalized in 1979. Her research and teaching focus on global environmental politics and policy, the environmental politics of Asia, and Chinese politics under Mao. She has written, edited or co-authored 10 books, the most recent of which is *China Goes Green: Coercive Environmentalism for a Troubled Planet,* coauthored with Yifei Li.

Q. What prospects do you see for meaningful international cooperation aimed at offsetting environmental degradation?

A. I would like to see cooperation between the US and China on climate change (and on pandemics), but it seems that US policymakers are unable or unwilling to separate these issues from the long list of other issues on which we have disagreements. This is a pity, since shared technology, pilot projects for carbon sequestration, and scholarly exchanges can help the world's two largest carbon emitters to craft equitable solutions. Even though China is the world's largest emitter, it is still low on the list of per-capita emissions. Furthermore, developed countries have benefited more from the industrial revolution. That said, China has a huge responsibility to curb its emissions quickly or the planet is pretty much doomed. China's policymakers recognize the perils of rising seas, melting glaciers and extreme weather events. Thus, climate change is a domestic security threat for China as well as a global threat.

Q. How will companies, particularly small and medium-sized enterprises and foreign companies in China, be impacted by China's efforts to reach their targets?

A. I expect that companies will be allocated carbon pollution budgets as part of the national carbon exchange system. Capand-trade is an effective tool for carbon mitigation. The challenge will be to implement in a fair and transparent manner, without the corruption that is endemic in much Chinese economic life.

Q. To what extent can technology play a part in China's environmental efforts? How is China positioned in terms of understanding and capabilities with such technologies?

A. If anything, China's policy makers are overly focused on technocratic solutions. Many top leaders trained as engineers and scientists. The top science universities and think tanks are well funded and powerful. Technical innovation that may help resolve many global environmental problems could well come from China. Yet many environmental problems are also social and political problems, not just technical problems.

China is building a "Sky River" on the Tibetan Plateau to artificially capture moisture from the Indian monsoons in hopes of replenishing the melting glaciers. It is using social credit scores to enforce recycling mandates. It is using satellite technology

Q&A

and outer space exploration to monitor global land changes and to prepare to mine the moon for valuable rare earth minerals and Helium-3 used for nuclear fission. Some of these technologies are relatively untested and risky.

Q. If you were China's leader, what would be your first steps to solving the problem?

A. Many observers have noted that the "space" for citizens' groups has contracted sharply under Xi Jinping, including the space for environmental groups. These groups have played a positive role in increasing public awareness of environmental problems, in holding factories and government officials accountable when they violate environmental laws, and in bearing witness to violations, from the illegal trade in endangered species to dumping of chemicals. They have organized government-compiled statistics about pollution and put them into the hands of ordinary people via apps, they have sponsored public events like tree planting and beach cleanups and have pressed for an end to an inhumane dog meat festival. In so doing, they have helped ordinary citizens to be well-informed about the costs of environmental degradation and partnered with the government to achieve goals that Beijing cannot. It is thus a real pity that the government has eroded the space for environmental participation. I strongly recommend that it re-think that relationship and acknowledge that environmental goals are best achieved with the full support and participation of the people, rather than being top-down directives to citizens who had no role in their creation and little understanding of why they are being asked to comply. Public participation is critical to the long-term success of environmental initiatives.

Q. On a more global scale, how do you see the situation and what is the most likely scenario?

A. We are, frankly, in a perilous situation. National governments are not moving quickly enough to forestall catastrophic climate



change. Tipping points such as changes in ocean currents, permafrost melting and "calving" of glaciers are poorly understood, but scientists tell us that climate change is not a gradual process, and once tipping points are passed, there is no dialing them back. Climate change does not lie somewhere in the future; we already have terrible fires, storms and floods. China is not immune.

Q. One of the most prominent doomsayers of recent months is Bill Gates, who, echoing a UN climate report, said that we have until 2050 before we reach a point of no return. What is your view on that prediction and how important is China as a part of that?

A. I agree that China holds the key to whether climate change can be kept within manageable bounds, although other countries also have great responsibilities.

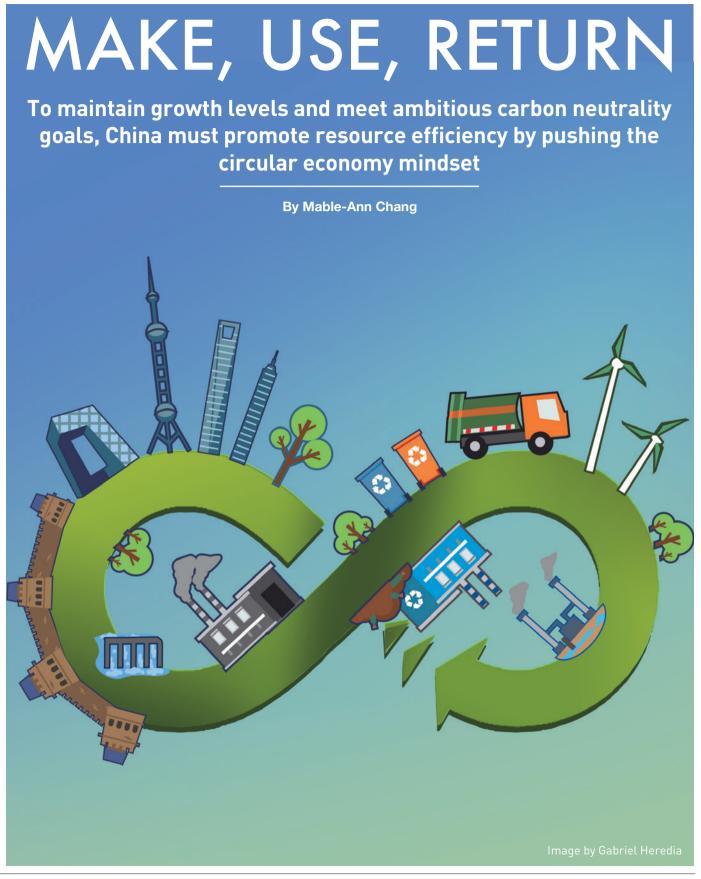
Q. How effective is China's legal and regulatory system in dealing with these issues? How has this changed over time?

A. China's environmental bureaucracy has strengthened steadily since the formation of the State Environmental Protection Administration in 1998. It became the Ministry of Environmental Protection, and then the Ministry of Ecology and Environment. With each name change, the mandate broadened and powers increased. At the same time, environmental laws have steadily become stronger, with stiffer fines for violators and prosecution of environmental crimes. An environmental court system was created. However, China is far from monolithic and other state agencies have competing agendas of economic growth, foreign trade and so on. The overall trajectory has been positive but the Ministry of Ecology and Environment is still underfunded and understaffed, and its authority over regional and local entities is not strong enough.

Q. What do you see as the role of the corporate sector in China in trying to reach these goals, via pronouncements like Net Zero? How accurate is Al Gore's recent reprimand of companies for not approaching Net Zero correctly and using it as a "get out of jail free" card?

A. It is true that buying carbon offsets is far less effective than reducing emissions at the company level. Paying someone in Costa Rica not to cut down a tree that they did not intend to cut down in the first place, for example, achieves little to reduce climate change. While such offsets can buy time for a company in a transitional period, the emphasis needs to be on the footprint in house. We cannot buy our way out of climate change. Chinese corporations can play a positive role in helping the country reach its environmental goals. Doing so is good for business as consumers prefer companies with good environmental commitments and it is good for the planet.

Interview by Patrick Body



China has set itself some very ambitious environmental targets. Is a circular economy the tool to help them get there? A new sight greets delivery workers when opening the delivery trucks at the Guangzhou Huadu Worldwide Transmission factory in southern China, the country's largest aftermarket supplier of automatic transmissions. What would previously have been raw materials arriving for production are now old gearboxes in various states of disrepair, ready for remanufacture.

The company was one of the first to take part in a national "Trade Old for Remanufactured" scheme, encouraging the shift away from raw materials through a 10% discount for customers who trade in their old equipment for remanufactured items. It is one of the many incremental changes in the shift from a linear to circular economic mindset.

As China's mentality changes, companies like Guangzhou Huadu are reconfiguring their processes to help the "factory of the world" reuse old goods instead of using fresh raw materials. The company's entire production is now almost 35,000 gearboxes and automotive transmission systems that it remanufactures each year. To do that, the company specifically trains its technicians to undertake the often complicated repairs that make the gearboxes usable again.

Remanufacturing is just a small part of how China is adapting to the circular economy, a concept covering the production and consumption of goods to allow for more reuse and reduced waste. The environmental, social and economic pressures have been building for years and are now breaking to the surface in terms of government regulations and business and consumer interest. But there is still a rough road ahead in terms of changing the fundamental habits of over-consumption that underlie life, both in China and most of the rest of the world.

"Circular economy policies are incredibly important for several reasons," says Cecilia Han Springer, senior researcher for the Global China Initiative at the Boston University Global Development Policy Center. "Air, water and soil pollution have taken a heavy toll on health and the environment in China, and the waste reduction aspects of circular economy policy can reduce future pollution burdens. In addition, China is facing resource constraints in some areas—like water and promoting a circular economy can lead to more economical and equitable use of scarce resources."

Closing the loop

Excessive consumption has had a massive environmental impact, with landfills filling up much faster than is sustainable. China's largest dump, established in 1994 in northwestern Shaanxi province's Jiangcungou, spans an area of almost 700,000 square meters and is already full— 25 years ahead of schedule.

Given this backdrop, circular economy strategies seem heaven-sent. They aim to maintain economic growth and standards of living, but remove the negative side-effects. As defined by the Ellen MacArthur Foundation, a circular economy is a systemic approach to economic development designed to benefit businesses, society and the environment based on three principles: removing waste and pollution from the design process, keeping products and materials in use for longer, and regenerating the earth's natural systems.

The UK-registered charity describes the current global economy as a "takemake-dispose" linear process, while a circular economy is regenerative by design and aims to decouple growth from the consumption of finite resources.

The circular economy in practice must include manufacturers designing products that are reusable, repairable and recyclable, such as using recycled plastic pellets to make new products or machine parts that are at least partly refurbished.

"A circular economy is a holistic approach towards resource management, where we favor the use of renewable resources and keep resources within the loop as long as possible by eliminating waste and pollution in the process," says Wendell Chan, project officer at environmental campaigning organization Friends of the Earth (HK).

The last four decades have seen China's

economy grow at an unprecedented rate fueled by consumption of commodities. China has become the world's largest buyer of just about everything from concrete to oil and even soybeans, and it has by far the largest manufacturing sector in the world accounting for almost 30% of global output in 2019, according to the United Nations—and therefore has a comparable responsibility for solving the problem.

"As the largest global manufacturing powerhouse and exporter, China is key to ensuring better utilization of our global and natural resources, as well as better management of discarded waste," says Nitin Dani, founder and director of Shanghai-based sustainability consultancy Green Initiatives. "Take fashion for example-nearly half of the world's textiles, particularly cotton items, are either produced [in] or pass through China. If circular design principles can be followed in such scenarios, then no matter which country these items end up in, we can be better assured of safe disposal or end-of-life treatment for those items."

Achieving a circular economy relates to China's ability to maintain levels of economic growth as well as meet its ambitious goal of reaching peak emissions before 2030 and achieving carbon neutrality by 2060. It needs to find a way to address pollution and promote resource efficiency, and as both a production and consumption powerhouse, China has the potential to showcase the circular economy at scale.

Turning it around

The Chinese government has enacted a series of laws and regulations to promote the circular economy, including the adoption of the Circular Economy Promotion Law of 2008 which was at the forefront of related global legislation. "The circular economy is one of many concepts that China has adapted from Western countries and applied to the unique policy context there," says Springer.

The concept was first proposed to the government by Chinese scholars in 1998 to allow for more efficient use of resources and the model has grown to become a fundamental part of China's CIRCULAR ECONOMY

Linear economy **Circular economy Reuse economy** Raw materials Raw materials **Raw materials** Recycling production Production Production Recycling Use Use Non-recyclable Non-recyclable waste waste Use Sources: government.nl

national economic strategy. The 2008 law aimed to facilitate the circular economy, raise the resource reutilization rate, protect the environment, and realize sustainable development. The circular economy was introduced not just as an environmental management policy, but also as a new development model that could help China leapfrog to a more sustainable economic structure.

"The 2008 Circular Economy Promotion Law marked China as one of the early adopters of the circular economy," says Vigil Yu, Research Analyst and Content Manager of the China Program at the Ellen MacArthur Foundation. "Countries in Europe and elsewhere started their circular economy journey at the late stage of industrialization." But despite several policy changes, the reality of China's industrial sectors still shows that much more needs to be done.

In 2012, China created a more detailed plan for the circular economy, involving greater control of water consumption, land, energy and materials, as well as the discharge of main pollutants.

"The 14th Five Year Plan for Circular Economy Development released in July 2021 further reinforced [the circular economy's] necessity and strategic importance for China's economy," says Yu. "Recently, the circular economy has been deemed a necessity, not only for environmental conservation and meeting China's resource demand, but also for high quality economic growth. It has been integrated into industrial practices such as recycling and remanufacturing, and looks upstream at design and business models which are highly relevant to the people's daily lives."

A circular economy aims to limit unnecessary

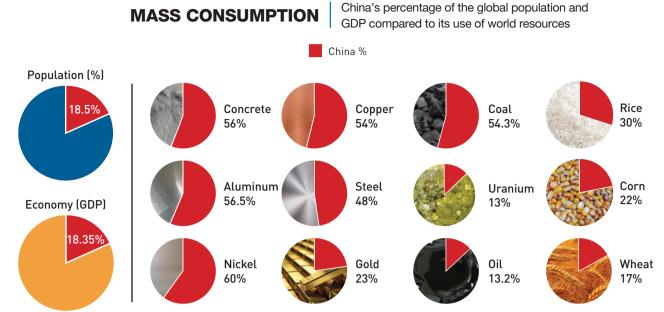
resource use and waste

In August 2021, the National Development and Reform Commission started the process of revising the Circular Economy Promotion Law. "In this aspect, the strategic importance of circular economy development in China is comparable with that of the EU, considering the EU has just released its Green Deal and updated the Circular Economy Action Plan this year," adds Yu.

By 2025, China plans to have a fully implemented circular production method, widely promoted green technology and production, and significantly improved resource utilization.

There are a number of hard numerical targets for the government to reach by 2025, including increasing resource productivity by 20% compared to 2020 levels, and reducing energy consumption and water consumption per unit of GDP by 13.5% and 16%, respectively. There are also targets for increasing utilization rates of waste products, increasing the production of recycled products and increasing the output value of the resource recycling industry to RMB 5 trillion (\$773 billion).

"At a practical level, China's central government, local governments and relevant industry associations have already carried out the pilot construction of circular economy enterprises and released numerous advanced cases," says Bing Xue, research scientist of the chair for circular



Sources: visualcaptialist.com; Worldometers; Statista; globaltrademag.com; insg.org; Deloitte; ricepedia.org

economy and recycling technology at the Berlin Institute of Technology. In 2005, he said, 43 companies in seven key industries, including iron and steel, non-ferrous, chemical and other industries, were chosen as pilot implementers.

From linear to circular

There are numerous benefits for companies taking on a more circular approach, including resource security, risk reduction, lower production costs, stimulating innovation, government incentives and a better reputation for companies involved.

"To varying degrees, all Chinese industries would benefit from taking the circular economy approach," says Janz Chiang, environmental and ESG analyst at policy analysis firm Trivium China. "To the extent that companies can reduce resource intensity, it should help bottom lines. Consumer-facing companies are also likely to benefit from implementing circular business models. That's because Chinese consumers are increasingly environmentally conscious and looking to support sustainable development through their purchases."

A company in east China, Zhejiang Xinzhou Bamboo-based Composites Technology, is using some of the 110 million tons of bamboo that goes to waste in China each year to make bamboo composite pipes which are used for irrigation, drainage and sewage systems in place of metal pipes. Meanwhile, a growing number of companies are looking to remove pollution from their business models, in order to both reduce costs and improve their image with consumers. These include electric vehicle companies NIO and XPeng and plant-based meat alternatives providers such as Z-Rou and Omnifoods. But extending this circular economy approach to the main industrial offenders is not easy.

"There are several industries in China with massive overcapacity, like steel, cement, aluminum and coal power, that could benefit from a circular economy approach to overall resource management," says Springer. "These industries have huge environmental footprints and require massive amounts of energy inputs, so excess capacity is really damaging. However, there are complex political and economic reasons for why policymakers in China tolerate and support such overcapacity."

China's second-hand market, which keeps products and materials in use for longer, is booming. The market has an estimated transaction volume of RMB 1.25 trillion in 2020, up from RMB 742 billion in 2018, and Alibaba's Idle Fish, a

second-hand goods e-commerce app, alone estimates it will generate over RMB 500 billion (\$77 billion) in gross merchandise volume in 2021, up from RMB 200 billion in 2020. This growth is caused by a reduced stigma of buying second-hand products and an increasing environmental awareness in customers.

"Chinese consumers are increasingly accepting pre-owned products," adds Vigil Yu. "This is, of course, supported by the convenience of online platforms."

Circular economy business strategies, however, sometimes have unexpected consequences. A striking example was the waste produced by the bike sharing phenomenon a few years ago—a scheme designed to reduce pollution resulted in "bike graveyards" in many cities, piles of unusable bikes which completely went against the original goal of resource and pollution reduction.

Such outcomes show that misinterpreting the true nature of the circular economy is still common place. "There is a huge focus on disposal and recycling, rather than on source reduction," says Dani. "The circular economy needs to be promoted as a better mindset, [one] of responsibility to consume consciously, reduce resource use or consumption where possible, and for what is not possible to reduce, to be able to discard or recycle responsibly."

Discarded electronic items are one of the biggest problems, but are also one of the biggest potential opportunities in terms of recycling. One such company that is benefitting is GEM China, which collects and recycles precious metals and other valuable materials from discarded batteries and electronics. According to the latest data available, in 2016 the company says it processed 3 million tons of resources that would otherwise have been wasted, saving energy equivalent to 14 million barrels of fossil fuel.

The circular economy also requires much greater cooperation between companies and also different sectors of the economy. "Ultimately, the circular economy is about system change, and crossvalue chain, multi-stakeholder collaboration is crucial," says Yu. "Taking plastics as an example, production and application ranges from petrochemical, agriculture, hospitality, consumer products, and many other industries, all of which have a role to play when it comes to innovation, technological advancement and waste management."

A design flaw

There are still some glaring contradictions to China's approach to the circular economy. While China's 2060 carbon neutrality goal was welcomed globally, that target has yet to be matched with a consistent action plan. Instead of cutting its reliance on coal, China put 38 gigawatts of new coal-fired power capacity into operation in 2020, equal to the entire capacity currently installed in Germany.

"The need for China to find a balance between Beijing's green development vision and the provinces' economic recovery needs—especially post-COVID—will likely hinder its circular economy goal," says Chan. "In particular, it is investing in more coal power than the rest of the world combined."

China's 14th Five Year Plan, covering 2021-2025, emphasizes circular economy measures, but essentially outlines a continuation of existing trends, rather than an acceleration of climate action. The plan

The waste reduction aspects of circular economy policy can reduce future pollution burdens

> Cecilia Han Springer Senior Researcher Global China Initiative

makes no mention of either a coal cap, or an emissions cap.

"Xi Jinping has made green and lowcarbon development a priority," says Chiang. "That said, efforts to promote the circular economy thus far have been more aspirational than actual."

In terms of whether consumer attitudes in China are changing, many experts are pessimistic. "I honestly don't believe attitudes are changing much," says Dani. "They're possibly even getting worse. Education among both kids and adults is severely lacking, and not enough businesses are taking the issue seriously enough."

An increase in online shopping has only added to the amount of packaging waste created. "The consumer culture associated with China's growing middle class is an issue," says Chan. "As they pursue a better quality of life, both China's ecological footprint and waste production are rising as well. China's Singles Day is just one symptom of that rampant consumerism."

Reinventing the future

Even though China is making inroads in implementing the circular economy, the question is whether the country is simply playing around at the edges of the problem and not facing core issues in manufacturing and consumption.

"Whether us environmentalists like it or not, the global economy is going to continue to focus on GDP growth, thus, consumption," says Dani. "As more governments, businesses and products embrace circular principles we should hope to see less waste ending up in places where it shouldn't. We can also hope for better utilization of raw materials and resources, thus reducing overall stress on our planet's resources."

While second-hand e-commerce platforms exist and products are increasingly being made to be repaired, most Chinese people still want to replace their items and buy new ones. Green consumption is not yet mainstream.

"China's growing middle class is increasingly aware of environmental issues, but this awareness is largely centered on reducing exposure to pollution rather than finding ways to reduce one's footprint," says Springer. "Thus, I don't think consumer demand for greener products will drive circular economy policies in China. However, growing societal awareness of pollution has been and will continue to be a powerful motivator for Chinese government regulators to clean up."

All we have so far are indications of a trend, and the fact that China has the power, if it wants, to shift this in a new direction and have a big impact because of its massive market size.

"I believe that China—due to its sheer size and manufacturing capacity—has a lot more pressure to adopt the circular economy, and it is certainly expected to be ahead of other countries," says Dani. "For China it's not just a matter of choice but a necessity to better manage its resources and the environment if it is to continuously provide a healthy and fair environment to its people."

Challenging Times

Ker Gibbs, outgoing President of the American Chamber of Commerce in Shanghai, discusses US-China relations and the situation of foreign businesses in China

he relationship between China and the United States has on occasion been turbulent, but in recent years tensions between

■ the two countries have gone up by several notches, having knock-on effects for businesses across different sectors. As a former banker, investment adviser and CEO of high-growth tech companies and now, as the President of AmCham Shanghai, Ker Gibbs is uniquely positioned to provide insights on US business in China at both the macro and micro levels.

In this interview, Gibbs discusses US business sentiment in the China market, post-pandemic business recovery and the problems and benefits of doing business in China.

Q. In AmCham's 2020 business climate survey, the majority of members cited US-China relations as the biggest issue weighing on their companies' activities here. How has the change in administration in the US and the developments that have

followed changed the sentiment of US businesses operating in China?

A. The business community is pretty nervous. I wouldn't say they were disappointed in the Biden administration but we're certainly not seeing a return to the more optimistic days that we had before. The good news is that it's a much more professional approach from the Biden administration, a much more consistent, predictable approach and business definitely likes that.

But the Biden administration is trying to tackle a very different

set of issues. For Trump, it was really just transactional, it was all about trade and investment, whereas Biden has taken on a set

of issues that are very difficult to negotiate, so they're very difficult for China to give ground on. We all know how to negotiate a soybean trade, but how do you negotiate over human rights or democracy?

Most of my members are strapped in for the long haul and expect the tension to remain for quite some time because, frankly, there's no off-ramp in sight. It's really difficult to see how some of these issues are going to come to conclusion. I wish I could be more optimistic about it, but I think we've got a challenging situation here for sure.

Q. Specifically, how are US-China trade tensions affecting the business activities of US businesses in China? Do you have any examples?

A. In practical terms, we are finding that the space in which we operate is becoming narrower. This is largely driven

by compliance issues and export controls, especially in the technology space. Then we've got sanctions and counter sanctions which leave businesses feeling caught in the middle. Making sure that they are compliant with both Chinese law and US law, at the same time, is becoming increasingly challenging. And in some cases, that's deliberate, you look at the "anti-sanctions" laws that China has put in place to make it more difficult for companies to comply with US sanctions.

If you look at it quantitatively, recruiting and retaining staff

Ker Gibbs is the outgoing President of the American Chamber of Commerce in Shanghai. He first came to China in 1985 and has worked in various roles giving him broad exposure to US-China relations and business issues facing American companies opening in Asia. His career has spanned Asia and Silicon Valley, with executive positions at Apple, Disney, and other technology and media firms. Most of his time in Shanghai has been in banking and investments, he was head of tech and media for greater China at HSBC.

is also a difficulty, Chinese staff are really thinking twice about going to work for an American company, which is unfortunate. Running businesses in China is all about the talent, so if you're having trouble recruiting and retaining staff, that's a major problem. And we've seen that in statistics, in the survey we put out a last year, we asked people if the tensions were leading to difficulty in recruiting and retaining staff and over 30% of our members said yes. It's a major problem.

Q. To what extent were foreign businesses in China hurt by the COVID-19 pandemic? And to what extent have they recovered and recouped the losses, or is it a long road ahead?

A. The pandemic has certainly changed the way that we do things, but it hasn't actually had the severe negative impact on business that we've seen in other parts of the world. China has actually done extremely well in controlling COVID-19 and getting businesses reopened and, as a result, business performance has actually been quite good, even through 2020. In 2021, I would say all but a few businesses have recovered. Companies such as airlines or movie theaters, that are directly impacted by the Covid controls, are still facing some issues.

That's not to say that we don't have our issues. Our assumption at this point, looking at COVID-19 both inside and outside China, is that we're expecting the restrictions on international travel to be in place for quite a long time. That, in and of itself, should not stop businesses from operating as usual or taking advantage of China as a market. But it is going to have an impact as it is more difficult to operate businesses without international travel. We're having trouble getting expats and dependents smoothly in and out of the country, which will change the way the businesses operate in China in the longterm. I think American businesses in particular have localized, probably faster than the Europeans, but there are still positions that require someone from headquarters or non-local staff, so a lack of mobility will impact that. Having said that, most of our members are still anticipating excellent growth in 2021, especially as the Chinese consumer market continues to expand.

Q. The Chinese government has issued a number of announcements in recent months on relaxation of regulations on foreign investment. To what extent are you seeing positive developments in the environment in which US businesses

operate in China? And how would you characterize the domestic business environment overall?

A. I look at it as being too little too late, especially in commercial banking and insurance. Those opportunities are pretty challenging because if you look at market share and the sheer size of some of these banks and insurance companies, the domestic players dwarf the foreign players, so even though they've lifted the equity caps, and given us much more room to expand, the market opportunity is pretty limited.

There are foreign players that have got a domestic securities license now, but it's yet to be seen how much success they'll have within the securities space. There is still a limited fee pool, and a lot of domestic competition. Within financial services, the bright spot seems to be asset management. We welcome the relaxation of some of the controls there and we're seeing more and more companies coming into that space.

Staying within the financial services, what we'd like to see is a lot more cooperation, and cross-border investment in fintech because we think that's an area where there's a lot of innovation happening in China that it would be good if the foreign players can take advantage of that. Also, it's a big domestic market and fintech generally is a very exciting space. We expect to see a lot of innovation in that area.

Q. China is home to some of the most exciting tech innovation happening today but this is often not recognized by the tech industry outside of China. What are the relative strengths and weaknesses of the US and China in terms of tech development and innovation?

A. In Silicon Valley there's so much myopic thinking and, frankly, arrogance. It is inherently understood that they invent in Silicon Valley and that's where the innovation takes place. And that's just not true. China is very innovative, especially around financial technologies and I think it has a couple of advantages in that. First of all, China's speed comes up again and tech entrepreneurs have learned to fail fast and move onto something new. The other thing is the law of large numbers. There are a lot of entrepreneurs

China is very innovative, especially around financial technologies

What we'd like to see is a lot more cooperation

here and while we only hear about the successful ones, for every one of those, there are hundreds of other entrepreneurs that are experimenting and tinkering with various things.

There's still amazing things happening in Silicon Valley and it's still a magnet for the best and the brightest, it's home to some of the best universities in the world and the opportunities for talent are excellent. I wouldn't count the US out.

It is important to talk about innovation because when I talk to foreign businesses that are not in China, or are reevaluating their presence in China, a common talking point is the fact that domestic companies in China are innovating like crazy. I think it's to our advantage to be in the market where our domestic and global competitors are, because the likelihood is that our next competitors are going to be coming out of China. So it's better to be here, watching what they're doing and learning from it, rather than waking up one day and seeing that we've been overtaken.

Q. The business landscape in China has changed over the years and the aspects that made a company successful in the early 2000s would not necessarily provide the same levels of success today. Can you provide some examples of US companies that have successfully adapted to the China market over the past few years?

A. Most of our businesses are very successful. I think that the successful foreign businesses have had to adapt in two ways. One is China's speed and the other is China's tastes. To take a negative example, eBay experience here, after spending a lot of money buying their way in, demonstrates this. They didn't adapt their global platform and the global business model to the way things were done in China. Even though Taobao came into the market much later, it was able to outmaneuver and is now wildly successful.

Matching China's speed is also necessary, but it's hard. In general, multinationals are a little bit hamstrung because a lot of the decision-making goes back to headquarters which imposes at least a day or two delay, just to get an answer back. China moves at a much faster pace than that. That's something that the more successful companies have figured out, how to adapt and move at a faster pace.

Q. How is the Chinese government's support for the Dual Circulation policy, emphasizing domestic companies and economic growth, impacting US companies doing business here?

A. We're still in early days in terms of Dual Circulation, and they're still sorting out their interpretation of that policy. But we are getting anecdotal stories that encourage buying domestic and so it does keep foreign companies out of certain markets, especially in the technology space.

China still welcomes and wants foreign businesses but I'm not sure they believe they need foreign businesses. China is very different from a market like Singapore, for example, where the domestic market is just an economy, it's just a very small island, and so it must have foreign participation in order to survive. China is very different. It is dependent on the outside world for certain things like oil and semiconductors, but for the most part it's large enough and diverse enough to just do it on its own.

Q. How do you see prospects for American companies changing in China over the next five to 10 years?

A. This is a tough one, politically both countries are on a new trajectory, which makes this difficult to predict. Clearly, China is on a more aggressive path and I think certain elements within China like the position that the government is taking, but there are also elements in China that enjoy benefits from the relationship with the United States and so they want both. They appreciate China is pursuing its own interests, but they also want a relationship with the US and the rest of the world. That's going to have to be a balance that China will need to work out.

On the US side, some degree of decoupling is inevitable as the US is feeling somewhat defensive. When faced with the aggressiveness of China, the US is not as patient as it once was after the WTO, for example. Outside China, nobody views it as a developing country anymore and to be more specific, nobody is willing to give them special rights and privileges connected to their status as developing country. And what that means in the US context, and the European as well, is reciprocity—China is going to be expected to abide by the same rules and principles as everyone else.

I'm fundamentally optimistic, I don't see a full decoupling and I don't see American companies leaving the China market anytime soon. So over the next five or 10 years, I think we'll certainly still be present here. Again, China wants the foreign companies here. They don't necessarily need them, but I would still expect China to welcome foreign companies and make sure that we're able to operate here.

Chasing Carbon Neutrality

China plans to peak carbon emissions in 2030 and be fully carbon neutral by 2060. How will this impact on economic activity?

By Liu Jing, Professor of Accounting and Finance, CKGSB, and Duan Lei, Senior Researcher, DBA Research, CKGSB

Since the Industrial Revolution, human activity has caused the earth's temperature to rise abnormally—and rapidly. According to data from NASA, the current global average surface temperature is around 1.2°C higher than it was in 1880, a number far beyond the normal fluctuation range of the earth's average temperature in the previous 10,000 years.

The potential economic losses due to the effects of continued global warming are staggering. According to research from Yale University professor and climate economist William D. Nordhaus, by the end of this century, if global temperatures rise by 3°C, 4°C or 5°C, worldwide annual economic losses could be as much as 2.3%, 4% or 6.5% of GDP respectively.

Furthermore, research by the Federal Reserve Institute of Globalization has shown that unless counteractive measures are taken, global temperatures will continue to rise by a further 3.7°C by the year 2100, resulting in a possible loss of 7.2% of annual per capita GDP. To put this in perspective, by the end of this century, unchecked global warming would cause human beings to face economic losses equivalent to a COVID-19-scale pandemic every single year.

Solving the Problem

Achieving carbon neutrality is an enormous challenge. Energy usage is both the largest source of global carbon emissions and also an important factor in the economic development of nations as well as the continued improvement of living standards. The correlation coefficient between energy consumption growth rates and GDP growth rates is as high as 90%.

Despite the likelihood of a knock-on effect of lowering living standards, it is extremely difficult to persuade people to reduce energy usage in order to reduce emissions. Therefore, the key to solving carbon emissions problems is to solve the economic knock-on effects. Accordingly, there are two ways to approach emission reduction and achieve the goal of carbon neutrality whilst continuing to maintain growth rates and standards of living.

The first approach is to continue to reduce the cost of new energy. For example, the government subsidies granted during the inception of the industry led to the cost of generating solar and wind energy falling below that of more traditional energy sources. Because it now makes financial sense, even without additional stimulus policies, the market will organically choose to use new energy over other sources. The cost reduction of new energy production stems from technological progress and economies of scale which, once progression is established, drive a positive cycle of cost reduction.

The second approach is to increase the cost of carbon emissions. If the cost of carbon emissions is high enough, companies will invest in research and development of new energy in order to avoid emissions and their associated costs.

The basic idea behind increasing the cost of carbon emissions is to tax them. This can be done by stipulating how much tax should be paid per certain amount of emissions. But this administrative approach can often be inefficient and increase costs in areas where it isn't required or desired.

An alternative is to use the market to solve the problem. By setting a limit on China's overall carbon emissions, you can then give companies the right to buy carbon emission credits from each other, meaning that emissions will establish their own market prices. This price can also be considered a carbon tax, one imposed by society on carbon-generating companies.

Economy & Policy

China introduced such a market in July, with an opening price of \$7.40 per ton of carbon but, although this price is over three times higher than the current global carbon tax rates which hover around \$2 per ton, it is still way off the mark. In order to limit global temperature increases to 2°C by the end of this century—which a number experts say is required—the International Monetary Fund estimates that the price of carbon emissions needs to reach \$75 per ton by 2030 to effectively control the rise in temperature.

According to the latest data from the United Nations Environment Program, global greenhouse gas emissions in 2019 were equivalent to 59.1 billion tons of carbon dioxide, which would result in the payment of around \$4.4 trillion in global annual carbon taxes. Based on these numbers we can see that spending about 5% of global GDP each year on carbon taxes is required to effectively slow any rise in temperature. Such a huge economic investment will challenge the determination of people and policymakers to reduce emissions.

Continuing confidence

Although global energy usage is still dominated by fossil fuel-derived power, renewable energy supply and demand is growing at a rapid pace. Taking the global primary energy consumption structure in 2019 as an example: oil, coal and natural gas accounted for 33.1%, 27.0% and 24.2% of consumption respectively; while renewable energy sources such as solar, wind and hydropower added up to only 11.4%.

But since 2013, clean energy has consistently outpaced traditional energy sources in newly installed capacity for power generation globally. According to the Chinese government's carbon neutrality goals, the share of non-fossil energy in primary energy consumption will be in excess of 25% in 2030, and clean energy will dominate the energy mix in 2060.

Confidence in the future development of clean energy comes in large part from the fact that the cost of solar and wind power generation has been rapidly decreasing over recent years and making it easy for it to compete directly with traditional energy sources. According to the International Renewable Energy Agency, from 2010 to 2019, the cost of solar power generation worldwide fell by 82%, onshore wind power by 39% and offshore wind power by 29%. In 2019, many areas of China's solar, wind and thermal power already reached cost parity with grid-connected power. With the continuing development



Solar panels in China's western Qinghai Province

of technology and increasingly largescale application, the cost of solar and wind energy has considerable potential for further reductions.

Another reason for confidence in new energy comes from the potential for clean energy development. Solar energy, for example, could meet China's current electricity consumption needs with only 0.6% of the country's land area, around 237km², covered in photovoltaic panels. Adjustments would have to be made to take into account energy demand peaks and troughs, and transmission losses, but the potential is clearly there.

Business opportunities

China is a world leader in industrial and technological development. In 2019, the output of silicon wafers, cells and modules in China's solar industry accounted for 91%, 79% and 71% of the total global output, respectively. The output of inverters—devices that convert electrical power from direct to alternating current—accounted for more than 80% of the global market and the manufacturing of complete machines for wind power generation made up 41% of the global total output.

China's energy and tech sectors have also produced global industry leaders, for example, lithium battery manufacturer Ningde Times, which has a market value of over RMB 1 trillion. There are also popular independent brands of new energy vehicles, such as NIO and XPeng.

Because of China's dominance in these markets, if the world continues to seek to reduce emissions and lower carbon output, it will create a huge opportunity for the country in terms of business development. Carbon reduction can help China to expand and overtake its competitors in the energy and automobile sectors, while also leaping ahead in industrial competitiveness.

Particularly in the context of global emission reductions, new energy vehicles have ushered in a golden age of development at both the policy and cost levels. European countries are gradually moving towards outlawing fuel-powered vehicles after 2025 and completely banning the sale of gasoline and diesel vehicles in



Chinese electric cars being charged at a power station

order to fulfill the obligations of the Paris climate agreement.

In China, Hainan has said it will ban the sale of fuel cars by 2030, becoming the first province in the country to set a deadline for phasing out older energy vehicles. The transformation from fuel vehicles to new energy vehicles is accelerating, with Ernst & Young predicting that electric vehicle sales in Europe, China and the US will exceed fuel vehicle sales within 12 years. The China Consumers Association expects China's new energy vehicle sales to grow at an average annual rate of more than 40% over the next five years.

In terms of cost, the global IT and electronics sectors have seen an annual decrease of about 30% in unit costs. Similarly, the renewable power battery market has followed a Moore's Law style reduction in costs, with an average decrease in power generation cost of about 18% per year over the past few decades. Both decreases have resulted in new energy vehicles becoming more desirable in terms of cost.

Energy storage

One major challenge to the blanket adoption of new energy sources is supply

volatility. Because electricity generation is demand-driven, the grid needs to be constantly adjusted on the generation side to fit the demand curve and to ensure a realtime balance of electricity generation and consumption.

Since solar and wind power generation depend on natural resources, their output fluctuates depending on inputs which are not inherently controllable. The cost of regulation and consumption of new energy is much higher than that of traditional energy sources, especially the use of new energy storage to regulate supply and demand.

Take the UK's experience as an example. Before 2010, the cost of balancing power systems accounted for less than 5% of the overall cost of power generation, but with the increased use of new energy in recent years, the cost of balancing the systems rose to about 20% in 2020.

Developments in energy storage technology can help solve the problems associated with using new energy. It would, to a large extent, circumvent the issues of supply volatility, reducing the pressure on the grid and lowering transformation costs. Energy storage demand was 15.28 billion watt-hours in 2020, and the market was valued at about RMB 230 billion. Thus, energy storage also has the potential to become a major business opportunity.

Another opportunity to be aware of is that energy storage can be widely applied on the user-side. Industrial or even household storage can take advantage of peak and valley tariff arbitrage. Take the China World Trade Center storage station in Beijing as an example. The peak and valley price difference in Beijing is about RMB 1 throughout the day, and the energy storage station buys power for storage at the lowest price and sells it at the peak. Doing this has saved RMB 1-2 million for the mall every year.

Given the high growth prospects of wind and solar energy, the energy storage market can expect to grow to a considerable level.

Thinking about the future

China is committed to stopping the growth of carbon emissions by 2030 and achieving carbon neutrality by 2060. However, reaching these goals is not a simple task. For example, China's industrial sector uses 48.3% of the country's energy, with the steel, and chemical and petrochemical industries accounting for 24% and 21% of energy use respectively. As demand in these industries continues to rise, it will be difficult to curtail emissions in the short term.

Global warming is obviously a pressing issue, and its impact on global civilization is seriously detrimental. Given the cost and complexity of reducing carbon emissions, it is difficult for countries around the world to reach an agreement on the best way to approach the problem. In addition to the advancement of new energy technology, a substantial increase in the cost of carbon emissions is required as part of the climate solution.

Because of the universality of the climate crisis, an increase in carbon emissions costs will not only affect specific industries or new energy companies, but also the world as a whole. Staying at the forefront of developments in the approaching low-carbon era is an issue that every company and every country must think about carefully.

Economy & Policy

THE GREAT HOMECOMING Despite record listings in the US in 2021, increased scrutiny from Chinese regulators is pushing companies to stay at home By Shi Weijun Image by Yuyu Zhou

China's businesses are increasingly looking to list on domestic exchanges

fter a record year of Chinese companies listing on US stock exchanges, June saw Didi Global, China's largest ride-hailing operator, join the party with a \$4.4 billion IPO. But scarcely had major shareholders had time to celebrate before regulators in Beijing hit the company with accusations that tanked its share price.

Within 48 hours of Didi's listing, the Cyberspace Administration of China (CAC) said it had launched an investigation into the company. Two days later the once-obscure internet regulator ordered Didi's mobile app to be pulled from local app stores, blocking new customers from joining the service.

China is turning the screw on domestic companies seeking to go public outside of China and dozens of mainland-domiciled businesses have since halted their planned IPOs in the US, including high-profile tech names such as social media and lifestyle platform Xiaohongshu, popular fitness app Keep, and autonomous driving startup Pony.ai.

And while the boom in Chinese firms floating in New York has come to a sudden halt, IPOs on bourses in Shanghai and Hong Kong are surging. It's part of a great homecoming, a fundamental shift in listings from the West to the East. Beijing's clampdown on foreign listings forms part of a broader crackdown on internet platforms and the tech tycoons they have enriched. It marks a major turning point in the long-running success story between capital-hungry Chinese firms and deep-pocketed American investors putting more than \$2 trillion in shareholder wealth on the line.

"Foreign stock investors who used to look to these types of Chinese stocks for dependable growth and often huge gains will now be very wary of betting on Chinese stocks," says James McGregor, Greater China Chairman for consulting firm APCO Worldwide.

Taking stock

The flow of Chinese companies to New York over the past few decades has long been immensely profitable for all involved—from the founders who became billionaires overnight and the Wall Street banks that underwrote the deals, to early investors and new shareholders.

Going public in the US has paid off for Chinese tech companies since China.com Corp. became the first to float in the US in July 1999, rewarding them with clout and capital. "Listing a foreign company in New York is incredibly prestigious, which is very relevant in a Chinese context," says



The home of the Shenzhen Stock Exchange, where increasing numbers of Chinese companies are looking to list

These mainland firms listed in the US—particularly the big tech firms—are now classified as critical information infrastructure providers

Rory Green Chief China Economist, TS Lombard

Paul Krake, founder of Hong Kong-based consultancy View from the Peak. "It's also a pragmatic way for those with global ambitions to circumvent mainland capital controls."

The money flow was uninterrupted in the first half of this year-of the 78 tech, media and telecoms companies (TMT) in China that went public in the first half of this year, 20 listed in the US and raised a combined RMB 65.2 billion (\$10.1 billion). That was a major leap over H1 2020, when only nine IPOs were launched. Mainland TMT listings raised just RMB 38 billion (\$5.9 billion) in H1 2021. As of early May, there were at least 248 Chinese companies listed on the three largest US exchanges with a combined stock market value of \$2.1 trillion. This compares with 217 companies and a total market capitalization of \$2.2 trillion in October 2020.

Chinese enterprises have long had additional reasons besides prestige to choose New York over Shanghai, Shenzhen or Hong Kong. Wall Street has a longstanding acceptance of unprofitable startups and an inclination to hand juicy valuations to tech companies, according to Paul Gillis, a professor at Peking University's Guanghua School of Management. "It's very easy to raise money from listings in the US because there's greater expertise in technology there, while the US has more relaxed corporate governance standards."

IP-No

But Beijing has now moved to stem the flow by framing rules to ban internet companies whose data poses potential security risks from listing outside the country—including in the US. In early July, the Communist Party's Central Committee and the State Council jointly issued opinions to crack down on illegal activities in the securities market. The document vowed to strengthen oversight of companies traded abroad and set up a supervisory system to address risks and emergencies related to foreign-traded companies, especially around data security.

The CAC meanwhile, has spearheaded the government's scrutiny into IPO candidates by inserting itself into the offshore fundraising approvals process. The agency proposed new rules in July that would require companies with more than one million users to undergo a cybersecurity review if they are looking to list overseas.

The China Securities and Regulatory Commission (CSRC) is drafting rules that could require offshore-registered companies to seek regulatory approval before selling shares in foreign markets, and there have been media reports that companies controlling large amounts of sensitive data may be banned from listing in the US altogether.

"The Communist Party is saying there is no national security without data security," says Rory Green, chief China economist at TS Lombard. "These mainland firms listed in the US—particularly the big tech firms are now classified as critical information infrastructure providers. They have such a big role in the Chinese economy, they're essentially an infrastructure, and because of this, they need much greater supervision from a data security and a national security perspective."

Recent action in Washington has contributed to souring what was previously a welcoming environment for Chinese listings. For years China has refused to allow the US Public Company Accounting Oversight Board (PCAOB) to examine the audits of Chinese companies' financial statements and the auditors charged with reviewing them.

"It was a halfway compromise that didn't work very well and both sides were muddling through," says Martin Chorzempa, senior fellow at the Peterson Institute for International Economics. He points out that France and Belgium also had issues with PCAOB oversight but still managed to strike agreements with the US.

"The contradiction for a while now is that China hasn't allowed the US to audit its companies from the Chinese side," says Green. "This has been problematic because of a number of long-running accounting issues, particularly with fraud. Most recently it was Luckin Coffee but there have been many other fraudulent Chinese companies that successfully misled US investors."

The issue came to a head near the end of 2020 after the US Congress passed bipartisan legislation that mandates foreign companies listed in the country to agree to an auditing inspection within the next three years or be delisted from American stock exchanges. The US Senate upped the ante this summer when it passed a bill trimming the deadline to two years. Then in late July, the US Securities and Exchange Commission halted IPOs by Chinese companies until they boost disclosures of risks posed to shareholders.

An additional reason for the US pushback is concern over companies that are backed or partially owned by the Chinese government, which could pose national security threats or be implicated in human rights violations.

The impact of the regulatory onslaught has been reflected in the slumping valuations of US-traded Chinese firms, with billions of dollars in market value wiped out. For instance, the market capitalization of Alibaba—arguably the poster child for Chinese internet's might on US markets—has slumped to its lowest since October 2019. Meanwhile, the MSCI China Index, which tracks large and mid-cap Chinese companies, fell more than 12% in the first seven months of 2021. By contrast, the MSCI World Index has risen 15%.

Didi getting ahead of itself

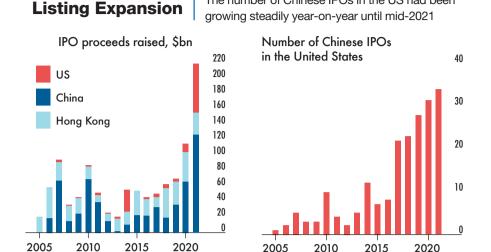
The months-long US threat to delist mainland firms unless they open their books means it is unclear if Didi's IPO at the end of June was the catalyst for China's own regulatory crackdown. But the ridehailing platform is undoubtedly the mostvisible casualty of the increased acrimony, their shares were still trading at one-third lower than the IPO price in October.

Didi's rush to go public put it in the crosshairs of regulators that had urged the company to delay its IPO until its cybersecurity could be vetted, says Gillis. "There were some valid concerns about Didi... I think Chinese regulators wanted to make sure their customer data did not become available overseas or to foreign regulators."

Official fears of Didi's data falling into the wrong hands were likely fanned by a 2015 study that used Didi's data to track the travel habits of government officials. "That kind of information is something that China would quite reasonably not want to fall into the hands of foreigners," says Gillis.

Paul Krake is unsympathetic over the regulatory assault on Didi. "They were a bad actor in all of this," he says. Now the company's missteps have created a major red flag for large companies also looking to list overseas—particularly ByteDance, which shelved US IPO plans after attracting regulator's attention, only to subsequently announce its intention to list on the Hong Kong exchange in early 2022. "I think it's served notice that going forward these companies need to toe the line and do these things properly."

The Didi fiasco helps explain American discontent over the risks of China listings on US exchanges, and the need for Chinese firms to better inform investors about



regulatory and political risks. In Didi's case, it has claimed it had no prior knowledge of the CAC's probe and has not commented on media reports it ignored regulators' suggestions to delay its listing.

Sources: The Economist; KPMG; Renaissance Capital

"What happened with Didi has really highlighted the frustrations, both in Beijing and in Washington, about how this process has been going up until this point. And it is leading to a shift," says Chorzempa.

Coming back home

With the US IPO market now a danger zone for Chinese firms, companies are eyeing domestic markets, following a years-long effort by Beijing to elevate its exchanges.

Shanghai's three-year-old STAR Market has gone some way to easing longstanding difficulties of going public in China, by introducing more inclusive and adaptable listing rules to support tech and innovative enterprises. The Nasdaq-style board is the first in China to permit a dualclass shareholding structure favored by Silicon Valley's tech moguls.

The number of Chinese IPOs in the US had been

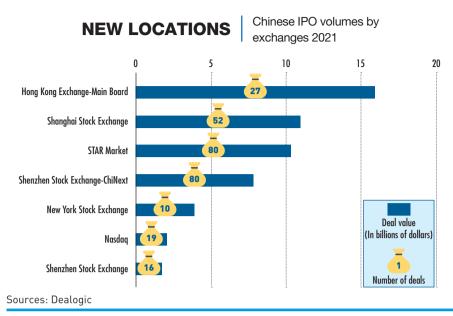
In addition, the STAR Market's adoption of a registration-based IPO system has been a "game changer," according to Green—whittling down a review process that previously took up to two years, to as short as six months. "It's a much faster process. China is enabling these tech firms to either list directly in China or at the very least conduct secondary share placements."

The government has already replicated the registration system to Shenzhen's ChiNext startup board, and aims to

There's the feeling that reliance on US capital markets leads to vulnerability, and gives the US control

Martin Chorzempa Senior Fellow Peterson Institute for Economics

Economy & Policy



gradually roll out the mechanism to the rest of China's stock market, which still uses a system based on regulators' approvals.

Companies seeking IPOs can also look to the long-established Hong Kong Stock Exchange and Beijing has just announced the creation of a bourse to expand financing for innovative small and medium-sized enterprises who face growing hurdles to selling shares in the US.

Capital considerations

Stricter rules mean many US-listed mainland companies including Alibaba, Baidu and NetEase have carried out secondary listings in Hong Kong to hedge against risks. Green says duallisted enterprises are in theory a safe investment for US investors as, in the event a company's shares in New York are forcibly delisted, those shares could automatically be converted onto the Hong Kong Stock Exchange.

In practice, however, many large institutional investors are starting to prepare to buy shares in Hong Kong rather than in New York—potentially giving rise to a Hong Kong premium in companies' share prices relative to New York.

The future for companies without secondary listings is more uncertain. "A probable market dislocation will be the big valuation gap between companies with secondary shares versus those listed only in New York," says Green. "The latter will be much more vulnerable to a sudden regulatory change in either the US or China. There's no fallback option for these smaller companies."

The rancor raises the thorny question of why Beijing is curbing access to the world's biggest capital markets. "There's the feeling that reliance on US capital markets leads to vulnerability, and gives the US control. That's something they're worried about," says Chorzempa.

McGregor points out that while government in the US serves business sometimes to such an extreme extent that it shortchanges consumers—recent events in China have crystallized the notion that business there is expected to serve the government. "You can make money but you have to do it with a focus on what serves the government's plans and objectives," he says.

But talk that the schism between American capital and "China Inc." is a step toward decoupling is overblown, argues Krake. He says that while the situation fits the hawkish narrative that China is intent on decoupling its companies from Western capital markets, the "reality is that Chinese companies are being delisted not because of decoupling but because they have different standards."

Gillis agrees that regulatory misalignment is forcing the matter. "I

think China should probably find a way to withdraw from US capital markets if it does not want to comply with US regulations. It's completely appropriate for the US to deny access to its capital markets for any company unwilling or unable to comply. Does this mean what's happening is decoupling? I'm not convinced."

Journey to the East

While Beijing's tightening grip has thrown a wrench into the listing plans of many mainland startups, the general sentiment is that IPOs will not remain at a standstill for long given the allure of the deeper capital markets, more streamlined listing processes, and a broader investor base in the US. "I think we will see a return to US listings late this year but the appetite for them is going to be subdued," predicts Gillis.

Likewise doomsdays speculation in American financial circles that this presages the end of Chinese listings in the US are likely to be wide of the mark. But it is fair to say their continued presence on New York's exchanges will be influenced by the geopolitical relationship between Beijing and Washington. The intransigence is not simply a matter of the regulators themselves—both the SEC and CSRC have signaled willingness to compromise—but of overall US-Sino ties.

At the same time, Beijing's actions against Didi and on the broader regulatory landscape make its preferences clear—it wishes to see more capital raised on its own exchanges, within its purview and on the terms that it dictates. "Over the next five to 10 years, we will see continued decreased reliance on US markets and increased reliance on Chinese and Hong Kong markets, together with reforms that will basically merge the Hong Kong and Shanghai markets together," says Gillis.

"The real question is if the US-China relationship is on an ever-declining path toward decoupling? We're still looking for a floor, a new baseline for relations," says Green. "I'm optimistic that it will not be a full-on decoupling, so from that basis, I believe there will still be Chinese companies listed in the US a decade from now."

Doubling Down on China

Mats Harborn, President of the China operations of global truck maker Scania, talks about the current trends in the Chinese transport sector and what they mean for his company, both in China and abroad

n early 2022, Scania, an automobile manufacturer specializing in trucks, trailers and various industrial engines, will become the first international transport firm to produce vehicles from a wholly-owned production facility in China. This business development came straight after the introduction of new regulations that allowed whole-ownership by foreign companies,

previously anything of its kind would have to be a joint-venture with a Chinese firm.

For Scania, which originated in Sweden and has been a fully-owned subsidiary of auto giant Volkswagen since 2015, the new plant could be a game changer. Since 1965 Scania has sold over 20,000 vehicles in China, the vast majority of which have been imported. The new plant in the eastern Chinese province of Jiangsu will produce, among other things, the company's tractor units—the engine section of articulated lorries—which are its biggest selling product in China. Scania intends to use the new facility to raise sales in the country to a level similar to that of its current single biggest market, Brazil, by the end of the 2020s.

In this interview, Mats Harborn, President of Scania China Group, discusses the trends in the Chinese transport sector,

the increasing importance of China to Scania's global supply chain and his hopes for more market-driven solutions for foreign manufacturing in China.

Q. What developments do you see in logistics in China and how are these impacting Scania's business worldwide?

A. If I narrow it down to heavy-duty trucks, what we see is a

market with tremendous overcapacity, and that was exacerbated by maybe the biggest pre-buy effect in history, at least in our field. Before the 2020 introduction of the China VI emissions standard (a standardized pollution emissions limit for vehicles), dealers were given sales deadline for China V emissions vehicles, which were consequently rapidly sold at discounted prices, resulting in China

now being flooded with China V emission level vehicles. So that means that capacity is far above the needs of the economy today.

We do expect to see the less professional operators of truck fleets and those who don't have enough mileage or a source of goods to transport, pushed out of the market and that is going to happen in the next few years. We also expect that those who remain will have to become more efficient, more sustainable, and also more specialized, serving narrower ranges of the truck sector. So we are, in short, expecting consolidation and specialization.

Q. China has historically required almost all vehicle manufacturing companies in the country to operate as joint ventures, usually with a state-owned enterprise, but Scania has recently opened a wholly-owned production facility. What is the significance

of this in terms of your China business and global business?

A. We've known for quite a few years now that China was about to lift the 50/50 restrictions, the compulsory joint venture cooperation, if you want to get into the market. So last year, we moved quite swiftly and we bought Gaokai Automotive in Jiangsu, and we immediately set up a fully-owned factory—previously we had imported all of the vehicles we sold in China. What this enables



Mats Harborn is President of the China operations of global truck maker Scania and is responsible for the strategic business development for Scania in Mainland China and Hong Kong. Mats has worked for Scania China since 2004 and has also held various positions in the European Chamber of Commerce in China, including the role of President for two years. He is fluent in Chinese and has, over the years, been a very active lecturer on various aspects of doing business in China.

us to do is to fully integrate that production plant into our global production system. So this is not only in China, for China, but in China for the world. We will be producing the same components with the same processes, the same equipment, the same standards in China, as we do in Europe and in Latin America. And then we can use that to balance our global production system. If we have a shortage of components in Latin America, we can supply from China or the other way around. So that is the real impact of now being able to run a fully-owned factory, we've made a decision that this is now part of our global production system as our third global leg.

Q. What regulatory changes would you like to see in China?

A. We would like the government to let the market decide on how we set up our manufacturing. Currently, there is strict regulation around the ownership and outsourcing of specific parts of the manufacturing process. We know best how to plan our production, and we are best in deciding which part of the production should

> We also expect that those who remain [in the market] will have to become more efficient, more sustainable, and also more specialized

be in-house and what should be outsourced. We have done this for 130 years, so I think we are the best judges of how to set that up in China, too. China seems to be moving in that direction, and that, we encourage.

In terms of the market, we really don't want to have any preferential treatment, the only thing we want China to do is to create a truly level playing field. And that means also treating different energies or fuels for vehicles, in the same way. The government, in our view, should refrain from prioritizing one solution over another, there is no one single silver bullet in the future, there are a number of silver bullets. And we see that batteries will be one, hydrogen will be another, renewable fuels will be a third one, and we will have a phase-out period of diesel. So in that phase-out period, we need to, as China is rightly doing, very strictly enforce emission standards.

And then we hope that the government will create a regulatory framework that allows for each truck to carry as much goods as possible, to reduce the CO2 footprint per work done, per ton/ kilometer. That means in effect, that we would like to see longer vehicle combinations or larger vehicles being used. For example, in cities, it doesn't make sense to have, say, a five-ton garbage collector when you can use the 26-ton because the roads are able to carry or support the three-axle, 26-ton vehicle. It means that less energy will be used to do much more transport work. This is really important as a complementary or supplementary policy to driving this shift towards clean fuels.

Q. China's economy appears to be heading back into an economic slowdown. Which specific economic trends are impacting most heavily on Scania's business and in what way?

A. I don't know if you can say that it's trending towards a slowdown. What I see is a China that is now pursuing sustainable growth, which means that growth in itself is not the important thing, what's important is the value created and that the externalities of the value creation are minimized. And we see the government now introducing a lot of regulations that are controlling the sort of "wild east" or extreme type of capitalism, and this is something we really welcome. This is in line with our view of how the market and, in particular, the transport market should develop.

Take the Chinese heavy-duty truck market for example. Last year there were 1.6 million trucks sold, but at quite low price levels. If you have high-quality vehicles that produce more work done, the price of the truck will be higher, but the cost per ton/ kilometer will be lower, which means that the value of the truck market would increase, if you go from 1.6 million down to, say, 900,000 but with much higher quality vehicles. In that scenario the use of raw materials and production apparatus will also shrink. At the same time, the cost of producing ton/kilometers for society will be smaller. So, one thing slightly increases GDP and the other one reduces GDP, but the result is a much more sustainable transport system. I think this is what China sees in all aspects of its economy, and it is something we as businesspeople need to embrace.

Q. How do you see the Dual Circulation Policy, which stresses domestic production, impacting a company such as yours?

A. I think it is just describing the reality that China has probably reached the ceiling, as to how much of its economy can be based on exports and the rest will be domestic growth. And when you look at it, the proportion is roughly 20/80. The 80 will be sufficient both to help drive the doubling of the GDP by 2035—from a base level set in 2017—and it will also be a way to guarantee that China will not suffer too much if decoupling—the trend towards a split between the China and Western economies—policy materializes, China knows that it will still be able to grow. And it means for us that in China, we are serving the Chinese market, we think it will grow and we see great opportunities. We believe that China will still be a possible base for export to Asian countries. So Dual Circulation in my view is misunderstood and exaggerated, I think it's an explanation model for how China will continue to grow.

Q. How would you rate the performance of Chinese companies in the transport sector? What do you think that multinationals can learn from their local counterparts?

A. I think in China we have a range from the least developed to world-class companies. And what we can learn from China is speed and the integration of digital solutions into the complete offering. At the same time, the massive speed and convenience that is offered to the consumer in China comes at a price, it is not entirely sustainable. I think we can, as Western companies, learn both from the way that China uses its technology, but we can also learn from some of the side-effects of that very quick growth. We can learn from both sides, so to speak, the positives and the negatives.

But for any foreign company, whatever industry you're in, you need to keep an eye on China. Apart from technology, I think it's also about the business models that are being developed in China, very much driven by—and this comes as a surprise to many foreigners—a very, very demanding consumer class. It's almost like going back to Japan 30 years ago. Many foreign companies were surprised by how demanding the Japanese were on quality and the rate of absolute rejection of quality faults. When you're delivering in Japan, it has to be perfect. And it's beginning to become the same in China. The consumer class is extremely demanding. So it means: can you meet the demands of this consuming class? If you can, you're already on a very good level, globally speaking.

Q. How is Scania approaching the electric vehicle (EV) revolution?

A. Currently, we do not have an EV model available for commercial vehicles, but in general we look at EV in two ways. One is, at this moment apart from sustainable liquid fuels, we see batteries as the only viable carrier of energy. Secondly, we see electrical vehicles remaining much more expensive than the combustion-based vehicle. We already see today, in certain sectors, that the electric vehicle has a transport economy advantage over the combustion

engine vehicle. So we see that the market is driving the shift towards electrification, where it makes economic sense. Long term, as we get more economies of scale and better infrastructure, we expect the growth of the EV proportion of the fleet to increase. But fundamentally, we assume that governments will be honoring their promise to supply green energy, be it liquid or be it electric, and we expect the market, based on what makes most economic sense, to choose the best transport solution.

Q. Apart from your position with Scania, you were previously president of the EU Chamber of Commerce in China. How would you describe current China-EU relations and what impact is that having on Scania's business in China?

A. Well, the funny thing is that, despite the skirmishes that we have seen in the political arena, trade and investment have continued to boom, so we haven't seen any impact. I mean, last year, for example, was the year when China became the biggest recipient of foreign direct investments globally. So all of this seems to happen, irrespective of the political landscape. But of course, from being businesspersons, we know that constructive dialogue is always the best and we hope that politicians will follow suit and engage with China and China with the world. That is best for all of us.

Q.What advice do you have for foreign companies seeking to develop their presence in the China?

A. I think the challenge is to stay true to your values and business models, whilst at the same time adapting to China, which in many respects is quite different from our traditional markets. And getting that balance right I think that is the key to success. And that means that to a very large degree, we must let go and empower our local organization to, within the boundaries that we set, come up with unique China solutions. And we will find that some of those China-unique solutions are so good that they become global solutions for our respective companies.

Interview by Patrick Body

We would like the government to let the market decide on how we set up our manufacturing **CKGSB BUSINESS CONDITIONS INDEX**

A Great Transition

Celebrating 10 years of CKGSB's Business Conditions Index, we review China's financial development over the past two decades

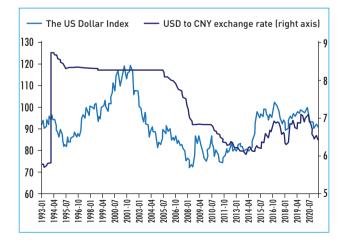


The BCI is directed by Li Wei, Professor of Economics at the Cheung Kong Graduate School of Business

mong the multiple transitions that China's economy has undertaken in the past two decades, the rise of shadow banking could be considered as one of the most impactful, which is reflected in the total social financing or aggregate financing to the real economy.

Analysis

As one of the countermeasures to reign in inflation, the Chinese government decided to peg its currency, yuan (or RMB), to the US dollar in January 1994 at a significantly devalued exchange rate, as shown in Graph 1. The devaluation was meant to make



Chinese goods and services more cost competitive in the global market and to make investing in China cheaper for offshore investors.

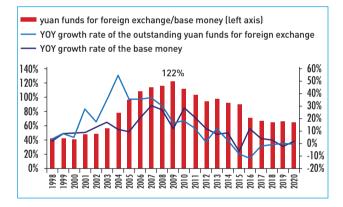
The Chinese government could not have chosen a better time to peg the yuan to the USD. In mid-1995, just over a year after the yuan-USD peg, the USD started to march upward and then sharply appreciated when most Asian currencies were devalued during the Asian financial crisis. In retrospect, the year 2002 could have been an optimum time for China to unpeg the yuan from the US dollar, which would continuously lower in value until its nadir in 2008, and to opt for a more market-driven exchange rate regime.

Facing mounting pressures from the exchange market and from China's major trading partners, China adopted a "managed floating exchange rate system" in 2005 and slowly strengthened the yuan against a depreciated and still depreciating dollar. During that time, China saw large inflows of foreign investment, which, together with its substantive current account surplus, drove China to accumulate her foreign exchange reserve at a rapid rate.

Some of the foreign capital inflows took the form of foreign direct investment that Chinese policy makers preferred as they represented long-term capital commitment. However, increasingly more inflows landed in China to take a oneway bet on the yuan's appreciation and to arbitrage higher interest rates in China. As interest rates in the US, Japan and Europe continued to fall, China became a relatively attractive destination for Chinese financial institutions, real estate developers and corporations that could borrow foreign funds at lower interest rates to bring in offshore funds in order to arbitrage the onshore and offshore interest rate differentials.

As more foreign funds came onshore, the People's Bank of China (PBOC), which managed the exchange rate, was obligated to purchase the inflows and add to its foreign exchange reserve balance. Typically, the money that the PBOC used to purchase foreign fund inflows was newly created base money (mostly in the form of banks' reserve deposits). So, with more foreign funds landing in China, the PBOC was obligated to expand China's monetary base. In order to neutralize unintended monetary easing caused by foreign fund inflows, the PBOC issued a large amount of sterilization bonds (central bank bills) to mop up the unwanted liquidity.

As shown in Graph 2, for a long time, the funds outstanding for foreign exchange have been growing more rapidly than the monetary base. In 2009, the ratio of the funds outstanding for foreign exchange to the monetary base was at a shocking 122%. This fact revealed that China's central bank issued a significant amount of sterilization bonds.



In general, there are two approaches to neutralize the impact of excess foreign inflows on the quantity of M2, the broad money that the PBOC was targeting:

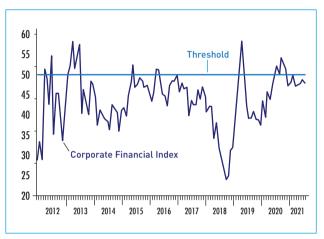
- 1. Issuing sterilization bonds to control the quantity of monetary base
- 2. Raising the required reserve ratio (RRR) on bank deposits in order to lower the money multiplier

The PBOC adopted the first option initially and had at one point over RMB 4 trillion outstanding sterilization bonds. But this approach was gradually abandoned, since the interest rates that the PBOC paid on the sterilization bonds were usually much higher than the interest rates that it received for its holding of foreign exchange reserves.

The second approach was preferred by the PBOC as it enabled the central bank to transfer the consequential financial costs to commercial banks, since the interest rate that it paid the banks on the required reserve balances was quite low, the RRR rose to over 20% at one point.

The higher RRR brought about shadow banking in China. As the central bank increased the RRR, commercial banks were required to deposit more reserves in the central bank. Commercial banks, even though most of them are state-owned, would have the incentive to move deposits and loans off their balance sheets.

They constantly absorbed short-term money to support their long-term investment with the off-balance-sheet assets and liabilities. Although it improved efficiency and drove the marketization of interest rates, such behaviors obscure risks and cause hidden dangers.



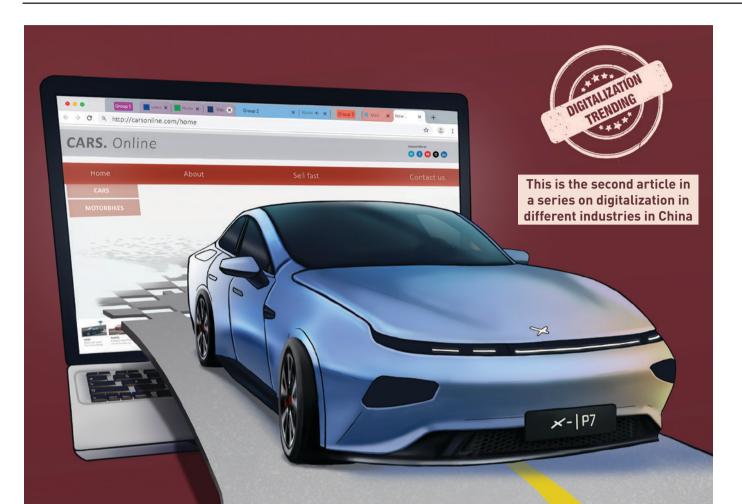
But the market forces were unstoppable, and hence the shadow banking system grew quickly to become, in the eyes of the regulators, a source of systemic risk. That is why, in 2018, the regulators initiated a large-scale rectification of the financial sector, in which many shadow banking activities were shut down almost overnight.

As we can see in Graph 3, with the deepening of the financial rectification in 2018, the Corporate Financing Index—a sub-index of the CKGSB Business Conditions Index (BCI), a set of forward-looking, diffusion indices to gauge the business sentiment of executives about the macroeconomic environment in China—also dropped all the way to its lowest point in history at 24.2 in September 2018. After that, with the relaxation of policies, the index recovered nicely.

Conclusion

Despite regulators' crackdowns on shadow banking, it will continue to play a role, albeit a less prominent one, in the Chinese financial system, providing diversified financing channels and creating market-determined interest rates in China in its own way. It will be essential for China's financial sector in the next 10 years to figure out ways to take shadow banking out of the shadows where competent regulators are absent and offer sustainable market-based financial services to consumers and firms.

Business Trends



SHIFTING GEARS

Digitalization is changing not only the nature of cars, but also the relationship between brands, producers, suppliers and consumers

By Mark Andrews

Image by Lihuel Mendoza

Digitalization is transforming the traditional faceto-face sales and marketing aspect of the auto industry

This is the second article in a series on digitalization in different industries in China. The first article, on the digitalization of China's manufacturing sector, can be found in the August 2021 edition of CKGSB Knowledge T worker Jefferson Teng fits the stereotype of the customer the new Chinese electric vehicle (EV) startups seek to attract. The Hangzhou resident is an avid car fan in his late twenties, regularly taking new models out for test drives.

"[I never quite understood] how the traditional car industry was moving so slowly each year with each model having a tiny improvement on this part or that part, yet claiming to be 'the brand new 2020 model that promises to change your life!' in the ads," says Teng.

But now Teng's opinion has changed. The new China manufacturers are offering vast improvements in vehicle technology with each iteration. And interestingly, this includes what amounts to a revolution in all aspects of car ownership, reflecting the rapid digitalization of the Chinese auto industry as a whole.

In 2020, Teng was one of the first people to buy the XPeng P7, a mid-sized electric sedan which quickly generated a lot of buzz. "It has a very innovative and bold exterior design, and one of , if not the best, or 'autonomous' driving systems right now on the market, at least for Chinese roads. Plus [it has] the most powerful voice command system," he explains.

Tesla might be the internationally known trailblazer, but in China there are startups such as Li Auto, NIO and XPeng that are changing the very nature of the car into something totally digital.

Digital ignition

Until recently, the whole ecosystem of car purchase and ownership in China, just like everywhere else, had been basically analogue—face-to-face and offline. But now, China's digital natives are starting to feel more at home because the auto industry is digitalizing at a speed that is hard for some other industries to keep pace with.

"Manufacturers are struggling with the very concept of building vehicles equipped to be digital services platforms. Smart device technologies are rooted in electronics and software technology where development cycles tick at a faster rate than the mechanically engineered car," says Bill Russo, CEO of Automobility, a mobility strategy consulting and investment platform.

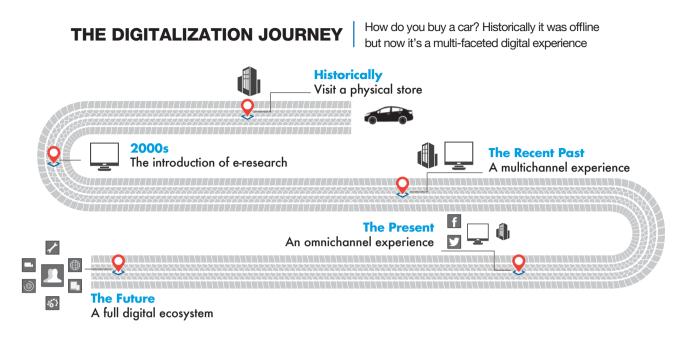
But digitalization isn't a completely alien concept to the car original equipment manufacturers (OEMs)—companies that build car parts or entire vehicles that are used by carmakers. The majority of carmakers are their own OEM with the exception of NIO and, until recently, XPeng which used contract manufacturers. For the OEMs, digitalization is a process that has happened over decades but has largely been felt in R&D.

"With R&D and production the transition has been happening for more than two decades, computer assisted engineering (CAE) has been implemented in the R&D processes everywhere," explains Sa Boni, Director of China Automotive at IHS Markit. Where traditional carmakers struggle is extending digitalization over the complete ecosystem beyond just manufacturing and into interactions between the company, the car and the consumer. Such interactions are blurring traditional boundaries that exist between the nature of the car, marketing and sales, maintenance and updating, along with the overall consumer experience.

"Automakers are struggling to pivot their companies, employees, policies and processes to this move to digital. Many of their current employees don't have the necessary skills that are needed to be successful in a digital world," says Tu Le, Managing Director of Sino Auto Insights. While Le says OEMs might talk the talk in front of the media, he warns that behind closed doors they often suffer intense inertia and power struggles that can threaten the stability of the business. Meanwhile, the need for change is accelerating.

Car specifications

Traditionally automotive OEMs have operated on a business-to-business (B2B) basis. They designed and engineered cars for parameters like safety, performance and style before manufacturing them and selling them to dealers. Although the end user was important, there was no direct contact. Also, once the car owner bought the car, there might not even be any contact between them and the dealer—although



Source: National Bureau of Statistics

in China, thanks to the 4S model—a fullservice approach that brings together sales, service, spare parts and surveys (customer feedback)—retention has been much better, with customers returning to dealerships for as long as their warranty lasts. Crucially, from the moment of manufacture, the car's capabilities would not change unless the owner modified it, something done by a small minority. Smart EVs, from the startups, have smashed these barriers.

"Automakers now need to master two worlds: hardware and software, with the software part gaining importance," says Christoph Weber, China GM of AutoForm, a software development company that specializes in sheet metal forming for car parts. "In the software world, products are developed with agile methodologies in order to deliver product iterations in a matter of weeks. In the hardware world however, [which is] bound to heavy investments, e.g., for stamping tools and welding robots, OEMs still work in traditional project management waterfall phases with product development cycles of 2-4 years." He goes on to say that, "several OEMs have launched transformation projects to connect departments on digital platforms in order to increase agility also in the traditional manufacturing disciplines." Such discrepancies cause obvious challenges.

Exacerbating the problem is the switch

Automakers are struggling to pivot their companies, employees, policies and processes to this move to digital

> Tu Le Managing Director Sino Auto Insights

to EVs. "EVs have fewer parts than their internal combustion engine counterparts so that means that there would need to be fewer people, smaller factories, fewer jobs up and down the supply chain," says Le. Legacy companies essentially have too many of the wrong kind of employees and reskilling them might not be possible.

Weber feels that legacy OEMs have a problem punching through the hierarchies built up to work holistically across departments. The new Chinese startups, on the other hand, have been able to build new organizations from the ground up with an emphasis on digitalization.

Car manufacturing has, for a long time, been about putting together components, usually produced by suppliers. But with digitalization, the car is becoming less of the product and like with social media the consumer is becoming the product data collected from the consumer can be sold on to other firms. In most industries it is common for brands to contract out manufacturing but in the automotive industry in China, NIO is an outlier for not owning a factory.

"NIO's openness to digital tools and cooperation with strong partners from traditional and new industries has allowed them to build a respected brand within only a very few years' time," adds Weber.

Death of the car salesman

Historically, the 4S shops, usually located on the edge of the city, were the main point of contact for consumers as they offered a complete service that starts from the sale of the car and continues after purchase, with repairs for as long as the warranty is valid. In terms of marketing, the emphasis was on mass marketing channels such as TV or billboard advertising. "For modern consumers, particularly in China, speed, simplicity, convenience and interaction are the major drivers of decision behavior which car brands respond to in their marketing and sales efforts," says Klaus Paur, Managing Patrner at MaLogic, a professional services firm that helps brands build value.

In China this has taken the form of small experiential shops, much like those of Apple, in upmarket malls. Chinese startups such as NIO and XPeng have copied this approach and legacy players, such as Shanghai Volkswagen, are also looking at this for their smart EV offerings.

Chinese startups all use apps to create high engagement with purchasers and potential purchasers and NIO's app has 1.6 million registered users and boasts 200,000 daily users despite only having sold just over 100,000 cars. The NIO app contains an entire e-commerce and social media ecosystem alongside the car control functionality that it offers. Users can buy NIO-branded products and earn points through interactions that can be redeemed for NIO product-related rewards, the Chinese EV maker has even created NIO Houses which act as clubhouses for owners.

"The format of direct engagement with consumers of digital devices and associated services is a familiar and preferred model, especially for millennials and GenZ types who grew up with the convenience of smart devices. The car is an extension of their connected lifestyle," explains Russo.

Direct engagement gives OEMs far more information about the consumer and also allows far more targeted marketing. Typically, customers start their purchase research online creating a digital trail. "Before digital marketing and customer engagement, it would have been much



more difficult to measure the effectiveness of the billions of dollars spent each year on agencies and advertising, promotions and sponsorships but that's given way to data analytics and optimization modeling," says Le.

COVID accelerated some of the changes from the traditional 4S model. particularly with reduction of contact points. Geely, for example, started delivering keys to new cars by drone to avoid contact. Most analysts agree, though, that the traditional 4S model is not completely dead yet. The new model with experience centers works well when a brand has only two or three models, but not so well when there are 10, equally they tend to appeal more to the younger consumer base. "We should not forget that traditional car makers still earn their profits from conventional cars sold to the majority of customers, as opposed to new startups' sales towards a comparably small share of early (technology) adopters. This transition from conventional to technology leader is a hugely difficult task!" says Paur. Ultimately, we are likely to see some sort of hybrid model between the old and new.

Fixing it

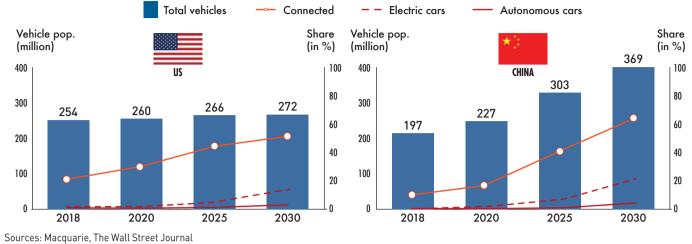
Last year XPeng did an OTA—over-the-air update—which increased the range of its P7 sedan by installing X-Pedal software to improve the car's braking regeneration. In simple terms, this is how the car takes the energy wasted from the process of slowing down the vehicle and uses it to recharge the car's batteries. The update required nothing from the car owners and was completed while many of them were asleep. Upgrading a car already sold to customers was near impossible until 2012 when Tesla finalized its OTA software.

Beyond simple updates, recalls are also relatively common in the automotive world for when parts are found to be defective and usually require customers to return cars to the dealer for repair—typically replacement of faulty parts. In June 2021, Tesla made headlines in China for a massive "recall" of 285,000 vehicles, except that the problem could simply be fixed by an OTA without customers having to return their cars.

"The OTA function means old vehicles can upgrade to the latest technology or features which will require OEMs to rethink the lifecycle of their vehicles and the resultant R&D process," says Sa.

It is yet another step in the changing dynamics in the relationship with the end user. EVs with less moving parts already require less maintenance and OTA decreases the need for dealer visits even further. Where some legacy OEMs struggle is when they claim that cars have OTA capability but this needs to be done at the dealer.

Eventually though, cars do need physical maintenance, but even here the startups are changing the dynamic by using apps and collection services. "The owner of an EV can finish the maintenance service without going to the dealer with the staff picking up and returning the car to home like with NIO service," says auto analyst David Zhang. Some cars can even place an order for replacement parts automatically when a service is completed.



GROWING AUTONOMY

Autonomous, connected and electric vehicles as a percentage of the total vehicle population in the US and China

Is the customer king?

The increasing digitalization of the auto industry means that data, rather than the customer, is the new king. Such digitalization from smart EV producers such as NIO and XPeng creates what Russo describes as "intelligent connectivity." For producers it's no longer about selling a vehicle to get consumers from A to B. "Deeply embedded smart vehicle technology is where we believe the battle for dominance of the future profit opportunity in the industry is fought and won," explains Russo.

OTA allows the car to have evolving smart features and while for the consumer these help create an easier life and user experience, they also allow the OEM to learn a great deal of information about the user and their lifestyle. "Companies who own this data will be the beneficiaries of this development. This explains the massive investments of tech companies into new mobility," says Paur.

Ownership of the data and its utility raise obvious ethical questions. Recent moves by the Chinese government show the desire to protect consumers more from the power of big tech companies and this will put boundaries on the evolution of the relationship. Russo sees the battle for this data currently being won by the smart EV producers, Tier 1 suppliers such as Banma and EcarX, along with smart device makers like Xiaomi and Huawei who are now muscling into the market particularly in partnership with legacy players.

Much of the current data relates to areas such as the human-machine interface (HMI) through voice control, entertainment and navigation. However, this is shifting towards the vast amounts of data generated by the increasing number of sensors required in cars that are on the road to full autonomy. "The market for sensors, chips and systems for automated and autonomous driving is forecast to triple by 2030, with the sensor market reaching \$40 billion and chip market reaching \$30 billion. Automakers primarily only define the requirements and handle the vehicle integration. It will be mainly up to tier one suppliers such as Bosch and ZF together with chip manufacturers to design and manufacture the autonomous driving systems," says Weber.

Freedom of the open road

Digitalization has already completely revolutionized the China auto industry from top to bottom, but this is still just the beginning and autonomous driving is set to change the environment even further. The industry measures autonomous driving on a scale of five where only level five is what the layman would consider to be autonomous driving—essentially a vehicle that can drive itself anywhere without any human input or even need for controls. The best cars currently available for purchase have systems that equate to around level three, meaning that they can drive themselves in certain situations but require constant monitoring. Level 4 vehicles also already exist and are increasingly being utilized in geofenced areas for things like parcel delivery and as robotaxis. But the ability to implement autonomous driving is also constrained by current regulations and consumer acceptance, and when fully autonomous cars arrive, they are going to create existential questions about the nature of the car and the need for car ownership.

"The real long-term impact of autonomous driving vehicle must be the concept of mobility in the consumer's mind. The mobility service offered by autonomous driving vehicle fleets can have a big impact on the willingness to own a car. As a result, traditional OEMs have to figure out if their customers will also be affected in the long future," says Sa, adding that consumers benefit most when products are closest to their demands.

Autonomous driving is still a decade away, but China is certainly in the driver's seat with the basics of the technology already present across the country. "Digitalization is not a differentiator, it's a qualifier," says Le. "This transition happens more easily and quickly in China due to the lack of legacy and history so China will be one of the leaders for sure."

Corporate Helping Hands

As China pushes for common prosperity, corporates need to evaluate the best way to approach their philanthropic efforts

by Rui Wang, China Representative of GlobalGiving

hina's recent push for common prosperity and the redistribution of wealth has brought charitable giving to the top of the corporate priority list. Corporate philanthropy already constitutes 65% of overall charitable donations in China and this percentage is only set to increase following Xi Jinping's latest directive. Several of China's tech behemoths have already pledged multiple billions of dollars in the short time since the Chinese leader's call for common prosperity. Both Tencent and Alibaba, for example, have pledged RMB 100 billion (\$15.5 billion) towards related initiatives, and e-commerce giant Pinduoduo has launched a RMB 10 billion (\$1.5 billion) agriculture initiative. With such large amounts of money being earmarked by Chinese companies and entrepreneurs, it is important for multinational companies (MNCs) operating in China to also plan a comprehensive giving strategy in the country. Many MNCs are already quite philanthropic. Over 120 foreign-funded enterprises in China donated a total of more than RMB 740 million in various forms throughout the COVID-19 outbreak.

But effective grantmaking in China is

complicated, especially when a foreign company wants to fund nonprofits. For MNCs, donations leveraged from headquarters used to be the major source of giving in China, but this is gradually slowing down due to increasing regulatory and process constraints. Despite these issues, giving—especially in the current political climate—is still a worthwhile endeavor for MNCs as long as the funds are strategically placed, consistently monitored for impact, and well thought-out.

Key considerations

There are four key points for a company to consider when leveraging overseas donations to support Chinese nonprofits. First, there needs to be an understanding that there are limited channels for foreign companies to practice philanthropy in China. The implementation of the China's Overseas Nongovernmental Organizations (ONGOs) law in 2017, restricted overseas bodies looking to give money in China to three channels.

The first channel is through registered ONGOs that act as intermediaries. Among the over 500 registered ONGOs in China, there are quite a few intermediaries, such as Give2Asia, GlobalGiving and United Way, to name but a few. Each of the intermediaries has its own list of longterm corporate partners and its own grant disbursement process. Due to the strict administrative requirements, which include an annual activity plan, a limited number of amendments and mandatory annual reporting, grants need to be planned well in advance and follow the ONGO regulatory calendar. This giving route is suitable for well-established MNCs that intend to give multiple times per year.

The second channel uses domestic intermediaries or local nonprofit partners filing temporary permits. There are a limited number of partner choices with this approach and because the administrative burden often falls on the side of the local partner, their being invested in the project is crucial. This channel is best suited for oneoff grants.

The final route is giving through a domestic foundation as a fiscal sponsor. Some MNCs, who have established, long-term partnerships with large foundations—often government-affiliated—have given their money directly through these partners. Giving in this way is not particularly

Expert Column

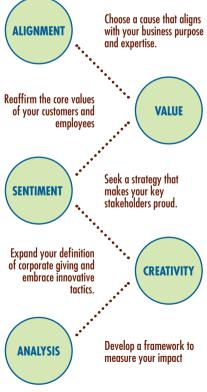
common and is usually conducted on a case-by-case basis.

Another key issue for companies to bear in mind when looking to make donations in China is that a large amount of vetting and due diligence is required. After identifying the right channel through which to donate, it is critical to properly evaluate the potential grantees to make sure that they meet both local and global guidelines. Here, professional intermediaries have an advantage because they have the staff, technology and expertise to understand international giving regulations and evaluate the legitimacy, reputation and social impact of organizations within China.

Third, it is no secret that the process for grant disbursement is long and complicated. It is very possible that a grant disbursement might take as long as half a year from start to finish. In an ideal case, the grant request would be shared with the intermediary at the year-end, to

HOW TO GIVE

Key considerations for effective corporate giving



Source: GlobalGiving

be included in next year's annual activity plan. Once approval is received, which is usually in February, the grant disbursement process can properly start at the end of the first quarter. The grant will be given from the company to the intermediary and then to the local grantee via the intermediary's Chinese representative. This whole process can take between four and six weeks.

The final issue companies need to keep in mind is that there has been a decrease in demand for foreign funding by Chinese nonprofits in recent years, meaning that potential grants need to be correctly targeted. The changes in demand stem from the rapid development of Chinese domestic philanthropy, together with the increasing regulatory constraints.

Because of these changes, the selection of the grantee has become even more critical. Aside from the traditional corporate grants to designated projects and disasterrelief, it is recommended that corporates offer general operational support to Chinese nonprofits. The reasons for this are twofold.

First, credible nonprofits are finding it easier to attract large grants to their flagship programs, thanks to the increase in giving from high-net-worth individuals, domestic corporations and online donations. However, there is still a lack of general operational support which would allow NGOs increased flexibility and security. For example, grants of between \$25,000 and \$100,000 for general operational uses were given to Chinese disaster relief foundations during the COVID-19 pandemic and the recent flooding in northern China. These grants were used to hire temporary helpers, conduct preparedness work and facilitate the proper application of program-specific grants. Such needs are rarely funded by domestic donors.

Second, grassroots organizations in China find it difficult to raise general operational funds to cover their administrative costs and new initiatives. This type of support can help scale up operations and pave a more sustainable way for the organization, at the same time respecting their independence and local expertise. Again, vetting an organization is critical to ensure responsibility and delivery.

Giving is worth it

Acknowledging all of these challenges raises the question: Are corporate donations in China worth the effort? The answer is a resounding yes.

From a corporate perspective, global CSR and communications needs can be fulfilled by active grantmaking in China and it provides the ability to respond to local needs. Second, it is important for the China team to be part of the holistic corporate giving culture and staff engagement programs. Third, active grantmaking provides China stories to share on internal channels within the corporate structure, across continents.

Corporate giving can also have some positive effects on the Chinese nonprofit sector. Apart from the potential to bring in flexible funding, such arrangements allow for exposure to innovative business methods, learning from more experienced talent in the field, and fostering global connections that can support a more diverse and sustainable Chinese nonprofit sector.

The focus of corporate giving should be to give where there are real needs and to give effectively. No company can solve all the social issues in a single country and not all issues are relevant to a single company.

Effective giving

It is important for companies to identify or refine their corporate giving strategy, and GlobalGiving has developed a five-step structure to guide organizations to better achieve this goal. By choosing a cause that aligns with the core competencies of their business and utilizing the organization's expertise, values and creativity in the development of an impact measurement framework, the effectiveness of corporate giving can dramatically increase. It should also be an ongoing, iterative process.

There are different approaches to building a sustainable CSR program and each emphasizes the themes of purpose, employee engagement, disaster response, customers and cause marketing, and employee volunteering. The relevance of each depends on the stage and need of corporate giving planning.



Mental health education for 5,000 kids in China by the Rici Foundation

Identifying needs

After deciding upon a giving strategy internally, companies need to identify the right place for them to give.

There are different impact area-based frameworks for MNCs to use that will help identify the needs of NGOs in China. These frameworks provide a company with a general overview of the current status of an issue, key contributors, resources invested, efforts in need, as well as best practices.

For example, looking at domestic foundations' expenditure aimed at meeting the Sustainable Development Goals (SDGs) can provide valuable insight into where there is need for increased investment. Since 2015, four of the 17 goals have received disproportionately more attention and resources, leaving 11 goals with less than 1% of Chinese domestic foundations charitable expenditure each.

Many of these 11 goals are related to environmental issues, namely those SDGs which cover affordable and clean energy, responsible consumption and production, climate action, life below water and life on land. Thus, projects in these areas are currently in greater need for a financial injection than an NGO working towards the creation of quality education in China. which is SDG 4. Using the SDGs as a base for a framework can clearly identify underfunded areas and can provide ideas for targeted giving.

It is also essential for companies to constantly monitor Chinese government policy. In the 14th Five-Year Plan, which covers development between 2021 and 2025, great emphasis is placed on creating improvements in public health (SDG 3), clean energy (SDG 7), reduced inequality (SDG 10) and higher-quality urbanization (SDG 11). Companies such as Apple and Bosch have maximized their social impact and brand awareness in social good by supporting flagship poverty alleviation projects from government endorsed foundations such as the China Poverty Alleviation Foundation.

Using both of these methods in conjunction can identify a clear opportunity for effective and needs-based giving in China. In practical terms, this example shows that there is a need for effective corporate giving in the clean energy sector (SDG 7), which has received a very small amount of China's NGO expenditure in recent years and is now a focus of government attention and subsidies. Any organization that is seeking to expand their corporate philanthropy within China, and has core competencies that align with clean energy, are in a prime position to do good and to do it well.

Keep giving

There is an increased emphasis on corporate giving in China, especially with the push from the top for common prosperity. Although, for non-domestic companies, the process can be complicated, there are clear benefits to ongoing and increased engagement.

In order for organizations to properly put their money to work, they need to have a clear strategy in place that plays to their strengths as a business and identifies targets that genuinely need funding.

While domestic philanthropy is growing rapidly, MNCs, with their global footprint, and domestic NGOs with their local knowhow, will continue to play an important role in contributing to the public good in China, while showcasing China's social projects to a global audience.

Rui Wang is the China Representative of GlobalGiving. With over 10 years serving within the philanthropic sector, she has worked at grassroots NGOs, grantmaking foundations, a UN agency and ONGOs. Through her work, Rui engages governments, charitable organizations, the private sector and academia in practice and research, providing advice on Philanthropy in China.

GlobalGiving has more than 15 years of experience making grants to organizations large and small in 170 countries, including China. Since 2008, GlobalGiving has disbursed more than \$20 million to over 85 vetted nonprofit organizations in China. As part of its mission to serve community-led nonprofits around the world, following the Chinese ONGO law implemented in 2017, **GlobalGiving's** Representative Office in China registered in 2018 to facilitate corporate grant and giving programs for US- and UKbased companies supporting Chinese nonprofits. GlobalGiving provides support to companies in navigating the regulatory landscape of China and helping them target their philanthropic efforts.

Digital Memory

Global data storage company Western Digital's VP for China and APAC, Stefan Mandl, discusses all things memory

world, the demand for large-scale data storage solutions

W W is accelerating rapidly. China is arguably at the forefront of this wave of digitalization and therefore presents a unique opportunity for business and technological development. Western Digital boasts that 40% of data bits around the world are stored on their media and 35% of NAND—the most common form of data storage devices—were produced by them.

In this interview, Western Digital VP for China and APAC region, Stefan Mandl, discusses developments in demand for data storage technology in China and how Western Digital is adapting to the China market.

Q. Western Digital is one of the world's top data storage solution providers. How is business overall globally and in the China market?

A. Our business growth globally and in China are both very promising, as the industry's development soars under accelerated digitalization. With explosive data growth and profound changes in storage demand, we have entered the digital era, enabling us to successfully navigate the pandemic and capitalize on strategic growth opportunities.

The digital economy's acceleration is driving this data growth and storage demand. Consumers have daily requirements and data infrastructure is being rapidly constructed. With mainstream trends in livestreams and short videos, client equipment demands

are increasing for both mobile and PC. In addition, the industry's technology is constantly evolving. Flash technology continues its advanced development in 3D with higher density, while HDD—Hard Drive—capacity is expanding based on a range of leading technologies.

Q. How important is China as a product manufacturing base for Western Digital? How do the R&D efforts in China match R&D efforts in the US or elsewhere?

A. China is a priority strategic market for Western Digital. According to an IDC report, the global amount of data will be 143 zettabytes (ZB) by 2024, with 36ZB in China—1ZB is equivalent to 1 billion terabytes. However, only about 1.5% of that data will be successfully stored. That indicates a great opportunity for data storage

providers such as Western Digital in the China market.

With the excellent achievements in technology innovation, local investment and partner cooperation that we have made here in recent years, and a series of supportive policies such as the focus on "New Infrastructure"—referring to a "digital, smart and innovative" infrastructure—and a more "Digital China" that we have seen, we believe that China has even greater potential in terms of market scale and as a business environment.



Stefan Mandl is the Vice President for the China & APAC region for data storage company Western Digital. He was with the company for over 12 years before moving to Asia in March 2017, and holds an MBA from FAU University Erlangen/Nuernberg in Germany.

In recent years, aside from collaborating with key local clients and partners from various industries, such as data centers, cloud services and the automotive sector, we have expanded factories and established technology centers in China to support the research and development of new products and technologies. Our wholly-owned subsidiary, SanDisk Semiconductor (Shanghai) Co. Ltd., has successfully completed its Phase III Plant Expansion Project in July, 2021, which will advance Western Digital's product manufacturing and technology R&D, as well as expand its production capacity. The plant will also serve to build a "home away from home" for employees to improve well-being and a sense of belonging.

Additionally, we opened our Shanghai Technology Center for System Integration Testing (SIT) to all customers—a collection of top R&D and test engineers, and hardware equipment that echoes real customer applications. This will enable us to better cooperate with enterprise-level and OEM customers' products for testing to speed up time to market.

Q. Does the China market have any unique requirements in regards to Western Digital's products?

A. The China market has been continuously developing at lightning speed, especially in the tech sector, which is closely connected and very beneficial to our storage industry ecosystem. We have also observed great changes in the China market in both enterprise-class and consumer users in recent years.

Following China's "14th Five-Year Plan" and New Infrastructure goals, many developing markets—such as cloud computing, the Internet of Things (IoT), autonomous vehicles, and artificial intelligence—require leading storage solutions in China. Some emerging industries have especially great potential, such as blockchain, gaming, smart health and smart cities. Meanwhile, digitalization is advancing rapidly across industries, becoming an inseparable part of people's daily lives and work. Video content is more pervasive, and as the e-commerce industry rapidly develops, so too do related livestreams used to sell products in an entertaining format for customers. Both sides are developing dramatically and form somewhat of a symbiotic relationship.

Because of the available opportunities, we have cooperated with partners in these emerging fields in recent years. For example, we teamed up with open compute organizations ODCC and OCP, supporting them and their users with our leading data center products. Our SN840 SSD—SSDs perform a similar function to Hard Drives in computers—and HC550 SMR HDD have also earned ODCC 2020 Product Awards. In blockchain, we have collaborated with SandStone and Inspur to develop optimized solutions with higher performance and lower costs for clients.

Additionally, we have worked with local partners to unearth additional needs, such as the doubling of demands for storage performance, the pursuit of ultimate Total Cost of Ownership (TCO), and more. Our commitment to answer these needs can be seen in our expanded factories and new technology centers in China to support R&D.

Q. Has the nature of the China market resulted in any new strategies in terms of sales and marketing for Western Digital?

A. The popularity of 5G in the China market not only brings faster network speeds, but also accelerates the implementation and application of IoT, Internet of Vehicles (IoV), AI and other innovative technologies. In this era, a large number of IoT sensors and connected devices have emerged and generated masses of data which needs more reliable solutions to store, and then further explore its value.

For example, in view of automotive storage, we have introduced cutting-edge 3D NAND—a type of non-volatile storage technology—technology, and have released e.MMC— Embedded MultiMedia Controller—and UFS—Universal Flash Storage—solutions to meet the increasing demand of higher capacity, higher performance and higher reliability, particularly for automatic driving and intelligent cockpit systems.

In the consumer market, we have also found that the majority of young consumers in China prefer visualized content, leading livestreaming on e-commerce platforms to prevail. Therefore, we collaborated with top Chinese e-commerce platforms JD.com and Tmall to jointly launch various marketing campaigns and online product promotions tailored to China consumers. We joined hands with JD.com and popular AI robot Sophia on a livestream event for last year's 618 sales event to better engage young consumers in a more entertaining way, emphasizing the intersection of tech innovation, fashion and` lifestyle.

We believe that China has even greater potential in terms of market scale and as a business environment

Q&A

Our consumer brand SanDisk also has its finger on the pulse of the market and culture, connecting with younger consumers through its communication strategies. We've maintained the brand's relevance in fields that these young consumers love such as photography, travel and music—on platforms like TikTok, Weibo and RED and in collaboration with KOLs and KOCs to connect these target audiences with the brand's values.

Q. Where do you see the competition coming from over the next decade and how would you rate Chinese competition in the digital storage space?

A. Looking forward, the amount of data generated in the world is only going to increase—regardless if on the cloud or in end points. Different types of users will have different requirements for their storage capacity, performance, cost, and reliability.

To meet this demand, we pair our own strengths with those of our partners. We own unique capabilities in HDD and flash technologies—in fact, we recently announced an innovative drive architecture that applies OptiNAND technology by optimizing and integrating HDD and iNAND, to sustainably satisfy clients and user needs of the future. And we rely on collaboration with partners across the ecosystem, including key cloud service providers and server providers such as Tencent Cloud, Baidu Cloud and Inspur, as well as R&D partners like Kioxia. We believe that together, we can cultivate a stronger, more effective environment for all industries to create more value from data.

As a data storage provider, Western Digital has unique advantages in both HDD and SSD. We are cooperating with Kioxia on NAND manufacturing and R&D, and have jointly provided more than 30% of the world's flash storage. We not only have proud technology R&D and innovation capabilities, but also leading advantages in production capacity, and vertical integration in enterprise-class SSD and industry technology. The content we develop, manufacture and sell covers a series of categories including NAND, SSD, HDD and platforms, providing a rich product portfolio of data platforms, connection platforms and technical products, among others, to fully meet the current

The majority of young consumers in China prefer visualized content and future data-centric environment, and requirements for performance, reliability, TCO and sustainability.

Q. High read/write speed and low latency are key features of data storage media. Is there any conceivable limit to the speed of data transfer?

A. High read and write (R/W) speed and low latency refer to the performance of the data storage solution. Considerations for the limitation of speed, capacity, or other performance aspects largely depend on the development of technology. We have observed that Moore's law—the idea that the number of transistors in a circuit will double roughly every two years—has currently reached the physical barrier in the semiconductor industry, but it still applies to the field of flash memory.

In order to continuously advance our progress and meet the growing global demand for data storage, it is very important to expand and innovate on 3D flash memory. Accordingly, this year, Western Digital and our partner Kioxia jointly developed the sixth-generation 162-layer 3D flash memory technology, which is a higher-density and more advanced 3D flash memory technology. Now we store 40% of the bits in the world on our media, and 35% of NAND production. We serve all the markets and all the verticals.

We also have energy-assisted magnetic recording (EAMR) technology, the industry's first triple-stage actuator (TSA), and a sixth-generation product with HelioSeal technology. All of these extend across our enhanced portfolio to deliver the highest areal density and unmatched TCO for HDD. For example, when we replace 14TB HDDs with higher capacity products, but at the same storage capacity, both the server deployment cost and operation cost will dramatically reduce, thus cutting down the total cost of ownership. With those leading HDD technologies providing higher density and lower cost, we can enable our clients—such as Communications Service Providers, enterprises and smart video partners—to meet the demands of more effective data storage solutions and optimized storage infrastructure, in the face of the forthcoming boom in data.

Q. How did your relationships with key clients arise and what is the role of Western Digital in the cooperation?

A. With today's accelerated digital transformation to "online everything", data storage in every field is under pressure like never before. Western Digital understands the needs of those clients across different industries.

Instead of merely providing products, we go further and get closer to clients, fully understanding their advantages and needs. By applying our storage products, integrated with their applications, we combine the advantages of both parties to better utilize the dividends brought by our technology, and create storage solutions that are more suitable for users. In the blockchain field, we've communicated closely with software providers like SandStone and XSKY, and collaborate on their software updates and integration with our products, delivering better application solutions to end users.

November 2021

REVVING UP

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After a near-death experience, Chinese electric vehicle maker NIO is now growing strongly and is on track to be a top player in the EV market. What factors give it an edge?

By Timothy Ang

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State funding and innovative battery models are amongst the factors setting NIO apart from other Chinese EV startups A sk anyone in the West to name some of the major players in the automobile industry and you will soon hear names like Volvo, Renault and Subaru, and it will be a long time before you get to the name NIO, even though, in market value terms, the young Chinese electric vehicle manufacturer outranks all of them.

Last year, NIO sold fewer than 50,000 of its high-end SUVs compared to Volvo's 451,000 globally but both companies have a market capitalization of around \$55 billion. You could be forgiven for thinking that the numbers don't add up, but they reflect fast changing values in the auto industry. This year, NIO is on track to double its sales from the previous year and the company shows no signs of easing off the accelerator.

There is a growing sense in the market that the major auto companies are dinosaurs, ready to be overtaken by young, smaller players like NIO, which place as much value on data as they do the hardware of their cars. The data that is generated by the companies plays a key role in the massive valuations because companies like NIO and Tesla, for instance, have a relationship with car owners that allow them to collect large amounts of user information.

Launched in 2014 by auto industry veteran William Li, NIO has emerged as a leading player in China's new electric vehicle (NEV) industry after shaking off a string of financial and operational setbacks in recent years. Now, with new lines of reliable financing and growing brand recognition, both at home and abroad, NIO is well positioned to become China's EV king.

Getting into gear

In 2016, NIO secured the backing of Chinese tech giants Tencent and Baidu, and its first model—the sporty EP9 coupe—rolled off the Jianghuai Automotive Company's production line. NIO, in line with other early-stage Chinese EV manufacturers, does not yet have a manufacturing plant of its own.

As of the second quarter of 2021, NIO has shipped a total of over 100,000 units, and its performance in 2020 was

strong enough to rank it in the top five EV companies in China by sales volume, behind the Warren Buffet-backed BYD, China's largest automobile manufacturer SAIC and of course, Tesla. But NIO's revenue still lags far behind the big players, having taken in just RMB 16.25 billion (\$2.5 billion) in 2020 compared with BYD's RMB 153.5 billion (\$23.78 billion).

Alongside the EP9 coupe, NIO currently has three mid-to-large luxury SUV models on the road: the ES8, ES6 and EC6, with others in the pipeline for the next few years. As the company itself proclaims, however, NIO is "much more than a car company," and it has constructed a cohesive series of products around its core automobile offerings, including a clothing line and a wine brand. NIO's mobile application, meanwhile, grants its 1.6 million users access to a wide range of car control services, tweaking the car's air conditioning settings, for example. The app also contains a social media platform on which, in conjunction with the various products NIO offers, customers can build an almost exclusively NIO-based persona, thereby also building the strength of the NIO brand.

"NIO is well-situated among China's premium NEV brands," says one Chinese auto industry expert who declined to be named. "As a brand, they have managed to outdo both new energy and traditional car competitors by focusing on user experience and the software underpinning it."

Despite a strong start in 2014, NIO's rise began to stall after its deflating New York IPO in 2018. It raised only \$1 billion instead of its targeted \$1.8 billion, and investor enthusiasm waned due to concerns such as missed delivery deadlines and manufacturing defects.

"NIO faced the challenges of a young, single-product company that was burning through massive amounts of capital," says Bill Russo, founder and CEO of Shanghaibased auto consultancy Automobility. "On top of fulfilling its pipeline, covering supply chain commitments and the massive infrastructure costs of building out its battery swapping network, NIO was also striving to create a digital platform for its users." The following 18 months saw NIO's stock fluctuate sharply as uncertainty hovered around the company's future. This changed in 2018, when the government of Hefei, an eastern Chinese city where NIO's cars were manufactured in the early years, extended a RMB 7 billion lifeline to the ailing car firm. Since closing that deal, NIO's market cap has grown 20-fold.

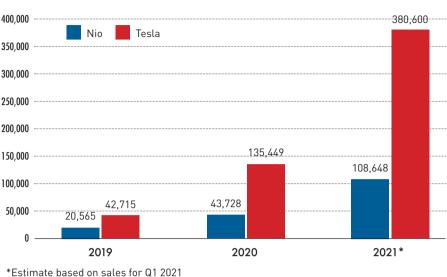
With its cashflow worries resolved, NIO's ambitious plans, including expansion outside of China, starting with Europe, now look set to pay off in the long term. "From the beginning, NIO has leant into branding and customer engagement, which initially put them in dire straits," according to Tu Le, founder of Sino Auto Insights. "Where other startups were not familiar with these elements, NIO understood the importance of trusting a brand, especially in the Chinese market today. The Hefei government has turned the heaviest weight around NIO's neck into one of its key assets."

Setting itself apart

Unlike Tesla and other regional competitors, NIO has committed itself to an industry business model known as "battery swapping." Instead of constant recharging of a single battery, NIO lets users swap out depleted battery modules for fully-charged ones at service centers around the country. Though far from a new concept, battery swapping has yet to be successfully adopted by other NEV firms globally, largely due to standardization issues.

"Even the best batteries we have today are not nearly as dense (energy per unit volume) as gasoline, so suppliers tend to spread batteries throughout the body of the car to get enough range, making it tricky to swap out a single battery quickly," says John Helveston, Assistant Professor in the School of Engineering and Applied Science at George Washington University.

Tesla, for example, introduced the idea of battery swapping in their 2013 Model S, but abandoned the tech citing reasons including cumbersome swapping stations and tepid consumer demand. But NIO drivers can roll in and out of one of the company's 300 Power Swap stations within



*Estimate based on sales for Q1 202 Sources: GGII, Daxue Consulting

five minutes, the company boasts, and NIO hopes to have 4,000 stations worldwide by 2025.

NIO vs TESLA

Proving that this battery swap model can be scaled up throughout China will be a mammoth task, though for NIO users like Jing Tian, a marketing executive in Shanghai, the availability of Power Swap stations is yet to pose a problem. "I rarely travel too far outside the city," she says. "But I don't know what it would be like in one of the poorer, less populated provinces inland."

Another novel business strategy that NIO is pursuing is the so-called "Battery as a Service," or BaaS model, in which customers buy a NIO car without the battery, drastically lowering the upfront retail cost of the car while providing manufacturers with a new, consistent revenue stream.

"Up to one-third of the vehicle's price can come from its battery," says Halveston. "This battery will degrade over time, and when it's time for replacement, it may make sense to just buy an entire new car."

The price for the NIO ES6, for example, falls from around \$52,000 to \$42,000 when bought without the batteries. This is replaced by a recurring monthly cost of up to \$140 for battery swaps and replacements.

Bumps in the Road

Tesla's sales in China still dwarf NIO's.

but NIO is clearly on the rise

NIO may be on the way up, but this rising star in the NEV world continues to face challenges beyond its balance sheet, including concerns on global supply chains and the potential for international expansion.

NIO posted its first annual profit of RMB 1,873 million (\$287.1 million) in 2020 but analysts are not yet ready to confidently predict that the company will continue to post profits, even in the short-term.

"The current emphasis worldwide on energy conservation and emissions reduction has generated a lot of positivity in the industry, helping to boost the market value of all NEV firms," notes the Chinese analyst. "Despite coming out of the pandemic well, NIO and others like it still carry doubts about their short-term profitability."

Given that NIO uses another company to manufacture their vehicles, it is more akin to a distributor at this point and there are hurdles to the company becoming its own primary manufacturer, the main issue being IP ownership. JAC, the company's current production partner, owns the IP to the NIO ES8 manufacturing and CATL, the world's largest battery-maker, owns the IP to the Powertrain technology used in NIO's cars.

Company Profile



The NIO ES6 sport-utility vehicle

Political pressures

Since 2018, automobiles have been one of the key elements in the trade disputes between China and the US. Following several rounds of tariff packages, Beijing at one point levied a 5% tariff on auto parts, putting heavy pressure on local manufacturers.

Global supply chains were also severely disrupted in early 2020 thanks to the COVID-19 pandemic. "It's important to note that supply chain shortages have been felt industry wide, not just by the EV segment or any one company," says John Halveston. "But there's a key difference between tariffs and shortages. The first can squeeze a firm's bottom line, but a real shortage will squeeze output, as we saw during the pandemic."

At the policy level, China's NEV companies are also facing a sharp cutback of the substantial state subsidies that have fed the booming EV market over the last decade. The subsidies, already heavily reduced from previous years, will cease by the end of 2022, indicating that Beijing feels the sector no longer needs fiscal support.

"[The government is] confident to let the private sector take over," says Tu Le of Sino Auto Insights. "The market has reached a point where many companies can go ahead and create new, cool, innovative products."

But the cancellation of subsidies does not mean that Beijing has lost interest in EVs.

The last three Five-Year economic

development plans set by the central government have featured goals for electric vehicle production, including the requirement that 20% of all vehicles sold in China by 2025 to be EVs. "That's going to get smashed," predicts Tu Le.

Sparking inspiration

Though NIO is still fighting hard for its slice of the Chinese market, its recent momentum points to exciting expansion ahead. NIO has announced plans to diversify from its high-end SUVs into the mass market with a new sister brand to flank its existing premium range, mirroring the dynamic between, for instance, Toyota and its premium brand Lexus. Beyond China's borders, meanwhile, the NIO brand is using Europe as its first base for sales expansion.

NIO's ES8 model went on sale in Norway in October with the ET7 to follow in 2022. At a press conference, founder William Li laid out his plans to construct an entire NIO ecosystem across Norway, complete with service centers, swapping stations and a series of NIO Spaces (exclusive communal areas for NIO users).

Norway appears to be a safe place for its first international foray, the Nordic nation has low tariffs and the highest per capita EV ownership in the world. But some analysts see the choice as being more symbolic than substantial.

"Going overseas tells the world you are internationally focused and growing," says Tu Le. "Indeed, the EV penetration in Norway is high, but the market is still only around 250,000 units a year—about the same as Beijing's Chaoyang District!"

Whatever the motivation, Norway is only the first stop in NIO's international expansion. The trade tensions with the US have forced many ambitious Chinese companies to look to Europe as their first port of call for international growth. But unlike the mammoth American market, Europe is a mosaic of relatively rich economies, each with their own digital infrastructures, languages, and consumer tastes.

"NIO will meet a more competitive landscape in Europe with customers that have a legacy preference for European brands made in their home countries," says Bill Russo. "The challenge for NIO will be to act quickly before the European brands get in the game."

Future forward

If Beijing follows through on its commitment to reduce state subsidies for NEV companies, established players like NIO could enjoy the fruits of a reduced field of competitors as many smaller players leave the field. But EVs are increasingly favored by Chinese consumers for reasons including environmental friendliness.

"I can see myself getting very used to being an EV-driver," says Jing Tian, when asked if she would consider a traditional gasoline model for her next car. "If my NIO has the same price, speed and 'coolness' as a BMW, why change?"

For now, NIO can feel comfortable that it has outgrown the financial struggles of its earlier years and the solid brand identity it has cultivated, with the sturdy backing of the Chinese government, gives it the freedom to innovate in a way that allows them to challenge Tesla and other industry giants.

"NIO is certainly what I would call a business model innovator," says Bill Russo. "It is a 'digital native' company, having built a software-defined vehicle architecture with a user-centric business orientation. With that in place, they are well placed for a generational shift in buyer demographics towards smart, connected and sustainable technology." CKGSB CASE STUDY

Time to SHEIN

SHEIN, a revolutionary new internet platform, has taken the global fashion and garment industry by storm by designing a uniquely quick design-manufacturedelivery process

By Zhu Leon Yang, Professor of Operations Management, CKGSB, and Wang Xiaolong, Senior Researcher at the Case Center, CKGSB

ounded in 2008, SHEIN has quickly become the go-to source of cheap, custom-designed clothing for women in the 18 to 35-year-old age bracket. Its meteoric rise to prominence has seen it compete with big brands like ZARA and H&M that have dominated the space over the past two decades. Although it is a Chinese company, SHEIN ships to over 220 countries but operates mostly in the US and Europe, and is now the most popular shopping app in Apple's US iOS App Store, having overtaken Amazon's app.

SHEIN has a unique business model that allows consumers to receive newlydesigned goods in times unmatched by fashion incumbents such as Zara and H&M. Trend-based designs are sent out to its vast network of small Chinese manufacturers in an Uber-like bidding system and then shipped across the world within a 25 day timeframe, and all at a more-thancompetitive price. From where things stand today, SHEIN looks to be the future of fast fashion.

The company generated approximately RMB 70 billion (\$10.8 billion) in revenue during 2020, up from RMB 3.98 billion (\$617 million) in 2016. This case study presents a comprehensive picture of SHEIN's influence and marketing characteristics as well as digital supply chain operations based upon the collation of information from various sources.

Marketing strategies

As SHEIN is not a listed company, information on its operations and business model are not publicly accessible and one needs to extrapolate backward using externalized performance information.

The company was launched at a time when online marketing did not require a product label to correspond to a key opinion consumer (KOC)—customers that are experts in testing and reviewing products and there was no cost for influencer marketing. Capitalizing on the KOC and influencer channels through the use of digital technology, SHEIN generated high levels of traffic from global social media at a low cost, which helped to support a large

The price range and number of specific products on offer at four major fashion brands

Women's Clothing Category	SHEIN					ZAFUL	ZARA			H&M		
	Price (\$)			Price (\$)			Price (\$)			Price (\$)		
	Min	Max	Products Available									
T-Shirt	2	30	14,671	5	25	600	8	50	234	5	50	182
Dresses	3	95	21,731	6	46	1,094	13	149	1,133	13	349	582
Jeans	10	45	2,256	10	39	85	20	50	371	10	70	265
Coats	6	130	1,990	9	72	619	36	90	753	18	299	294

Sources: SHEIN, ZAFUL, ZARA, H&M Website; Zhongtai Securities

CKGSB Case Study



An almost infinite range of styles are available with SHEIN

user-generated content (UGC) marketing effort.

In the early days of SHEIN, prior to Instagram becoming mainstream, Facebook was the dominant social media outlet around the world. But Facebook then and now was more about people sharing information on their everyday lives, with fewer content creators sharing purely fashion and outfitbased content. SHEIN saw the opportunity to promote its products in collaboration with online celebrities, taking advantage of low traffic costs and successfully creating effective low-cost campaigns.

Moreover, the company encourages customers to share its products via "buyers' stories," utilizing the users themselves to share information on its products and guide the direction of product development. Early on, the company attached great importance to "user sharing," inviting customers to upload photos of products on its Facebook photo wall, in exchange for coupons and discounts. It became a vehicle for sharing content and fashion and at the same time, it was able to tap into new fashion elements and develop new products based on the styles uploaded by consumers.

Further, SHEIN stressed women's dresses as a way to reduce the effort required to launch new products, due to the ease of utilizing different prints on the same pattern. The company has maintained a very high rate of launching new dress options, close to 3,000 a week, since its establishment.

With its in-house approach to marketing, SHEIN can consistently guarantee new and interesting promotional pictures in their online stores. They had no

SHEIN has created and demonstrated some unique business features and appears likely to continue to define fast fashion in the years ahead shortage of competitors in the early days, but while most of these chose to upload images of their products for sale on fashion e-commerce websites, such as 1688.com, directly from overseas, SHEIN insisted on using in-house models and photographers; these better-looking and higher quality images allowed SHEIN to generate higher click-through and conversion rates.

Overseas consumers were also receptive to SHEIN's comparatively quick delivery times. Although initial turnaround times were not at the same level as today, due to the immature global e-commerce infrastructure in place at that time, consumers generally accepted a 10-20 day wait for receipt of goods, giving SHEIN long enough to complete orders.

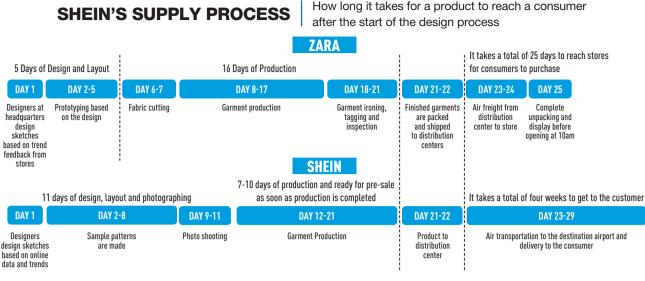
Compared to other top fast fashion platforms, SHEIN has a clear competitive advantage in terms of price and number of new product arrivals. For the US market, women's products, SHEIN's mainstay, are priced at a minimum of \$9, with the best-selling items in each category priced between \$9-24. This is equivalent to the lowest price points at ZARA (\$8-36) and H&M (\$5-18). In terms of the number of available styles and designs, SHEIN is head-and-shoulders above both global fast fashion headliners and its online competitors, with tens of thousands of items on sale to meet the needs of a vast range of consumers.

A unique supply chain

Having collated available data on SHEIN's supply chain structure, we found that the digital organization of the supply chain is one of the company's core strengths. For this study, we split SHEIN's supply chain into four distinct sections: materials, design, production and warehouse logistics.

SHEIN is not involved in the manufacturing of the base materials used in its products, which is highly standardized and involves high costs of research and development. Instead, the company prefers to focus on cooperation with manufacturers and has built its own exclusive online B2B supplier platform, taoliaowang.com, to meet its supply chain needs.

The motivation behind the consumption



Sources: The Wall Street Journal; Grassroots Research; Zhongtai Securities

of fast fashion is similar to that in the cultural and creative sectors. For example, if the content of a book is exciting enough, it seems unnecessary to be overly concerned about the quality of the paper. In the same way, if a piece of clothing is visually desirable enough, the buyer will likely be less concerned about where a piece of clothing comes from and how it was made.

In a sector where teams of designers are often difficult to manage, making it harder to standardize and achieve economies of scale and rapid response, SHEIN has created an effective system of control for the design process. SHEIN's intelligencegathering system makes full use of Google Trends and web crawler tools to keep up with emerging trends and new product launches from competitors. SHEIN's design assistance system is an online Software as a Service (SaaS) system that allows designers to develop products online within a framework that has been defined by the company, which may include fabrics, accessories, and pre-made patterns. SHEIN's design process follows a similar logic to an industrial assembly line, thus significantly reducing the skill demands on designers.

Production is mostly handled by small workshops across China, adding flexibility to the supply chain. But on the flipside this also presents many obstacles that prevent it from scaling. Firstly, small workshops are unstable and can close down at any time, affecting the stability of the supply chain itself. Secondly, the management costs of scaling up small workshops are high and management itself can serve to increase overheads. Thirdly, there are still fixed per-order transaction costs between small workshops and brands-business, purchasing, underwriting, order-following, etc. The more frequent the transactions, the more losses are incurred. SHEIN has made its billing period the shortest in the industry, and the company also supports its small workshops, even funding them to buy equipment and open new production facilities in order to address the instability of small workshops.

This is not only an issue of funding, but also one of changing the values and ethics that have always been part of the industry. In order to solve the problem of management efficiency, SHEIN has curated a group of local suppliers which are now highly dependent on SHEIN and, therefore, easier to manage. In addition, geographical proximity and the maturity of its IT infrastructure, which determines the efficiency and transparency of information transfer, have enabled SHEIN to effectively locate itself between its many affiliated small workshops. This in turn has boosted its management efficiency.

Another of SHEIN's software systems, Manufacturing Execution System (MES), has been developed as a tool for their partner garment workshops. With it, they can directly help the production department export management processes, rules and concepts directly to the garment factories. In addition, employees who are responsible for following up on orders at SHEIN also tutor suppliers in the use of the operating platform and encourage them to be deeply involved in the operational management of the company.

In order to solve the problem of revenue per order not covering transaction costs, the calculated geographical positioning of SHEIN's offices reduces the cost of sending samples, following up orders, quality control, and a range of other costs that depend on physical factors. On the other hand, for parts that do not rely on physical entities, SHEIN goes directly online. For example, traditionally, the decision of which supplier will produce which order is made by the buyer, which can be inefficient. SHEIN's alternative is to 'Uberize' the process of allocating orders through a bidding system. After an order is placed, the platform will automatically suggest it to the best suited workshops and suppliers can accept the orders online. The whole process is decided by algorithms, thereby reducing transaction costs to almost zero.

SHEIN has re-invented the idea of the traditional small workshops that were born and bred in China. It takes full advantage of

Compared to other top fast fashion platforms, SHEIN has a clear competitive advantage in terms of price and number of new product arrivals.

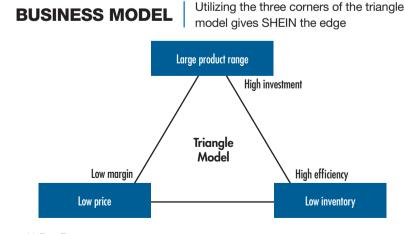
the inherent flexibility of small workshops and addresses their shortcomings by utilizing information technology instead. At the same time, the advantages of the highly-dispersed production approach are utilized to the fullest and the extremely low tolerance rate for faulty work has, in effect, created a new model for flexible supply chains of fashion goods.

In terms of warehouse logistics, overseas warehouses generally have two uses. One is as a return facility and the other is for stock preparation. The return rate in apparel, especially the fast fashion industry, can be as high as 20-25%. The returned goods can be sold again after disinfection, pressing, a packaging change and some other preparation. SHEIN's overseas warehouses are mainly used as return warehouses and stock is generally available

for delivery in 7-14 days through the Universal Postal Union (UPU) agreement.

In the US, shipping on orders of \$49 or more is free and users can return items for free within 30 days. The generous return terms increase consumers' willingness to buy multiple pieces at once, increasing the customer unit price. SHEIN's average unit price is currently close to \$100 and even exceeds \$150 in regions such as the Middle East.

Logistics costs are generally kept at around 20% of the product price, and with high unit prices, SHEIN's logistics options are more varied, giving greater flexibility to the entire supply chain. Due to customs duties and the UPU "terminal fee" SHEIN's delivery costs are well below 20% of the product price, allowing it to achieve an affordable price positioning.



Source: MyFortyTwo

The overseas warehouses allow SHEIN to accept and redistribute returns, the relaxed return conditions increase SHEIN's unit price, which in turn allows SHEIN to further reduce logistics costs. These various points of interest are interlocked, creating a positive and progressive framework.

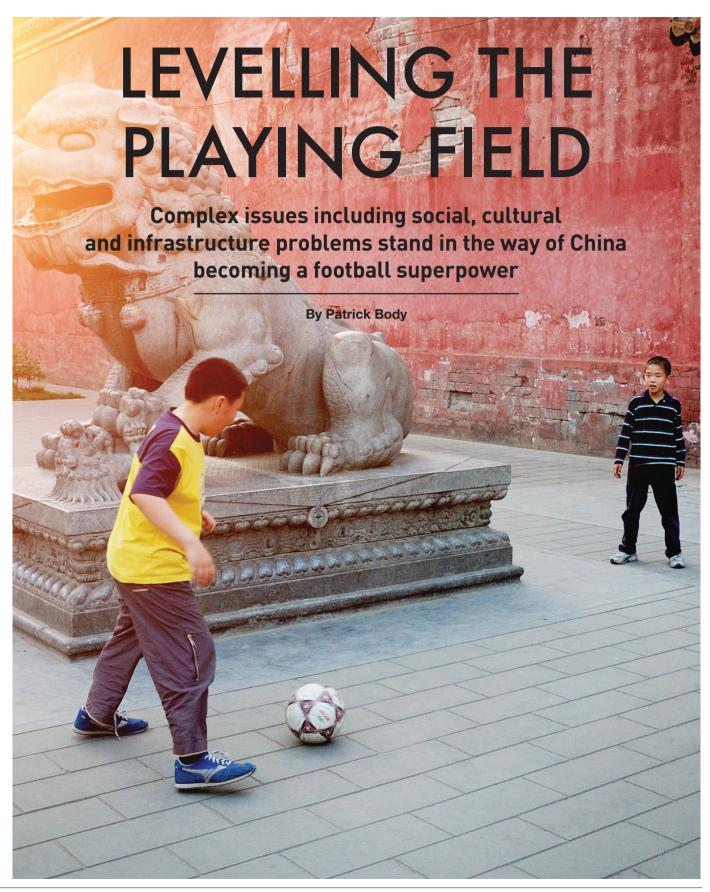
FMCG industry models

For the fast-moving consumer goods (FMCG) industry, the media believes that the business logic followed by the average brand is to anticipate the needs of the consumer and find the intersection of where companies develop their products according to their predictions of the market. The typical brand makes money where these intersect and loses money where they do not. The logic of SHEIN and ZARA, on the other hand, is not to look for intersections but to cover all trends.

If you visualize the fast fashion industry's model as a triangle, rapid and massive numbers of new arrivals at a low cost form the first corner, while a high price-performance ratio, and high turnover and low inventory form the second and third corners, respectively. With high investment and low gross margins, if a company wants to make profit, it must be highly efficient and have a low inventory backlog.

In China, many brands have been built on the first two corners of the model because it has been proven, time and again, that newer and more interesting styles, plus a high level of cost effectiveness are very attractive to consumers. Such brands easily take off, but because they do not address the "third corner," they quickly find themselves grappling with inventory issues. The real success of SHEIN lies in the organization of their supply chain, a process which it has developed over many years. Having found a way to create the "third corner" SHEIN has gained the ability to make a profit whilst maintaining incredible levels of adaptability.

SHEIN has created and demonstrated some unique business features and appears likely to continue to define fast fashion in the years ahead, increasingly encroaching on the market share of established brands.



Downtime

China is a long way from football dominance despite a clear focus on the sport's development. Why is that so? he ball sailed past China's powerless goalkeeper to give Japan a 1-0 win in mid-September, pushing China's men's football down to the bottom of their group in the World Cup qualifying round. It was yet another ignominious step in China's so far failed long march to global football supremacy.

The view from the bottom of the group is not the one China's leader Xi Jinping envisioned when, in 2015, he made the ambitious statement that the country must become a major footballing power by 2050. This aspiration was bolstered by the introduction of a reform plan that aimed at a wide-reaching, top to bottom, revitalization of Chinese football.

Goals were set for drastically increasing the quality and uptake of youth football, widening the availability of footballing spaces and the continued development of large-scale infrastructure, and a significant increase in quality of China's performances on the football field.

There has been progress in some areas since, but it is clear that there are a significant number of hurdles to football development in China. With several corruption scandals in its league's recent history, continued poor performances by the national team, inconsistent support from governments and businesses and, most importantly, a lack of youth involvement, Chinese football still has a mountain to climb.

"Absolutely China can do it, but it will not be easy, it requires patience, it requires a resolve and it requires strategy," says Simon Chadwick, Global Professor of Eurasian Sport at France's Emlyon Business School.

Lofty goals

In 2015 the government introduced the Overall Chinese Football Reform and Development Plan, setting out a series of short-, medium- and long-term goals to redefine the football landscape in the country.

In the short-term, it called for an improvement of the general environment around football development, mediumterm, a significant boost to youth football and more success for Chinese teams in international competition, and long-term simply global football domination and the deep embedding of football in the national culture—the best players in the world, the best national team in the world.

"It's very ambitious, but this is important and there has to be a long-term approach," says Mark Dreyer, founder of China Sports Insider, a sports business news and analysis website. "It takes a minimum of 20 years to turn things around because you have to start with five-year-olds and they obviously can't produce international results at that age."

The Plan also provided detailed instructions for upgrading the Chinese Football Association (CFA), developing campus football and increasing the popularity of social football. The newly created National Youth Campus Football Leading Group Office set a target of 85,000 on-campus football fields by 2020 and 50,000 football-featured schools-a school where football education makes up part of the curriculum-by 2025. The country built over 26,000 new football pitches between 2016 and 2020 for a current total of 105,300 across the country, compared to only around 6,000 new pitches constructed in the previous five years.

Football [in China] needs to become part of society

Rowan Simons Chairman China ClubFootball FC The Plan also called for a more grassroots approach to the cultivation of young talent, moving away from the previously dominant 'Soviet Model' of taking potential stars at an early age and attempting to develop them through rigorous but somewhat siloed training. The sports and education ministries have been tasked with supplying policy research and improving campus football, but most of the youth development is being done by a series of smaller, independent grassroots clubs alongside a network of schemes run by international footballing giants such as AC Milan and Manchester City.

But there is no exact budget attached to the goals and it is mostly up to harried local governments to increase spending, alongside financial input from the Chinese lottery and private investors.

"I think we can say the first parts of the plan have been put into place, but it will take a little bit of time and organization to get it all moving in the right direction," says Mark Thomas, Managing Director of S2M Consulting, a China-focused sports events company.

At the top of China's football hierarchy are the national teams, while at the bottom are social football clubs, which are slowly expanding, but the most visible manifestation of football in China is the Chinese Super League (CSL), composed of 16 teams from which most of China's players emerge. Many of the teams are owned by Chinese private corporations. Seven new major stadiums associated with CSL teams are slated to open in the next two years across the country

"The owners don't really care whether the club will make money," says Lingling Liu, Managing Director of China Sports Business Consulting. "For them, it's just another name on the business card. Their purpose is not making this football team profitable or successful. Their purpose is to use it to get resources from the government."

The footballing landscape

Established in 1994, the Chinese Super League runs from February to November, which is at odds with the traditional Autumn to Spring football season in the West. The league has overall revenues of \$1.12 billion per year, only around 15% of the equivalent number for the English Premier League, the largest league in the world by value.

For most top leagues around the world, the main income sources are ticket sales, promotional sponsorships and broadcast rights. In each case China's football league is not in good shape. The league games are mostly well attended, but ticket prices are cheap and many of the promotional sponsorship deals are league-wide with the income being divided equally between all teams, whereas the major football leagues hand out the money based on league placing. China Sports Media (CSM), the leading sports broadcaster in China, bought the broadcasting rights to the league in a five-year deal in 2016 and has since extended it for another five. The entire deal is now worth around \$1.73 billion, which is about a tenth of the most recent English Premier League rights deal.

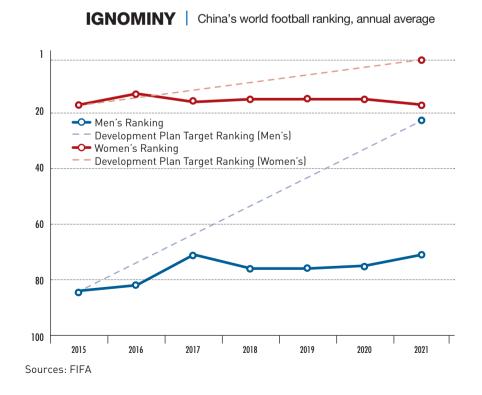
While the players in the Chinese men's national team come from the CSL, many of the best players are imported from overseas and naturalized in the name of footballing progress. In 2019 and 2020, 11 foreign nationals were naturalized and over half

of these players had no Chinese ancestry whatsoever. The women's team has fared better in this regard, with very few players being of non-Chinese origin. But in the last six years since the implementation of the new policy, the situation with regard to both men's and women's football has not particularly improved. The men's team is languishing well below 70th in the FIFA global rankings and sits eighth in Asia, while the women's team ranks 17th in the world.

The fundamental problem for both the professional league and national teams is the dearth of quality players, and that is caused by the fact that children in China don't tend to kick a football around after school, as they do in established footballing nations.

Falling foul

The image of two children running home from school to grab a football and take it to a neighborhood park to kick around is an easy one to conjure for people in countries where the sport is a prominent part of dayto-day life. In China, however, familial and academic pressures tend to stand in the way of such pass-times. "Most parents



Downtime

and grandparents want to see those kids achieve the best in terms of academia, they care little about sports," says Mark Thomas. "Historically, the direction they have wanted to push their kids in has not been football."

Every minute of Chinese children's lives outside of school tends to be structured around supplementary learning in a variety of topics, led by maths, English and music. Although it seems to be becoming more popular with the growing middle-class, football has not traditionally been a part of that structure. "They think everything is important, or more important than sports," says Lingling Liu. "You know, maths is important, English is important, music is important but sports, sports are not so important."

This has led to the classic profile of a Chinese social football player being a midtwenties urban man, playing 5-a-side games with his colleagues on a weeknight after work. In countries where football is more dominant, that profile is far more diverse. Xu Zehua, a 24-year-old from Lanzhou, loves playing football, but admits that that is somewhat rare in China, especially among the young. "When I was in high school, I was the only one who liked football and I had to go to the football field in my neighborhood and play with people 10 years older than me," he says. Now he lives in Shanghai and plays as often as he can, but a lack of teammates remains a problem, and the high costs of pitch rental also limit his playing time. "I found it difficult to

play football because football pitches in Shanghai are very expensive, but now I play with my current company and we have enough people to cover costs," he added.

Reputational regrets

Football does have a certain level of popularity in the country, with around 200 million people considering themselves as fans of the sport, but this pales in comparison to the support of basketball, which has around 625 million supporters.

Basketball's popularity in China owes a lot to the success of Yao Ming, a Chinese player who had a meteoric rise to stardom during his time playing in the NBA for the Houston Rockets during the 2000s. He became the face of the sport in China and provided millions of young children a face to idolize and moves to imitate when playing out in the street. During the height of his fame, sponsors and companies recognized the value of Yao Ming in the Chinese market and utilized him to both build basketball in China and sell related products, so much so that he topped Forbes' Chinese celebrities list in income and popularity for six straight years up until 2009.

Football, on the other hand, has no such cult hero for Chinese children to look up to. For the few good players that emerge from the Chinese system, some stardom can be achieved in the CSL, but true hero status comes from success abroad, and Chinese players are, in almost all cases, outclassed in terms of the professional

Absolutely China can do it, but it will not be easy, it requires patience, it requires a resolve and it requires strategy

> Simon Chadwick Global Professor of Eurasian Sport Emlyon Business School

leagues elsewhere. "So the players weigh the decision: do I stay in China in the CSL where I have a bit of fame, or do I go across to Europe, where I'll probably be playing in the second level or third level. It's a pretty miserable existence," says Rowan Simons, Chairman of China ClubFootball FC and author of *Bamboo Goalposts*. "So very few have taken that opportunity to go abroad."

Additionally, the CSL doesn't have the best reputation, with a multitude of problems marring its history. Corruption and match-fixing have been rife, Shanghai Shenhua, champions of the CSL's previous iteration, the CJAL, were stripped of their 2003 title in 2013 due to match fixing. A few years prior, the 'Black Whistle' scandal saw six Chinese division two teams punished for match fixing by the CFA. Financial mismatches between meager team incomes and inflated salaries are also prevalent. Jiangsu F.C. were, in 2015, the fourth-wealthiest club in the CSL with a revenue of \$36 million but, in January of 2016, they paid \$50 million for a single player transfer. This financial mismatch has led to an unparalleled level of team instability, with Jiangsu, the current reigning champions of the CSL, unable to defend their title this year, not through lack of skill or determination, but because they simply do not exist anymore. The club folded citing financial issues before the start of the 2021 season.

"Looking at the professional football level, economic sustainability has been the key issue," says Sascha L. Schmidt, Director of the Center for Sports and Management at the WHU-Otto Beisheim School of Management. "Nearly none of the professional football clubs have been profitable and only a handful have developed youth teams."

There have been various reasons given for the national teams' lackluster performances over the years: a lack of national interest; a veritable conveyor belt of inexperienced managers; and even at one point Chinese netizens tried to claim that maybe it was all just a genetic Asian thing and that they should give up. The footballing success of Japan and South Korea suggests otherwise. But, as ever with Chinese football, a lack of talent and youth development has been the key driver in the national teams disappointing history.

The lack of youth football hamstrings the Chinese game at all levels and for those children that, despite the barriers, do still choose to play football, the Chinese talent development system was also severely limited before the implementation of the Plan. The use of the so-called "Soviet Model" of talent development left the country with a scarcity of talent.

"The Soviet Model was the chosen approach, and that is why we are where we are today. The continued use of an oldfashioned, outdated, unsuccessful model, which had been abandoned by everyone," says Rowan Simons. "It only really started to change after 2015."

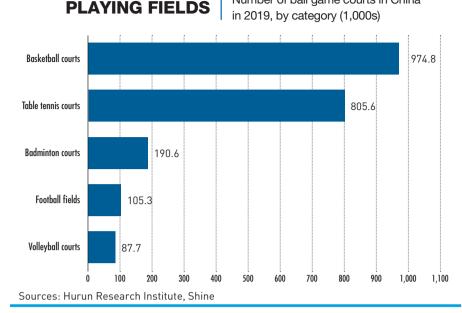
Promoting new talent

A new footballing structure is taking shape in China, but it is disjointed. The necessary solution requires a fundamental change in culture, and China has made progress in terms of "hardware"—infrastructure—but "software"—footballing understanding still lags behind.

Exposing children to football through schools has been a major tactic of the development plan and more children are playing, simply by virtue of being part of the education system. But there is a disconnect between school-based participation and embedding football within a child's day-today life.

"The campus football program is good in as much as many more kids now get exposed to football," says Simons. "But football needs to become part of society, it has to become a culture and almost everywhere in the world that plays football, that culture is built through amateur, grassroots clubs. China has gone from no kids playing football, to a huge number of kids playing football at school, which is good. But it's not enough, there needs to really be a link between the schools and amateur clubs."

Alongside the increased numbers in school, there have also been some positive grassroots organizational developments. Simons' organization, China ClubFootball,



for example, is the largest independent grassroots football network in Beijing and delivers internationally-qualified coaching. It manages an 80-strong league, in which it enters 26 teams. Other teams in the league come from similar, smaller grassroots organizations such as Sports Beijing, which was set up by parents over 20 years ago and offers a wide range of sporting activities for the youth of Beijing.

"Scale is an issue," says Simons. "There's over 6,000 junior coaching operations in China. But most of them are very, very small and only around 10% of them are profitable. We are one of the few that makes a profit and that works with over 2,000 kids. It's a drop in the ocean."

Clearly, progress has been made over the last few years but encouraging China's youth to kick a ball remains a daunting task. Without youth interest and opportunities, players end up learning basic skills, such as ball control and footwork, too late. This has the knock-on effect of them learning the macro, team-based coordination that makes football so special, far too late. Manifesting itself in China as delayed debuts and the creation of squads that are fairly unique.

"I think the lack of youth opportunities is a big problem. There are players making their debuts at the ages of 23 or 24, and that's not considered unusual here," says Mark Dreyer. "There are under-25 squads. Nowhere else in the world would have an under-25 squad. It's such a weird age—that should be the first team."

Number of ball game courts in China

Goal?

Given the mountain of issues standing in the way of China's footballing ambition, it is not going to be easy to reach the summit of world football, but it's not totally out of the question.

"I think the reforms will lead to positive outcomes in the future, eventually. But football is so complicated in China and the CFA and the other groups leading the change are in a very hard position, not because they misunderstand football, but because the changes are so difficult," says LingLing Liu.

Simon Chadwick agrees, stressing that "it is important that the football authorities in China stay on this trajectory and they don't lose their nerve and change direction. I think there is a tendency for that in Chinese football, and to sometimes undo the work that they're trying to do."

Long-term, grassroots solutions have to be the answer, but is it possible to see some success now, perhaps at the 2022 World Cup? Rowan Simons is not particularly optimistic, but can't escape the pervasive romanticism of the game. "I think if they qualified, it would be a miracle but you know, anything can happen in football."

Snapshot

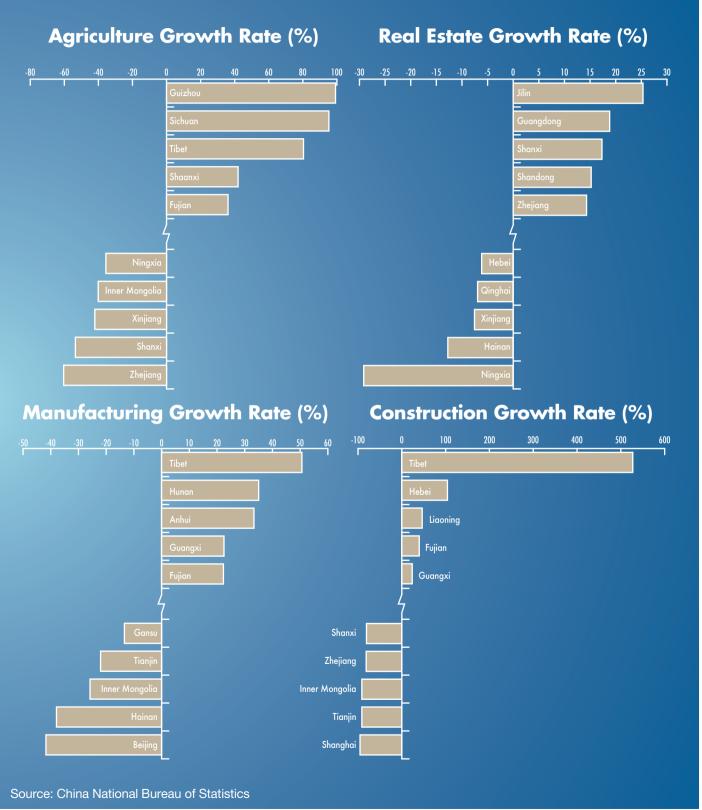
Provincial Growth Rates

Since 1980, China's overall growth rate has averaged 9.3%. Nationally it was 6.1% in 2019 and, although it dropped significantly in 2020 due to the COVID-19 pandemic, China's growth rates in 2020 and 2021 have outperformed everywhere else in the world. But growth rates vary across the 32 provinces

and regions of China. Using the 2019 figures as a more accurate representation of unimpeded growth, it is clear that the highest growth rates are located in the south-western areas where the government has shown significant support for poverty control and investment.



Growth rates per sector also vary dramatically between provinces. The graphs below highlight the top and bottom five regions by percentage growth rate over four different sectors in 2018.



China Data



The stats you need to know



Focus on jobs

China's latest 5-year economic blueprint calls for the creation of **55 million** urban jobs by 2025 and the capping of the official urban unemployment at **5.5%**, compared with over **50 million** positions and a **5%** jobless rate under the 2016-2020 plan.

Source: South China Morning Post

- Macro

Working all hours

A top Chinese court has warned companies, particularly those in the tech sector, about excessive working hours. The so-called '996' working culture, in which employees are expected to work from **9am-9pm**, **six** days a week, has come under fire amid complaints of grueling conditions and a number of deaths blamed on overwork.

Sources: Financial Times



Business



Retirement reinforcement

The Chinese government has announced plans to set up a state pension company with registered capital of **\$1.72 billion** as it tweaks its pension system for a rapidly aging population to avoid underfunding.

Source: Reuters



A mutual exclusive

US investment firm, BlackRock, which became the first global group to gain approval for a wholly owned mutual fund business in China, has raised \$1 billion for its first fund. It closed fundraising a week earlier than expected and brought in more than 110,000 investors.

Source: Financial Times

Common prosperity

Chinese tech giants Alibaba and Tencent have both pledged to donate **\$15.5 billion** each to charitable projects over the next five years. The donations come hot on the heels of a call from Chinese leader Xi Jinping for common prosperity in China.

Source: Financial Times





More little loans

China's central bank will increase relending quotas by \$46.4 billion to help banks provide loans to small and medium-sized companies and self-employed individuals, as part of the central government's wider measures to maintain the stability of market entities and employment, and support economic growth.

Source: Financial Times

Allied in alloys

Ansteel and Ben Gang Group, two of China's major steelmakers, have announced a deal that will initiate a merger of the two companies. The merger and restructuring will create the world's thirdlargest steelmaker. After the merger, Ansteel will have an annual production capacity of 63 million tonnes of crude steel.

Source: Xinhua





TikTok reaches the top

A global survey of app downloads in 2020 shows TikTok, a video-sharing app developed in China, on top of the list of social media providers for the first time, overtaking Facebook, even in the US. The app has been downloaded around **2.86 billion** times since it launched in 2017.

Source: Nikkei Asia



Automotive acceleration

Geely's electric vehicle brand Zeekr announced that it raised **\$500 million** from investors in its first round of external funding. The company makes the Zeekr 001 model in the eastern city of Ningbo and is expected to start delivering them in late 2021. It aims to sell **650,000** vehicles a year by 2025.

Source: Caixin



Chip manufacture

Semiconductor Manufacturing International Corp, China's top chipmaker, will build a **\$8.87 billion** chip manufacturing plant in Shanghai to fabricate oldergeneration, **28-nanometer**, chips that are currently in short supply for everything from consumer electronics to self-driving cars.

Source: Nikkei Asia

Pulling apps

Chinese regulators have removed 67 apps from app stores for data abuse and overuse of pop-up notifications. The apps include one of China's biggest podcast platforms, Dragonfly FM, which has 130 million monthly active users.

Source: South China Morning Post





Game over

A 3-hour-a-week cap on the amount of time users under the age of 18 can play video games, has come into force in China. The limits to gaming time will reduce video gaming companies' user activity and income. China is the world's largest video game market and the industry was expected to generate revenue of \$359 billion this year and \$437 billion by 2025.

Source: Caixin

Speeding NEV sales

FKR

China, the world's biggest vehicle market, is predicted to see the sale of **1.7** million new energy vehicles (NEVs) between January and August 2021, almost triple the **600,000** units sold in the same period the year before.

Consumer •

Source: China Daily





Entertainment industry woes

The entertainment industry in China is feeling the impact of the common prosperity push as the country's internet regulator has announced a set of **10 measures** to address issues in the sector, including banning online popularity rankings of celebrities and regulating companies that work with them.

Source: Financial Times

BOOKSHELF

Angles on Chinese History

Hans van de Ven, Professor of Modern Chinese History at the University of Cambridge, recommends books that illuminate the origins and intricacies of the modern Chinese state

Ans van de Ven is an authority on the history of 19th and 20th century China. He grew up in the Netherlands and studied Sinology at Leiden University and then moved on to complete a PhD on modern Chinese history at Harvard University. Van de Ven is now a Professor of Modern Chinese History at the University of Cambridge, as well as the Director of Asian and Middle Eastern Studies at St. Catherine's College. He says he is happiest in two places: the classroom and the archives—wherever they may be.

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



There are easier short books, such as Margery Wolf's *The House of Lim*, that give a superb introduction to China, but Philip Kuhn's *The Origins of the Modern Chinese State* is worth every minute one spends on it. I have returned to it repeatedly for its insights about the nature of the Chinese state and the basic assumptions

about the state guiding the behavior of its leaders. It forces us to think about a whole range of fundamental issues, including about how new the 'new China' really is, whether a belief in the public good is compatible with democracy, and why Mao decided to build communes. It's the work of a great historian imparting to us the wisdom accumulated over a lifetime.

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



That must be *Empire of the Sun* by J.G Ballard. It is even better than the film. I am a historian of the Second World War and the book is superb in evoking the fate of the foreign community in Shanghai during that time. Ballard simply is a fantastic writer. His ability to evoke imagery in taught, precise prose is phenomenal. Reading *Empire of the Sun* together with Chi Pang-

yuan's *The Great Flowing River* and Edgar Snow's *Red Star Over China*—who doesn't read several books at the same time?—gives a good feel for the most transformative period in China's modern history.

What are you reading currently?



I have been reading A Biography of Liang Shuming (梁漱溟自述). He has been written about by Chicago historian Guy Alitto as China's last Confucian. He is famous for having promoted rural revitalization and also for having upbraided Mao in public after 1949. The biography gives a good sense not just of what someone as intelligent, sensitive, and

brave like him made of China's tumultuous twentieth century, but also of the values and network of scholars and intellectuals that sustained him and people like him.

What book totally changed your perspective on a certain topic?



If I must choose one, let me opt for Gao Hua's *How the Red Sun Rose*. One of the great privileges in my life has been to meet with some of China's most brilliant modern historians. Nanjing University's Center for Research on Republican China, led by Professor Zhang Xianwen, opened the door to me. I made many friends there such

as Chen Qianping and Chen Hongping, and through them came to know historians such as Yang Kuisong, Mao Haijian, and Yang Tianshi. Their work and my conversations with all of them completely overhauled my thinking about Republican China.

Which China book do you think is the most underappreciated?



A difficult question. So much is published now that should be known much better. But I go for a historical option here: Thomas Meadows' *Desultory Notes on the Government and People* of China, and on the Chinese Language. It's from 1847. It was a brilliant analysis of the Qing government, insightful about its strengths

and weaknesses, and displays a mind of intense curiosity. It also provided a workable way of transliterating Chinese for the first time. I just happened to come across it when browsing through the Thomas Wade Collection at our university library.

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