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INTERNATIONAL FINANCE FORUM (IFF)

Since 2003

The International Finance Forum (IFF) is an independent, non-profit, non-governmental international organisation founded in Beijing in October 2003, and established by financial leaders from more than 20 countries, regions and international organisations including China, the US, the European Union and the UN. IFF is a long-standing, high-level platform for dialogue and communication, as well as a research network in the financial realm, and has been upgraded to F20 (Finance 20) status.

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THE IFF CHINA REPORT 2021

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THE IFF CHINA REPORT 2021

Insight and perspectives from the world's leaders, premier policy-makers and financiers

- Sustainable development and global economic growth in a post-pandemic era
- The Belt and Road Initiative
- Green finance
- Global capital markets
- Fintech

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ABOUT IFF

The International Finance Forum (IFF) is an independent, non-profit, non-governmental international organisation foundedin Beijing in October 2003, and established by financial leaders from more than 20 countries, regions and international organisations including China, the United States, the European Union and the United Nations. IFF is a long-standing, high-level platform for dialogue and communication, as well as a research network in the financial realm, and has been upgraded to F20 (Finance 20) status.

IFF well-established network connects to

50	50	200	2000	100000
Countries and regions	Political leaders	Financial leaders	Participants	Experts

Finance20 (F20) - Fiance supports the world

A year of disruption, decline and delay – What lies ahead?

The Covid-19 pandemic caused a deep contraction in the global economy in 2020 – the greatest fall in output since the Great Depression. Social-distancing and lookdown measures to contain the novel coronavirus led to acute supply chain disruptions, a sharp decline in physical activities and major project delays. According to the International Monetary Fund, the global economy contracted by 3.3% in 2020. China was the only major economy that recorded positive growth due to its relative success in controlling Covid-19.

The economic downturn came at a time when the global economy was already softening because of the trade war between US and China, and rising geopolitical tensions. Many advanced economies continue to grapple with the lingering effects of the global financial crisis of 2007–08, the fight against global extreme poverty is far from over and the world needs to take urgent and more drastic action, and devote more resources to responding to climate change – and to make development sustainable before it is too late.

Under such circumstances, how countries around the world should work together to take on these common challenges is paramount – containing the pandemic and ending the health crisis, protecting the poor and vulnerable groups, maintaining financial stability and supporting post-pandemic economic recovery, and responding to climate change and promoting green growth.

The *IFF China Report 2021* presents the insights of global leaders, policy-makers, finance experts, business leaders, politicians and scholars into these important issues under five themes: sustainable development and global economic growth in a post-pandemic era, the Belt and Road Initiative (BRI), green finance, global capital markets and fintech. A key message of the report is that there is plenty of scope for global co-operation across all of these areas, making the global recovery from the pandemic speedy and sustainable.

The BRI represents a key component of China's engagement with the rest of the world. Through the BRI, China can harness its own development expertise and promote sustainable development in other countries, including investing in infrastructure connectivity leading to win-win outcomes. The report features the fourth annual BRI Survey of central banks, the results of which indicate that central banks view the BRI as important in promoting global growth in the wake of the pandemic. And, while local lockdowns have temporarily delayed the progress of some major projects, it is apparent the BRI will also be crucial in supporting a sustainable and green recovery – with China, now committed to carbon neutrality by 2060, positioned to play a leading role.

We are privileged and extremely grateful for the support of the many who have contributed to and supported the publication of the *IFF China Report 2021*.We hope it provides you with important insights and fresh perspectives.

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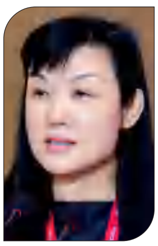

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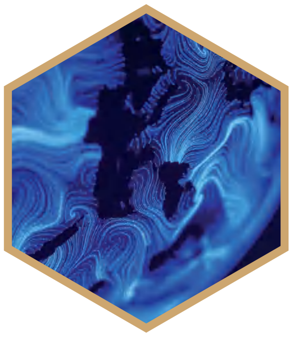

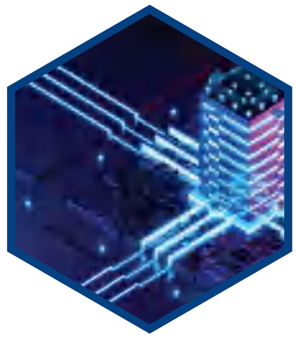

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CHINA–US CO-OPERATION AND FUTURE

The future of China–US relations

IFF board member *Rick Niu* sat down in conversation with *Craig Allen*, president of the US–China Business Council, and *Zhu Guangyao*, former vice-minister of China's Ministry of Finance, at the IFF Annual Conference in November 2020

Craig Allen is president of the US–China Business Council based in Washington, DC. His career has spanned 36 years in international trade, commerce and economic relations. Under Allen's leadership since 2018, the US–China Business Council has grown to more than 220 members – US companies doing business in and with China. He is an advocate of a constructive business relationship between the world's two largest economies.

Zhu Guangyao was the vice-minister of China's Ministry of Finance between 2010 and 2018, and is a senior adviser to the State Council of the People's Republic of China. During his time as vice-minister, he led numerous negotiations on behalf of China with the US and other partners worldwide.

Rick Niu: What will happen in the final two months of President Donald Trump's so-called 'lame duck' presidency for US–China relations? And what will happen in the first two years of the new administration, between inauguration and the US midterm elections?

Craig Allen: The next two months are going to be very interesting. The first priority in the US today is fighting the Covid-19 pandemic. Covid-19 is an enormous political and economic problem – and is by no means under control. So everything I say is coloured by that very important global battle that affects US citizens directly.

Politically, the US recently completed a very good election, peaceful in the middle of the pandemic, with participation by as many as 159 million Americans.[1] When Joe Biden is inaugurated, we will begin a new chapter.

Between now and then, I expect a lot of ups and downs. Just yesterday, the US State Department and Taiwan, China, completed a series of economic negotiations. New announcements were made about the US working with its allies in the South China Sea to tackle illegal fishing. And there were also some announcements on executive orders controlling investments by US citizens in various Chinese entities. I expect a considerable amount of continued policy initiatives and volatility over the next two months.

There will probably be a period of quiet introspection, as the Biden administrtion carries out policy reviews. I am hopeful that – perhaps in the late spring or early summer of 2021 – we can begin a process of consolidating the very turbulent US–China relationship, looking at all elements: strategic, political and economic. But it's going to take a while, and it's going to take both governments making efforts to exert political will to bring about this relationship and build a more secure foundation. But I do expect that to happen. So I am pessimistic in the short term, looking for consolidation in the medium term, and building on optimism in the long term.

Rick Niu: What is China's perspective? How will China respond over the next two months? And how will China respond, or even proactively reach out, over the next two years?

Zhu Guangyao: The next two months will be a transition period in the US. Our core interest is sovereignty, security and fundamental development interest. We must do everything to protect our core interest, which is what the Chinese people demand.

We understand that, as the two largest economies in the world, China and the US should work in a professional manner to build a real bridge connecting both countries through communication based on mutual respect. With our efforts, we want a win-win situation. The next two months will be very challenging, but we are really confident.

The US and China have a common interest in global peace and development. We should do everything we can to increase the common ground between our two nations, which can only be achieved through communication. Over time, trust will be restored.

The last several months have been a disaster for our two peoples and our two countries. Trust has been eroded completely, which has been very difficult for the world as a whole. The rest of the world watches for signs of instability in the relationship between our two countries, so it is imperative we get it back on track.

I have full confidence in people such as Craig Allen and the very professional team in US, which has shown a willingness to co-operate with China. President Xi Jinping has emphasised many, many times that co-operation is the only real option.

China strongly believes our two nations have the intelligence to maintain and enhance our relationship – not only in the interest of our two countries, but in the interest of global peace and development.

Rick Niu: Considering what has happened during the Trump administration, are you hopeful there will be decent communication channels in the next two months between the two nations?

Craig Allen: I think that, over the past four years, relations have changed quite significantly. President-Elect Biden faces a very different situation from the one Donald Trump inherited. The geopolitical constraints on the relationship are very real. The contrasting positions and tensions between the US and China are not something we can ignore. They exist – and they will have to be dealt with.

Another change is in the US Congress, which is speaking often and very vocally about US–China relations. I am watching no less than 477 draft laws that would concern US businesses in China. These laws constrain the president, and will make it more difficult for a really robust dialogue to continue.

I think it is a mistake to suggest we are going back to the Obama era or, before that, the Bush or Clinton eras, with very frequent dialogue. But I am not pessimistic. The new team coming in is very pragmatic, practical and objective. They are not ideological, nor do they wish to change China. But they recognise in a very clear-eyed manner that both countries need to compete fairly across many different dimensions of international relations. The competitive nature of this relationship is going to be quite obvious.

I think this does leave room for collaboration – particularly in areas concerning the global commons. Climate change would probably be the most important of those future collaborative efforts. I hope we will work together on Covid-19 and future epidemics that may arise.

I am also hopeful that discussions and consultations on multinational or international organisations will really step up. The World Health Organization (WHO) and the World Trade Organization (WTO) are good examples. But I don't think we are going to have consultation for consultation's sake. There will be a clear realisation that this is competitive, and we are happy to compete with our Chinese friends in a careful, controlled and respectful manner. And that is a different tone from what was seen in the Obama administration, but something I think will bring us more stability, more civility and a better environment for business in both countries.

Zhu Guangyao: I fully agree that many of the fundamental issues require co-ordination between China and the US. This would include issues such as climate change, antiterrorism, nuclear non-proliferation and the digital economy.

However, our immediate concern should be to control the spread of Covid-19. China has said it is willing to co-operate internationally on this, but the withdrawal of the US from the WHO sent different signals. I look forward to the day the US rejoins the WHO.

Rick Niu
IFF board member

Craig Allen
President
US–China Business Council

Zhu Guangyao
Former vice-minister
China Ministry of Finance

There is also an urgent need to return to normal communication. Drawing on my personal experience, during the Obama administration, China and the US already had the China–US Strategic Economic Dialogue, which was well-established and formed under the Bush administration. The Obama administration respected the arrangement in place. But a timely information exchange is important and there is a need for future co-operation fit for the new environment.

Rick Niu: To delve into a specific economic issue – the phase one trade agreement between the US and China. I think many worldwide view this as a rare bright spot between the two administrations during the past four years. What is going to happen following the transition of power in the US? Are we going to expand the agreement into phase two and beyond?

Craig Allen: Within the transition team, the Democratic party and the Biden camp, this issue has not been fully resolved. There are policy reviews under way right now. Let me note just a couple of things. Within the bilateral relationship, I agree we have had unprecedented tension, and thus the phase one agreement provides a floor – a stable base upon which we can build trust and confidence. But it is also more than that.

In the US agricultural economy and rural areas, commodity prices are good. And that is, in large part, due to the phase one agreement. In addition, the agreement has led to real market opening in financial services, intellectual property (IP) rights, tech industries and agriculture. And, in that sense, I think it has been useful for China's reform and opening-up agenda, as well as important for US companies. It is a win-win situation.

The agreement is for two years, up to the end of 2021. I would suggest we keep the agreement and both governments continue to implement it fully. By the end of the agreement's term, we will need some form of a new framework or agreement. I think that timing is about right to put in a new framework and get rid of the tariffs.

We must not accept that additional tariffs blocking trade between our two countries is a positive thing. It is not, nor is it acceptable. We need to get rid of the tariffs, but we need to do that in conjunction with market-opening reform in China that leads to greater market access for foreign companies on a level playing field. It's a difficult negotiating agenda. But it can be done, and I expect it will be done.

Rick Niu: What is going to happen with the phase one trade agreement a year from now?

Zhu Guangyao: The phase one deal will be a stable base for building trust. This year, China and the US worked very hard to implement the agreement, despite the fallout of the pandemic.

I also hope the tariffs between our two countries can be removed quickly; they impact both US and Chinese consumers. At present, any additional tariffs are not in line with WTO rules or multilateral agreements. Simultaneously, we must prepare for how China and the US will work within the new WTO environment.

Rick Niu: What do you think about the new Regional Comprehensive Economic Partnership (RCEP) in the Asia-Pacific region – what will its role be going forward? In the context of a US-centred international trade system – and perhaps an emerging China-centred, China-influenced international trade regime – would that be essentially a model for other

CPTPP member countries and potential expansion

China

Signatories

1. Australia
2. Brunei
3. Canada
4. Chile
5. Japan
6. Malaysia
7. Mexico
8. New Zealand
9. Peru
10. Singapore
11. Vietnam

Applied to join

12. UK

Announced interest (excluding China)

13. Colombia
14. Indonesia
15. Philippines
16. Republic of Korea
17. Thailand
18. US

regional economies, eventually replacing the WTO? Or could that actually be a precursor to countries such as the US and China considering joining the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)? What is the implication of RCEP on the US?

Craig Allen: It is a profoundly important question about the economic architecture of not only the region but the entire world.

There are many critics of RCEP, but I think they are wrong. I see this as a profound structural adjustment, the impact of which we will not fully see for 20 years. But, during that time, there will be a closer knitting together of Asia-Pacific as a region.

I regret that the US pulled out of the original Trans-Pacific Partnership (TPP). I spent a good part of my life working on that agreement. It is quite painful that we pulled out. At the close of the Third Session of the National People's Congress of the Communist Party of China in May 2020, Chinese premier Li Keqiang said that China had interest in the TPP and could maybe join over time by saying: "China has a positive and open attitude toward joining the CPTPP."[2] That would be a good thing for the region, for China and for the world. I think the Biden administration will take another look at it as well.

If the US was to join CPTPP, it would be a two- or three-year project. It would be very difficult politically too.

I regret that the US is blocking the announcement of a new WTO director-general. But, that said, we need to be very clear-eyed about the limitations of the WTO and its inability to address the digital economy, genomic medicine, biotechnology, internet, media and data. Those are issues we did not have when the WTO was established 25 years ago. It also really helps inform Chinese domestic debates about state-owned enterprises, subsidies, the role of the state and the party in the economy, and technology policy.

I would also ask: how does China's 'dual circulation' agenda interact with WTO principles? Is it fully in accord with China's commitments under the WTO? I would like to understand that better, because I think there is some tension that should be resolved by the Chinese government. China needs to implement its commitments under the WTO.

We are in a very dynamic negotiating space here – a transitional moment. We need to think very carefully about where we wish to go next. What will be sustainable for the next 10 or 15 years? How do we build a house on that foundation in which both nations can live comfortably, peacefully and prosperously? It is a difficult question, but one we need to address now.

Rick Niu: Zhu, you have been one of China's leading architects and faces for all three of those multilateral organisations (RCEP, WTO and the predecessor to CPTPP).

Zhu Guangyao: RCEP was initiated by the 10 countries of the Association of Southeast Asian Nations (ASEAN). In 2012, ASEAN members first proposed RCEP and invited China, Japan, the Republic of Korea, Australia, New Zealand and India to join the negotiation. This was named the ASEAN Plus Six group.

RCEP successfully concluded negotiations in 2020. This is a victory for free trade policy and for multilateralism. India opted out of the agreement in November 2019, but the door is open for them should they wish to rejoin at a later stage.

RCEP is high quality and covers a number of sectors: 90% of goods can traded tariff-free within the zone. This is a very important development. We really hope this agreement can contribute to regional development, increase GDP for the region and adhere to WTO rules and regulations.

In November 2020, at the Asia-Pacific Economic Cooperation summit, President Xi said China will actively consider joining the CPTPP. And I believe the Chinese team will immediately begin the policy consultation with CPTPP members.

The CPTPP includes very clear standards for each component, which is important in terms of IP protection, such as how to enhance the data flow, how to protect information and release data. That is very important. China would like to develop an innovative society, and IP protection is our fundamental interest. In this way, a high level of agreement really helps China promote its domestic reform and enhance the capacity to create an innovative society.

The dual circulation policy refers to the complementary workings of the domestic and international markets. For domestic circulation, China needs greater structural reform because, between provinces, the flow of trade and services is divided into different blocs. We need to unify China's market, which serves 1.4 billion people. We also need to make China's economy more globally integrated with the global economy – only then can it continue to develop.

In recent months, the trade war between China and the US escalated. We never anticipated the US taking action to keep Chinese players out of its markets as it did in the Huawei dispute. Some thought China and the US would decouple completely. But economists, academics and scientists have spoken out about the need for co-operation and communication between our two countries.

If either nation totally lost control, in a world where nuclear technology has become widespread, it could have dire repercussions. It is time for us to better understand and learn from each other. This will pave the way for the gradual restoration of trust. I understand this will not happen overnight, but we need to pursue these channels for the future of our children and grandchildren.

Rick Niu: We have heard from the US business community that there should be some concerns that a self-reliant Chinese economy could dominate the international side of the dual circulation.

Craig Allen: First, let me acknowledge what are some very important contributions of dual circulation.

A key theme of the 14th Five Year Plan (2021–25) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035 is increasing domestic consumption and improving the quality of consumption in China, better leveraging the fundamental role of domestic consumption in economic development, rather than relying on net exports or fixed capital investment. China's consumers should have all the benefits, increase their spending and become the engine of growth in the global economy.

One of the fundamental principles of the WTO is that an import must be treated the same as a domestically produced product. I wonder how that principle can be respected and advanced by dual circulation and technological self-reliance.

Zhu makes a good point about export controls and technology issues. I think we could agree the WTO should control trade in goods and services, and data as much as possible. And both governments could be a little more careful and precise about defining national security reservations. I think both governments have a tendency to expand national security, not only in telecommunications, but in semiconductors, quantum technology and biotech.

Pretty soon you go from 5% of GDP to 15% or 20% dedicated to national security concerns. Both governments have a tendency to do this and should take a look at that. And it is not only trade – investment is also impacted because we need capital and data to flow back and forth between our economies.

I am concerned about Chinese privacy and cyber security laws, and I encourage our Chinese government and friends to ensure they are WTO-compatible, and that data is allowed to move freely while protecting personal information and vital cyber security infrastructure. This is going to be a really interesting time to try to keep the market functioning effectively, and not allowing national security to determine what furniture I buy or what food I eat. Let's define it as narrowly and as carefully as possible. And, to a certain extent, that should be reciprocal: if it is a national security concern with China, it might be a national security concern for the US.

Zhu Guangyao: The investment issue is correct – trade is not the only issue. I also agree over the importance of data flows and cyber security. We must make the distinction between national security and protectionism, and not use national security as an excuse to implement protectionist policies.

In my view, China and the US should restore negotiations on a bilateral investment treaty. During the Obama administration, we had to work hard to promote the bilateral investment treaty, and one of the key problems that has not yet been solved is data. This issue becomes more important in a digital economy, the development of which has come under strain during the pandemic. The key element of a digital economy is data: free data flows, data privacy and data security. And international standards around data must be built and met.

With that in mind, co-ordinating China–US policy is very important. If both governments agree to restore the negotiation on the bilateral investment treaty, I believe the data issue will remain a core sticking point. However, I have confidence the digital economy will continue to develop. There are enough smart minds to overcome the data issue. I think Allen and his institution can organise US entrepreneurs to work on this very important topic, and I will try my best on China's side.

It will be important for Chinese economic development. In the Five Year Plan, we are striving for socialist modernisation with Chinese characteristics. A digital economy with regulation and standards will be an important part of this. Before the trade war, the Chinese and US teams worked very well together. I hope we can go back to normality and continue to make progress towards a global digital economy with appropriate data controls.

Rick Niu: The US business community has had concerns over the past four years about a post-war escalation – from a trade and technology war to a currency, finance or even capital war. What is your assessment of that probability?

Craig Allen: The bilateral trade imbalance is real. Investment is the key to, if not resolving, at least addressing the problem. Historically – the US's relationship with Europe, the UK, the Netherlands, Germany, Japan or the Republic of Korea – there is a very similar pattern. Export domination results in a very large trade deficit. And then there's investment in the US, employing its citizens, producing goods and structurally reducing that trade deficit. That process has not really begun in China unless we count Chinese manufacturing companies privately entering the market. Unless we do this, the trade imbalance will remain, and so investment is a really important issue.

The finance industry has not been impacted as much as other sectors in terms of the bilateral diplomatic tension. As I understand, 2020 is a record year for Chinese initial public offerings on Wall Street. US companies are investing very heavily in many Chinese markets. Foreign direct investment (FDI) has slowed, but portfolio investment seems to be increasing rapidly.

As China has put on more and more stock and bond indexes, we are seeing a great deal of interest from investors out of China that have done very well. Portfolio investment is very important; FDI is more important because it is structural and long term. It is 'forever investment'.

I want to focus on FDI. I think probably the most important result of the phase one trade agreement was a very important structural liberalisation of the Chinese financial services industry. And many US, European and Japanese companies have received approvals to compete in the Chinese market. The Chinese financial services industry, in my view, will benefit from more global players competing domestically in the Chinese market.

I am very bullish about the financial industry but also concerned about FDI and correcting that structural trade imbalance through the natural market mechanism. If the US welcomes FDI from China that uses US labour, parts and components, these firms will be able to provide jobs in some of our more economically disadvantaged areas. I want to see more of that, which means we must address the politically unsustainable trade imbalance.

I am hopeful that, over time, the two administrations will ensure the markets are going to win out over ideology, excessive concerns, and sensitivity about national security. Or, national security will advance and improve and expand through interconnectedness and accept the best ideas, the best companies, the best manufacturing processes from around the world in an open and transparent, legally binding manner.

Rick Niu: How can US financial services firms expect to be treated within the Chinese economy? Will China continue to open up this sector as aggressively as it has been?

Zhu Guangyao: It is very important that both sides listen to one another and exchange views. The US needs to listen to Chinese entrepreneurs when speaking about investment and, if the US invests in China, China will invest in the US – we have a common interest. And our businesses know they can benefit from this arrangement. so there are signs of confidence.

There are still some communication challenges that need to be resolved – especially when it comes to understanding how each company can invest in either China or the US. We understand there may still be some uncertainty from US firms about investing in China, but we are making a real commitment to make it clear and have frank, open dialogues. There is still a way to go to ensure the market adheres to international standards.

I think FDI is more important than portfolio investment. It is a long-term investment that contributes to tax revenue and employment and improves the broader market environment. Portfolio money is just one component of the financial market mechanism. It is also important to have a healthy market framework in place, and the policy to monitor it. For example, the yield on Chinese 10-year government bonds was 3.3%. Compared with the same term US Treasury bond, the surplus is 250 basis points – that is too much.

I regret to hear some still believe Chinese companies are a threat. As a leader in financial markets, I do not believe this is how US companies should think. Keeping an open market is a rule of the New York Stock Exchange. I hope the US change their thinking to further develop international financial markets.

Rick Niu: To quote the vice-chairman of the board of directors of the National Committee on US–China Relations, Maurice Greenberg: "Today we use the term 'war' regularly. But it's important to remember the US and China collaborated even during military conflicts. So, while we talk about wars today, let's also remember there is a very strong and longstanding history of friendship, brotherhood and sisterhood between our two countries."

What aspects of US–China relations will stay intact and what will change during the Biden-Xi era?

Craig Allen: I think there will be a lot of continuity from Trump to the Biden administration. The geopolitics are complex and they are not going to change very much. There will continue to be a technological rivalry.

But the tone of the relationship will become much less confrontational and there will be efforts to collaborate on issues that affect the global commons – Covid-19 and climate change, among many others.

There will also be a more pragmatic approach between the two governments. The Biden team are very pragmatic, very practical, very realistic. They want to get things done. And they will look at China in a very pragmatic manner. This type of approach gives me hope we will find ourselves in a much more predictable and stable relationship in the months and years ahead.

I hope this proves to be the case, because China is dynamic and is moving forward, as the recent RCEP agreement shows. And President Xi's comments about CPTPP are clear indicators of China's future economic policy. Working together pragmatically for the next 10 years, I think, would be a really important step forward. And if the US–China Business Council could contribute to that, then nothing would give me greater pleasure.

Rick Niu: What will change from China's perspective?

Zhu Guangyao: If I had to stress anything, it would be that there should be no confrontation, no fighting with each other and mutual respect. We need a win-win situation for both countries. This will be a positive outcome for not just us, but for the whole world.

Rick Niu: I think we all agree – Zhu, Allen and myself, and many others – that dialogue is better than no dialogue. This is also the deep belief of the International Finance Forum. ⬢

This IFF dialogue took place at the IFF Annual Conference in November 2020, ahead of the inauguration of US President Joe Biden

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SUSTAINABLE DEVELOPMENT AND GLOBAL ECONOMIC GROWTH IN A POST-PANDEMIC ERA

Hitting carbon-neutral targets with global partnerships

China is on track to reduce its carbon emissions and aims for carbon neutrality by 2060. Zero tariffs and zero-barrier trade should help the international community make greater strides too, says *Zhou Xiaochuan*, IFF chairman of the General Assembly and former vice-chairman of the Chinese People's Political Consultative Conference

Yulong river in Guilin, Guangxi Zhuang Autonomous Region: according to President Xi, "clear waters and green mountains are as valuable as mountains of gold and silver"

In September 2020, at the 75th session of the UN General Assembly, President Xi Jinping announced: "China will scale up its intended nationally determined contributions by adopting more vigorous policies and measures." He added: "We aim to have carbon dioxide emissions peak before 2030 and achieve carbon neutrality before 2060." President Xi has frequently used the phrases "clear waters and green mountains are as valuable as mountains of gold and silver" and "a community with a shared future for mankind", gradually dissolving people's idea of the opposition between economic development and the environment.

Populations are paying more attention to climate financing today, and carbon markets are an important component of green finance, acting as the allocation mechanism for carbon emission rights. They are a kind of financial market based on supply and demand, and a risk pricing market that involves cross-regional investment, multiple uncertainties and risk management. Attaining carbon neutrality, or net zero emissions, requires substantial investment in scientific and technological innovation. This investment will eventually be returned through quota allowances of carbon reduction or sequestration in the future. This process involves term conversions, risk management and other areas that co-ordinate and co-operate with green finance.

First, the Chinese government must work harder to pass the peak of carbon emissions. After that, China will have a clearer understanding of the task, but may find achieving carbon neutrality by 2060 requires greater efforts.

Second, the scheme for carbon neutrality requires the participation of all industries, not just major players such as energy and transportation. Specific standards must be in place for the emissions reduction performance of new technologies and processes, and emissions reduction plans as a whole.

Third, in the later phase of carbon neutrality, more emphasis should be placed on carbon sequestration to ensure the target is reached in time.

Fourth, to achieve a reduction in carbon emissions and carbon neutrality, it is necessary to clarify incentives, from the carbon market in particular. There are two potential choices: trading markets for carbon emissions rights and a carbon tax. From the perspective of financial markets, the trading market will play an important role and has greater potential, while a carbon tax should be enforced in accordance with the carbon market.

Governments should work on emissions generated in a cross-border context, including planes and ships for international transportation. Co-operation between Asia, including China, and Europe shows great potential and will be a necessity.

Attaining carbon neutrality, or net zero emissions, requires substantial investment in scientific and technological innovation

A fair global share

Once the carbon market is established, co-operation again becomes important. Any carbon market must be connected worldwide – just like capital markets and bond markets. Since 2014, China has established Stock Connect programmes between Shanghai and Hong Kong, Shenzhen and Hong Kong, and Shanghai and London. Savings and investments are flowing globally. The same applies to climate financing, and the benefits should be shared globally.

Isolated carbon markets are disadvantaged in terms of efficiency, information sharing and international co-ordination, and leave opportunities for overspeculation. The government must formulate appropriate pricing mechanisms to avoid peaks and troughs. In theory, the larger the market is, the more appropriate and stable the relationship will be between the supply and demand sides.

Governments in Europe and Asia – and China in particular – should explore the possibilities of connectivity between their carbon markets. The European Union has made proposals on issues such as emissions caused by international travel. Owing to limited knowledge in the past, however, China was against the EU's practice of charging to offset carbon emissions on passenger flights. As more people gain a better understanding of this issue, the more opportunity there wil be for co-operation.

If carbon emissions are charged for, a new round of debate will begin on how to allocate the revenues. We will need to establish an international institution for fiscal and financial co-ordination, another tough task. As for Europe and Asia – and, again, China in particular – a special fund could be established to deal with issues of trans-Eurasian transportation emissions. The revenues from this fund could be used to establish new forms of transportation and other applications on carbon reduction and sequestration. Such a fund would also manage carbon-related costs and expenses when a carbon trading system is more mature in the future.

Finally, the international community should focus on international trades related to climate change, including the transactions of goods, services, equipment and technologies that are significant to achieving carbon reduction and neutrality. Zero tariffs and zero-barrier policies should be gradually applied in these areas, along with multiple mechanisms of green finance, to ensure targets are achieved efficiently.

Reviving the economy – and solidarity

IFF co-chairman, former chairman of the European Council and former prime minister of Belgium, *Herman Van Rompuy*, explores why there can be no return to 'business as usual' after the recovery from the Covid-19 pandemic

Europe has experienced many crises over the past 10 years, including the migrant crisis and terrorist attacks. Some, such as the eurozone debt crisis, have had a major impact on employment and prosperity. The Covid-19 pandemic is an extension of these crises, but the European Union has learned from the past.

The most important lesson of the eurozone crisis of 2010–12 was that the EU placed too much emphasis on correcting budgetary imbalances. This deflationary policy was imposed on the eurozone by the financial markets, which feared, mistakenly, that some eurozone countries would be unable to repay their public debts. But, in Greece, for example, the remedy of austerity and the loss of 25% of GDP made the consolidation of public finances even more difficult. Remembering this experience when the pandemic broke out, the EU switched very quickly to an expansionary fiscal policy to compensate for negative economic consequences.

There was also a complete change of tack on monetary policy. At the onset of the eurozone crisis, the European Central Bank's (ECB's) monetary policy was not accommodating, in contrast to central bank policies in the US, the UK and Japan. As a result, the economic recovery in the eurozone was slower and the ECB changed its policy to a more accommodating one in 2015. When the pandemic broke out, the ECB reinforced this expansionist non-standard monetary policy of quantitative easing (QE) by introducing a huge asset-buying programme. There are, however, limits to monetary policy. Along with a strong increase in money supply, mortgage deposits increased, indicating caution. Boosting the supply of money does little if it merely sits in a bank. As a consequence, the most impactful policy action should be more fiscal stimulus.

In this way, fiscal and monetary policies became complementary. The extremely low interest rate – sometimes even negative in the long term – made the fiscal deficits cheap to finance. This joint effort by the monetary authorities and the governments of the EU member states tried to counteract the drop in demand. The European Commission (EC) itself became a big borrower on the capital market for the first time by financing the EU recovery fund and other initiatives amounting to €1 trillion.

Public debt in the eurozone is expected to increase from 86% of GDP last year to 102% in the next three years.[1] The average budget deficit was predicted to increase from 0.6% of GDP in 2019 to around 8.8% in 2020. It will almost halve by 2022 (to 4.7%), but will remain higher than the benchmark of 3% laid down in EU fiscal rules.[2]

Necessity breaks taboos. This radical change in policy was made possible by the abandonment of a number of fears: inflation and even more public spending. But the EU wants to fight this crisis without damaging its social security systems. Public spending in the eurozone has risen from 47% of GDP in 2019 to 55% this year, and is projected to decrease to 50% in 2022.[1]

The EU drew lessons, but also benefited, from earlier reforms such as the ECB's efficient banking supervision of all major European banks. In previous crises, undercapitalised European banks contributed to recession. Now they are part of the solution. Of course, the size of non-performing loans will increase, but the sound liquidity and solvency positions of EU banks should continue to support their ability to provide funding to the domestic economy.

None of this is to say limits to public borrowing have been permanently removed. Governments can sustainably borrow a great deal, but a great deal is much less than an infinite amount. On the other hand, the goal of creating more economic growth is to alleviate and compensate for higher deficits and debts. The increase in borrowing is expected to be temporary, as the recovery measures will be.

As long as economic growth exceeds interest rates, we avoid a vicious circle in which the interest burden and the debt itself continue to grow. Moreover, forecasts suggest debt service costs will remain historically low because of low interest rates, despite unusually high public debt. But, even if interest rates rise, the average maturity of fixed income UK government debt is 15 years, so the overall financing costs are unlikely to change quickly.

Nevertheless, it is vitally important to bring the pandemic under control as soon as possible. The second and even third wave of Covid-19 infections is a serious setback, although governments are trying to safeguard economies as much as possible. There is a link between health and wealth. Any delay in taking strong measures against the virus leads to a snowball effect in health, economy and public finances. Many aspects of the policy are interlinked. Political courage and an unbiased approach – not hindered by past insights – are more necessary than ever.

The EU recovery fund will help precisely the regions and economies most affected by the pandemic

Another marked difference with the eurozone crisis of 10 years ago is that the financial markets are making the euro stronger despite the lowest interest rates for centuries. Fears of the collapse of the euro today are non-existent.

One difference to recovery programmes from an even more distant past is that the EU wants to reconcile short- and long-term objectives. There is consensus that the focus of longer-term policy ought to be on generating stronger productivity growth to boost living standards and adjust to a post-Covid-19 world. This might entail more public investment in digital and green infrastructure, and more investment in human capital so labour forces can be prepared for the transition to the types of jobs likely to be created in a post-Covid-19 world.

Dealer's choice

In the EU, the relaunch of the economy is at the service of the ecological transformation of our economies, our societies and the so-called European Green Deal, aimed at making the EU carbon-free by 2050. More than one-third of the funds in the ambitious €1.8 trillion recovery programme – or 12% of EU GDP – will be spent on climate action. Greenhouse gas emissions must be 50%–55% lower in 2030 than in 1990. Between 1990 and 2019, the EU reduced emissions by 24%, while the economy grew by 60%; this enabled it to meet its previous target of a 20% reduction.[3] In this way, Europe will be able to implement, together with China, the 2015 Paris Agreement on climate change.

Herman Van Rompuy

Even monetary policy is focusing on the Green Deal. The ECB has signalled it will prioritise green bonds. Christine Lagarde, president of the ECB, has made the issue a key point in a strategic review, following criticism that the bank's bond-buying programmes – as part of its QE policy – favour 'brown' industries. Issuance of green bonds worldwide has grown more than 12% in 2020 and has exceeded the US$1 trillion mark for the first time. Europe's banks sold a record €19 billion of green bonds in 2020.[4]

The economic relaunch is also contingent on social cohesion within the EU. The pandemic disproportionately affects weaker countries and people with only basic education. Underlying problems always come to the surface in a crisis, which can lead to greater inequalities between and within countries. This is why the EU recovery fund will help precisely the regions and economies most affected by the pandemic. Moreover, growing inequalities explain to some extent the rise of political extremism and terrorism within advanced economies and beyond. An economic revival must therefore benefit all.

This crisis also makes a strong appeal to the adaptability and resilience of companies, people and governments. There will be no return to the pre-Covid-19 'business as usual'. Fortunately, many realise this. A balance must be struck between political leadership and public support of restrictive measures – it is a prerequisite for success in European society.

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Globalisation in transition

Marcos Troyjo, president of the New Development Bank, discusses advancing to the next chapter in the history of globalisation

Marcos Troyjo

Globalisation is in transition – but there are at least two recent moments in history with which we can draw parallels.

After the fall of the Berlin Wall in 1989 and the dismantling of the Soviet Union in 1991, the power of markets led to a free flow of goods and services, and an increase in the spread of international investment. Foreign direct investment (FDI) allowed the strengthening and expansion of global supply chains through a whole range of product sectors.

Numerous countries contributed to the production of everyday objects. Take, as an example, a volleyball – the leather would come from Germany, the glue from Thailand and the marketing from Brazil. The inputs of different countries, united by global supply chains, seemed to illustrate that – more and more – free trade and open markets were the way forward.

This also strengthened another trend in this period: the establishment and deepening of regional integration processes, including the European Union, the North American Free Trade Agreement, the Association of Southeast Asian Nations and Mercosur in South America. This regional integration could be seen as a conduit to strong globalisation trends to pause their efforts.

From 1989 until the global financial crisis that began in 2007–08, the world was undergoing deep globalisation. After 2008, a new, more protectionist phase in globalisation began, one less open to global trade – which is now increasing more slowly than global GDP – and there has been a rebirth of old import substitution policies. A number of countries are embracing local containment measures that allow for less international transaction of goods, resulting in a greater concentration of trade within individual territories. In this new phase of globalisation nestles the risk of deglobalisation.

With so much disconnect around the world, the question today is: will deglobalisation linger or are we walking into something different? My impression is that globalisation is metamorphosing yet again. There is no clear vision of what the world will look like in the future; however, three important paths should be considered.

First, the purchasing power and relative economic clout of various nations is changing. The Group of Seven (G7) has a combined GDP, measured in purchase power parity terms, of about $40 trillion. However, in the Emerging Seven economies of Brazil, China, India, Indonesia, Mexico, Turkey and Russia – known collectively as the E7 – GDP is $53 trillion.

Emerging markets are increasing their commercial exchange with each other. For example, in the first 10 months of 2020, Brazil exported more to Bangladesh than it did to all Scandinavian countries combined. Emerging economies will represent a bigger slice of the global economic pie, and the E7 will eventually wield more economic weight in global GDP than the G7 traditionally has.

The second characteristic concerns how global value chains are being rerouted by the burgeoning presence of emerging economies. This phenomenon is much broader than global supply chains, as consumption will also be impacted. China, for example, has become one of the most important sources of FDI.

Geopolitics is an important driving force in reconfiguring these new supply chains, but other factors are more consequential, such as the natural evolution of some of the world's most important economies. Take the example of China. As a young diplomat in Brazil's Ministry of Foreign Affairs, I undertook some research at the division of science and technology. My research considered how much countries devoted to research and development (R&D) and innovation. Early in the 1990s, China was dedicating about 0.2% of its GDP to R&D. Today it is upwards of 2%, almost reaching the average of member states of the Organisation for Economic Co-operation and Development.[1]

China is no longer a low-cost country nor a simple manufacturer of low-value-added goods. On the contrary: it is leading the world in so many state-of-the-art technologies. As a result, some lower-value-added economic activity has migrated from China to geoeconomic neighbours such as Vietnam, Indonesia, Myanmar, Pakistan, Bangladesh and India.

It is a phenomenon that is not new in history. In the 1970s and 1980s, the 'Asian Tigers' – Hong Kong, Singapore, the Republic of Korea and Taiwan – displaced Japan as low-cost, low-wage manufacturers in the region. But this time around, China is a

The fall of the Berlin Wall in 1989 was key in empowering markets, leading to a free flow of goods and service

bigger economy and is thus likely to have a much more ample scope.

International trade and investment agreements are also influencing the rerouting of global value chains. In November 2020, 15 Asia-Pacific nations signed the Regional Comprehensive Economic Partnership. In a trade system where the term 'international' applies to the exchange of goods even at an intra-firm level, it is no surprise that these trade agreements influence the flows of investment. Ambitious countries are also promoting domestic economic reforms that allow their economies to become more business friendly and open to FDI.

We should no longer think of traditional physical infrastructure as separate from the technology

Talent takes centre stage

The final issue impacting globalisation is talent. In this context, talent means going beyond the economic theory of comparative advantage. Countries must ask themselves: 'What can I do besides what I am already very good at?' It is a complex challenge that, at the World Economic Forum, some call 'talentism'. According to such a perspective, we are no longer living in an age of capitalism but in a world of talentism because human talent has become the most indispensable factor of production.

So how can development banks, such as the New Development Bank (NDB), positively contribute to this metamorphosis of globalisation? They have a major role to play, and must focus on three key areas.

The first is infrastructure. We should no longer think of traditional physical infrastructure as separate from the technology. New infrastructure must answer not only the needs of the 20th and 21st centuries, but also the demands of what will be the fourth industrial revolution – or Industry 4.0. Development banks should focus their activities on answering not only to the demands of the past, but also to those of the future.

Second, traditional approaches to certain economic models – export-led/domestic-led, public-sector-led/private-sector-led – will be redefined. Multilateral development banks should be part of this conversation.

Finally, in a world where international co-operation is so strongly needed, development banks provide the necessary framework within which countries can come together and work constructively on areas of common interest, and therefore help write a virtuous next chapter of globalisation.

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Building back better

Lin Jianhai, IFF vice-president and former secretary of the International Monetary Fund, explores the possibility of using the growth in digital technology and a new globalised services industry to strike a balance between recovery and risk control

What challenges does the global economy face, and what significant changes and development opportunities could Covid-19 afford?

The Covid-19 pandemic hit 2020 hard, triggering the worst global recession since the Great Depression of the 1930s. How will the global economy now evolve? The outlook remains highly uncertain. According to the International Monetary Fund's (IMF's) October 2020 forecast, the global economy was estimated to contract 4.4% in 2020.[1]

Developed economies were projected to shrink by 5.8%; emerging markets and developing countries, excluding China, by 5.7%; and the US economy and eurozone were forecast to contract by 4.3% and 8.3%, respectively. But if the pandemic can be brought under control, the global economy will pick up in 2021.

China was the only major economy capable of achieving positive growth in 2020, at an expected growth rate of 1.9% in 2020 and 8.2% in 2021. China has controlled the pandemic in an efficient and resolute manner, and adopted effective fiscal and monetary stimuli in the short term. These two factors contributed to China's better-than-expected economic performance, which, by stabilising the global economy, benefits not only China but the world as a whole.

However, cases of Covid-19 are still on the rise in many countries, and so the global economy is still beset by significant uncertainties and downward pressure. These are mainly manifested in three ways.

Lin Jianhai

Shocks around the corner

First, there will be a steep rise in economic vulnerability. The world's public debt has hit an all-time high, equivalent to almost 100% of GDP.[2] Many countries face growing debt risks. At the same time, corporate debt, default rates and the potential risk of bankruptcy are also climbing. Banks are now relatively well capitalised but, once the economic outlook worsens, banks could face more than US$200 billion of capital shortage.

Second, it will take time for the labour market to recover, and global employment is still far below the pre-pandemic

level. According to a report from the International Labour Organization, global working hours decreased by 17% in the second quarter of 2020, equivalent to the loss of 495 million full-time jobs.[3] As the labour market becomes even more divided, young people, women and those in low-income jobs are more vulnerable to unemployment. A crisis shows us how we need to care more about the lives and living conditions of the vulnerable.

Third, the global recession will exacerbate the income gap between developed and developing countries. The IMF predicts that, in the next five years, cumulative global output will shrink by $28 trillion.[4] In 2020, the overall output of developing countries, except China, is expected to be lower than in 2019. The economies of many countries will not recover to pre-crisis levels until after 2022. To many developing countries, this means a decline in living standards and setbacks in efforts to catch up with developed countries.

Changes and opportunities

Looking forward, this health crisis will bring four major structural changes and opportunities to the global economy.

First, the rapid development of digital technology globally will play an increasingly important role in peoples' work and lives. During the lockdown in Europe in spring 2020, about 50% of employees worked remotely; among them, only 10% want to return to the office in the future.

E-commerce has begun to gradually replace traditional retail. Many companies also adopted digital technologies to diversify supply chains and improve procurement efficiency.

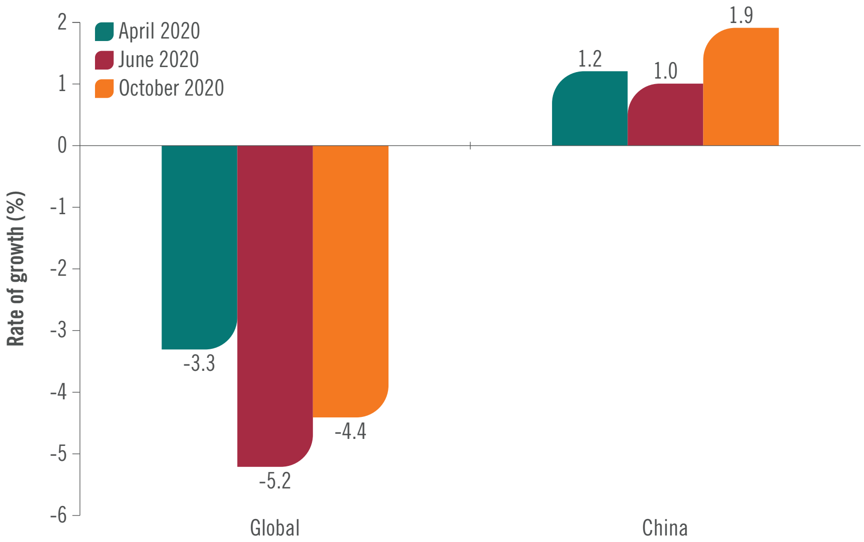
Second, the service industry may become the key driving force for globalisation – specifically high-skilled jobs such as doctors, lawyers and accountants, whose businesses can be performed remotely more and more through the use of technology.

Third, the healthcare industry will likely see significant development in the coming years. The pandemic has demonstrated the significance and urgency of improving the healthcare industry, including infrastructure construction, drug and vaccine research and development, care for the elderly, rehabilitation centres and sanitary conditions. Pandemic control is a prerequisite for economic recovery, and healthcare development will lay a solid foundation for sound and sustained economic growth.

Finally, investment in environmental protection must rise rapidly. Studies show a correlation between poor air quality and higher infection and hospitalisation rates caused by Covid-19. Frequent natural disasters in recent years are also closely related to environmental pollution and rising temperatures. Therefore, investment in green projects and clean energy is expected to increase remarkably.

To enable global economic recovery, we must strike a balance between recovery and risk control in policy-making, and ensure there is policy co-operation worldwide. While responding to the crisis, we need to take timely advantage of the major trends and opportunities in global economic development. Only then can we create a more prosperous future.

Figure 1 – Deep global recession in 2020



Source: IMF[1]

Figure 2 – China: The only major economy to grow in 2020

	2019	2020	2021
China	6.1%	1.9%	8.2%
Russia	1.3%	-4.1%	2.8%
US	2.2%	-4.3%	3.1%
Japan	0.7%	-5.3%	2.3%
Germany	0.6%	-6.0%	4.2%
France	1.5%	-9.8%	6.0%
UK	1.5%	-9.8%	5.9%
India	4.2%	-10.3%	8.8%

Note: actual GDP annual growth for 2019; IMF forecasts of growth for 2020 and 2021

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Breaking down global barriers

Free trade, collective efforts and investments in infrastructure are crucial to afford the world some relief from the effects of the Covid-19 pandemic, says *Jim Yong Kim*, 12th president of the World Bank

Sustainable development, and the response and co-operation required of global leaders to achieve it, is so important at this difficult moment in our world's history. Unlike the global financial crisis that began in 2007–08, the enormous disruption caused by the Covid-19 pandemic has impacted everyone on earth. The impact of its public health and economic crises is far more severe on developing countries, which remain in desperate need of the kind of investments and opportunities that have transformed China.

Investments in infrastructure should be one of the priorities in helping developing countries recover more quickly from the pandemic


Jim Yong Kim

I will never forget my first trip to China in 2012 as president of the World Bank Group. Having grown up in a small town in the Midwestern US, my head was filled with stories of the terrible poverty in China. But, on visiting Beijing, I was stunned by the transformation that had led to the lifting of 800 million people from poverty in just three decades.

As I studied the Chinese path of development, I learned there are some fundamentals that have not, and will not, change as we think about comprehensive and sustainable development in the post-Covid-19 era.

The first lesson is that investment in infrastructure is critical. Towards the end of my tenure at the World Bank, I visited Guizhou, at the time the third-poorest province in China. Even there, the transport, energy and telecommunications infrastructure was extremely impressive. Guizhou was well on its way to becoming an important hub of global e-commerce, specialising in the export of everything from gooseberries and spicy chicken to Maotai, a popular liquor. The strategy was clear: put the fundamental infrastructure in place and then create opportunities for entrepreneurship, global connection and economic success.

For countries in Africa, Latin America, and south and Southeast Asia, the need for infrastructure investment and global trade have never been greater. I left the World Bank in 2019 to bring more private sector investment into emerging market infrastructure, but Covid-19 has slowed everything down. Investments in infrastructure should be one of the priorities in helping developing countries recover more quickly from the pandemic. Better roads, ports, electrical grids and telecoms capacity will be essential for job creation and economic growth.

The role of multilateral institutions such as the World Bank will always be critical. But there is not nearly enough money in multilateral or bilateral aid systems to meet the demand for infrastructure investment. The public and private sectors will have to find new ways to work together to truly give everyone the chance of a better life.

Another lesson we can learn from the experience of China, the Republic of Korea, Japan and so many other successful economies in Asia is that trade rules must remain open. The Regional Comprehensive Economic Partnership (RCEP), signed by 15 member countries in November 2020, represents almost 30% of the world's population, and 30% of global GDP. Four countries have so far ratified the RCEP agreement and, once fully ratified, it will be the world's largest trading bloc. I hope all member countries will move to quickly ratify the agreement so that, by 2022, we will see the benefits of this partnership for the region, and for the world.

As the former head of a global multilateral organisation, I have been concerned by the growth of inward-looking, nativist, xenophobic governments in many parts of the world. These developments are especially troubling at a time when global pandemics – such as we are experiencing with Covid-19 – and the threat of climate change require more co-operation, not less. There must be more support for multilateralism, and more commitment to working together and understanding each other across geographic, cultural and linguistic barriers.

I am looking forward to a new year of robust investment in emerging market infrastructure, strong growth in global trade and, most importantly, the kind of co-operation, consultation and collective response to our greatest challenges the world desperately needs.

Grasping the green opportunities

Kevin Rudd, IFF 3rd chairman and former prime minister of Australia, discusses the opportunities and risks for China as it lays out its technological and environmental future

President Xi Jinping set bold goals at the Fifth Plenary Session of the 19th Central Committee of the Communist Party of China in October 2020. These included raising China's per capita GDP to the level of other moderately developed countries by 2035, which would require a tripling of its current GDP. China would need to improve its 'self-reliance' and break through in core technologies to push the nation into the first rank of innovative countries.

Most important of all, in the long term, President Xi committed China a month earlier to hitting peak carbon emissions before 2030 and carbon neutrality by 2060. These are great ambitions. They will require sustained economic growth, significant reform to the structure of China's economy and policy continuity throughout. Realistically, it will be no easy feat to achieve, but success will be of great significance for China and the world.

I see three interconnected opportunities, and one risk, for China in the years ahead.

First, China has the opportunity to continue to grow its economy, battle against poverty, and raise millions more people into the middle class. This is of course a cornerstone of President Xi's 'dual circulation' strategy and will make China stronger. None of us should forget the inherent value in easing the hardships and improving the lives of so many people.

Second, China has an opportunity to turn its recovery from the Covid-19 pandemic – as well as its broader economic growth – into a genuine 'green recovery' as it transitions to a low-carbon future. China could establish an important role in key green technologies and methods of the future, create many new middle-class jobs, and lead the war globally on preventing catastrophic climate change.

Third, China has an opportunity to demonstrate responsible global leadership in advancing global public health and economic recovery from the pandemic, not just through its status as an economic engine, but by providing active support to the developing world in sustainable economic development.

If China can achieve this, along with taking the lead on climate change, it would provide a chance to increase global goodwill, mitigate global risks and – taking advantage of changing political circumstances – create a more stable and favourable external environment for China. It would also result in a better-functioning multilateral system, for example in areas such as trade and public health.

Kevin Rudd

But, to capitalise on these opportunities, China must also avoid critical risk. As China's vice-president Wang Qishan and vice-premier Liu He have both pointed out, China must control pressing systemic risks, including overleveraging, financial speculation and a property bubble. With the world facing record levels of debt and economic and financial uncertainty, this remains a serious risk not only for China, but for the rest of the world. If China can avoid the pitfalls, it will be in a good position to grasp the opportunities of the future and help achieve a better economic and environmental outcome for the future of all mankind.

Looking to the future, it is not just what China does at home that matters but also what it does abroad. We cannot simply allow the export of carbon-intensive energy production or encourage the development of more coal mines in Belt and Road Initiative (BRI) countries because, ultimately, our planet does not lie. Greenhouse gas emissions all contribute to global warming, whether they come out of China, India, the US or BRI countries. A sustainable environmental future for the BRI economies is of critical importance.

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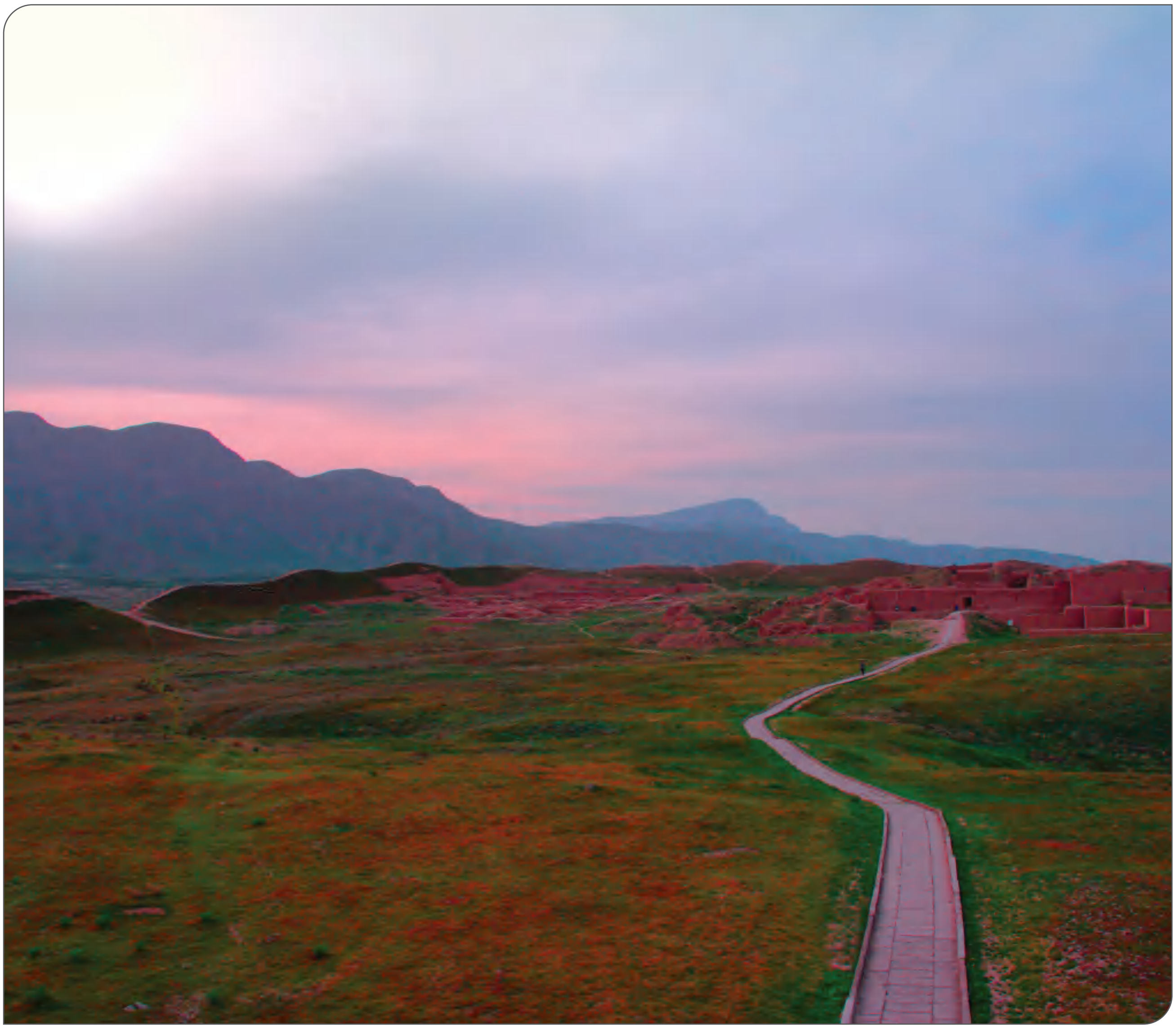
The impact of Covid-19 on the BRI

The fourth annual Belt and Road Initiative survey reveals that the Covid-19 pandemic has disrupted many projects despite China remaining committed to financing the initiative, which is expected to support future economic growth and environmental development. By *Zhang Jizhong*, *Rachael King* and *Christopher Jeffery*



Old Nisa, Ashgabat, Turkmenistan, one of the first Parthian capitals

The Covid-19 pandemic had a stark effect on global GDP growth last year. In April 2021, the International Monetary Fund (IMF) said the global economy contracted by 3.3% in 2020 – the steepest downturn since the Great Depression of the 1930s. The plunge in economic output was the result of social distancing measures implemented to contain the novel coronavirus, which in turn caused supply chain disruptions and major project delays. Most governments worldwide have also been forced to take on substantially more debt to fund Covid-19 emergency healthcare measures, as well as economic crisis-fighting policies aimed at limiting the immediate economic and social costs of lockdowns.

Some countries have emerged worse off than others, particularly low- and lower-middle-income countries. Since February 2020, the IMF has made $250 billion available to member countries, representing one-quarter of its total $1 trillion lending capacity, to assist in the battle against Covid-19.

This has come at a time when the debt profile of some vulnerable nations has become precarious. As a result, all members of the Group of 20 extended a debt moratorium to nations they deemed the poorest borrowers in April 2020. This delayed around $16.5 billion in debt servicing to official bilateral creditors. China, as a member of the G20, signed the pledge.

The Belt and Road Initiative (BRI) Survey of Central Banks 2021 found that the Covid-19 crisis has affected many BRI projects, with more than two-thirds of central banks saying it has had a negative impact on progress to some degree. The primary reason for disruption was related to social distancing and lockdown measures limiting work. But, when combined, a shift in government priority away from the BRI and local funding constraints had an even greater impact.

China is now one of the world's largest creditors and has invested more than $500 billion in BRI-related projects, often lending to developing nations – particularly in Africa and Latin America. Any failure to repay BRI debts would push up the non-performing loan burden of China's development banks and commercial banks at a difficult time.

As the first victim of the Covid-19 pandemic, China also had to implement its own strict lockdown measures in early 2020 and experienced stresses to its manufacturing due to supply chain interruptions and deteriorating trade ties with the US and other key trade partners. This contributed to a year-on-year contraction in GDP of 6.8%% in the first quarter of 2020, according to China's National Bureau of Statistics. But China's relative success in social distancing and its vaccination of key workers has enabled it to resume much of its pre-crisis growth.[1]

Despite its own economic challenges, central bank survey respondents indicated little evidence that Chinese institutions had restricted BRI financing. Moreover, the outlook in a post-lockdown world (once the debt issues are worked out) appears promising – with 80% of respondents believing that BRI projects will boost economic recovery and, of these, more than 70% saying they can contribute to a green recovery and more sustainable development.

PROFILE OF RESPONDENTS

Central Banking received responses from 25 central banks participating in the Belt and Road Initiative. Over half of respondents were European, with central banks from Asia and the Middle East making up 16% and 12%, respectively. In 2021, there was a decrease in response from central banks in the Americas and Africa, while the proportion of responses from Oceania stayed the same.

Jurisdiction	No. of respondents	% of respondents
Europe	13	52
Asia	4	16
Middle East	3	12
The Americas	2	8
Africa	2	8
Oceania	1	4
Total	25	100

Percentages in some tables and graphs may not total 100 due to rounding. Data has been presented in the graphs to show the number of respondents as well as percentage totals.

KEY FINDINGS

- Lockdowns and social distancing: two-thirds of BRI projects hit by Covid-19 restrictions
- Some governments are shifting priorities away from the BRI
- No central bank reported a reduction in funding from China
- Chinese development and state-owned banks still offer the most financial support
- Financial markets provide very limited funding
- Geopolitical tensions were cited as problematic by just 8%of respondents
- 87% expect BRI projects to contribute to post-Covid recovery
- 75% of these say the BRI can support a green recovery and sustainable development
- There is greater scope for environmental standards and green energy/ transport co-operation
- The majority of respondents expect the BRI to boost GDP in the next five years
- 88% of survey respondents expect the BRI to contribute to home-jurisdiction development
- The BRI can help on infrastructure, job creation and catalysing other foreign direct investment
- There are low expectations of BRI alleviating poverty directly
- Most development is taking place in transport and logistics, power, and oil and gas
- Nearly 80% believe BRI projects are economically viable
- 23% said BRI debt is causing their external debt to rise to unsustainable levels
- BRI debt terms appear similar or more favourable to other financing terms and conditions
- Central banks would like to see BRI projects align more with national priorities.

Launched in 2013, the BRI is China's flagship international project, aimed at reviving trade routes through large-scale infrastructure projects and, more recently, technology development. Over time, its scope and reach has proliferated beyond the original silk routes between China and Europe to include countries in South America, Africa and some areas of the Caribbean.

By the start of 2020, almost 3,000 BRI-linked projects (valued at around $3.9 trillion) were planned or under way, according to research from the Oxford Business Group.[2] However, at the end of Q1 2020, following the arrival of the Covid-19 pandemic and as borders were closed and lockdowns imposed, progress on many projects stalled. As part of the 2021 survey, *Central Banking* asked central banks how the pandemic had affected the progress of BRI projects in their jurisdictions. Just over half reported a moderate negative impact, and a further 18% said their projects had been significantly impacted due to Covid-19, versus 30% of respondents who said the pandemic had no impact on projects (see figure 1).

The figures broadly align with China's Ministry of Foreign Affairs, which said in June 2020 that 30%–40% of BRI projects had been affected by the outbreak, while a further 20% had been seriously affected.

According to numerous media outlets, during 2020, a number of BRI projects were paused to allow countries affected to focus on the spread of the pandemic. In recent months, a number of these projects have been restarted.

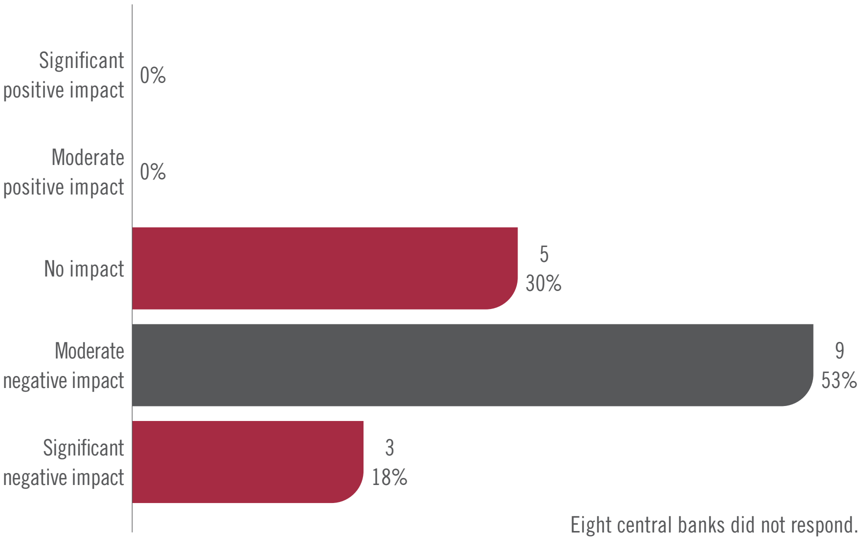
Responding to the survey, a central bank in Central Asia noted that its road infrastructure project was delayed and the deadline drawn further out, but the withdrawal of funds remained minimal. A central bank in Europe noted that, while Covid-19 had not hindered the implementation of BRI projects in its jurisdiction, public debt had increased to meet pandemic-related expenditure needs. The rise in debt could "undermine the fiscal space of the country to meet the financing needs of future infrastructure projects", the central bank said.

Social distancing and lockdown measures, and local funding restraints were among major causes of BRI projects stalling, according to survey data (see figure 2).

Of those that said the pandemic had had a negative impact in some form, social distancing was listed by 75% as the primary cause; a shift in government priority and local funding constraints were also highly placed, with 50% and 42% of institutions citing these issues, respectively. A relatively small percentage of central banks (17%) also noted reduced interest from local businesses.

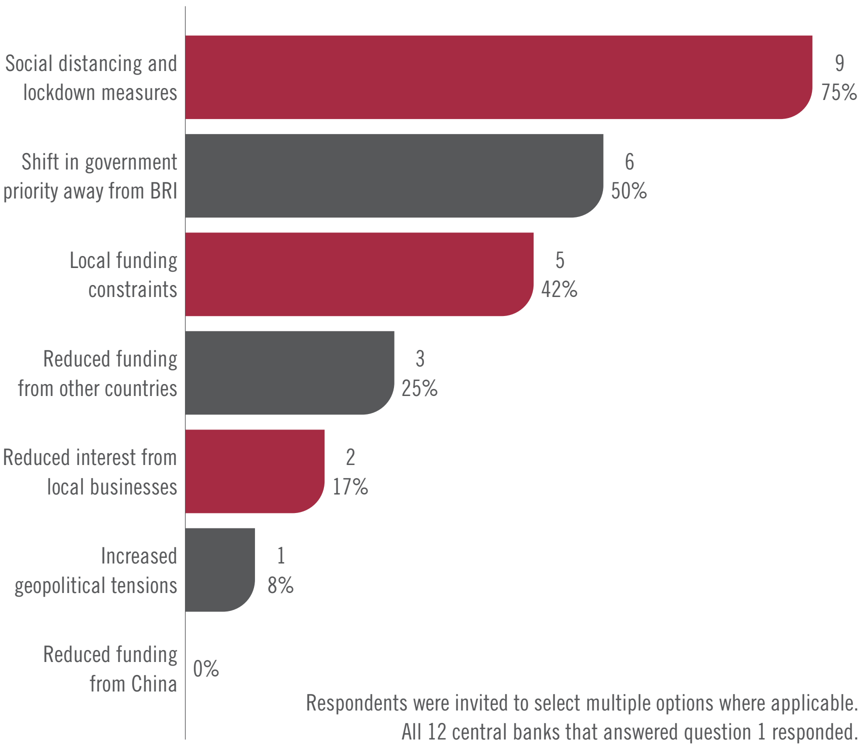
Despite growing political tensions between China and the US, and some other economies – some US figures have criticised China for engaging in 'debt-trap diplomacy' for some BRI loans;

Figure 1 – How has the Covid-19 pandemic affected the progress of BRI projects in your region?



Eight central banks did not respond.

Figure 2 – If negatively impacted, what are the major causes?



Respondents were invited to select multiple options where applicable.
All 12 central banks that answered question 1 responded.

Australia cancelled its BRI involvement and the European Union and India are co-operating on an alternative to the BRI – just 5.9% of central banks cited political tensions as the major cause of project delays.

Growth on the horizon

While the Covid-19 pandemic may have stalled some BRI progress, 75% of central banks agreed the initiative will contribute to the post-Covid recovery within their jurisdictions (see figure 3). Thirteen per cent strongly agreed, while a further 13% neither agreed or disagreed.

When looking at the impact of the project on growth more generally, despite the current international political and economic environment, 69% of central bank respondents also agreed the BRI would make an important contribution to the global recovery and development (see figure 4). A further 25% strongly agreed.

"The disruption of supply chains and trade relations is one of the main negative consequences of Covid-19. If realised, BRI-related projects could help alleviate the impact and accelerate post-pandemic trade flows among participant countries," a central bank from Europe said. "In addition, financing new infrastructural projects under the umbrella of the BRI could be supportive to further facilitate economic recovery."

Traditionally, BRI projects have focused on improving transport, energy and technology infrastructure. And some of these projects have continued to be approved during the pandemic. For example, the $3 billion Budapest–Belgrade high-speed rail scheme, financed by the Export-Import Bank of China, was agreed in May 2020. But there is an expectation that some capital-intensive infrastructure projects may be scaled back, although this could be replaced, in part, by a possible increase in digital and health infrastructure spending. Climate-related projects are also likely to come into focus.

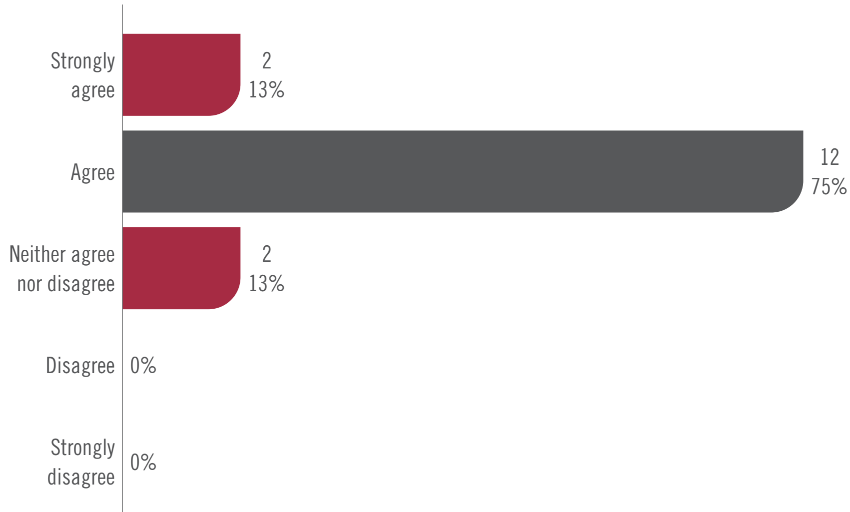
A green future?

In the past, China has financed a major increase in highly polluting coal-fired power stations at home as well as in BRI countries, such as Pakistan, which can produce its own coal but must import cleaner alternatives – for example, natural gas. A failure to improve environmental standards and reduce emissions in key BRI countries could cause global warming of well above 2° Celsius limits, a September 2019 report by the Beijing-based Tsinghua Center for Finance and Development, consultancy firm Vivid Economics and non-profit the ClimateWorks Foundation warned.

At the second Belt and Road Forum in 2019, President Xi Jinping stressed the role of the environment as one of the key pillars underpinning the success of the BRI moving forward. President Xi's focus on greater BRI sustainability – he subsequently committed China to reach carbon neutrality by 2060 – led to the formation of the nickname 'BRI 2.0'.

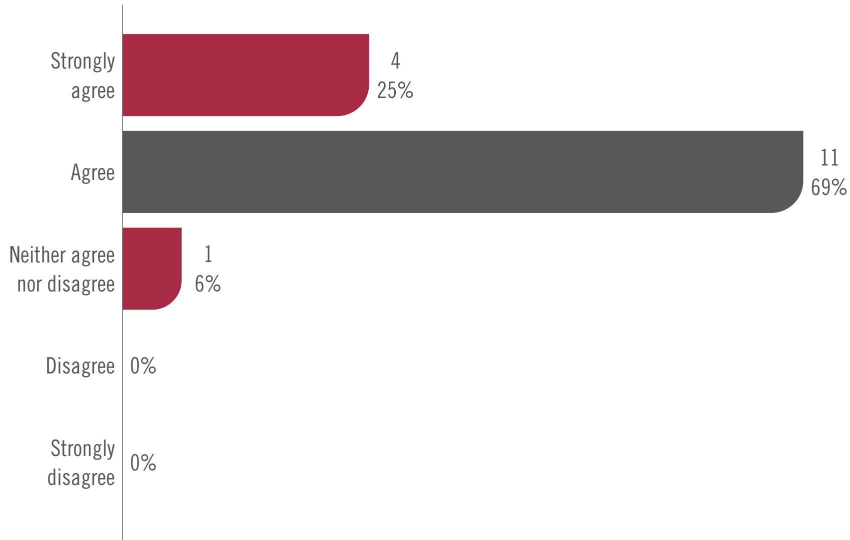
One of the avenues for increasing the environmental sustainability of BRI 2.0 is via the BRI International Green Development Coalition. The People's Bank of China is also supporting efforts

Figure 3 – Can BRI projects contribute to economic recovery from Covid-19 in your jurisdiction?



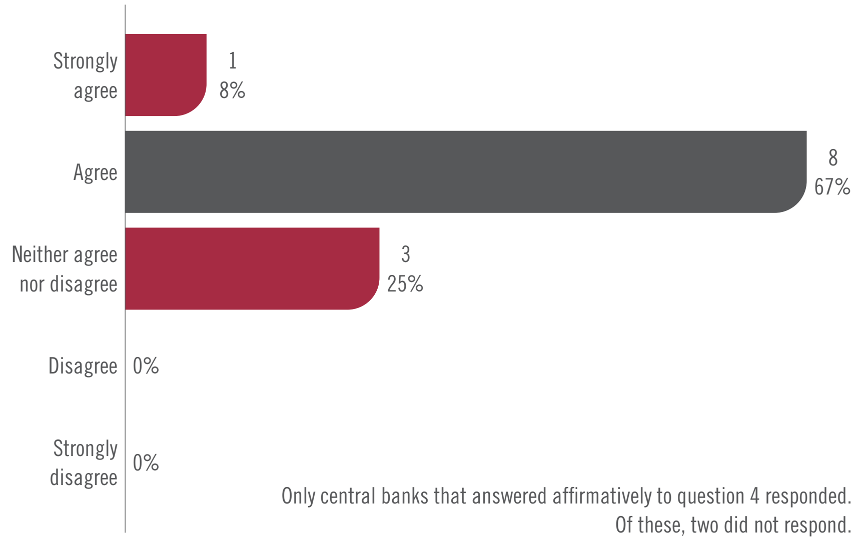
Nine central banks did not respond.

Figure 4 – Does the BRI make an important contribution to global economy recovery and development?



Nine central banks did not respond.

Figure 5 – Can BRI projects contribute to green recovery and sustainable development post-Covid-19 in your jurisdiction?



Only central banks that answered affirmatively to question 4 responded. Of these, two did not respond.

by financial institutions to fully understand climate risk. Part of the central bank's efforts include enforcing the BRI's green investment principles, which look to bolster understanding of environmental, social and governance risks, disclose environmental information and leverage green financial instruments.

Chinese researchers said that, during the past 12 months, renewable power made up the majority of China's energy investments for the first time. The share of wind, solar and hydropower comprised 57% (about $11 billion) of China's total investment in energy infrastructure in 2020 – up from 38% in 2019, according to research from the International Institute of Green Finance at the Central University of Finance and Economics in Beijing. Efforts to tackle climate change have strengthened the need for developing countries to reduce their reliance on

Sri Lanka has emerged as the country with the greatest number of BRI projects announced fossil fuels and focus on wind- and solar-powered projects. BRI members such as Pakistan, Bangladesh, Vietnam and Egypt have drawn up plans to ensure their pandemic recoveries are more environmentally friendly.

This trend was evident in the survey responses, with two-thirds of central banks that believe the BRI would support economic recovery also agreeing the initiative would contribute to a 'green recovery' (see figure 5).

Investing in green energy and transport (90%), and co-operation in introducing standards for BRI projects (80%) were most cited by central banks as ways the BRI could promote a green recovery (see figure 6). Policy dialogue (70%) and green technology (50%) were also noted as important drivers for a green future.

Two-fifths of respondents also recorded the importance of green finance, an area in which central banks are looking to standardise financial instruments. For example, the People's Bank of China is currently seeking to finalise its single taxonomy for determining the green status of financial products and services.[4]

The Hong Kong Monetary Authority (HKMA), meanwhile, has set up an interagency group to accelerate the growth of green and sustainable banking. Seven financial regulators and government bureaus – including the HKMA and the Securities and Futures Commission – will take part in the initiative. The group will also work with organisations regulated by the Chinese government in the Guangdong–Hong Kong–Macao Greater Bay Area.

In the past, Asian markets have lagged behind their European counterparts in terms of green bond issuance. However, over the past few years, a number of countries in the region have ramped up green bond issuance. According to HSBC, the supply of Asian US dollar-denominated green bonds rose from just $2 billion in 2015 to $217.5 billion in 2019.[3] By comparison, total proceeds of green bonds issued in the EU reached $96.5 billion last year.

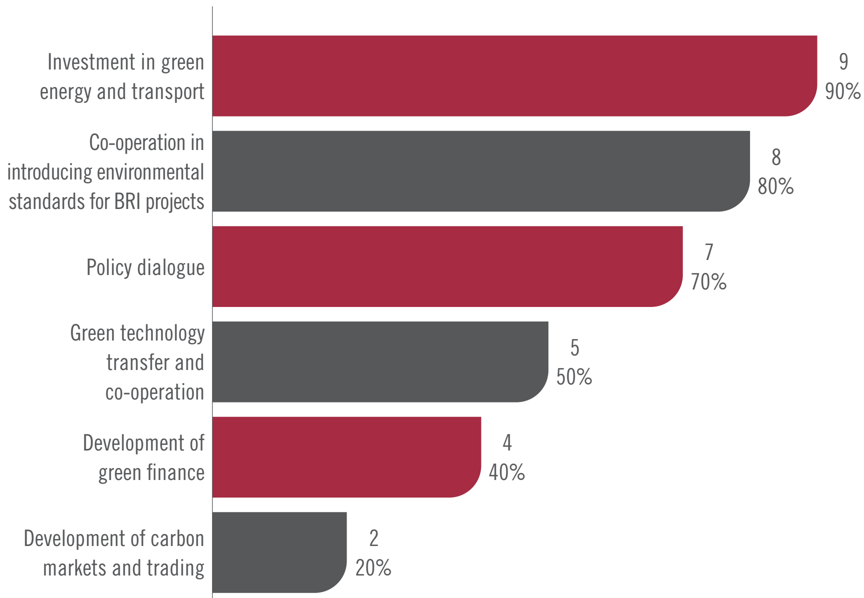
Growth slowdown

The BRI is also expected to act as a catalyst for future growth and economic development more broadly. Four-fifths of respondents expect the initiative to boost GDP in their jurisdictions in the next five years (see figure 7). However, a growing number believe the BRI will have a lesser impact on growth than in previous years.

A central bank from Europe noted that, given the size of the current projects and indications for the future, the contribution to the GDP increase would be "significantly lower than 1%". A central bank in the Middle East added it would be "illogical" to expect a GDP boost in the next five years of more than 2.5%.

The pandemic will undoubtedly have an impact in the near term, as projects remain on pause and countries grapple with the immediate need to rebuild industry from the ground up. "The Covid-19 pandemic has really affected almost all businesses and government revenue streams – a boost in terms of capital funding

Figure 6 – How can the BRI promote green recovery and sustainable development in your jurisdiction and other countries?



Respondents were invited to select multiple options where applicable.
Only central banks that answered affirmatively to question 4 responded.
Of these, four did not respond.

will revive the economy," a central bank from Oceania said.

Nevertheless, 50% of central bank respondents expect growth of 1% or less, and nearly one-fifth said they expected the BRI to boost GDP by up to 5% over the next few years. A small proportion of central banks (13%) indicated BRI-related increase to its GDP over the next five years could be 10% or greater – both respondents came from the Oceania/Asia region.

A central bank respondent from the Middle East noted it was "not an easy task" to estimate the expected contribution of the BRI to GDP. However, the central bank said "generally speaking, [jurisdictions could] expect a positive impact due to the fact that BRI projects would ease trade movement, create infrastructure and reduce transportation cost, as well as save time."

Three-quarters of central banks agreed the BRI would contribute to the economic development of their jurisdictions. An additional 13% strongly agreed, while an equal number of respondents neither agreed nor disagreed. The central banks that strongly agreed were from the Oceania/Asia region, while those that remained indifferent were domiciled in Europe (see figure 8).

Improving infrastructure (100%) and creating jobs (86%) were listed as major ways in which the BRI could contribute to economic development, according to respondents (see figure 9). Data from China's government shows that, from 2003–2018, more than 244,000 jobs were created for locals.[5]

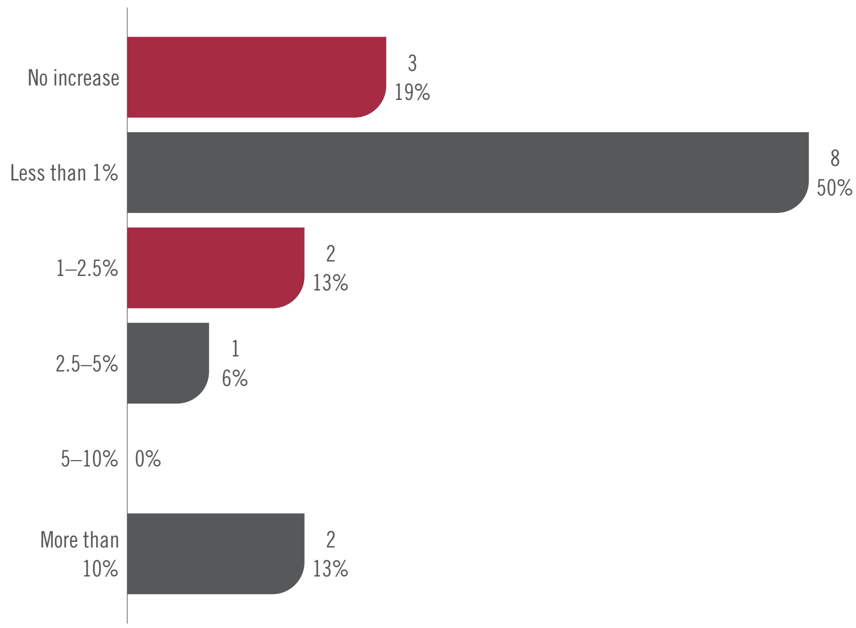
"High-quality infrastructure is envisaged as one of the main drivers to improve the country's economic competitiveness, foster economic growth, and facilitate trade flows along the corridor; the BRI-related projects complement the strategic directions of development in the country," a central bank from Europe said.

Fifty per cent of central bank respondents also said building industrial and technological capacities, and promoting private investment (43%) were also major ways in which the BRI would contribute to economic development. Reducing regional disparity and poverty was listed by just 20% of central banks.

A study conducted by the World Bank in 2019 concluded that the BRI could speed up economic development and reduce poverty "for dozens" of developing countries – but it came with the caveat of ensuring increased transparency, improved debt sustainability and mitigating climate and corruption risk.[6] If implemented fully, the World Bank said the BRI could lift 32 million people out of moderate poverty – that is, living on less than $3.20 per day.

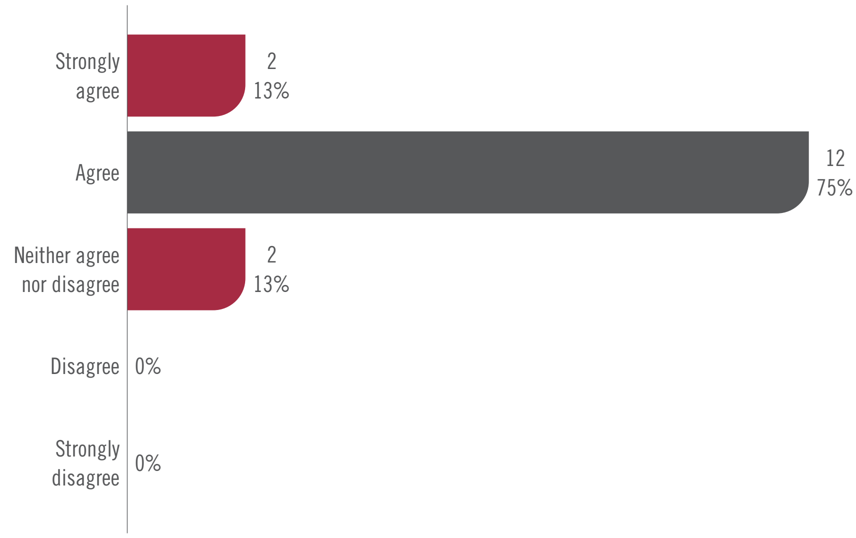
Respondents appeared well aware of the potential risks associated with their respective jurisdictions' involvement in BRI investments. One respondent from the Americas said the BRI has the scope to contribute to recovery and growth – but only if funding was provided at "a reasonable cost".

Figure 7 – To what extent will the BRI help boost GDP in your jurisdiction over the next five years?



Nine central banks did not respond.

Figure 8 – Can the BRI contribute to economic development in your jurisdiction?



Nine central banks did not respond.

A central bank from Europe noted that "intensifying" investment in large-scale infrastructural projects could support a post-pandemic recovery. "We have to keep cautious optimism in this regard – taking into account funding capacity hindered by the current circumstances," it said.

Debt concerns

Since the BRI's establishment eight years ago, one of the biggest concerns has been debt sustainability – an issue the pandemic has put under the spotlight again.

However, the survey results reveal that those questioning the viability of projects in terms of cost appear to be the minority (see figure 10). More than 65% of central banks agreed that most of all BRI projects under way in their jurisdiction are economically stable and financially viable.

Nevertheless, there are some concerns that BRI debt is causing external debt to reach unsustainable levels. More than 20% of respondents agreed BRI commitments were putting a strain on their nations' balance sheets (see figure 11).

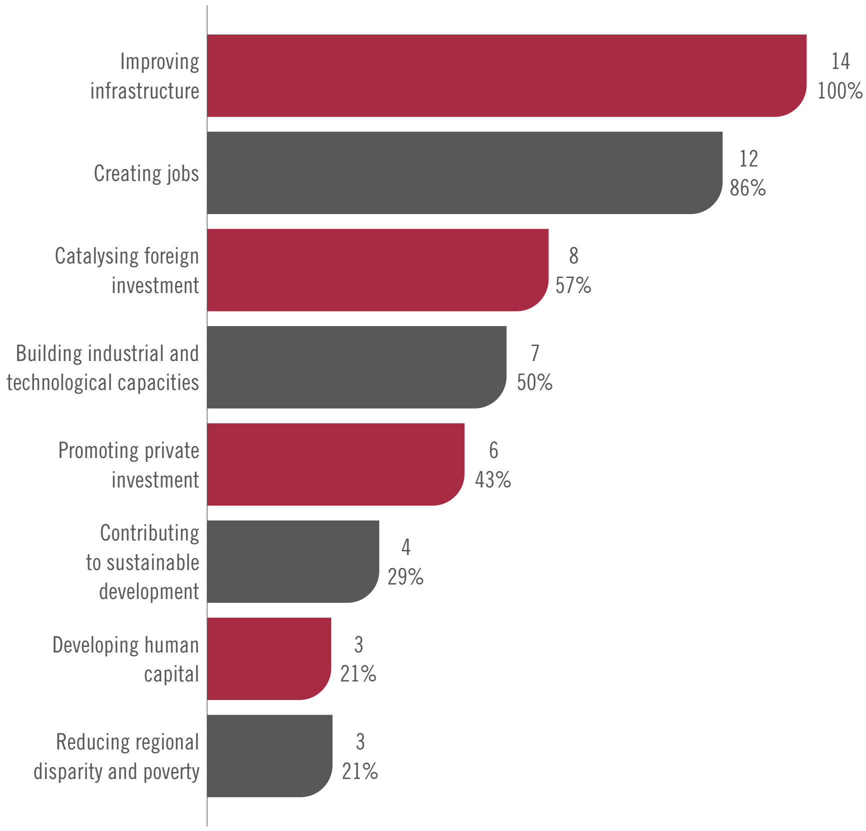
President Xi and other Chinese officials have repeatedly stated that they do not want debtor nations to be in difficulty. China and 27 other countries have jointly adopted the *Guiding principles on financing the development of the Belt and Road*, which highlights the need to ensure debt sustainability in project financing.[7]

Many respondents said their debt was not unsustainable, perhaps reflecting efforts under way to ensure debt remains at sustainable levels. To assist nations in avoiding excessive debt, new institutions have also been created. The China-IMF Capacity Development Center is being funded by China, as is the International Development Cooperation Agency.

Only a small proportion of central banks commented on the financial terms and conditions of BRI-related debt – probably due to ongoing discussions with Chinese authorities. In June 2020, China suspended debt repayments for 77 low-income countries as part of the G20's debt relief programme.[8] Almost 60% of respondents said BRI debt had similar conditions to normal market terms and conditions, while the remaining one-third said they were more favourable.

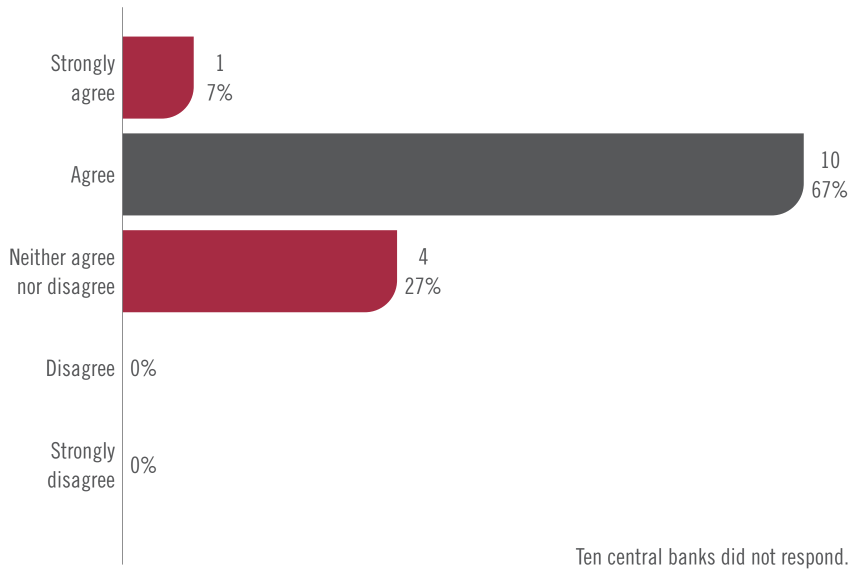
A respondent in the Americas said that, while BRI projects in its country were yet to get under way, previous Chinese-

Figure 9 – In what ways can the BRI contribute to economic development in your jurisdiction?



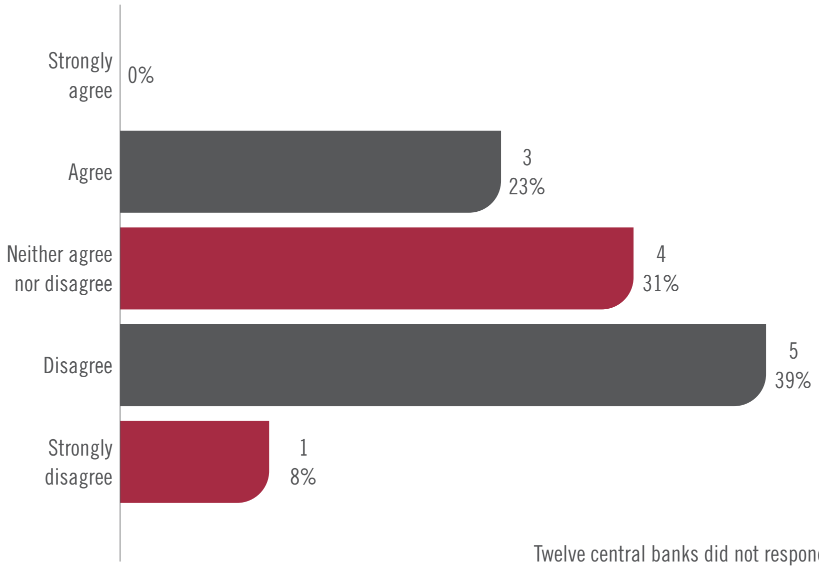
Respondents were invited to select multiple options where applicable. Only central banks that answered affirmatively to question 8 responded. Of these, all 14 central banks responded

Figure 10 – Are most or all of your jurisdiction's BRI projects economically viable and financially sustainable?



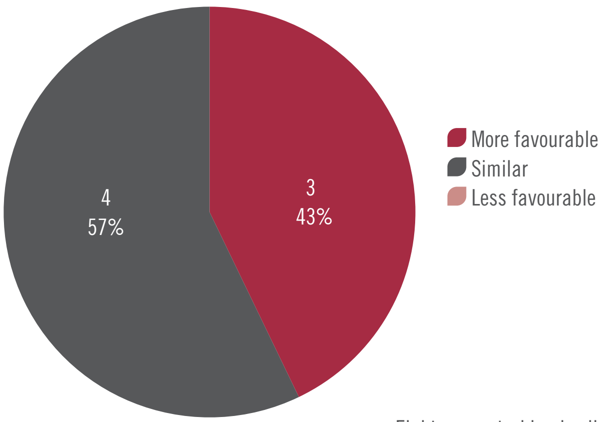
Ten central banks did not respond.

Figure 11 – Is BRI-related debt causing external debt in your jurisdiction to reach an unsustainable level?



Twelve central banks did not respond.

Figure 12 – Compared with normal market terms and conditions, how do you consider those of BRI-related debt?



Eighteen central banks did not respond.

funded projects had provided "favourable financial terms relative to market rates" (see figure 12).

Funding supply

The scope of projects to receive funding support varied across jurisdictions. However, the results revealed the oil and gas, and transport and logistics sectors are the most supported. Water and sanitation, as well as the broadly defined power sector, were also ranked among the most important areas of investment (see figure 13).

A large number of energy-related projects are taking place in the Middle East owing to the region's abundant energy reserves. However, the results show broader power projects have also risen in importance, highlighting a potential shift to more renewable energy projects. According to a 2019 report from the Natural Resource Defense Council,[9] the projected installed capacity of renewable energy for 38 countries in the BRI could reach 644 gigawatts from 2020–2030, and total investment in wind and solar power could reach $644 billion.

While there is room for China to grow its direct investment in the energy sector through BRI renewable projects, there are already glimpses of the massive potential to scale up investment in this sector.

The Cauchari Solar Plant, currently under construction in Argentina, is expected to reduce carbon emissions by around 325,000 tonnes.[10] The $390 million project is being funded primarily by the Export-Import Bank of China. China also has involvement in renewable projects in the United Arab Emirates and Kenya, among others.

On the investment size of the largest ongoing projects – classed as either under way or in the preparation/planning phase – 43% of respondents said investment was less than $250 million. This figure was slightly less than last year (50%) (see figure 14).

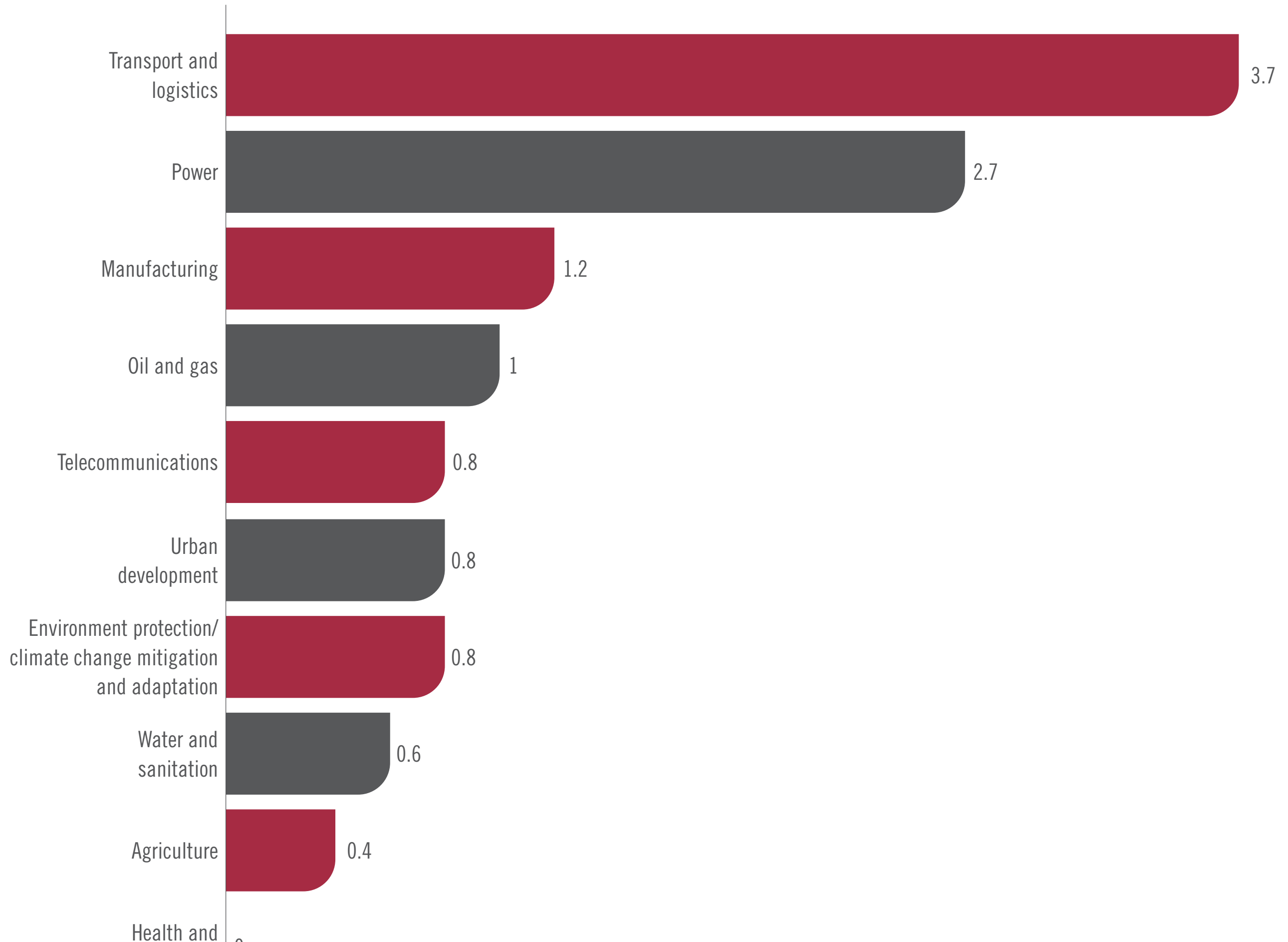
However, almost two-fifths of central banks said the investment size of the largest BRI project in their jurisdiction was between $1 billion and $5 billion – a significant increase from 2020, when only 10% of respondents reported projects above $1 billion. The majority of these respondents heralded from Southeast Asia, but countries in the Middle East and Africa also reported large investments.

According to data from Refinitiv, Sri Lanka has emerged as the country with the highest number of BRI projects announced as of July 2019, with seven developments at a combined value of nearly $700 million.[11] While Pakistan has attracted plenty of attention for its involvement in BRI projects, Russia has received the largest investment from China – $298 billion worth of projects are currently under way.

A large proportion of BRI financing comes from China. Responses from participating countries corroborate this dynamic: Chinese development banks and state-owned banks were the most important funding sources of BRI projects, followed by private Chinese corporations and China-backed multilateral institutions (see figure 15). The China Development Bank (CDB) and the Export-Import Bank of China were once again singled out by central banks as providing core funding for projects. Both lenders operate directly under the State Council of the People's Republic of China, and are responsible for raising funds for and implementing economic policies of the government at home and abroad.

Chinese parties involved in BRI projects may have considered whether they have clauses in their contracts that could free them from liability when circumstances out of their control occur, such as during the pandemic. Since February 2020, the China Council for the Promotion of International Trade has issued thousands

Figure 13 – What are the most important sectors the BRI supports in your jurisdiction?



Votes were cast using a scale of 1–5,where 5 denotes the most important sector and 1 the least important. Scores were calculated using a weighted average from the data provided. Nine central banks did not respond.

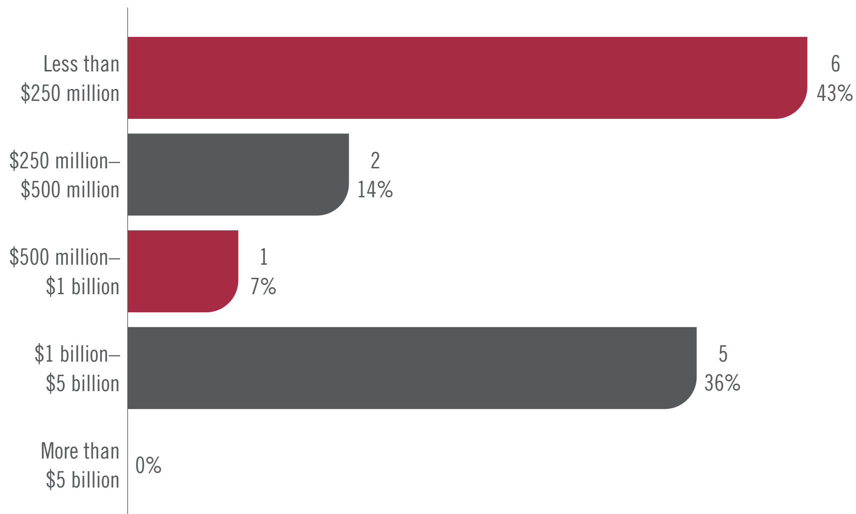
of force majeure certificates to Chinese companies, according to law firm Norton Rose Fulbright.[12]

There is the possibility to make BRI projects in the pipeline more open to other financing options – such as through the inclusion of multilateral institutions, foreign banks, private equity and green bonds. It is also likely the private sector will be encouraged to take on a greater role as Chinese state banks reduce funding. Currently, financial markets and international commercial banks are seen as the least important sources of funding – only one respondent from Europe ranked financial markets in their top five sources – specifically the market in Macao.

Project implementation

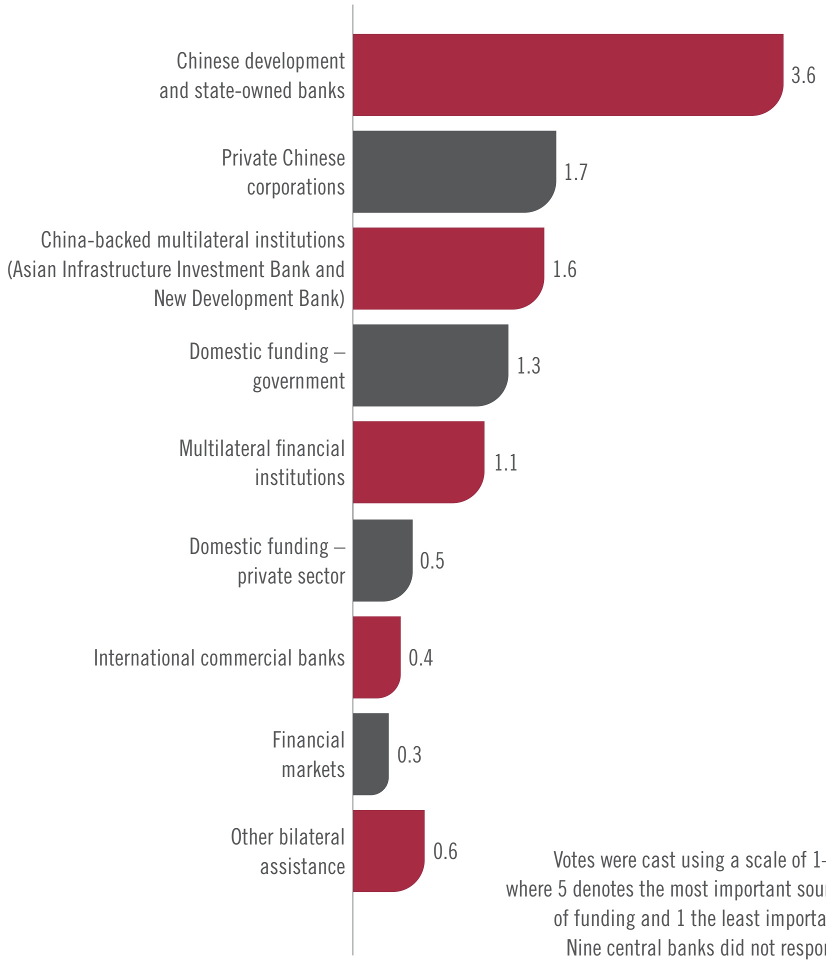
One of the greatest concerns around BRI projects historically has been a delay

Figure 14 – What is the size of the largest completed or ongoing BRI project in your jurisdiction (including domestic and external funding sources)?



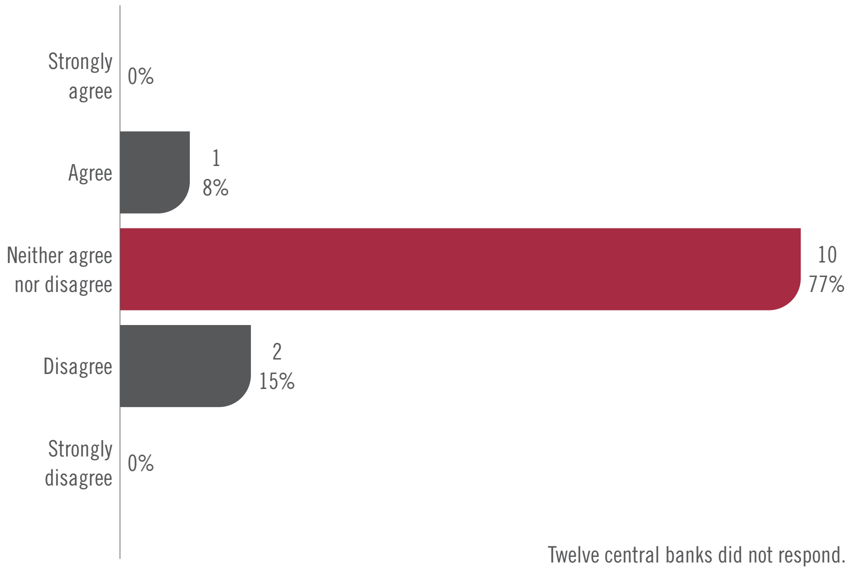
Eleven central banks did not respond.

Figure 15 – What are the most important sources of funding of BRI projects?



Votes were cast using a scale of 1–5, where 5 denotes the most important source of funding and 1 the least important. Nine central banks did not respond.

Figure 16 – Have most BRI projects been implemented effectively and without significant delay?



Twelve central banks did not respond.

in project completion; this concern is likely to be exacerbated further by the pandemic. However, the majority of central bank respondents (77%) said they neither agreed nor disagreed that most BRI projects had been implemented without much delay. But 15% disagreed and 8% agreed with the statement. This suggests project delay is not a major concern for most respondents at this time (see figure 16).

One central bank in Europe noted BRI projects launched recently were being implemented without "significant delays". "However, the initiation of the one of the biggest infrastructural projects that was intended to enhance transit capacity has been temporarily postponed due to financial viability issues," the central bank said.

Another issue that had attracted close attention in the past was how BRI project contracts are awarded. There were concerns that the selection of contractors is often not sufficiently transparent, and that more BRI project procurements were undertaken by Chinese companies.[13]

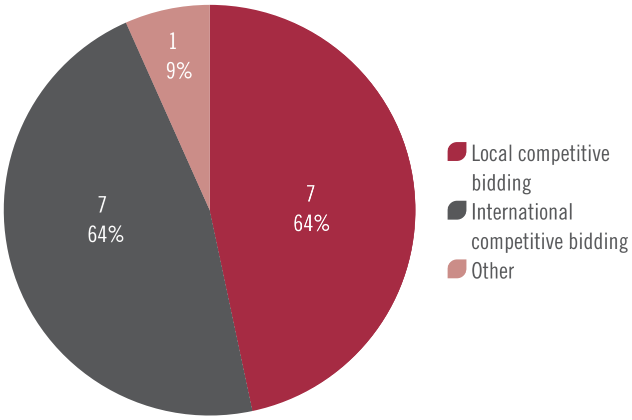
However, according to the survey results, almost 65% of central banks indicate that BRI project contractors in their jurisdictions were selected through local competitive bidding and international processes. Only three respondents indicate the use of local bidding solely, and 9% used sole-source procurement – a direct contracting procedure.

But, a central bank for the Americas said "greater emphasis should be placed on the mix of workers (local versus Chinese) and how the selection process is done". "There may be need for more competitiveness in the procurement process of contractors to ensure greater value for money is obtained," it said.

Currently, relatively little systematic data exists on the practices being followed by the different entities that finance BRI-related contracts, nor how firms are selected to execute projects. A 2018 working paper from Macroeconomics, Trade and Investment Global Practice of the World Bank indicated that Chinese companies account for the majority of BRI procurement.

However, according to the survey, contractor selection process was identified as the least priority for improvement by respondents (see figure 18).

Figure 17 – How are contractors that implement BRI projects selected in your jurisdiction?



Respondents were invited to select multiple options. Fourteen central banks did not respond.

Figure 18 – What aspects of the BRI should be improved to bring more benefits to participant countries and jurisdictions?

Aspect	Average score
Project selection and alignment with national development priorities	7.6
Economic viability and financial sustainability	5.9
Debt sustainability	4.6
Environmental sustainability	4.3
Governance and ethics	4.3
Regulatory transparency	4.3
Co-ordination with BRI projects in neighbouring countries	3.6
Timely implementation of projects	3.5
Co-ordination among government agencies	3.4
Contractor selection process	2.8

Votes were cast using a scale of 1–10, where 10 denotes the most important aspect of funding and 1 the least important. Eleven central banks did not respond.

Room for improvement

When respondents were asked which aspects of the BRI should be improved to bring greater benefits to participating jurisdictions, project selection and alignment with national development priorities received a score of 7.6. The economic sustainability of projects, which received a score of 5.9, was also a frontrunner in terms of areas of improvement. Environmental sustainability and regulatory transparency also received high scores of 4.3. The contract selection process was given an average score of 2.8 (out of a possible 10).

The results highlight the need for BRI projects to be better co-ordinated and in line with national and international strategies – a need that is only going to become greater in the wake of the pandemic.

THE 2020 BELT AND ROAD INITIATIVE (BRI) SURVEY

In 2018, the IFF, in collaboration with *Central Banking*, inaugurated the BRI survey. Last year, with responses received from 30 global central banks, the findings concluded the BRI would support globalisation. However, there were concerns projects under way were not in line with current climate goals. The 2021 survey reveals the focus of the BRI is likely to change and authorities will need to think carefully about the sustainability of their debt financing.

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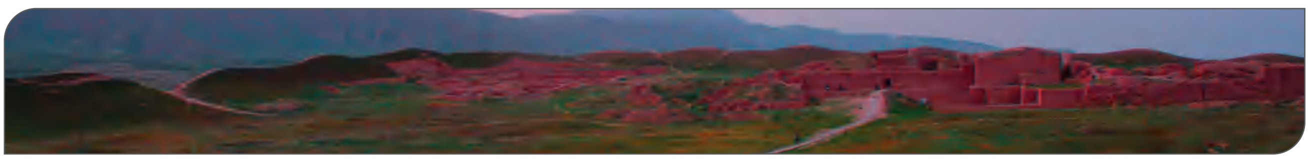

The new global green power highway

Covid-19 is a harbinger of the ecological crisis that is now being unleashed by climate change, writes *Han Seung-soo*, IFF co-chairman, Silk Road International Association (SRIA) chairman, former prime minister of the Republic of Korea and president of the 56th session of the UN General Assembly. The SRIA can help realise carbon neutrality by turning the Belt and Road Initiative into a centre for clean power in Asia

At the 11th meeting of the Group of 20 in Hangzhou in September 2016, world leaders gathered and agreed unanimously to work together "towards an innovative, invigorated, interconnected and inclusive economy". Ten months later, in June 2017, the International Finance Forum's Silk Road International Association (SRIA) was created at the International Export Centre in Hangzhou – four years after President Xi Jinping inaugurated the Belt and Road Initiative (BRI) in Kazakhstan.


Han Seung-soo

When the Silk Route first came into existence in the third century BC, it epitomised globalisation and connectivity. The movement of people and goods along the Silk Road created new jobs, income and prosperity along the route. The interconnectivity among nations along the Silk Road would have advanced creative ideas to compete with new challenges coming from the outside. Interconnectivity was the symbol of the Silk Road in ancient times and has become the hallmark of today's digital transformation. Smartphones, for example, are linking people around the world as if they were close neighbours.

At present, humanity continues to weather one of the most severe health crises of the past 100 years. The Covid-19 pandemic is, however, a short-term disaster. A much more dangerous challenge threatens long-term prosperity – climate change and global warming.

Powering up

The mission of the SRIA must be realigned to mobilise the investment necessary to cope with the 'new normal' after Covid-19. The pandemic sent the world a warning that ecological crises can no longer be ignored. Our life after the pandemic cannot be the same as before; in the face of an outbreak of a single virus, our economic, financial and industrial success was severely damaged ovenight.

The SRIA will need to widen the horizon of its vision to focus on enhancing ecological competitiveness as an overarching goal that comprises ecological sustainability and industrial competitiveness. Ecological competitiveness is now a new normal in the wake of Covid-19, and will become a critical factor for our future development. Public health systems are integral to economic competitiveness, and those countries with poorly equipped health systems will suffer socially and economically. Countries that handled the Covid-19 outbreak successfully have proven to be the most competitive in their industrial and economic performance and recovery.

As Covid-19 is just a harbinger of an ecological crisis now being unleashed by climate change, the SRIA could promote new green infrastructure along the Silk Road. The vision of greening the existing connectivity infrastructure of Silk Road countries and building a new green infrastructure could boost the leadership of the SRIA as the driver of ecological competitiveness that will be critical for the post-Covid-19 era. President Xi pledged at the UN General Assembly in September 2020 that China would become carbon neutral by 2060. Realising the UN's vision of carbon neutrality by 2050 is an ambitious global agreement. This ambition needs to be harnessed by the SRIA to support member states to take advantage of the opportunities arising from the Net Zero 2050 target around the world. A quantum jump to clean power production is an absolute necessity. Producing solar and wind power on a large scale across the vast wastelands along the BRI route would help generate clean power for the East, which should be a priority for the SRIA. China is now the leader of super grid technology for transmitting electricity across thousands of kilometres, connecting cities and towns from the west to the east of the country. Developing

Solar power from deserts in the United Arab Emirates has proved cheaper than coal-generated power

a global green power highway along the BRI would be a game-changer for realising carbon neutrality by 2050.

It is possible for the extensive under-utilised land along the Silk Road to be turned into production centres of clean power, which will create economic benefits for locals, while consumers will profit from the cheaper price of clean power.

The cost of solar power from deserts in the United Arab Emirates, for example, has proved even cheaper than coal-generated power. The global green power highway has the potential to supply massive quantities of clean power to consumption centres and cities at a lower price. The SRIA should position itself as the pioneer and driver of this vision.

The modern Silk Road ... should be extended eastwards towards the Korean peninsula and Japan, two of the most dynamic and sophisticated economies in the world today

Ancient and new routes

At the same time, we have to work hard to continue to extend the Silk Road eastward. In ancient times, the Silk Road started from Xi'an and now extends east to China's inland cities, while the Maritime Silk Road starts from Guangzhou and extends west. However, China is different today from when it was ruled by the Han or Tang dynasties, and the world is different from that of the Roman or Byzantine empires, two of the greatest civilisations at the time of these routes' inception.

The modern Silk Road, particularly the global green power highway, should be extended eastwards towards the Korean peninsula and Japan, two of the most dynamic and sophisticated economies in the world today. Together with China, these countries are also major emitters of carbon dioxide. Combined, these countries accounted for almost one-third of global carbon emissions – China for 27.2%, Japan for 3.2% and Korea for 1.7% in 2017.[1]

There is also potential for the Maritime Silk Road to expand east from the major ports of China, such as Guangzhou, Shanghai and Qingdao. Because of global warming, the North China Sea is now no longer frozen for large periods, providing an opportunity to connect China to East Asia and Europe via the North Pole. This would shorten the distance of this journey by up to one-quarter and cut up to 13 days of shipping time compared with the more commonly used southern route through the Suez Canal. This northern route can currently operate for only three to four months each year.

The Covid-19 pandemic and climate change are problems that must be solved; the former is short-term while the latter is long-term. A vaccine will help us solve the short-term problem but the issue of climate change cannot be resolved overnight. It will take a long time to rectify the damage that has been done, and we need a good strategy and much patience to deal with the unfolding crisis. The SRIA has a prominent role to play in dealing with the critical issue of climate change by taking the initiative to transform the Silk Road into a global green power highway.

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Building a green Silk Road

Gloria Macapagal Arroyo, IFF board member, Silk Road International Association co-chair, former president of the Philippines and former speaker of the House of Representatives of the Philippines, discusses the 'Silk Road spirit' of peace and co-operation, openness and inclusiveness, mutual learning and benefit, and win-win outcomes – and the initiatives in place to achieve it

The Silk Road International Association (SRIA) was launched in 2016 by the International Finance Forum (IFF) with support from the UN and the Asian Infrastructure Investment Bank. Its task is to carry forward the 'Silk Road spirit' of peace and co-operation, openness and inclusiveness, mutual learning and benefit, and win-win outcomes. For the past four years, the SRIA has provided a mechanism that boosts non-governmental collaboration and dialogue to advocate the Belt and Road Initiative (BRI). The association was established in the same year President Xi Jinping called for green development and efforts to build a "green Silk Road". The following year, at the 2017 Belt and Road Forum for International Cooperation, President Xi said: "We should pursue the new vision of green development and a way of life and work that is green, low-carbon, circular and sustainable. Efforts should be made to strengthen co-operation in ecological and environmental protection and promote ecological civilisation so as to realise the goals set by the [UN] 2030 Agenda for Sustainable Development."

In 2018, the China Council for International Cooperation on Environment and Development explained that the essence of a green BRI is to integrate green development and ecological and environmental protection into its every aspect. The following year, the BRI International Green Development Coalition was launched to bring together environmental expertise and ensure that the BRI brings long-term green and sustainable development to all countries involved.

The BRI has been recognised by the international community as an important contribution to the implementation of the UN's 2030 Agenda for Sustainable Development.[1] In 2019, UN secretary-general António Guterres pointed out that the five pillars of the BRI are intrinsically linked to the UN's 17 Sustainable Development Goals (SDGs); and UN General Assembly president María Fernanda Espinosa said the BRI is an example of effective international co-operation for sustainable development.

In 2020, the *Journal of Ecosystem Health and Sustainability* reported that China had around 36 renewable energy investment projects in BRI countries.[2] The journal also noted that, as the world's largest producer of renewable energy, China's green energy investment and capacity co-operation with BRI countries has played a positive role in promoting the sustainable development of the host country.

Pursuing a green revolution

China was arguably the first economy to recover from the economic slump caused by the effects of the Covid-19 pandemic. As China restarts its economy, countries along the BRI routes are likely to benefit from post-pandemic co-operation. This co-operation will need to adhere to the 'new normal', and form part

Tianmen Mountain National Park, Zhangjiajie

Gloria Macapagal Arroyo

of an entire body of civic behaviour to help prevent a resurgence of the virus. At the UN general debate commemorating the organisation's 75th anniversary, President Xi said: "Covid-19 reminds us that humankind should launch a green revolution and move faster to create a green way of development and life, preserve the environment and make Mother Earth a better place for all. Humankind can no longer afford to ignore the repeated warnings of nature and go down the beaten path of extracting resources without investing in conservation, pursuing development at the expense of protection, and exploiting resources without restoration."

President Xi's speech gave the broad strokes of green development in the post-pandemic era and invoked elements of the Paris Agreement on climate change, which aims to keep the increase in global average temperature to below 2° Celsius above pre-industrial levels, and to limit the increase to 1.5°C. Under the agreement, each country must pledge money – or nationally determined contributions (NDCs) – to mitigate global warming. President Xi also committed China to scaling up its intended NDCs and achieving carbon neutrality before 2060. He called on all countries to pursue green development and achieve a green recovery in the post-Covid-19 era.

President Xi's words have been a strong signal of a green post-pandemic BRI. It is therefore fitting that the IFF's most recent summit was focused not just on post-pandemic financial co-operation, but also sustainable development. The UN Environment Programme (UNEP) insists that investing in a green pandemic recovery makes economic sense. Spending on renewable energy can generate 2.5 times more jobs than fossil fuels.[3] Cleaner air can reduce the burden of disease from air pollution, which costs some countries 7% of their GDP. Investing US$1 in restoring ecosystems can generate $9 by returning ecosystem services and livelihoods.[4]

According to the Green Belt and Road Initiative Center, 2020 saw a relative increase of non-fossil fuel-related BRI energy investments. In the first six months of 2019, 56% of energy investments were fossil fuel-related, but that share dropped to 42% in the same period in 2020.[5] Non-fossil fuel-related energy investment dominated BRI energy investments at 58% in the first half of 2020.

In September 2019, state councillor and foreign minister Wang Yi announced the release of the Chinese Academy of Sciences' *Big Earth data in support of the Sustainable Development Goals report 2020.* The report shows the use of cutting-edge technological innovation in digital technologies to facilitate achievement of the SDGs. It demonstrates China's firm commitment and contribution to bridging the digital divide and implementing the 2030 Agenda.[6]

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Reaping the social and global dividend

Jenny Shipley, IFF board member, co-chair of the Silk Road International Association and former prime minister of New Zealand, describes the nation's experience in containing the Covid-19 outbreak and promoting green development in its aftermath

As with many other nations, the Covid-19 pandemic made New Zealand stop, focus on the needs of its people by attempting to keep them healthy, and minimise the economic impact of the virus – although this is extremely variable across different economies.

The New Zealand agricultural sector continued to perform well; there remains a worldwide demand for food and our supply chains. But, interestingly, as with many other countries, supply chains have been affected because air travel and, to some extent, sea travel have been disrupted. So even developed economies that have been able to manage the pandemic well are being impacted in a variety of ways.

The other observation through a New Zealand lens is that many roles or jobs across many economies engaged with the Belt and Road Initiative (BRI) have been impacted by changes to tourism.

We have been so comfortable sharing each other's cultures and experiences, seeing that as an important part of our search to understand each other, seeking to cross and visit each other both in time and culture, as well as with our financial instruments. What was once familiar has been disrupted. For the BRI, and the confidence and comfort it had been developing, this dislocation of relationships may have a longer-term impact than we might initially have assessed. Overall, though, New Zealand is faring well and is excited by some of the trends emerging.


Jenny Shipley

Taking the global view

All countries should acknowledge the need, as we look to recovery, to engage at a multilateral level. The signing of the Regional Comprehensive Economic Partnership (RCEP) agreement in 2020 was an exciting milestone. At this time in global history, it is extremely important for confidence to be maintained, despite an erosion of confidence in multilateral mechanisms. This step by countries along the BRI route – China in particular – and many other nations, large and small, is an important signal of collaboration and recovery, and also a commitment that our solutions will be found together, not by acting in isolation.

Finance can only work successfully if relationships are well established. The BRI relies on strong bilateral and multilateral relationships, and government-government, industry-industry and multiple finance sectors to converge.

Another important signal came from President Xi Jinping at the Asia-Pacific Economic Cooperation (APEC) meeting in November 2020, at which he indicated that China would continue to seek multilateral opportunities to engage, and that the nation would consider joining the Trans-Pacific Partnership (CPTPP). These are important signals at a time when other major economies in the world are acting tentatively, and the UN and other international mechanisms are struggling to maintain their historic relevance. This type of leadership, which can come from many economies across the BRI region, is critical.

As for financing in a post-pandemic environment, domestic economies are remaining cautious, pausing at this moment because they are not certain what the overall medium-term impact of the pandemic will be and the economic impact that will spill over from it.

While we are receiving a lot of macroeconomic data, and many individual governments are injecting significant sources of stimulus, it's not yet clear how this will seep across individual economies, or how they will flow through to confidence over co-investing with partner economies. We need to give economies time to look at their current levels, the impact of Covid-19 and their short-term prospects as they look ahead. They must then look at what international and bilateral communities can do to assist them – particularly the developing economies in coming through what will inevitably be a demanding situation.

New Zealand's agricultural sector has continued to perform well despite the Covid-19 pandemic

While money has been put on the table by a number of the international lending institutions, it is clear the slow uptake by some economies is due to a deep level of caution. This caution stems not from current levels of debt and concerns over further debt traps, but is a rather predictable byproduct of this very significant disruption.

Whether the Group of 20, APEC, RCEP or other regional and bilateral groupings, there has never been a more important time to openly and honestly engage in a meaningful way before making new commitments. We will need flexibility from the Asian Infrastructure Investment Bank (AIIB), the Asian Development Bank (ADB) and other institutions as we move forward, and it is clear we need investment. But we must not see the investment become unmanageable, be made in the wrong areas or become an unforeseen debt burden in three or four years' time. Green finance at its best will ensure this does not happen.

Green finance strategies

There are many governments that will take a receptive view of collaborating, whether through the AIIB as a funding mechanism, directly through regional or bilateral arrangements, or through China with its BRI partners. Medium-term benefits through financing, conditions and terms will lead not only to a financial dividend, but also the social and global dividend. The whole sector, whether public, private sector or government, needs to debate at this time how they are going to weigh up the difference in those dividends. In the past two decades, the finance sector has been preoccupied with the financial dividend associated with investment. We have to weigh up if we are going to deliver some of the medium-term objectives of carbon neutrality, reduction in emissions, and so on. At some stage in the green finance environment, a specific debate should be held on how we weigh up the different benefits and dividends that come from a green finance strategy.

So, what can make a difference? One difference could be the Global Green Finance Innovation Award sponsored by the Silk Road International Association (SRIA) through its role in the International Finance Forum. There are a wide range of mechanisms and strategies in those initiatives, which lie at the heart of the future. For example, one of the winners proposed an insurance model pricing risk fully into mechanisms that underpin either regions or whole economies. So, rather than just continuing counterproductive behaviours, we will actually price risk properly and achieve goals and outcomes in a different way. This is highly innovative and relevant not only to the BRI, but to the whole world. I hope that many of the initiatives can be replicated and shared by all who are part of the SRIA.

We should also target directors of companies. They are not immune from responsibility, and we need to ensure – especially those in the Asia-Pacific region and other areas with economic momentum – they are achieving the best outcomes.

The work will be hard. In New Zealand, 85% of energy is already renewable. As part of this post-pandemic investment, the government is considering how to change this final 15%. By investing and attempting to regain the growth momentum in local and global economies when we might otherwise see a lag, we must take a medium-term view that will benefit the immediate and medium-term requirements of our economic, social and environmental conditions, and future wellbeing. This approach will be good for New Zealand and for the region, while contributing to global needs for these types of future focused investments.

A bumper harvest on the Silk Road

Wang Yanzhi, president of the Silk Road Fund, explains how building the Belt and Road Initiative will lead to high-quality development along the route

The Silk Road Fund was established in 2014 as part of the Belt and Road Initiative (BRI); its participation in BRI construction is harvesting substantial fruit. It adopts international, market-oriented and professional operations through a focus on medium- and long-term equity investments, and has contributed to the successful implementation of a series of key projects.

Upholding the diversified investment principle, the Silk Road Fund has so far signed 48 agreements, totalling US$11.7 billion and CNY43.8 billion, for projects including ports, airports, motorways, electricity, new energy, food and other industries worldwide. Direct investment and equity investment were the focus of the fund, while capital was also injected through funds and joint investment platforms to financial products in industries such as medical and healthcare, life science, high-tech and industry chains.


Wang Yanzhi


A longjing tea field in Hangzhou, Zhejiang Province, China

These projects have supported enterprises at various stages of development, and produced social benefits and financial returns for partners as well as local people. These strategic investments secure the fund's financial sustainability, and contribute to the establishment of global connectivity and partnership.

Green innovation

Through its investments, the Silk Road Fund intends to uphold the BRI's philosophy of innovative, co-ordinated, green and open-share investment in the following ways:

By improving people's livelihoods through economic recovery

The Silk Road Fund has invested in developed and developing economies in Europe, Asia, Latin America and Africa. Due to adjustments in international political and economic patterns and the industrial chain, regional trade investment and financing arrangements have shifted in recent years. The Covid-19 pandemic will also exacerbate the existing development gap and governance structure between economies. This poses new challenges to the fund's capacity for and judgement of investment, and targeted investment strategies for different countries and regions will need to be formulated.

New infrastructure and digital economy

The pandemic has adversely affected all industries, except those in the digital arena. While vast scope for investment remains in the empowerment and upgrading of traditional infrastructure and economic sectors, the rapid development of the digital economy is notable. Its success could inspire all investors to seek opportunities in BRI countries. The Silk Road Fund plans to partner with leading enterprises in these areas to enhance talent and intellectual achievement, and form new investment strategies, thus contributing to the expansion and improvement of connectivity in BRI development.

Through opportunities brought about by China's 'dual circulation' strategy

This was proposed by President Xi Jinping regarding green development, including climate change action and renewable energy. Since its inception, the Silk Road Fund has been committed to optimising industrial chains. It has made a series of successful investments to promote China's high-quality production capacity in 'Going Out', and introduced advanced foreign technologies into China.

In the future, more opportunities will derive from the reinforcement of domestic and international targets, and demand for renewable energy investment to take action on climate change. Developed countries have clear goals and plans for new and renewable energy, and the reduction of carbon emissions. While financial pressure caused by the pandemic may force them to adjust their plans, it will, in turn, create opportunities for international capital and enterprises in related industries. As an international platform, the International Finance Forum can, on the one hand, collect information about the specific needs and fiscal policies of different countries from its global membership and, on the other, connect Chinese enterprise with abundant capital, production capacity and advanced technologies, thereby facilitating win-win co-operation in these sectors.

Through overseas renminbi investment

Amid the emergence of deglobalisation in recent years, and the constant adjustment of the international political and economic landscape, regulatory policies are changing worldwide. Sanctions – whether in the financial or economic sector – are frequently imposed in the name of national security. Overseas investment thus has a non-conventional risk, which reminds investors to stay away from risky currencies, besides conventional risks such as remittance and exchange rates. The renminbi has gained increasing advantages in overseas investment. China – the world's second-largest economy and with an optimistic post-pandemic economic outlook – has become the largest trading partner and investment source for many countries. At the same time, the Chinese government adheres to comprehensive reform and opening-up, and is committed to the goal of building a future centred on lasting peace, security, prosperity, inclusiveness and green development. This builds a solid economic foundation and favourable conditions to conduct renminbi-based cross-border transactions. It is believed renminbi-based cross-border investment can reduce conventional and non-conventional risks. The Silk Road Fund, through active exploration and innovation, has now implemented seven projects with renminbi-based overseas investment of CNY43.8 billion, covering equity, loans and convertible bonds.

The Silk Road Fund has so far signed 48 agreements ... for projects including ports, airports, motorways, electricity, new energy, food and other industries worldwide

Through capacity building and the innovation of enterprise

In a speech at the celebration of the 30th anniversary of development and opening-up in the Pudong district of Shanghai, President Xi promoted institutional opening-up. All related actors must establish high-level and high-quality institutional and policy frameworks to further integrate into the international community. This should become an important part of BRI construction and a consensus of BRI international practices. In this way, the initiative will serve more than development, but also act as a platform for international policy co-ordination, and for China's participation in and leadership of global governance.

The road to green recovery

Zhuang Juzhong, IFF co-chief economist and former deputy chief economist of the Asian Development Bank, on promoting and transitioning to green policies in the countries along the Belt and Road Initiative

Zhuang Juzhong

The Covid-19 pandemic has had devastating social and economic impacts on the countries along the Belt and Road Initiative (BRI). According to projections by the International Monetary Fund (IMF), BRI countries' combined GDP will contract by 2.5% in 2020. But the IMF projects BRI countries to grow 6.5% (China 8.1%) in 2021 and 5.5% (China 5.8%) in 2022.[1] These projections are based on the assumption that countries will maintain social distancing in 2021, although it is expected that, with expanding vaccination programmes and improving treatments, the intensity of social distancing will relax over time. By the end of 2022, the pandemic will be under control globally. Recent news on vaccine development and roll-out seems to support this assumption.

However, to achieve this V-shaped recovery, BRI countries must keep fiscal and monetary policies accommodative, support businesses and job creation, invest in infrastructure, and protect poor and vulnerable households. Moreover, recovery packages should address the need for sustainable development in the long term and promote green transition.

The BRI countries combined account for 63% of the global population, 47% of global GDP (in purchasing power parity terms), 55% of global annual carbon dioxide (CO_2) emissions, and 68% of the global population suffering from particulate matter 2.5 (PM2.5) air pollution that exceeds World Health Organization guidelines.[2] Thus, green transition and development are critical for BRI countries and the world. In fact, there would be no global sustainable development without green transition in BRI countries.

More and more BRI countries are placing green transition at the top of their development agendas

Shifting sands

BRI countries have intensified efforts to promote a green transition in recent years by improving energy efficiency, investing in renewable energies, reducing CO_2 emission intensity, controlling pollution and protecting biodiversity. For instance, in the past 15–20 years, BRI countries' energy consumption and CO_2 emissions, per unit of real GDP, both declined by more than 20% (China's by more than 40%).[3]

More and more BRI countries are placing green transition at the top of their development agendas – and China is a good example of this. China's share of power generation by renewable energies increased from 17% in 2000 to 28% in 2020.[4] China now aims to have CO_2 emissions peak before 2030 and achieve carbon neutrality before 2060. Other BRI countries with a carbon neutrality target include Hungary (2050), Maldives (2030), Nepal (2050), Slovakia (2050) and Singapore (the second half of this century).

Despite the progress, BRI countries still have a long way to go in green transition. For instance, their energy consumption per unit of real GDP is still 40%–50% higher than the average of the Organisation for Economic Co-operation and Development countries, and CO_2 emissions per unit of real GDP are 80% higher.

BRI countries' share of fossil fuels in total primary energy consumption is still as high as 89%, and power generation by fossil fuels still accounts for more than 70%. According to the International Energy Agency's (IEA's) *Sustainable development scenario*, by 2040, the share of fossil fuels in total primary energy consumption globally must be reduced to 56%, and the share of power generation by fossil fuels reduced to 24%.[5]

Among the 60 countries with the most serious PM2.5 air pollutions globally, about half are from BRI countries. Furthermore, considering their need for future economic development without changing the growth model, their CO_2 emissions and other pollutants will continue to rise rapidly.

Stronger policies

To further promote green transition and development, BRI countries should strengthen policies in the following six areas:

1. **Change the growth model and improve the quality of growth.** The most important act is to shift from resource-driven to innovation-driven growth. BRI countries should also promote the circular economy and raise the efficiency of resources use.

   According to a recent report of the Intergovernmental Panel on Climate Change (IPCC), to achieve the goal of keeping the global temperature rise well below 1.5° Celsius above the pre-industrial level, by 2030, global CO_2 emissions must be reduced by 40% from 2010 levels and, by 2050, all countries should achieve carbon neutrality.[6] Global sustainable development requires more and more BRI countries to set appropriate carbon-neutrality targets.

2. **Strengthen environmental protection legislation, control pollution and emissions, and do not repeat the old way of 'polluting first and cleaning later'.** Most BRI countries have environmental protection legislation – the key is to ensure the laws are effectively enforced.

3. **Use market mechanisms to protect the environment. Market mechanisms can also make emissions reduction cost-effective.** One important measure is to eliminate fossil fuel subsidies. According to IEA data, among the 25 countries with the highest fossil fuel subsidies in 2019, 18 were BRI countries.[7] Saved fiscal resources from eliminating fossil fuel subsidies can be used to subsidise renewable energies. Despite significant reduction in the costs of renewable energies over the past 10 years – for example, the long-term unit cost of solar power declined by 80% and wind power by 30%–40% – these new energy sources require very high initial investment, and thus require government support.

   Market mechanisms could also be used to introduce a carbon tax and cap and trade. More and more nations are developing carbon markets, including many developing countries such as China, India, Thailand and Kazakhstan. Several Southeast Asian countries are also planning to develop or are in the process of developing carbon markets, such as Indonesia, the Philippines and Vietnam. But, overall, carbon market development is still at a nascent stage in most BRI countries.

4. **Promote green investment.** According to a simple extrapolation of an Asian Development Bank study, over the next 10 years, BRI countries' annual infrastructure investment needs amount to $2.3 trillion. Ensuring these investments promote green transition and development is critical. This requires investing in renewable energies, and green transport, agriculture and technologies.

5. **Develop green finance.** In most BRI countries, public resources are insufficient to meet demand. Developing green finance is an important way to attract private funding for green development. Green finance has developed rapidly in China in recent years; for example, China became one of the world's largest green bond issuers in 2018 and 2019. But, in many BRI countries, green finance is still at an early stage.

6. **Strengthen international co-operation.** Most BRI countries are developing countries that may have not contributed a lot to global CO_2 emissions historically, but will be affected disproportionately by climate change. Developed countries have an obligation to support them in their green transition. The Paris Agreement envisages annual funding support for climate mitigation and adaptation in developing countries to reach $100 billion by 2020, and even higher by 2025. Developed countries should fulfil their pledges despite the difficulties they face because of Covid-19.

There is huge potential for BRI countries to co-operate with each other on green development. China, as the leader and inaugurator of the BRI and the world's second-largest economy, has an important role to play in promoting a green transition and development in BRI countries through policy dialogue, knowledge sharing, better infrastructure connectivity, capital flows and trade, and technological co-operation.

1. *The BRI countries in this article refer to the 66 countries along the Belt and Road. The aggregate growth rates were calculated by the author from IMF individual country projections: IMF (October 2020),* World economic outlook database, *https://bit.ly/3sG3iKz*
2. *World Bank,* World development indicators, *https://bit.ly/3rce4I5*
3. *Xinhua News Agency (November 2019),* China beats annual target for cutting carbon emissions in 2018, *https://bit.ly/3qHkQVF*
4. *IEA (May 2020),* Electricity mix in China, Q1 2020, *https://bit.ly/3b8tl7p*
5. *IEA (October 2020),* World Energy Model – Sustainable development scenario, *https://bit.ly/2NwyoF4*
6. *IPCC,* Global warming of 1.5°C, *https://bit.ly/30bos6V*
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A fund free from political interference

IFF board member *Zhao Xiaoyu*, vice-chairman and secretary-general of the Silk Road International Association (SRIA), says that establishing the SRIA Fund will build a non-political and multilateral platform for win-win co-operation

The term 'Silk Road' in the Silk Road International Association (SRIA) refers not only to the route itself, but also to the co-operation through which mutual exchanges can be boosted.

The SRIA is a market-oriented multilateral platform and a private sector financial institution that supports the development of the Belt and Road Initiative. Given that strong notions of sovereignty and political complexion permeate institutions such as the World Bank, the International Monetary Fund and the Asian Development Bank (ADB), the SRIA now plans to launch the SRIA Fund away from political orientation.

While investment in China by the World Bank and ADB has sometimes overlooked the needs of specific enterprises, China has truly benefited from the support provided by these multilateral organisations. In spite of that, we should always try to avoid imposing our will on others.

Chinese entrepreneurs conducting business overseas should closely co-operate with local beneficiaries and partners, and share successful practices as well as philosophies and methods of investment to help them grow.

Zhao Xiaoyu

Following this principle, the SRIA will aim to foster multilateralism, win-win co-operation and the maximisation of stakeholder interests. As a non-governmental and non-sovereign multilateral platform, the SRIA Fund can play a better role in cross-border trade, e-commerce, digital finance, and issuance and circulation of digital currencies. We also look forward to the co-operation with both sovereign and non-sovereign funds of all parties to achieve a win-win result.

GREEN FINANCE

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Green finance · Green investment · Green growth

Green Growth Fund
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Sharing the load

Inger Andersen, under-secretary-general of the UN and executive director of the UN Environment Programme, discusses the opportunities and potential in the hands of financial institutions for a green economic recovery after the Covid-19 pandemic

The Covid-19 pandemic has driven home the three planetary crises that threaten our economies and societies. The climate crisis, the biodiversity and nature crisis, and the pollution and waste crisis have been driven by decades of unsustainable consumption and production, and are destroying the natural systems upon which our health and prosperity depend. As we confront Covid-19, it is important to act faster on previous commitments made to the planet and make new ones, followed up by swift action. These are steps in the right direction, particularly on the climate crisis.

Inger Andersen

> *Stimulus funds must go towards zero carbon, nature-positive and pollution-free societies and economies*

At the UN General Assembly in September 2020, President Xi Jinping announced China's pledge to hit peak carbon emissions by 2030 and reach carbon neutrality by 2060. But, to achieve this – and other sustainability goals – public and private finance must back these commitments.

Public money can come in the form of pandemic recovery packages. Stimulus funds must go towards zero carbon, nature-positive and pollution-free societies and economies. They must fuel the energy transition, a healthy planet and green jobs. But private capital needs to do its share of the heavy lifting. Some finance industry leaders have got the message. Alliances are forming and money is shifting. But action should be more urgent. We need trillions of dollars of investments to retool the global economy.

To accelerate action and make every investment count, the UN Environment Programme (UNEP) is promoting four key actions:

1. The finance sector needs to better measure and communicate its impact – both the positive outcomes of financing, such as emissions reductions, and the negatives, such as biodiversity loss or human rights violations.

2. Financiers must set comprehensive sustainability targets that align entire portfolios with the UN's 2030 Sustainable Development Goals, the Paris Agreement on climate change and other international agreements.[1] Two target frameworks with which UNEP is pleased to be involved are the Net-Zero Asset Owner Alliance and the Principles for Responsible Banking. Four Chinese banks – the Industrial and Commercial Bank of China, China Industrial Bank, Huaxia Bank and the Bank of Jiujiang – have already signed up to the Principles.

3. Financial institutions need to follow the science when setting timetables for net zero emissions in their portfolios. The Net-Zero Asset Owner Alliance, for example, worked with prominent scientists to set appropriate intermediate targets to realign portfolios by 2050.

4. Institutions should prove they are making good on their commitments through transparency. The Principles require third-party review on signatories' annual reporting. This kind of transparency creates credibility.

The planet needs the finance industry, but the finance industry must understand it needs the planet more. Investing in low-carbon societies and healthy natural systems is the only way to ensure long-term profitability. As China and others gear up their carbon-neutrality plans, all banks and investors should mobilise their capital in support of a greener, healthier and more prosperous future.

This article is based on the virtual speech delivered by Inger Andersen at the 2020 Global Green Finance Summit during the International Finance Forum 2020 Annual Meeting (F20 Summit) on November 22, 2020 in Guangzhou, China.

1. *UN (2015),* 2030 Sustainable Development Goals, *https://bit.ly/3ivPQoQ*

Green finance for carbon neutrality

Climate financing will be the driving force behind the transition to the carbon-neutral economy by 2060 and its high-quality economic development, says *Wu Xiaoqing*, member of the Standing Committee of the Chinese People's Political Consultative Conference (CPPCC), vice-chair of the Agriculture and Rural Affairs Committee of the CPPCC, and former vice-minister of the Ministry of Environmental Protection of the People's Republic of China

As the effects of the Covid-19 pandemic continue to spread around the world, countries have been prioritising containment and economic recovery. The shift in focus has slowed, to a degree, the actions of global climate governance and the UN's 2030 Sustainable Development Goals (SDGs).[1] The impacts of the pandemic will be short-term, yet the risks and challenges of climate change will remain for much longer. Nations have been committed to rigorous measures for green and low-carbon recovery and development, and keeping the post-pandemic recovery measures on track as the 2030 Agenda for the SDGs deadline approaches. Against the backdrop of a complex and constantly changing international situation, green finance – and especially climate finance – is expected to become a major driving force in opening up China's financial sector, and supply-side structural reform in the financial sector under the new development paradigm of a 'dual circulation' (domestic and international) economy.

Since China's 13th Five Year Plan (2016–20), China has made significant progress in green finance, especially in formulating green standards, developing incentive mechanisms, conducting environmental risk disclosure, innovating products and implementing local pilot projects. China has made initial progress in establishing a comprehensive policy system and market environment that supports the development of green finance.

Green finance has played an important role in promoting the green transition, the high-quality development of the economy, and pollution prevention and control. As of June 30, 2020, China's green credit balance has exceeded CNY11 trillion – the highest in the world. Its stock of green bonds totals CNY1.2 trillion – the second-largest in the world.[2] Since 2017, the State Council of the People's Republic of China has approved six provinces and nine cities as pilot zones for green finance reform and innovations, and their experience has strongly supported the development of local green industries and economic transformation. As of June 30, 2020, the balance of green loans in the pilot zones has exceeded CNY200 billion, accounting for 12.2% of their total loan balance, 2% higher than the national average. The balance of green bonds was nearly CNY120 billion, an increase of 83% year-on-year. The total number of green projects included in the pilot zone green project catalogue is more than 2,200, with the cumulative investment exceeding CNY1.87 trillion.[3]

Neutral tones

Climate change has become the most critical environmental and developmental challenge facing mankind in the 21st century. Addressing climate change is vital to achieving global sustainable development for years to come. Moreover, it directly affects the modernisation of developing countries. The total amount of global climate investment and financing has increased since the adoption of the Paris Agreement on climate change. In 2017, the total amount reached US$612 billion.[4] However, policy changes in east Asia and the Pacific region, global economic slowdown and the declining costs of renewable energy have led to global climate finance plummeting to $546 billion in 2018. Innovative changes are urgently needed. In response, a number of key economies, development finance institutions and the private sector have made climate commitments and are phasing out or are about to divest from fossil fuels. In 2019, the European Union proposed the Green New Deal, a plan to invest €1 trillion over the next 10 years in sustainable development, in particular to address climate change.

Wu Xiaoqing

In September 2020, at the general debate of the 75th session of the UN General Assembly, President Xi Jinping announced: "China will scale up its intended nationally determined contributions (NDCs) by adopting more vigorous policies and measures. We aim to have carbon dioxide emissions peak before 2030 and achieve carbon neutrality before 2060." President Xi's pledge indicates China's stronger action to regulate fossil energy consumption, strictly control coal consumption and control the scale of coal-fired power plants. Meanwhile, China will step up its efforts to promote the development of non-fossil energy, including developing renewable energy and industries where renewable energy can be extensively applied.

A study by the Institute of Climate Change and Sustainable Development (ICCSD) at Tsinghua University has explored China's potential pathway to achieving carbon neutrality by mid-century.[5] If China adopts the study's recommended pathway in its climate strategy, it needs to formulate more ambitious energy-saving and emissions reduction targets in the 14th Five Year Plan (2021–25) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035 and its 2030 NDC, and promote rapid deep decarbonisation after 2030.

In November 2020, the Central Committee of the Communist Party of China released its proposals for formulating the 14th Five Year Plan (2021–25). The proposals include reducing carbon emission intensity, supporting regions to take the lead in peaking carbon emissions and formulating action plans for peaking carbon emissions by 2030.

Guiding lights

To help achieve the commitment made by President Xi, relevant ministries jointly issued *Guiding opinions on promoting investment and financing to address climate change* in October 2020, proposing 15 steps in five areas.[6] Major measures include:

- To accelerate the development of a climate investment and financing policy system
- To improve the climate investment and financing standard system, including climate information disclosure standards and climate performance evaluation standards
- To encourage and leverage private and foreign capital to engage in climate investment and financing
- To guide and support local practices in climate investment and financing
- To develop local pilots for climate investment and financing
- To create an enabling local policy environment and encourage local innovation in models and instruments.

These measures will facilitate the implementation of climate investment and financing policies at local level.

In regard to leveraging finances, the *Guiding opinions* emphasise stimulating the motivation and vitality of private capital and promoting co-operation between the public and private sectors through such means as public–private partnership. It also encourages "enterprises and institutions to fully consider the impact of the future carbon price on their investment activities", which will promote enterprises to manage transitional risk related to climate change, such as using a higher internal carbon price in the feasibility study of project investment. As the national carbon market becomes operational, the *Guiding opinions* intend to support the development of the carbon market, explore derivatives products and businesses such as carbon futures, and establish funds related to the carbon market.

Fully recognising the global challenge of climate change, the *Guiding opinions* also encourage international financial institutions and foreign investors to engage in climate finance in China, establish yuan-denominated overseas green investment funds, and hold green financial assets in renminbi. It is expected that climate investment and financing activities will actively support and promote the internationalisation of the renminbi by leveraging efforts to address climate change as an important step in building a shared future for mankind. The *Guiding opinions* also promote Chinese enterprises to conduct climate-friendly overseas investment as well as identify and mitigate climate risks, with special emphasis on South–South and Belt and Road Initiative co-operation, showcasing the responsibility of Chinese investors.

1. *UN (2015),* 2030 Sustainable Development Goals, *https://bit.ly/3ivPQoQ*
2. *Reuters,* US News & World Report *(December 2020), China to improve green finance standards to support carbon neutrality goal – C. bank head, https://bit.ly/3r6EMBF*
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4. *Barbara Buchner, Alex Clark, Angela Falconer, Rob Macquarie, Chavi Meattle, Rowena Tolentino and Cooper Wetherbee,* Climate Policy Initiative *(November 2019), Global landscape of climate finance 2019, https://bit.ly/3puR1re*
5. *Zheng Li, Shuo Sun, Wenjuan Dong and Danwei Zhang, ICCSD (2020),* Methane emissions measurement and reduction in the energy sector, *https://bit.ly/3opIVil*
6. *Ministry of Ecology and Environment of the People's Republic of China (October 2020),* Guiding opinions on promoting investment and financing to address climate change, *https://bit.ly/2YmREHs*

Never let a good crisis go to waste

This is a once-in-a-generation chance to reset our course, says *Victoria Kwakwa*, vice-president, east Asia and the Pacific, at the World Bank. She posits the inclusion of green development and action against climate change in post-Covid-19 economic recovery plans

The Covid-19 pandemic has interrupted billions of lives and threatened years of development gains, with the poor and vulnerable being most affected. It has also served as a reminder to strengthen the resilience of economies and societies. The pandemic has not stopped greenhouse gas concentration in the atmosphere remaining at record levels and continuing to increase – the world is set for its warmest five years on record. The threat of climate change is forcing people to evacuate their homes and grapple with food insecurity, as well as the impacts of deforestation and biodiversity loss, health and economic impacts. Without urgent action, climate change could push an additional 100 million people into poverty by 2030.[1] As Winston Churchill said of the formation at the UN after World War II: "Never let a good crisis go to waste" – this crisis calls for a similarly urgent and exceptional response.

Nations now have a once-in-a-generation chance to set themselves on a green, inclusive and resilient development path. Making the right investments now can gain long-term rewards. Seizing this opportunity is at the heart of the World Bank Group's (WBG's) approach to supporting countries as they deal with the unprecedented impact of this crisis. In the short term we are responding to the health threat and providing immediate economic relief. We are also taking advantage of new opportunities to support countries and build a more sustainable, inclusive and resilient future in a world transformed by the pandemic. Supporting a green recovery includes building a climate-proof green infrastructure, investing in healthy ecosystems to reduce exotic diseases, supporting reforms to fuel subsidies, carbon pricing to rebuild fiscal space, and accelerating the transition to a digital economy.

The World Bank Group building in Washington, DC

Victoria Kwakwa

Green recovery financing

The WBG is also developing a methodological framework called Rise (resilient, inclusive, sustainable and efficient) as a potential organising framework for promoting a green and resilient recovery. Rise will allow countries to identify opportunities to improving the quality of nations' Covid-19 recovery packages using a range of global datasets. The WBG looks forward to sharing this exciting framework and tools with its clients, countries and partners.

For example, in Malawi, the WBG is financing a watershed services improvement project to support the government's efforts to restore landscapes and improve water security and agricultural productivity. The project is expected to restore 95,000 hectares of degraded landscapes. In addition to investment lending, the WBG is also using development policy to support policy reforms. In Tunisia, the WBG is working to help integrate climate responsibility into reforms of social safety nets, collecting and harmonising climate vulnerability information, promoting resilience and adaptation to climate change, and facilitating renewable energy generation.

Today, the WBG is adapting its partnership to focus increasingly on global 'public goods' and the greening of China's economy

Scaling up financing for a green recovery cannot rely on public financing alone. In addition to direct financing, the WBG is also mobilising private investment and helping to open new low-carbon markets. In Bangladesh, a private investment and digital entrepreneurship project is promoting job creation, private investment and environmental sustainability in economic zones and technology paths. It will work with the Bangladesh Economic Zones Authority to demonstrate how non-traditional climate sectors can support long-term climate needs and complement national climate action.

In China, the WBG is preparing a project to set up a strategic green investment fund to mobilise private capital from both domestic and foreign investors for a green recovery. It will direct investment flows to sectors such as renewable energy, e-mobility solutions and improved waste management. Covid-19 in China has been largely brought under control, and attention is now turning to medium-term development priorities under the 14th Five Year Plan (2021–25) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035. This is an excellent opportunity to consider the benefits of a green recovery. China is already taking steps to address the adverse and environmental effects of its past rapid growth, and President Xi Jinping's announcement to achieve carbon neutrality by 2060 has been welcomed.

The relationship between the WBG and China started 40 years ago, and the WBG is proud to have supported China's achievements. Today, the WBG is adapting its partnership to focus increasingly on global 'public goods' and the greening of China's economy. This includes reducing marine plastic pollution, strengthening food systems' performance to improve food security and safety, protecting natural habitats and ecosystems, and supporting measures to promote decarbonisation and a low-carbon economy.

The pandemic has exposed the vulnerability and inequality of our societies. The world now has an important opportunity to establish policies to support a recovery that is not only economically strong, but more sustainable and resilient. China could lead by example in expanding green and resilient development during the post-pandemic recovery phase. The WBG stands ready to build on our 40 years of partnership to contribute to such leadership.

1. *WBG (2016),* Shock waves – Managing the impacts of climate change on poverty, *https://bit.ly/3cgVlqm*

Emergency 2030

There has never been a more crucial time to act. *Marco Lambertini*, director-general at the World Wide Fund for Nature, asks how financiers can innovatively incorporate green finance instruments into biodiversity conservation and turn back the tide of climate change and nature loss

China has been a leader in discussions on the green bond market for a long time. Recently, the World Wide Fund for Nature (WWF) noted efforts to strengthen the approach to the variety of green investment and insurance instruments being piloted in the Chinese market. At the UN General Assembly in September 2020, President Xi Jinping announced China's commitment to peak its emissions before 2030, and to reach carbon neutrality by 2060. This game-changing announcement helps put pressure on other big emitting countries to take bold action too. And, most importantly, it has raised the question of how financial institutions can contribute to this goal.

Marco Lambertini

Today's science has never been clearer. In addition to the climate crisis, the world is losing nature and biodiversity at a shocking and dangerous rate. A report published in 2019 by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) – an intergovernmental organisation established by the UN General Assembly – entitled *The global assessment report on biodiversity and ecosystem services – Summary for policy-makers*, said that one million species already face extinction.[1] In 2020, the WWF's *Living planet report* revealed a 68% decline in global wildlife populations since 1970.[2] The earth has lost half of its forests, half of its coral reefs, 85% of its wetlands and 90% of its fish stocks. It is no surprise the *Global biodiversity outlook – Summary for policy-makers* by the Convention on Biological Diversity (CBD) confirmed that none of the global biodiversity targets would be fully met by 2020.[3]

However, there are still opportunities to halt and reverse the loss of nature if urgent and unprecedented action is taken today. Climate change and nature loss are deeply interconnected. Today, climate change drives nature loss, and the loss of nature exacerbates climate change. This negative cycle should be reversed; by protecting and restoring natural habitats – such as forests, wetlands, mangrove swamps and marine habitats – it is possible to mitigate the effects of climate change by around 30%.

Addressing climate change and nature loss is not just an environmental issue, but a social, economic, development and equity issue. To stem the climate emergency, we must make the transition to 100% renewable energy and completely phase coal out of the global energy system by 2050. To reverse nature loss, we urgently need to protect more natural spaces: at least 30% on land and in the ocean will curb the unsustainable exploitation of species and transition key economic sectors responsible for this loss. Financial institutions play a key role in addressing these challenges.

Businesses and financial institutions are starting to address climate risks directly. At the 2019 UN Climate Action Summit in New York, hosted by UN secretary-general António Guterres, major investors formed the Net-Zero Asset Owner Alliance, a group that now includes 30 institutional investors with more than US$5 trillion in assets under management. These institutions are committed to transitioning their portfolios to net zero emissions by 2050.

Regulators are also paying attention. Less than three years ago, a group of eight central banks and financial supervisors, including the People's Bank of China, created the Network for Greening the Financial System: a 'coalition of the willing' that acknowledged climate risks could pose a threat to financial stability. That group has already grown to 87 members and 13 observers from five continents, representing more than two-thirds of global GDP.[4]

Financial institutions can now set targets that reflect this net zero ambition through the Science Based Targets Initiative (SBTi) for climate, of which the WWF is proud to be a founding member. To date, nearly 60 financial institutions have publicly committed to set emissions reduction targets through the SBTi in line with the Paris Agreement on climate change. The WWF looks forward to Chinese banks joining that initiative, and WWF China is already working together with the China Banking Association and other partners to provide support to Chinese banks to set science emissions reduction targets.

The special policy study on green finance by the China Council for International Cooperation on Environment and Development highlights the need, and opportunity, to make financial flows consistent with halting ecosystem degradation and restoring nature. It will also help achieve the CBD's post-2020 global biodiversity framework, which will be hosted in China this year. One of the ways to do that is to help the financial sector understand the materiality and financial impact

Restoring the world's degraded forests could reap significant economic,as well as environmental, benefits

of nature-related risks. The WWF is working with partners on the establishment of the Taskforce on Nature-related Financial Disclosures, which will deliver a common framework by the end of 2022.

Some tools to manage nature-related risk already exist, such as the Water Risk Filter – an online tool developed by the German Development Finance Institution and the WWF to help leading global corporations prioritise water risks, and link risk assessment results to customised water stewardship recommendations and actions.

The importance of investing in nature

The recent *New nature economy* report by the World Economic Forum (WEF) showed investment in nature-based solutions that harness ecosystems to address key societal challenges could create up to $10 trillion in annual business value by 2030 and create 395 million new jobs.[5] A report by the WWF and the International Labour Organization (ILO) showed that around 1.2 billion jobs in sectors such as farming, fisheries, forestry and tourism depend on the effective management and sustainability of healthy ecosystems.[6]

Therefore, almost half the global workforce could be at risk from climate change and nature loss. This means advancing a net-positive restoration agenda so that, by the end of this decade, we will have more nature, not less. Such a goal is very ambitious, but necessary to safeguard the health of ourselves and the planet. It calls for the world to take action now to reverse biodiversity loss and ensure that nature is in a better state in 2030 than it is now, through improvements in the health, abundance and resilience of species, populations and ecosystems – so that humans may live in harmony with nature.

In many ways this is analogous to China's 'ecological civilisation' principles. Ecological civilization is a comprehensive concept with specific objectives on climate, nature and, more importantly, the way people live in harmony with nature. Relatively, China's 'nature-positive' concept is concrete and time-bound, which, with carbon-neutrality goals and actions, are integrated into China's ecological civilisation concept. By embracing nature-positive, China and the world could help translate the ecological civilisation into action, clearly placing nature high on the global environmental policy agenda.

According to the WEF, investing in restoring ecosystems can have significant impacts: restoring 46% of the world's degraded forests could generate between $7 and $30 in economic benefits for every dollar invested – a great return on investment for investors and the environment. The new Dutch Fund for Climate and Development enables private investment in climate adaptation and mitigation to increase the resilience of communities and ecosystems most vulnerable to climate change. The fund is a pioneering consortium, led by the Dutch Entrepreneurial Development Bank, the Netherlands Development Organisation, the WWF, climate fund managers and other partners. Its €160 million fund is expected to catalyse more than €500 million for nature and climate solutions to boost the health of freshwater, forest, agricultural and ocean ecosystems, and improve water management.

Today, many investors, policy-makers, financial regulators and central banks are trying to reduce the impact of global warming combined with less biodiversity. The WWF urges financial institutions to align their portfolios with science-based targets for climate and for nature. It is key for the economy to embrace the vision of a carbon-neutral and nature-positive future; in practical terms, that means net zero emissions by 2050 and a halt to and reversal of nature loss by 2030. These are two of the goals of the UN's 2030 Agenda for Sustainable Development that the world needs to embrace for an equitable, safe and sustainable future.[7] There has never been a more crucial time to act.

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5. *WEF (2020),* New nature economy report II – The future of nature and business, *https://bit.ly/3szTnXG*
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7. *UN (2015),* 2030 Sustainable Development Goals, *https://bit.ly/3ivPQoQ*

Striving for a green bank

Zhang Wencai, vice-president of the Agricultural Development Bank of China, explores the role of policy banks in leading the implementation innovation of green finance

Last year, when commemorating 40 years of successful reform and innovation of the Shenzhen Special Economic Zone since its establishment, President Xi Jinping noted that "lucid waters and lush mountains are invaluable assets". This concept remains critical to achieving comprehensive and co-ordinated economic, social and ecological sustainable development.

Guangdong Province is the first national-level green finance reform and innovation pilot zone in China. In October 2019, the Agricultural Development Bank of China (ADBC) successfully issued the world's first Guangdong–Hong Kong–Macao Greater Bay Area green financial bonds in Shenzhen.

The Fifth Plenary Session of the 19th Central Committee of the Communist Party of China (CCCPC), held in October 2020, laid out the blueprint for China's development over the next five and 15 years. From this, a new development pattern has been created, with a focus on domestic cycles and a promotion of double cycles (both domestically and internationally – the 'dual circulation' policy) adhering to green development. Green development is undoubtedly important for the formation of a new development pattern – green finance drives green policy. China's green financial market has developed quickly and is driven by the national goal to develop China into a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious and beautiful. It is pushed on by China's policy of keeping abreast of the times, by the people's pursuits of an environmentally friendly and healthy lifestyle, and by the need for green finance to drive the development of a green economy.

During the general debate at the 75th UN General Assembly in September 2020, President Xi pointed out that Covid-19 has reminded us that humankind can no longer afford to ignore the repeated warnings of nature and go down the beaten path of extracting resources without investing in conservation, pursuing development while protecting the environment, and restoring used resources. He said humankind should launch a green revolution and move faster to create a green way of development and life, preserve the environment and make the planet a better place for all.

While confronting current difficulties and challenges, countries are investing heavily in economic growth and promoting green growth and a green recovery. Financial institutions also foster green financial development, and have strengthened green finance co-operation through economic recovery. For example, attendees of the Finance in Common Summit for public development banks in November 2020 discussed how to play a greater role in addressing climate change and ecological protection. As the only agricultural policy bank in China and the largest in the world, ADBC has always been committed to promoting green agricultural development and green finance.

Zhang Wencai

Adding green value

Agricultural and rural ecosystems are an area of focus for ADBC. Supporting the development of agriculture, rural areas and farmers has not only significant economic and social benefits, but also a wide range of ecological benefits. For many years, ADBC has insisted on leading the line in green development within the financial services space. Green financial services have already begun to promote comprehensive realisation of the ecological, social and economic value of green products.

Work is under way to improve the green governance system. The head office of ADBC has established a green credit committee. Each qualified branch has established a green finance business unit, formulated green credit and green bond management measures, established an internationally authoritative certified green and sustainable bond framework, and clarified green financial product standards. Work has also been undertaken to improve green project identification and develop a green credit system that will be used to strengthen climate and environmental risk management. Meanwhile, efforts have also been made to incentivise businesses to be more sustainable and to release social responsibility reports to ensure we, as a business, are held accountable.

In addition, ADBC is actively promoting the greening of assets. It promotes ecological environmental protection in the Yangtze River Basin and the Yellow River Basin Development. It also supports the Three-River-Source National Park and other construction projects of national reserve forests.

By the end of September 2020, the ADBC's green loans were valued at CNY810.9 billion, accounting for 19.3% of the bank's medium- and long-term loans – higher than the average level of

ADBC issues green-themed bonds to global investors, backing the protection of the Yangtze River

the banking industry in China. The investments focused on the ecological environment, green infrastructure upgrades, energy conservation and environmental protection. In addition, ADBC is actively developing green investment by focusing on the development of urban and rural areas.

Efforts are also under way to promote green financing initiatives. Relying on the country's credit advantages, ADBC promotes green development in the bond market. We have issued various green bond products, covering domestic and overseas, in multiple locations, types and themes. ADBC has also established a model for guiding global investment in domestic green agriculture. The issuance of green labelled bonds has created a number of firsts, including the first public bidding issue of the largest single green financial bond in the market. In addition, ADBC continues to issue innovative green-themed bonds to global investors, backing the protection of the Yangtze River and the ecological protection of the Yellow River Basin. It also regularly issues seven-year ecological and environmentally friendly financial bonds at the Shanghai Clearing House; cumulative issuance has reached CNY88.2 billion. The ADBC also actively organises visits and investor seminars for green bond projects, has built an information communication platform and improved the transparency of green bond investment.

ADBC is also working to promote multilevel co-operation in green finance. ADBC has been recognised by domestic and foreign financial markets for having set the bar for best practice and creating many opportunities for co-operation. ADBC is one of the first signatories of the Belt and Road Initiative green investment principles, and joined the green financial product innovation group, in addition to signing a strategic co-operation agreement with the Climate Bonds Initiative. As a result, the institution has been invited to participate in the construction of China's green bond evaluation and certification mechanism, and join forces with the Centre for International Climate and Environmental Research, the International Institute for Sustainable Development, Hong Kong Quality Assurance Agency and the China Energy Conservation Investment Corporation.

The Fifth Plenary Session of the 19th CCCPC outlined a blueprint for green development in the 14th Five Year Plan (2021–25) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035. This calls for much greater requirements in terms of green finance. ADBC is also stepping up to support agricultural green development. To further implement the commitment made by President Xi at the UN in September 2020 to hit the peak of carbon dioxide emissions by 2030 and to achieve carbon neutrality by 2060, ADBC will firmly establish a concept of green development and fulfil the responsibility of policy-based finance.

ADBC's priorities

We will increase the amount of resources dedicated to green development. ADBC is eager to uphold the concept of green and sustainable development, fulfil all its social responsibilities, enhance the consciousness and initiative to promote green development, continue to innovate green financial products, and attract and mobilise more funds to invest in relevant projects.

Fostering high-quality development of green finance is also vital. ADBC is willing to work with all parties, sectors and stakeholders in the construction of a green financial market to promote green policies and build an environment in which financial services are incentivised to become more sustainable. With this in mind, we should focus on strengthening information disclosure practices and ensure the industry is aware of the climate and environmental risks. To do this, it is important to establish a set of interoperable and integrated green financial standards. ADBC hopes to co-operate with various financial institutions in the application of China's agricultural green development standards.

Another important task is strengthening domestic and international co-operation in green finance. China's green finance market has huge potential to support green development, strengthen green finance practices at home and abroad, share experiences and conduct research and training. ADBC will strengthen its relationship with international financial organisations, foreign government lending institutions, domestic policy financial institutions, development financial institutions and commercial financial institutions to increase green investment in agriculture. This will help promote a green recovery and sustainable development.

Agriculture is an ancient but promising industry, which is closely related to people's wellbeing and connects every corner of the world more than ever. Promoting the green development of agriculture to achieve sustainable and high-quality development is crucial. ADBC is willing to strengthen international exchanges and co-operation with all relevant parties, learning from each other, achieving complementary advantages, and jointly responding to climate change and promoting the realisation of the UN's Sustainable Development Goals.[1] We will work together to promote the harmonious co-existence of humans and nature and build a community with a shared future for mankind.

1. *UN (2015),* 2030 Sustainable Development Goals, *https://bit.ly/3ivPQoQ*

Into the green

Ingrid-Gabriela Hoven, managing director of Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, discusses the role of public finance in green finance implementation and her experiences working with Germany's first green bond

Ingrid-Gabriela Hoven

GIZ sees great potential in green finance co-operation between Germany and China, and the EU and China

In September 2020, at the UN General Assembly, President Xi Jinping pledged that China would peak its carbon emissions by 2030 and reach carbon neutrality by 2060. China also showcased its determination to promote green and low-carbon development in recently published proposals for its 14th Five Year Plan (2021–25) for National Economic and Social Development and Long-Range Objectives Through the Year 2035.

Green finance, which can play an essential role, has already made much progress in this area. China has developed national taxonomies for green financial assets and introduced regulatory and incentive policies, such as environmental disclosure requirements, and inclusion of green assets as eligible collaterals. A wide range of green products has emerged, from green loans and green bonds to green insurance and green funds. Of course, more must be done to further strengthen the green finance system in China, especially through international exchange and co-operation.

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) is a development agency and the premier institution engaged by the German government to foster sustainable development worldwide. GIZ recently advised the German Federal Ministry of Finance by analysing the prerequisites for the issuance of green or sustainable German federal securities. The scope of this assignment included the assessment of relevant economic factors and overarching framework conditions, as well as relevant national, regional and international policies, principles and best practices.

An important building block in Germany's sustainable finance strategy involved issuing green federal securities. The €6.5 billion German sovereign green bond was launched on September 3, 2020. It was five times oversubscribed, with an order book exceeding €33 billion. The green bond, with a maturity of 10 years and coupon of 0%, was priced 1 basis point below the 'conventional' 10-year German federal government bond, with a yield equating to -0.46%.

This landmark transaction in sovereign green bond markets is significant for two reasons. First, the format. The German concept of 'green twin bonds' allows green bond investors to swap their holdings with a conventional German government bond with the same maturity and coupon whenever they want. This twin bond mechanism is an important market innovation: it increases the marketability and transparency of green bonds, ensures that the issuance of green bonds does not negatively affect the overall liquidity of the government bond market, and provides an interest rate benchmark for the euro green finance market. Germany plans to build a full yield curve and, to this end, a five-year maturity transaction was launched in 2020. This gives investors more options to 'greenify' their fixed income portfolio at several different points along the yield curve.

The second reason is eligible expenditures. Climate change is a global challenge, requiring strong collaborative efforts and technological innovation. The German government decided to include expenditures related to international co-operation earmarked for combating climate change, as well as in research and development. Both categories are, in the view of GIZ, within the mandate of governments. We conclude there are several benefits for a government entering the sovereign green bond market: it demonstrates the government's support for sustainable development as well as its determination to combat climate change; it sets a benchmark for green bond products in the market; it provides a good example for other potential green issuers; and it increases the awareness of the general public regarding green finance.

The financial market never lacks innovation, but not all innovations are equal. Green finance itself represents an innovative investment philosophy: to put the power of capital at the service of the people and the planet. GIZ sees great potential in green finance co-operation between Germany and China, and the European Union and China. On behalf of the German government, GIZ works with the Chinese government to foster green and sustainable finance in China-Germany relations. Through the European Council presidency, Germany is also fostering green finance in EU–China relations. On behalf of the European Commission, GIZ supports the EU's Platform on Sustainable Finance, a key driver to implement and co-ordinate the international outreach of the European Commission's Sustainable Finance Action Plan.[1] China is a founding member of this platform and one of its most important partners.

GIZ also works with other emerging markets to enhance sustainable finance actions. In Brazil, it works with the ministry of finance to improve regulations to scale up green financial markets, for example, by introducing environmental and social standards in the banking sector. It also works with the government of Vietnam to implement its national green finance strategy, which promotes green banking and capital markets. In addition, GIZ launched a pilot to support a green recovery for the Association of Southeast Asian Nations (ASEAN), by translating the instruments of the EU Sustainable Finance Plan to the local context of ASEAN countries.

1. *European Commission (2021),* Platform on sustainable finance, *https://bit.ly/2XRcdLL*

New bridges for green finance

Zhu Qingfeng, chief finance officer of China Energy Conservation and Environmental Protection Group, examines the practices of green finance and sustainable development in the huge state-owned enterprise

The Huzhou Laohutan Reservoir and water diversion project is a key water conservation project in Zhejiang Province, with a storage capacity of 99.66 million cubic metres, irrigation service area of 329 hectares, flood control area of 23,333 hectares and water supply for 670,000 people

The Fifth Plenary Session of the 19th Central Committee of the Communist Party of China (CPC) in October 2020 proposed a number of initiatives aimed at sustainable development, including a green transformation of the economic environment and the promotion of low-carbon development.

Finance is an important support mechanism for economic development and growth. Building the green financial system and increasing the supply of green finance are not only key measures to implement the proposals of the 19th National Congress of the CPC, but also an unavoidable requirement for achieving high-quality economic and social development.

China Energy Conservation and Environmental Protection Group (CECEP) is the only industrial group among China's state-owned key enterprises that focuses on energy conservation and environmental protection. CECEP's total assets are close to CNY200 billion, and its annual contribution to operating income has reached about CNY50 billion. The enterprise has completed more than 300 energy-saving and environmental protection projects nationwide, with a renewable energy installed capacity of 1.28 billion gigawatts.


Zhu Qingfeng

Promoting green finance and sustainable development requires funds, talent, technology and other resources

CECEP has also used green asset securitisation tools to issue more than CNY110 billion of bonds in its green industry sectors – such as clean energy, energy-saving services, solid waste treatment – and new materials. It also aims to build the first brand of domestic green industry funds.

In July 2020, CECEP established the National Green Development Fund in co-operation with local governments, financial institutions and other state-owned key enterprises to guide social capital, implement pollution control and ecological restoration projects, and provide systemic industrial support for solving ecological and environmental problems to achieve green, sustainable and high-quality economic development.

Three lessons

CECEP has accumulated much experience in the field of green finance. There are three highlights.

First, improving the system and actively building new bridges for green finance and services for green industries. In practice, CECEP adheres to the integration of industry and finance, and the integrated green development service system centred on the green financial policy research system, green financial product system, green technology research, development and project construction operation and maintenance system, and established green financial services. The consulting firms of CECEP have carried out extensive research on green financial systems and created China's first definition and classification of green bonds.

Second, actively seeking new ways for green finance to support green industries through innovation. CECEP creatively uses funds from international financial organisations to change the traditional decentralised and single project model. It has effectively mobilised social capital to participate in the fight against air pollution in the Jingjinji Metropolitan Region of Beijing–Tianjin–Hebei.

The CECEP Asian Development Bank Fund has promoted the implementation of industrial waste heat, coal retirement, energy conservation and environmental protection projects in production areas and other projects. The total investment amount is about CNY1.2 billion and it is expected to reduce coal consumption by nearly 370,000 tonnes per year. On one hand, it helps local residents to achieve clean heating; on the other hand, it promotes enterprises to strengthen energy-saving and environmental protection measures.

Third, extensively co-operating to actively promote the development of green finance and green industries at home and abroad. At present, CECEP has co-operated with more than 30 provinces and cities to formulate the Green Finance Development Plan, through the establishment of green industry funds, green project identification and evaluation and promoting local green financial development.

CECEP is the main force in major national strategic deployments, such as the protection of the Yangtze River, the construction of the Xiong'an New Area, and the environmental governance of the Jingjinji Metropolitan Region. Now CECEP is actively participating in the governance of the Yellow River Basin, where it is certain to become an important force in promoting ecological protection and high-quality development.

Promoting green finance and sustainable development requires funds, talent, technology and other resources. It also requires the joint participation and efforts of governments, financial institutions and enterprises, and improvements in policy mechanisms, standards systems and international co-operation. Green development and green finance should go hand in hand. CECEP is willing to work with everyone to promote green finance to a new level, and make new contributions to promoting global sustainable development and building a community with a shared future for mankind.

IFF 2020 Global Green Finance Innovation Award

GLOBAL GREEN FINANCE INNOVATION AWARD

The 2020 Global Green Finance Innovation Awards were initiated by the International Finance Forum (IFF) and reward innovative green finance solutions worldwide. Leveraging the IFF's global network, these awards aim to encourage international co-operation and exchanges of successful practices in this area to support sustainable development and achieve the UN's Sustainable Development Goals. The awards have attracted attention and advanced the discussion on green finance worldwide following the official opening to applications on October 9, 2020.

The awards' secretariat received numerous enquiries and applications from domestic and foreign institutions. The jury comprised 15 prominent politicians, financial and environmental experts with global influence and authority, and were invited by the IFF. Scientific and rigorous evaluation procedures and criteria were decided based on good international practices.

Upholding the principles of openness, fairness and impartiality, the awards jury carried out a serious, orderly and conscientious review, verification and comprehensive evaluation of the 19 nominees and their projects, based on innovation, replicability, contribution to green finance development, profitability and contribution to public welfare.

IFF 2020 Global Green Finance Innovation Award	
Jury chairman	
Han Seung-soo	IFF co-chairman; President of the 56th session of the UN General Assembly; and Former prime minister of the Republic of Korea
Jury co-chairs	
Jenny Shipley	IFF board member; Silk Road International Association (SRIA) co-chairman; and Former prime minister of New Zealand
Herman van Rompuy	IFF co-chairman; President emeritus of the European Council; and Former prime minister of Belgium
Jury members	
Chen Wenhui	IFF vice-chairman; Vice-chairman, National Council for Social Security Fund; and Former vice-chairman, China Insurance Regulatory Commission
Deborah Lehr	IFF board member; and Vice-chairman and executive director, Paulson Institute
Antony Leung	IFF vice-chairman; and Former financial secretary, Hong Kong Special Administrative Region
Bindu Lohani	Chief adviser, IFF Global Green Growth Center; and Former vice-president, Asian Development Bank (ADB)
Frank Rijsberman	IFF board member and director-general, Global Green Growth Institute
Domenico Siniscalco	IFF vice-chairman; Former minister of economy and finance of Italy; and Vice-chairman, Morgan Stanley International
Wu Xiaoqing	Member, Chinese People's Political Consultative Conference (CPPCC) National Committee; Deputy director, Agricultural Working Group, National CPPCC Committee; and Former vice-president, Ministry of Environmental Protection
Zhang Hongjun	IFF board member; Board chair, Energy Foundation; and Partner, Holland & Knight
Zhang Shenfeng	Vice-chairman, China Council for the Promotion of International Trade; and Former assistant chairman, China Securities Regulatory Commission
Zhao Xiaoyu	IFF board member; Vice-general board and secretary general, SRIA; Former vice-president, ADB; and Former vice-president, Export-Import Bank of China
Zhou Hanmin	IFF vice-chairman; and Vice-chairman of CPPCC Shanghai Committee
Zhu Xian	IFF vice-chairman; Vice-president, New Development Bank; and Former vice-president and chief ethics officer, World Bank Group

THE WINNERS
in no particular order

2020 Global Green Finance Innovation Awards

Building environmental and social risk management systems by encouraging projects with significant synergy of pollution prevention and climate change response
China National Investment and Guaranty Corporation

Building the green finance pilot zones in Gui'an New Area and design of the green finance system in Guizhou Province
Green Finance Port Administrative Committee of Gui'an New Area

Building the green finance system and promoting green finance legislation in Shenzhen
China Emissions Exchange (Shenzhen)

Environment, social and governance index – A guiding tool for green investment
International Institute of Green Finance, Central University of Finance and Economics

Green asset securitisation featuring green underlying assets and green raised funds
Guodian Power Development Company

Green finance-oriented consulting services for sustainability bond and ESG strategy
Ernst & Young Hua Ming

Innovative contracting and financing model for electric bus procurement in Santiago, Chile
World Resources Institute

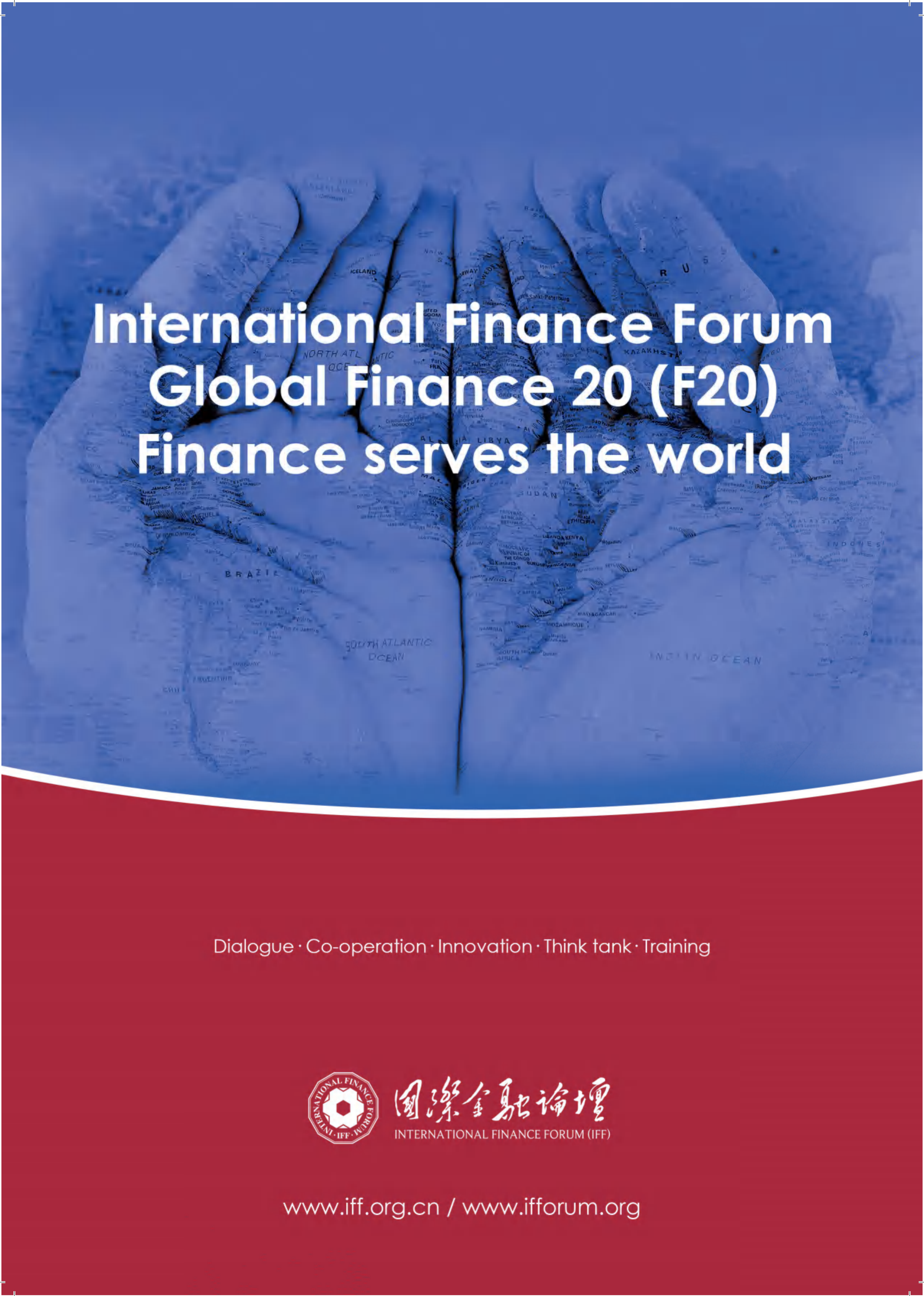
Innovative financing for air pollution control in the Jingjinji Metropolitan Region of Beijing–Tianjin–Hebei guided by the quantifiable indicator framework of environmental benefits
Hua Xia Bank

Policy innovation in China's environmental pollution liability insurance and its practice in Guizhou Province
Policy Research Center for Environment and Economy, Ministry of Ecology and Environment of China

Treelion green finance-oriented digital trading platform
Greater Bay Area Treelion Blockchain Research Institute

2020 Green Finance Special Contribution Award

Guangzhou Green Finance Reform and Innovation Pilot Zone
Guangzhou Municipal Local Financial Supervision and Administration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GLOBAL CAPITAL MARKETS

Silver linings

The Covid-19 pandemic and crisis can be used as an opportunity for greener, more sustainable economic development, says *Zhu Xian*, IFF vice-chairman and vice-president of the New Development Bank

Governments and enterprises are both attempting to cope with huge uncertainty during the Covid-19 pandemic. Simultaneously, they are looking for new ways to prevent the collapse of capital markets and promote an orderly recovery. Despite their efforts, in the coming years the global economy is likely to suffer low growth, low interest rates and high debt levels. Pandemic prevention and control measures mean countries are obliged to maintain their social and economic operations through large fiscal deficits. The decline in economic activity leads to less fiscal revenue, while spending and deficits increase rapidly to sustain employment and social stability.

The International Monetary Fund (IMF) forecast that global public debt would hit a record high in 2020, accounting for almost 100% of global GDP.[1] Multilateral institutions – the IMF in particular – suggest major economies should not immediately adopt restrictive policies to prevent rising debt levels, contrary to their actions during the global financial crisis that began in 2007–08. In many developed countries, zero – or even negative – interest rates have significantly lowered government costs of financing, and the rebound of economic growth will further help to squeeze the debt ratio. The IMF expects the debt ratio to decrease continuously after 2025.


Zhu Xian

In Chinese, the word 'crisis' combines two characters meaning danger and opportunity – the same as the current situation. The capital markets will definitely spring to life once the pandemic is under control

In an environment of rising debt and relatively accommodative monetary policy, major economies have signalled they will maintain low interest rates for their survival. Most treasury bonds are also currently transacted in the global market with zero or negative interest rates. Low rates help decrease the interest rate of public debts, reducing spending. They also lower the cost of servicing the deficits.

Shock tactics

Uncertainties and risks continue to hover around the recovery of the global economy. For major economies, accommodative monetary policies are likely to remain for a long time. The same applies to the low interest rate environment, largely as a result of long-term structural factors such as a widening income gap, ageing populations and industrial structure.

For enterprises, a drop in profits and steep increases in urgent needs push them to seek large amounts of funding to sustain their business. Accommodative monetary policies implemented by central banks, such as the US Federal Reserve Board, have, to some extent, also been fuelling the rising leverage rate of enterprises in the non-financial sector. This is reflected in the following areas:

1. Enterprises are being encouraged to prioritise liquidity issues over mergers and acquisitions, repurchases and other payments.

2. The issuance of investment-grade and non-investment-grade bonds is growing.

3. Industries significantly affected by the pandemic – including energy, durable consumer goods, accommodation, and food and beverages – have received substantial financing.

4. Small and medium-sized enterprises (SMEs) received financial support as well. Monetary and fiscal policies were aimed at countering the shocks to the global economy caused by the pandemic, but access to funding has varied, as larger businesses find it easier to find financing in the open market than SMEs.

Yet there are opportunities. The economic recovery will present new opportunities for emerging economies and developing countries to transform to more green and sustainable development. The process of dealing with the pandemic itself has laid a sound foundation for the transition. Low interest rates have, to some extent, relieved the pressure on governments and enterprises to pay the interest.

As shown at the Group of 20 finance ministers and central bank governors meeting, the international community – including major lenders – are actively exploring the debt relief plans of low-income developing countries.[2] With careful planning, governments can achieve success in fighting the pandemic and securing people's livelihoods, at the same time investing in sustainable development projects. In this way, the current crisis can be considered an opportunity for a green and sustainable recovery.

Mankind has entered a new era of interconnectivity where global interests and welfare are intertwined. Transportation, telecommunications and new infrastructure have attracted increasing investments. During local lockdowns, remote online working and learning have enhanced and secured people's daily lives, and public sectors are able to provide critical services via digital measures, creating the precedent for a new normal after the pandemic.

Green development is another area of global consensus, as more attention is focused on climate change. The green economy, growing from related new investments, bonds and equities, will contribute to the improvement of the environment, economic growth and employment in the coming years.

In conclusion, what we are facing now is unprecedented. In Chinese, the word 'crisis' combines two characters meaning danger and opportunity – the same as the current situation. The capital markets will definitely spring to life once the pandemic is under control.

1. *IMF (October 2020),* Fiscal monitor – Policies for the recovery, *https://bit.ly/3rYXgUQ*
2. *The World Bank (October 2020),* Remarks by World Bank Group president David Malpass at the G20 finance ministers and central bank governors meeting, *https://bit.ly/3dIt3pg*

Further and faster

Jiao Jinhong, chief counsel of the China Securities Regulatory Commission, discusses reforms that will enhance regulation and enforcement for a sound capital market ecosystem

The capital market is an important component of modern finance, and could cause a butterfly effect within the financial system. The 14th Five Year Plan (2021–25) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035, approved at the Fifth Plenary Session of the 19th Central Committee of the Communist Party of China (CCCPC) in October 2020, proposed promoting the two-way opening-up of China's financial sector, enhancing the improvement of a modern financial regulatory system, and strengthening the transparency and law-based management of financial supervision.

Currently, there are more than 4,000 listed companies in China's capital market, with a market value of CNY80.08 trillion.[1] China's bond and stock market also ranks second globally, where it accommodates 170 million investors.

In 2020, amid the outbreak of the Covid-19 pandemic, a complex international situation and other major challenges, the China Securities Regulatory Commission (CSRC), under the leadership of the State Council of the People's Republic of China's Financial Stability and Development Committee (FSDC), strove to carry out pandemic prevention and control while further reforming and opening up the market. In this way, the CSRC effectively strengthened the capital market's role as a hub, contributing to the recovery and growth of China's real economy. It did so in the following ways.

First, through the registration-based initial public offering (IPO) system at its core, the CSRC implemented in-depth institutional reform and innovation in key areas of China's capital market. The reform follows three principles: to respect the rules of the registration-based IPO system, to learn from international best practices and implement them in line with China's characteristics and development stage, and to form a three-step road map from the Science and Technology Innovation Board (Star Market) and ChiNext to the whole market. This system marks a new chapter of furthering reform on all fronts.

Second, the CSRC has continued to promote and expand the two-way opening-up of the capital market in a stable and high-level manner. In the first half of 2020, foreign equity restrictions were cancelled ahead of schedule.

To deal with the profound influence brought by the pandemic, in-depth and comprehensive international co-operation is a must, especially on securities supervision

Jiao Jinhong

So far, several companies have been approved, including a wholly foreign-owned securities company, a fund company of China/foreign joint equity and eight wholly foreign-owned futures companies.

The CSRC has stepped up efforts to improve the framework of the IPO pilot programme for red-chip enterprises in China, and promoted more A-shares to be included in MSCI, FTSE, Standard & Poor's, Dow Jones and other long-established indexes. It has also improved mechanisms within the Shanghai–Hong Kong Stock Connect and Shenzhen–Hong Kong Stock Connect programmes, and successfully implemented Shanghai–London Stock Connect and China–Japan ETF Connectivity, which strengthened international investors' interest and confidence in China's capital market. As a result, the proportion of foreign capitals' shareholding continues to increase. Crude oil, iron ore, purified terephthalic acid and other futures have successively been introduced to foreign investors, while pulp futures became the first to go global with an authorised settlement price. China's commodity futures market is also gaining increased influence in pricing and proportion in the global market.

Third, law-based construction has helped the CSRC achieve new success. The new Securities Law took effect in China on March 1, 2020, and Amendment XI to the Criminal Law was approved on December 24, 2020 and took effect on March 1, 2021. Legislation on futures has seen a breakthrough and is expected to be deliberated soon. The CSRC has been supportive of the Supreme People's Court's efforts to issue a judicial interpretation in securities class action, and move faster to amend judical interpretations around civil compensation liability of false statements in securities.

The CSRC will establish a working group to combat illegal activities in the capital market

Order, order

The pandemic will have a lasting and complex impact on the political, economic and financial situation worldwide. Upholding principles of globalisation and multilateralism, the CSRC will continue to promote the opening-up of China's capital market and enhance the fundamental institutional construction based on openness and co-operation.

According to the decisions and plans of the CCCPC and the State Council, the CSRC will take about two years to make breakthroughs within the legal system and improve law enforcement mechanisms. The result will be a more orderly capital market with heavier penalties for criminal activity and improved investor rights. Looking further into the future, the CSRC will build the legal system to be scientifically organised and well functioning. Once legislative changes have been made, China's capital market will be built on a sound ecology with better law enforcement, transparency, openness, inclusiveness and credibility.

To help it achieve these goals, the CSRC has designed a road map based on five principles:

1. **Improve the legal liability system.**
   The CSRC will work with legislative bodies to push forward the amendments to China's Criminal Law and formulate a futures law. It will also roll out regulation on the supervision of listed companies, privately offered investment funds and other actors to support the implementation of the Securities Law. The CSRC will, in addition, step up efforts to implement securities class action to enhance investor protection.

2. **Build a stringent law enforcement system to combat illegal activities.**
   According to the requirements of the 36th meeting of the FSDC, the CSRC will establish a working group to combat illegal activities in the capital market, and be more professional in securities law enforcement and jurisdiction, in collaboration with the Supreme People's Court, the Supreme People's Procuratorate, the Ministry of Public Security and other government bodies.

3. **Enhance law enforcement in key areas and impose serious punishment on major securities crimes.**
   The CSRC will uphold a zero-tolerance policy and adopt differentiated policies and comprehensive administrative measures, including administrative penalties, prohibiting access to the market and compulsory delisting, and form the all-rounded accountability system, including criminal penalties and civil compensations.

4. **Conduct in-depth cross-border co-operation on supervision and law enforcement.**
   The CSRC will spare no effort in preventing and holding firms accountable for violating the integrity of the market. At the same time, Chinese enterprises listed overseas must abide strictly by local laws and regulations, and fulfil information disclosure requirements. The CSRC has signed memorandums of understanding regarding regulatory co-operation with securities regulatory bodies in 65 jurisdictions, and signed the *Multilateral memorandum of understanding concerning consultation and co-operation and the exchange of information* in 2007, fulfilling its obligation with regard to cross-border law enforcement in both bilateral and multilateral terms.[2] Since 2020, the CSRC has provided assistance in 149 cross-border cases, including Hong Kong. In the future, the CSRC will develop more efficient ways of co-operating with international organisations, and explore the possibility of establishing an organisation for close and efficient co-operation on law enforcement against securities crimes.

5. **Strengthening the credit system.**
   The CSRC will add specific clauses on credit and integrity into related laws and regulation, and roll out a series of conditions of market access in this regard, including credit records, incentive for keeping faith and punishment for losing faith. In this way, China's capital market will enjoy sound development with wide governance, joint construction and shared benefits.

To deal with the profound influence brought by the pandemic, in-depth and comprehensive international co-operation is a must, especially on securities supervision. The CSRC has been working hard to deepen reform and opening-up with its efforts to build China's capital market with transparency, openness, energy and resilience. At the same time, the CSRC will learn from the experiences of overseas markets, and actively seek to co-operate with international regulatory agencies and international organisations, jointly contributing to the new round of growth of the world economy.

1. *China's capital market in this article refers to Shanghai Stock Exchange and Shenzhen Stock Exchange. China Securities Regulatory Commission figures, https://bit.ly/3ti7JLF*
2. *CSRC (April 2007),* The CSRC signs International Organization of Securities Commissions multilateral memorandum of understanding, *https://bit.ly/2ZuUsme*

On the right track

A look at China's financial sector development under the new development paradigm of 'dual circulation' by *Li Mei*, IFF board member and chairperson of China Galaxy Financial Holdings

On the 40th anniversary of the establishment of the Shenzhen Special Economic Zone, President Xi emphasised that the 'dual circulation' development paradigm is open to domestic and international circulations

In a period of unprecedented change, China continues to develop. Its development paradigm, 'dual circulation' – prioritising the domestic market while the domestic and foreign markets boost each other – formulated by the Central Committee of the Communist Party of China (CCCPC), has made new demands for the development of China's financial sector, including the capital market.[1,2]

A road of 1,000 miles begins with one step – development must be built on a well-functioning fundamental structure. Since the 19th National Congress of the CPC in 2017, the CCCPC and the State Council of the People's Republic of China have stepped up efforts to develop China's capital market, and have implemented a series of measures to accelerate financial reform, improve the market system and build a multilevel capital market.

According to the 14th Five Year Plan (2021–25) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035 announced at the Fifth Plenary Session of the 19th CCCPC in October 2020, greater efforts are needed to enhance institutional construction of the capital market, including the promotion of the registration-based initial public offering (IPO) system, the establishment of a regular delisting system and an increase in the proportion of direct financing. This requires all financial sector actors to work on the following three aspects:

1. **Ensure strict approval procedures are in place so only high-quality companies can go public.** Despite the Covid-19 pandemic, China's A-share market grew significantly in issuance and fund raising, and its total market value is second worldwide thanks to the new IPO system. However, rapid expansion of the market could lead to problems such as poor governance, lack of internal management and major shareholders' guarantees in violation of laws and regulations. An information disclosure system oriented toward investors' needs lies at the core of the registration-based IPO system. Therefore, to further improve laws and regulation, and to reinforce punishment for issuance-related fraud, illegal information disclosure and other violations will definitely build an essential foundation for the smooth implementation of the IPO system and improvement of the quality of listed companies.

2. **Prevent systemic risk.** Underneath the stable surface of China's capital market, risks remain in stock pledge of some listed companies, the insolvency of which may lead to default. Global shocks caused by the pandemic have led to risks from sharp asset fluctuations, which should be dealt with correctly. While it enhances market inclusiveness and accessibility to financing, China's capital market must improve the mechanism for risk monitoring, alert, prevention, control and emergency handling to form a prevention and control system for risk management.

3. **Relieve troubles for companies.** Regulatory bodies should set a standard on delisting, streamline the procedure and establish a regular mechanism. Only when good companies compete

Li Mei

in the market can the capital market develop healthily. When a listed company is in trouble, regulatory bodies should help by leveraging advantages of the market through the efficient allocation of resources. The regulatory bodies should mitigate existing risks by measures such as debt restructuring, asset restructuring and debt-to-equity swaps, and improve related regulation to help delisted companies improve the profitability of their assets through bankruptcy and restructuring, or relisting, thus protecting investors' interests.

More work should be done to promote the high-quality opening-up of the financial sector. In October 2020, on the 40th anniversary of the establishment of Shenzhen Special Economic Zone, President Xi Jinping highlighted that the new development paradigm is not a development loop to be used behind closed doors, but more open to domestic and international circulations. The financial sector should work on the following three aspects:

1. **Keep expectations stable and gradually expand opening-up.** In the past few years, China's financial sector has gained more global influence, and its experiences have been promoted overseas. To promote opening-up at higher level, the financial sector should continue to expand market access and business scope, create an open and inclusive environment that encourages competition, and continue to create and innovate. In this way, the financial sector will better serve the real economy, and contribute to the formulation of domestic and international circulation.

2. **Promote two-way opening-up.** China will continue to provide various financial services and attract more overseas companies to participate in the development of its economy. Meanwhile, the financial sector has to enhance the quality of its cross-border financial services. China will encourage domestic financial institutions to go global to serve overseas Chinese companies through the construction of the Belt and Road Initiative.

3. **Safeguard financial security.** During opening-up, the inflow of foreign capital could lead to intense fluctuations in prices of financial assets. The financial sector must enhance international financial governance, improve supervisory and risk management systems, and prevent intertwined risks caused by cross-border arbitrage and capital flows. The dual circulation paradigm and high-level opening-up will be a sound foundation for the new global economic landscape.

Galaxy quest

China Galaxy Financial Holdings, as an active stakeholder in the financial sector, will play its role serving the development of the real economy. Founded 15 years ago, the company is approved by the State Council and jointly funded by the Ministry of Finance and Central Huijin Investment. Since its inception, the company has been actively exploring comprehensive business models of China's financial sector. Currently, China Galaxy Financial Holdings has aggregate assets in excess of CNY400 billion, and net assets of CNY100 billion, with nearly 10,000 employees. The business provides services in China and worldwide, mainly through its financial platforms, such as China Galaxy Securities, China Galaxy Asset Management, Galaxy AMC and China Galaxy Investment Management.

As a responsible central enterprise in the financial sector, China Galaxy Financial Holdings will carry out businesses and operations in accordance with the administration. The company is committed to following national-level requirements to promote supply-side structural reform and ensure stability in six key areas: employment, the financial sector, foreign trade, foreign investments, domestic investments, and expectations. It will also effectively meet the six priorities of job security, basic living needs, operation of market entities, food and energy security, stable industry and supply chains, and normal functioning of primary-level governments.

Leveraging its advantage in multiple financial licences, China Galaxy Financial Holdings will continue to provide financial services in fund-raising, investment, management and withdrawal, and to strengthen professional capability and competitiveness in the market. It also assists enterprises in industrial integration and deleveraging, and helps those encountering difficulties, including those encumbered by the pandemic, to resume business.

The company also supports the development of the capital market. While providing high-quality investment bank services, China Galaxy Financial Holdings focuses on fixing weak links and promotes high-quality development of the capital market through equity investment, listed company relief, default bond treatment, and bankruptcy and restructuring. It also helps to defuse financial risks. The company takes advantage of counter-cyclical adjustment to gradually release corporate and financial risks. By acquiring toxic assets, it actively helps financial institutions and enterprises to defuse their risks, fully implementing the CCCPC's strategic requirement of preventing and defusing financial risks.

1. *Andrew Korybko, China Global Television Network (December 2020),* China's dual circulation paradigm has nothing to do with 'decoupling', *https://bit.ly/3s4cAzF*

2. *China Central Television (November 2020),* Xi explains how China's new development paradigm works for shared benefits, *https://bit.ly/2Nfiyik*

Back in circulation

China's financial sector has accomplished much, but an innovation drive is still needed for success under the new development paradigm, says *Song Min*, IFF Academic Committee member and dean of the School of Economics and Management at Wuhan University

Song Min

The Central Committee of the Communist Party of China (CCCPC) has repeatedly used the phrase 'new development paradigm' – a series of comprehensive developing strategies, including that of 'dual circulation'. Some of those strategies aim to shift emphasis from the external demand-driven economy to a domestic-driven one by promoting consumption and stimulating demands at home.

China has been promoting supply-side reform over the years because domestic supplies have been unable to satisfy demand, especially in high-quality areas such as medical care and education. Therefore, as recently raised by the CCCPC, the idea of dual circulation and domestic circulation as a mainstay is to increase consumption and production in China's own economy, and combine this domestic-driven strategy with supply-side reform to build a positive cycle.

The heavy toll of the China–US trade war and the Covid-19 pandemic has forced China to reflect on the industrial and supply chains, which are frequently disrupted or deficient, as in the trading of computing components such as electronic chips and central processing units. This is a new arena of competition between China and the US, and we must consider how to make up for those chains through financial means in case of disruption. Putting more effort into the financing of industrial and supply chains could facilitate China's domestic circulation. Another important issue is regional co-ordination. The CCCPC could facilitate domestic circulation with its formulation of regional co-ordination strategies such as the development of the Guangdong–Hong Kong–Macao Greater Bay Area, the integration of the Yangtze River Delta, and co-ordinated development around the Jingjinji Metropolitan Region of Beijing–Tianjin–Hebei.

The vice-president of China, Wang Qishan, indicated last year that finance should unswervingly serve the real economy by establishing a positive cycle.[1] In traditional terms, the international cycle refers to trade and investment, while in the new development paradigm, it also includes the circulation of production factors, namely the interaction of capital.

Another factor is labour: in the global market, China's circulation of labour with other countries is still relatively weak. Although there are many students studying abroad and Chinese nationals overseas, greater efforts are needed to attract top international talent to China.

Data exchanges

The dual circulation of data is also a major topic. Data sovereignty and the flow of data among countries are brand-new topics. How can dual circulation be achieved with the two mutually reinforcing each other in terms of production factors. Technological innovation now plays a pivotal role. Trade frictions between China and the US have evolved into a technological war that has hindered the exchange of innovation. China must consider how to expand its technological exchanges with other countries in such a context; Europe, Japan, the Republic of Korea and the Association of Southeast Asian Nations member countries are prime candidates.

Why do we propose a new development paradigm? The concept is in line with the natural law regarding the economic development of large countries; only large countries can develop an economy based primarily on domestic strength. Against such a backdrop, China has to find a number of new internal driving forces. The CCCPC has already issued the 14th Five Year Plan (2021–25) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035, which declares that China has entered a stage of high-quality development and a new development paradigm should be formed.

The external environment and current situation should also be considered. Strategic rivalry between China and the US has brought about national security issues, which are rarely discussed by the financial sector. Financial opening-up might trigger risks, but risks can be controlled and managed by calculating their probabilities and developing hedging instruments.

National security is always an uncertain risk, hard to quantify and harder to estimate its probability. In the face of national security threats, a very common view is that finance should be opened with more caution.

The integration of various regions in the the Guangdong–Hong Kong–Macao Greater Bay Area promoted progressive development of financial services

Some people believe uncertainty and even the risk of war will arise as conflicts intensify between countries, so we need to protect ourselves and avoid opening up, otherwise we will suffer from greater external shocks. On the contrary, we should reinforce financial opening-up under the backdrop of potential national security threats, and it should be a two-way opening-up that reaches a deeper and broader level. Broader financial openness can attract international capital and investors, which could mitigate the risk of war or national security threats between China and other countries – especially with the US. In other words, the attached risks of financial openness can actually help us hedge the uncertainties regarding national security. With greater insecurities, finance should open up on a larger scale, including institutions, markets, capital projects and renminbi internationalisation.

In general, the majority of risk associated with opening financial markets comes from foreign capital, which can cause intense price fluctuations, and affect China's capital markets and real estate. In fact, we should be more open to 'hot money' – funds flowing from one country to another in search of a short-term profit on expected exchange rate shifts or interest rate differences. This will help mitigate risks concerning national security. There is a need for financial firms to develop risk management tools and for regulators to enhance the exchange rate mechanism to allow more flexibility; in turn, this should help mitigate the impact of any issues attached to foreign capital. In addition, taxation in the form of value-added tax and increased transaction tax can reduce the inflow of speculative hot money. Equally, a departure tax could discourage its outflow in the short term. Undoubtedly, industrial guidance policies are also helpful.

Room for improvement

The opening-up of China's financial markets will also involve expanding the provision of Chinese businesses overseas. This includes the overseas listing of Chinese firms and the continued internationalisation of the renminbi. Faced with uncertainties around global security, we could focus less on renminbi internationalisation and more on the International Monetary Fund's special drawing rights. Specifically, we should study and promote currency digitisation and embrace all major currencies, including the US dollar.

Finance should serve the domestic circulation as the mainstay under the new development paradigm. Even though China's financial system has accomplished much, many areas still need work.

The first is the development of financial services that can promote consumption. The current financial system pays more attention to production and the circulation of services, which could be improved by adding more consumer finance, increasing non-labour income. Insurance could also be boosted since this industry is still relatively small in China. The second is the promotion of financial services on the supply side, which is also necessary for domestic circulation. Indirect financing and a financial system that is mainly based on banks is not sufficient to promote the desired innovation needed by the economy. For that reason, capital markets could act as a service system to promote innovation. The last is co-ordinated development. Governments must serve as facilitators for the development of regional economies through the construction of city clusters and the integration of various regions, as we have already seen in the Greater Bay Area and elsewhere.

1. *Xinhuanet (October 2020),* Chinese vice president stresses fostering new development paradigm, *https://bit.ly/3uiXQPB*

New trends in global capital markets

Risky yield hunting, a sluggish real economy, increasing volatility and the rise of China on the international stage: *Jih-Chu Lee*, IFF board member and vice-chairperson of Shin Kong Financial Holdings, lists what to look out for in the markets


Jih-Chu Lee

Several new trends are emerging in the global capital markets. During the global financial crisis that began in 2007–08 and the Covid-19 pandemic in 2020, fiscal and monetary stimulus policies were adopted by governments on a massive scale. However, no significant improvement was seen in the real economy because all funding was driven towards capital markets. As a result, asset prices were affected while the capital markets decoupled from the real economy. For example, in January 2021, the market value of US stocks was 185% of US GDP – a record high.[1] The price/earnings ratios for the US stock market have increased by a factor of 33.91, the highest since the 2000 dotcom bubble.[2]

There is also a willingness within capital markets to take greater risks in pursuit of higher returns. The most important reason behind this may be the experience gained from the financial crisis. Owing to the sluggish recovery of the real economy and low savings rates, stock market bubbles did not appear despite large injections of capital. This capital then flowed into emerging markets or high-yield bond markets, which further increased the rates of return of these high-yield bonds, and interest margins have narrowed significantly.

Change is also occurring in the realm of internationalisation; China's capital market is taking on an increasingly important global role. The total value of China's stock markets is now the second-highest in the world. The Chinese government has adopted constant and proactive measures of reform and opening-up, resulting in foreign capital gaining greater access to China's capital markets – not just into stocks, but also foreign exchange and even the bond market. At the same time, the government has reformed the offshore and onshore stock markets.

In addition, many high-quality Chinese companies have chosen to be listed on the A-share or H-share markets because of the recent trade war between China and the US. A stronger connection between Hong Kong and the Asian market has also emerged.

Structural change

As a result of these changes, the make-up of the market has also begun to evolve. For one, there has been a rapid growth in emissions trading systems. Furthermore, a clear differentiation has emerged in the stock markets, namely the trajectories of growth stocks and value stocks. Stocks in some countries have risen sharply recently, whereas cyclical stocks are falling, perhaps because of relatively low economic growth rates, interest rates and oil prices.

The stock structure of global capital markets has also changed. Some new companies that focus on environmental, social and governance could attract more investors and funds to support their stocks. Many young people have also entered stock markets seeking returns, and more financial products and transactions are catering to these new retail investors.

Increasing volatility

The final trend to emerge is the increasing volatility of global capital markets. Central banks' loose monetary policies and the sluggish real economy have resulted in weaker investor confidence in asset prices. This is especially true of electronic trading – assets can now be sold and bought almost immediately following the release of breaking news, which has led to even more intense price fluctuations.

Recently, the price of financial assets within capital markets has risen sharply; the real economy has not kept abreast of these increases and has led to greater income inequality. This not only affects social stability, but also has an adverse effect on the future development of the real economy, and may even continue to widen the wealth gap.

The wealthiest 1% of the world's population now owns more than half of the world's wealth, including stocks and mutual funds. The price increase of the financial market, the laggard real economy and high unemployment may trigger an even worse 'Matthew effect' – the rich will get richer, and the poor will get poorer.

1. *Moody's Analytics (January 2021),* Weekly market outlook, *Market value of US common stock soars to record-high 185% of GDP, https://bit.ly/2MDRQzl*
2. *Current Market Valuation (2021), https://bit.ly/3rDkdMO*

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The IFF Institute is an international and professional think tank and research network that operates directly under IFF's instruction. Committed to maintaining and improving the international financial order and promoting peace, inclusiveness and sustainable development of the world, the IFF Institute conducts high-level non-governmental dialogues and researches that are pragmatic and constructive based on equality and multilateralism. The Institute aims to build an independent, transparent, non-profit and non-governmental think tank that is based in China and other emerging economies, and provides world-class and professional services. As a platform for strategic research, academic exchange and public diplomacy, the Institute will exert its influence and give its role to full play to help the world know China better, and vice versa.

Digital disruption in financial institutions

Long-established financial firms must innovate, update and restructure to maintain their edge over upstart enterprises, says *Chen Wenhui*, IFF vice-chairman and vice-chairman of the National Council for Social Security Fund

Chen Wenhui

The growth of the digital economy is expected to continue with the industrialisation of digital technologies, followed by the digitalisation of entire industries worldwide, including traditional ones such as real estate. In other words, the digital economy and the internet will bring about a revolution in all industries. China will undoubtedly see an active development of digitalisation in its jurisdiction. This will be a game-changer for the industrial sector. In November 2020, the first 5G+ Industrial Internet Conference was held in Wuhan, where the Chinese government's interest was confirmed by President Xi Jinping's congratulatory letter to the event.

The financial sector is also exploring digital transformation, which is likely to enhance the efficiency and business scope of many financial institutions. It is believed this transformation will significantly improve the efficiency and quality of China's economy, contributing to the realisation of the 14th Five Year Plan (2021–25) for National Economic and Social Development and Long-range Objectives Through the Year 2035.

The financial sector has accumulated a huge amount of data over the past few years, which will be a firm foundation for digital transformation, but there is a long way to go. Traditional financial institutions are actively exploring and experimenting in this area, but the majority of their digital transformation has been realised as a shift from paper- to computer-based work. What is needed is to restructure businesses via digital technologies, signalling a total transformation.

Data trumps capital

Since the Industrial Revolution, capital has been – and remains – the most important factor of production; but this will no longer be the case. In the era of digitalisation, data has become the most important commodity, altering the pattern of economic development.

The primacy of data also applies to the development of financial institutions. It has become an important reference for them to improve risk management, enabling these institutions to proactively find potential clients rather than waiting for them. Digital transformation will only be a success in the financial services sector when firms fully adapt to the new pattern of businesses.

A clear road map is important for this transformation. *The innovator's dilemma*, written in 1997 by Clayton Christensen, a US business consultant, analyses leading enterprises in the computer, automotive, telecommunications and other sectors. According to Christensen, despite early advantages in sustaining innovations, enterprises can often be overtaken by smaller counterparts that are active and disruptive in nature. For example, emerging companies in the automobile industry, including Tesla, NIO, Xpeng and Li Xiang, are performing quite well in the capital markets compared with those long established in the market.

A similar trend is emerging in financial services – traditional firms must also innovate and adapt to disruptive new entrants if they are to continue to thrive. For example, Rootcloud Technology – established by a former senior employee of Sany Heavy Industry, a Chinese construction machinery manufacturer – is an internet of things-enabled platform, empowering not only Sany, but also other enterprises.

Traditional financial institutions can learn two things from this trend. First, to push this transformation forward, senior management must adopt the mindset of the digital economy. Second, long-established enterprises must overcome institutional barriers. These enterprises may show little interest in emerging digital departments because of low gross margins and greater resources required. Rootcloud Technology could reveal a solution – establishing an institution with internet-oriented advantages and resources, to grow independently and serving other enterprises in return.

In conclusion, digital transformation will be crucial for the development of financial institutions. The task is to figure out the road map and then implement it – an undertaking of long-term importance for the financial sector.

A wake-up call on digitalisation

Simon Zadek, former sherpa of the UN Secretary General's Task Force on Digital Financing of the Sustainable Development Goals, and chair of finance for biodiversity, asks how digitalisation and financial technology create space for catalytic opportunities such as the mobilisation of global domestic savings, but could also affect countries' ability to achieve UN Sustainable Development Goals

Simon Zadek

António Guterres, the UN secretary-general, launched the Task Force on Digital Financing of the Sustainable Development Goals (SDGs) in November 2018.[1] The group was asked to identify and recommend ways in which digitalisation could be harnessed to better align financing with the UN's SDGs. Two years later, in August 2020, the Task Force published a report, *People's money – Harnessing digitalization to finance a sustainable future*, which has proved a wake-up call to many.[2]

The report found that digitalisation is playing an important role in aligning key aspects of global finance with the UN's SDGs, and is already a feature of our global economy and of our global financial system, in both private and public finance. It would not be possible to have US$1 trillion worth of green bonds if large-scale datasets and rapid real-time data flows were not becoming the norm. Nor can carbon markets exist without a sophisticated digital infrastructure. Equally important is that financial and product innovation are driving new ways of financing in both education and health, not simply at the larger institutional scale, but also at the individual level – even at the lower levels of income.

Catalytic conversion

The Task Force has packaged its recommendations into an action agenda in three parts: catalytic opportunities, sustainable digital ecosystems and inclusive international governance.

First, the opportunities. The real question is, how does one make money flow in different ways? The Task Force has identified five ways, which it has called major catalytic opportunities. These are not only large opportunities – each dealing with trillions of dollars per year – but, if addressed aggressively at scale, will also move other parts of the financial system, public and private, into greater alignment with SDG outcomes. The first catalytic opportunity is to mobilise the growing global pool of domestic savings – now worth US$23.3 trillion a year – to long-term development finance, even in the least developed countries. In Bangladesh, for example, only 6% of domestic savings flows into long-term development finance. The Task Force's recommendations highlight the smart use of mobile devices, new ways of packaging financial products at scale to create investable resources, and the use of blockchain and other mechanisms to improve deployment of funds. This is despite traditional weaknesses in capital markets in almost all developing countries.

The second opportunity focuses on funding for small and medium-sized enterprises (SMEs), the world's largest suppliers of jobs. Each year, the SME sector requires huge amounts in lending and borrowing to support growth. Banks have largely failed to provide that, not least because the sums are relatively small, the due diligence costs relatively high and delinquency rates are elevated. Algorithmic lending has demonstrated we can shift from this stop-go, insufficient flow of funding to a much more rapid deployment of much larger volumes, largely by using big data and artificial intelligence (AI). This will allow the undertaking of due diligence and credit assessment at minimal incremental cost, leading to rapid decision-making and lending patterns that are usually zero collateral.

The third opportunity is embedding SDG data in financial and capital markets. Today, $185 trillion in financial assets is sitting in global capital markets. An estimated $30 trillion of that is already subject to some kind of environmental, social governance screen. Innovations such as big data, AI and robo-advisers are dependent on cheaper, faster, smarter data linked to financial service innovation. They can then move sustainability criteria more effectively and at greater scale into capital markets, both as a means of more effectively pricing risk, taking those various SDG factors into account, but also with a growing impact on the investing community and blended finance. Those digital innovations are allowing a far more effective assessment of impact associated with different financing, not only financial risk pricing.

The fourth opportunity calls for a radical increase in transparency and accountability to taxpayers to improve the effectiveness of public finances. And the fifth looks at consumer spending – now amounting to $47 trillion a year – and making it more sustainable. Clearly, with more online purchasing, greater opportunities remain to provide information for citizens to make consumption decisions more aligned with their broader interests, as well as their particular interest by particular products and services.

The rise of fintech giants

In many countries, all manner of interesting fintech innovations promise to be profitable, but do not necessarily support those countries in achieving the SDGs. Therefore, the second level of the action agenda is a recommendation to align sustainable digital finance ecosystems at national level, from infrastructure through to governance rules, regulations, and so on.

The third level of the action agenda is international governance. As fintech and the digitalisation of finance begins to drive much higher levels of market concentration, a small number of very large fintech platforms are emerging, whether from native financial sector sources or spin-outs and diversifications from social media platforms or e-commerce platforms. These large fintech platforms can have very significant spillover effects across borders and impact many SDG outcomes. They should be governed in the right way to ensure such basics as financial stability and anti-money laundering are in place.

Digitalisation is already playing an important role in aligning key aspects of global finance with the UN's Sustainable Development Goals

To implement the action agenda, we should keep two aspects in mind. The first is the upside potential of digitalisation, which needs to be understood in the context of potential barriers, difficulties in realising them and also the potential risks of increased levels of digitalisation going forward. Clearly, the challenges are how to both overcome those barriers and mitigate those risks. Digitalisation in itself does not automatically offer the upsides identified in those catalytic opportunities, but needs to be mediated by appropriate policy and market innovation, collaboration, co-operation and public-private partnerships to drive those digital opportunities in a progressive or positive direction.

Today, we are already challenged to ensure that good governance ensures global finance flows to where it is needed most and speaks to the broader public good – now and in the future.

Higher levels of market concentration in favour of fintech giants are beginning to become a reality. The challenges lie in managing their rise – particularly international and cross-border governance of fintech's evolution. Hopefully, the work of the Task Force reflects the extraordinary opportunities, innovations, leadership and entrepreneurship that already exists in the market, and highlights areas that can be improved to achieve greater things.

1. *UN (2015),* 2030 Sustainable Development Goals, *https://bit.ly/3ivPQoQ*

2. *Task Force on Digital Financing of the SDGs (August 2020),* People's money – Harnessing digitalization to finance a sustainable future, *https://bit.ly/3t03yVA*

The irreversible rise of fintech in China

Financial technology's progress in China has been accelerated by the Covid-19 pandemic, as business has increasingly moved online. *Li Dongrong*, former deputy governor of the People's Bank of China, discusses how innovation, infrastructure and integration will help evolve the sector in useful ways

Fintech is one of the hottest topics in the world. Countries and regions have, to varying degrees, probed into this continually developing area.

Since China's efforts to reform and its policy of opening-up began, technology has played an essential role in its financial sector – particularly in the past decade. It is fair to say that fintech, which has been actively applied to improve financial services and supervision, has played an irreversible role in the development of China's financial sector.

With the advent of internet and mobile banking, finance in China, with fintech, has truly taken off and made a huge leap forward.

In the past few years, the Chinese government has laid the groundwork to allow for the networking of financial services and the migration to Europay, Mastercard and Visa chip cards. These foundations and the experience gained in the realm of innovative mobile finance have grounded China's financial sector.

So far, the results of this digitalisation have been positive. China's emphasis on fintech began a long time ago, but practitioners constantly absorb better ideas so our understanding is continually growing. China's regulatory departments have always valued the application of science and technology in the financial sector, and see fintech as an important component in the construction of related infrastructures.

For regulatory bodies in charge of science and technology, the most arduous work was to allocate limited funding, in the form of appropriations from the state treasury to where it counts the most, while commercial banks face fewer rigidities in this regard. The People's Bank of China's systems responsible for payments, clearing and financial investigations require funds to build the infrastructures, including hardware, software, disaster recovery and global connectivity.

The People's Bank of China recently announced the establishment of the Fintech Committee and the development plan for which it will be responsible. This plan identifies the guiding ideology, basic principles, objectives and key tasks for the committee in the coming years. One encouraging sign is that some key areas have introduced incentive policies in their own jurisdictions, including the Guangdong–Hong Kong–Macao Greater Bay Area.

Regulating fintech innovation

China's regulatory framework is also constantly improving. In China, regulation is not seen as opposed to innovation but as complementary and mutually augmenting. China's regulatory approach is both inclusive and explorative in the application of fintech. Last year, following the success of regulatory sandboxes created in countries including the UK and Singapore, the People's Bank of China established tools to regulate fintech innovation. Regulatory sandboxes have been piloted in Beijing, Shanghai, Shenzhen, Xiong'an, Hangzhou and Guangzhou. In addition, a series of standards and rules are being created for areas including artificial intelligence, cloud computing, blockchain, mobile finance apps and data privacy protection. Financial and governance mechanisms that incorporate administrative supervision and industrial governance are gradually being formed.

As a result, China's fintech industry has begun to flourish. Fintech can be applied in a number of ways, including traditional financial services firms reinvigorating products and services, as well as new entrants with new business formats and products.

The ecosystem of fintech is by and large abundant. The healthy interaction and competition among main actors have contributed to its continuous evolution. Other fintech-related facilities, such as industrial parks, incubators, featured towns and makerspaces, are also booming in China. In part, this is down to the successful fostering of talent through universities and research institutions. China already has certification systems for financial planners, investors and fintech talent, and it is stepping up efforts to roll out specific certification systems in many other fields.

In addition, China takes the education of fintech very seriously. More than 20 higher learning institutions across the country offer undergraduate degrees in fintech.

The application of Chinese fintech has also been a success. According to EY, the application rates of fintech among Chinese consumers and small and medium-sized enterprises are among the highest in the world: 87% and 61%, respectively.[1] It is worth noting that economic activities such as payment, wealth management, lending and insurance were effectively immune to the Covid-19 outbreak thanks to the deployment of technology. Some commercial banking outlets were closed during the Covid-19 pandemic for fear of contact infection; but online

Li Dongrong

business continued to run. As a result, most of China's financial services industry was uninterrupted by the virus – an outstanding achievement.

By the end of June 2020, the number of Chinese online payment users had exceeded 800 million.[2] Interestingly, a large proportion of the elderly generation – not known for their technical skills – moved quickly to online forms of payment and mobile retail during the pandemic. During the lockdown, express delivery and logistics companies also made changes, reinforcing a change in consumer habits. With the support of convenient and efficient online payment tools, as of December 2020, the utilisation rates of online wealth management, food delivery and shopping reached 17.2%, 42.3%, and 79.1%, respectively. Uptake of online wealth management is relatively low because a large proportion of the elderly population continues to have qualms about using the internet. But it has become an indispensable infrastructure for financial activities: 85.7% of all Chinese citizens now use online payments.

Room for improvement

Accelerated by the pandemic, China's fintech sector has developed successfully – though some work remains. The following principles need to be understood and implemented correctly.

First, value orientations must be correct. When carrying out fintech activities, we must always consider the bottom line as the first responsibility. The financial sector is laden with high risk, biased emphasis and inherent frangibility. Fintech solves problems and improves efficiency, but financial risks have also increased. So, while fintech has improved the capability to prevent and resolve risk, it cannot completely eradicate it. There is also a need to regulate technology – in the right hands it can lead to better inclusion and efficiency but, in the wrong hands, it could be used to facilitate illegal activities.

Second, fintech activities must adhere to financial services legislation. Only by properly implementing these laws can we ensure fintech activities do not harm consumers. China needs to implement new legislation, based on its experience with the fintech industry, which applies the appropriate level of regulation to the sector. Financial practitioners should fully recognise that compliance supervision is not a barrier for fintech innovation but a guiding light or guardrail on the path forward. Fintech can only maintain long-term stability and prosperity if it innovates under the premise of political integrity and unswervingly adheres to the people-oriented principle.

Third, the sector should take advantage of innovation-driven development. President Xi Jinping has emphasised on numerous occasions that China's mission should be to build an innovation system that closely integrates technology, education, industry and finance. Digital technology is the most concentrated field of innovation, with the greatest dynamism to facilitate growth in other fields. The past 40 years' history of China's reform and opening-up has shown that innovation and reform are the most fundamental driving forces for development. In the digital age, we must learn how to master digital technology so finance can better serve the real economy. If China's financial institutions, whether conventional or emerging, turn a deaf ear or a blind eye to digital technology, they will eventually be eliminated. Those that use digital technology earlier in a safer and more reasonable manner, and pay attention to solving fragilities and pain points in the current financial system, will be able to take the initiative and win more dividends. China needs to focus on creating an inclusive and prudent fintech mechanism for innovation, fault tolerance, trial and error, and error correction at both policy and institutional levels. By such efforts, China can shift the focus of digital technology within the business cycle from acquiring customers through marketing, to more important tasks such as risk management, procedure management and ecological operation.

Fourth, secure infrastructure must be maintained. How far fintech will go ultimately depends on infrastructure construction. The World Bank published a report in October 2020 on financial management departments in 114 countries and regions, which indicated that, after the Covid-19 outbreak, 72% of the interviewed institutions had stepped up or were preparing to launch digital infrastructure.[3] It is widely recognised there is an urgent need for global financial institutions to reinforce and support existing digital infrastructure. From the perspective of the financial sector, the best, most advanced and most practical technology must be used to renovate areas including payments, credit enquiry, lending, securities and insurance. Technologies such as blockchain, multiparty computing and federated learning can be applied to the financial sector. However, as the world becomes increasingly digital, the issue of data privacy becomes more challenging and requires further research.

Finally, China must establish a diversified governance mechanism to make good use of fintech and develop it with a view to upgrading its financial sector. The traditional governance mechanism is divided by institution or by process. As the sector continues to evolve through the application of technology, a series of transformations will occur. China's supervisory bodies must keep pace with the times, and establish a multi-level fintech governance system including legal constraints, administrative supervision, industrial self-discipline, institutional self-control and social supervision. Progress in this arena has already begun through the implementation of a new sandbox, and innovation linked to reporting, auditing standards, risk monitoring and consumer protection. In this way we have incorporated industrial self-discipline and social supervision into the traditional governance pattern, supported by government and institutional supervision.

1. *EY (2019),* Global fintech adoption index 2019, *https://go.ey.com/3qAxhlX*
2. *Xinhuanet (October 2020),* More than 800 million Chinese use online payment – report, *https://bit.ly/3o9op5v*
3. *The World Bank Group (2020),* The global Covid-19 fintech regulatory rapid assessment study, *https://bit.ly/3iux2Gh*

Green finance flourishes in Huzhou

Chen Hui, chief executive officer of Beijing Uni Inclusive Technology, discusses fintech's role in facilitating China's local green finance development, focusing on the integrated digital ecosystem in the pilot zone of Huzhou in Zhejiang Province

Green finance in China was born in 2015, when the Central Committee of the Communist Party of China (CCCPC) and the State Council of the People's Republic of China first proposed a plan for building China's green finance system by issuing the *Master plan of ecological civilisation system reform.*[1]

In 2016, seven government agencies – among them the People's Bank of China, the National Development and Reform Commission, and the China Banking and Insurance Regulatory Commission (CBIRC) – published *Guidelines for establishing the green financials system.*[2] At the Group of 20 summit held in the same year in Hangzhou, President Xi Jinping included green finance on the agenda for the first time.

In 2017, the State Council established national pilot zones for green finance reform and innovation in eight municipalities of five provinces – Guangdong, Zhejiang, Jiangxi, Guizhou and Xinjiang – to create experiments based on their own industrial features. In September 2020 at the UN, President Xi proposed China should hit peak carbon emissions before 2030 and achieve carbon neutrality by 2060, which required greater efforts from green finance, but injected stronger impetus.

China has taken a top-down approach to its green finance strategy, placing the majority of responsibility on local governments. One example is in the pilot zone in Huzhou, Zhejiang – known locally as the birthplace of the "clear waters and green mountains are as valuable as mountains of gold and silver" theory. To construct a multi-level green financial system, Huzhou's government began planning in 2017, constructing a three-tier approach.

The first level concerns market entities: local enterprises, commercial organisations, financial services and third-party companies related to green finance and technology.

The second is for regulatory agencies, including the People's Bank of China and the CBIRC, as well as local agencies that would be responsible for promoting green financial guidelines at a local level. The co-ordination of these agencies is why Huzhou has been more successful in achieving its aims than other pilot zones.

The third level ensures Huzhou's goals are connected to the domestic and foreign resources available, including research and academic institutions that can provide additional insight into how to encourage green finance within the region. Within all three levels of the city's green finance strategy, fintech has played a supporting role in building the necessary infrastructure.

A new green standard

From 2017 to 2018, commercial banks, the CBIRC and the People's Bank of China, in concert with local governments and financial offices, simultaneously pushed forward with the construction of digital platforms and systems. Commercial banks, represented by the Bank of Huzhou, have built a green credit management system that integrates big data technology and artificial intelligence (AI). In early 2018, in the early days of China's green finance, commercial banks found it difficult to accurately identify green projects and credit, and the process consumed time and money. Now, empowered by AI and deep learning, these banks are able to determine quickly and accurately whether a project is eligible for green credit by incorporating multiple sets of standards, such as the CBIRC's statistical system for green credit, the People's Bank of China's catalogue of green debt, and local government standards. The system can dig deeper into whether the project can be classified by the statistical system of the People's Bank of China and CBIRC, and can even figure out the specific results of the three- or four-level classification. In addition to complying with China's standards, overseas standards should be considered, since some commercial banks – such as Xingtai Bank, a city commercial bank in Hebei Province that partnered with the Asian Development Bank, a green bond financer – have co-operated internationally.

Advances in technology mean the system can measure the environmental benefit of a project in accordance with the CBIRC's requirements. It can classify the environmental and social responsibility risks for corporate and credit customers, and help commercial banks disclose overall financial institution information. This is tantamount to constructing a unified and digitalised green credit system that covers lending companies and financial institutions. It can also be connected with the original credit system, thus providing professional digital green finance services across the entire credit market.

The regulatory authorities also created an additional platform, called T+1, which collects the green financial business data of commercial banks to assist supervision. The platform has improved density and frequency of supervision, and thus enables local regulatory bodies to have a better overview of the green credit sector. In future, the environmental benefits created by financial institutions for enterprises and society could be measured and traded through fintech as well, which regulators say will contribute to the sustainability of China's green finance industry.

Chen Hui

Rebudgeting and relending

Local government has taken the lead in building a comprehensive service platform. This platform has connected banks and enterprises for pre-approval, online identification and easier access to green projects and enterprises. For example, a company in Huzhou is registered on the platform to certify itself as green. The advanced application of big data in Huzhou allows the regulatory body to invoke 58 related data items out of 600 collected from its administrative application history, a precise performance indicator. The company's environmental, social and governance rating and corporate portrait can be built with support of 116 technical indicators to certify the extent to which the company is green. When the company submits the required information, AI tools can conduct a pre-approval process to determine whether it is in line with related green standards before the regulatory body makes the decision.

These systems were integrated in 2020, and the digital ecology of Huzhou was formed. When a company puts forward a financing application, the local government's platform first checks whether it is a certified green company and whether its financing is for green purposes. At the same time, local government can obtain relevant information in real time through the platform and provide rewards and subsidies accordingly. As the commercial bank processes the credit application on the platform via real-time T+1, the regulatory bodies are able to acquire all the relevant data within the next day, and can then reidentify and rebudget green credit.

To enhance accessibility, Huzhou has creatively implemented the relending policy within its integrated service platform, where all commercial banks are required to innovate financial products according to the relending policy. When companies apply for green credit on the platform, they can directly benefit from this policy.

When the People's Bank of China's green credit information management system was launched in Huzhou at the end of June 2019, the remaining balance of green credit under the jurisdiction of Huzhou was no more than CNY50 billion. Since then, this has doubled. This demonstrates fintech's outstanding prospects in helping local green finance develop and grow.

1. *CCCPC and the State Council of the People's Republic of China (2015),* Master plan of ecological cvilisation system reform, *https://bit.ly/2NdITxn*

2. *China Daily (September 2016),* Guidelines for establishing the green financials system, *https://bit.ly/3jVAA5I*

Huzhou, Zhejiang, the birthplace of President Xi's "clear waters and green mountains are as valuable as mountains of gold and silver" theory

Old concepts, new tricks

There are not many new concepts in technology today – most of them are refinements and iterations of the same concepts – only new implementations from the past 40–60 years. *Wei Qing*, chief technology officer of Microsoft China, explores the methodology of fintech development

In the innovation community, the expression to 'not reinvent the wheel' is often used. This is a superb formula for refinement but certainly not a method for innovation and research. The technology paradigm of fintech and present-day computing is evidently still based on innovation from the days of early computer scientists Alan Turing and John von Neumann.

In China, those working in this field abide by the older theories promoted by Chinese scientists in the 1980s and 1990s, namely the General Systems Theory (GST) and Cybernetics and Information Theory (collectively known as SCI). The theoretical foundation of the contemporary technological sector – whether artificial intelligence (AI), machine learning, big data or blockchain – cannot do without SCI, and especially not the GST.

Fundamental subjects discussed by the GST include the relationship between the whole and the sum of its elements, evolutional versus catastrophic change, positive versus negative system feedback, and so on. Many projects carried out now have little to do with the so-called AI – and there is no universally approved definition on what human intelligence is anyway. AI today is more about machine learning capabilities to carry out the systematic automation that fills in the shortcomings of humans.

China's scientific theories at the end of the 20th century were in fact quite advanced. So why have we ended up following in others' footsteps over the past 20 years? Take, for example, professor Wang Xuan from the technology conglomerate Founder Group: his laser photo-typesetting system has led the world in this area since its advent, despite being created in incredibly difficult conditions in China. The reason behind it was that its starting point was the operating systems, chips and algorithms – not application. It is time to reflect on whether we are leading the world's technological development or following the pace of others.

Interestingly, people in the scientific and technological communities are not obsessed with new wording of concepts because they understand that most fundamental concepts are not new, and that the implementations are advances, not innovations. It could be argued that there have been no substantial breakthroughs yet in science and technology in the 21st century. In this day and age, technological development could be summarised as merely the well-established thoughts of former scientists realised by means of higher efficiency, lower cost and advanced engineering – that is, using scientific methods to iterate old concepts into new advancements.

Cybernetics is still the major technology paradigm, though AI is a hot topic nowadays. The financial industry needs fintech to understand the situation and respond with a command execution in an efficient and effective manner, with the fastest possible response time. It is more a paradigm with cybernetics than with AI, and is a standard automated process equipped with digital and intelligent feedback loops.

Wei Qing

A recent article analysing the core competence of ByteDance – creator of the social media platform TikTok – could be used as an example. To outsiders, ByteDance provides strong intelligent algorithms and recommendations as a service, yet few understand how these recommendations are made. Intelligent algorithms are the result of digital technology embedded into every step of the data collection and decision-making process. This, in essence, is based on digitalisation of everything. It is the foundation of machine intelligence from machine learning. It is precisely the framework implemented at Microsoft, into which we have embedded every employee, customer, process and product with a real-time intelligent digital feedback loop.

The framework of cybernetics is similar to that of the central nervous system in the human body and forms the basis of the concept of a smart society. The essence of the world is to generate, transmit, store, calculate, use and display data, and then reconcile this data using negative feedback. This is also how the human body, society and fintech work.

The goal of fintech is to use technology to solve practical problems and to provide accessible financial services. And, on this basis, supervision, management, registration, service and investigation could be incorporated together with digital feedback loops. This is the right path for fintech to assist the digital transformation of banks and financial institutions.

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