HEARING ON CHINA'S CURRENT ECONOMY: IMPLICATIONS FOR INVESTORS AND SUPPLY CHAINS

HEARING

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THURSDAY, AUGUST 21, 2023

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WASHINGTON: 2023

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HEARING ON CHINA'S CURRENT ECONOMY: IMPLICATIONS FOR INVESTORS AND SUPPLY CHAINS

THURSDAY, AUGUST 21, 2023

U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION

Washington, DC

The Commission met in Room 430 of Dirksen Senate Office Building, Washington, DC and via videoconference at 9:30 a.m., Commissioner Robin Cleveland and Commissioner Kimberly T. Glas (Hearing Co-Chairs) presiding.

OPENING STATEMENT OF COMMISSIONER ROBIN CLEVELAND HEARING CO-CHAIR

COMMISSIONER CLEVELAND: Welcome to the seventh hearing of the U.S.-China Economic and Security Review Commission's 2023 annual report cycle. I want to first thank staff, many of whom worked on several other hearings, and so I appreciate the heroic effort that was involved in getting this hearing set up, so thank you, Jonathan and Daniel in particular, and Charles, I don't see.

Many of us who have watched China for years appreciate that the magnitude of the economic challenges China must address now are not new. Rather, they have been worsening for years and were amplified by COVID and the poor policy choices made during that time.

Notwithstanding the CCP's push for Chinese households and non-state businesses to drive recovery in 2023, household consumption has been cautious. Government lending practices continue to favor unproductive state-owned enterprises, higher performing non-state sector -- at the expense of higher performing non-state sectors. In most cities, property prices have plunged, and business confidence has eroded as deflation sets in.

Two years ago, we reported on the rising concerns related to debt and demographics. Those challenges are only intensifying. Over the past decade, China's banking sector has grown from $9 trillion to a staggering $56 trillion in assets. Those assets are somewhat questionable. By the end of 2022, China's debt to GDP ratio exceeding 297 percent, more than double what it was in 2008. This unprecedented expansion in credit largely flowed into a building boom that contributed roughly 30 percent of GDP.

More troubling in terms of the human dimension of the problem, in terms of economic stability and political confidence in the CCP, roughly 70 percent of household wealth is tied up in the real estate sector, which experienced across the board significant declines in sales, starts, and land purchases for building.

China simply cannot sustain the policy approach of credit expansion, nor will it be able to continue to shield unproductive entities from default. After 20 years of relying on debt-fueled stimulus, China confronts twin challenges of lacking viable infrastructure projects sufficient to stimulate growth and developers and local governments over-burdened with debt.

Whether local governments and the opaque funding vehicles they create to raise money are stable and sustainable is very much in doubt. A recent report indicated 43 LGFVs failed to redeem maturing commercial paper. Was this due to a lack of investor confidence?

Adding to these significant challenges, by mid-2023, China's official youth unemployment rate had soared above 21 percent, at which point the Party-state abruptly stopped releasing data. Although transparency into China's economic data is vanishing, the country's economic weakness is now far too pronounced for the CCP to hide.

For years, we talked about shadow lending as a challenge. Now the problem is shadow data. International investors cannot have confidence in buying stock on U.S. exchanges or directly investing in China if data are inadequate, misleading, overstated, censored, or withheld.

Our fabulous witnesses today have deep and diverse expertise researching China's domestic economy and supply chain policies. I am pleased that four or five have not previously testified before the Commission and bring forward new perspectives on key elements and outcomes of China's economic model. I'll now hand it over to my co-chair for the hearing, Commissioner Glas, who will introduce the panels and make some compelling remarks.

PREPARED STATEMENT OF COMMISSIONER ROBIN CLEVELAND HEARING CO-CHAIR

Hearing on "China's Current Economy: Implications for Investors and Supply Chains"
August 21, 2023
Opening Statement of Commissioner Robin Cleveland

Welcome to the seventh hearing of the U.S.-China Economic and Security Review Commission's 2023 Annual Report cycle. Many of us who have watched China for years appreciate that the magnitude of the economic challenges China must address are not new -- rather they have been worsening for years and were amplified by COVID and the poor policy choices made during the pandemic. Notwithstanding the CCP's public push for Chinese households and nonstate businesses to drive the recovery in 2023, house-hold consumption has been cautious, government lending practices continue to favor unproductive state-owned enterprises over higher performing non-state sector, in most cities property prices have plunged, and business confidence has eroded as deflation set in.

Two years ago, we reported on the rising concerns related to debt and demographics. Those challenges are intensifying. Over the past decade China's banking sector has grown from $9 trillion to a staggering $56 trillion in assets. By the end of 2022, China's debt to GDP ratio exceeded 297%, more than double what it was in 2008. This unprecedented expansion in credit largely flowed into a building boom that contributed roughly 30% of GDP. More troubling in terms of economic stability and political confidence in the CCP, roughly 70% of household wealth is tied up in the real estate sector which experienced across the board significant declines in sales, starts, and land purchased for building.

China cannot sustain the policy approach of credit expansion nor will it be able to continue to shield unproductive entities from default. After twenty years of relying on debt-fueled stimulus, China confronts twin challenges of lacking viable infrastructure projects sufficient to stimulate growth and developers and local governments over-burdened with debt. Whether local governments and the opaque funding vehicles they create to raise money are stable and sustainable is in doubt. A recent report indicated 43 LGFVs failed to redeem maturing commercial paper. Was this due to lack of investor confidence?

Adding to these significant challenges, by mid-2023 China's official youth unemployment rate had soared above 21 percent, at which point the Party-state abruptly stopped releasing the data. Although transparency into China's economic data is vanishing, the country's economic weakness is now far too pronounced for the CCP to hide. For years we talked about shadow lending as a challenge – now the problem is shadow data. International investors cannot have confidence in buying stock on US exchanges or directly investing in China if data are inadequate, misleading, over-stated, censored or withheld.

Our witnesses today have deep and diverse expertise researching China's domestic economy and supply chain policies. I am pleased that four of our five witnesses have not previously testified before the Commission and bring forward new perspectives on core elements and outcomes of China's economic model and the risks created for the United States. I will now hand it over to my co-chair for the hearing, Commissioner Glas.

OPENING STATEMENT BY COMMISSIONER KIMBERLY T. GLAS HEARING CO-CHAIR

COMMISSIONER GLAS: Thank you, Commissioner Cleveland, and good morning, everyone. Today's hearing will call into question the health of China's economy and the overall implications for the CCP's influence over technology supply chains.

The Party-state's dual circulation strategy aims to eradicate its own external vulnerabilities while increasing the world's dependence on Chinese technology.

Today, U.S. policymakers are moving to address some of the risks stemming from supply chains that are overly dependent on China. However, much more remains to be done. In May of this year, the Biden Administration announced that the United States aims to de-risk its relationship with China, focusing U.S. policy on fortifying areas core to U.S. national and security interests.

Congressional action through the Inflation Reduction Act and CHIPS and Science Act took major steps towards diversifying U.S. supply chains in semiconductors and clean energy technologies, if implemented properly.

Nonetheless, these efforts are still early and further action is needed to reduce U.S. other vulnerabilities to Chinese control over critical supply nodes, from pharmaceuticals to green energy. The recent spike in Chinese electric vehicle production and exports exemplifies the Party-state's ongoing efforts to expand control over crucial segments of global production. U.S. businesses are discussing options to de-risk their own operations, but China is simultaneously moving to ensure U.S. companies and investors remain intertwined with Chinese markets. While a 19 percent drop in trade with China and a nearly 90 percent drop in foreign investment in China in the previous quarter may be seen as a signal of decreasing reliance on Chinese markets, overseas investments by Chinese companies simultaneously surged.

Chinese companies are looking to offshore production to other countries in Southeast Asia and even Mexico, evading tariffs by locating production in other jurisdictions. They are also continuing to export through other secondary markets to avoid tariffs and also customs scrutiny under the Uyghur Forced Labor Prevention Act.

As a result, even where trade data shows a decrease in direct U.S. dependency on China, the true value of Chinese content in U.S. supply chains is much higher. This hearing provides an opportunity to consider the kinds of guardrails that businesses can follow to address these increasingly complex supply chain risks.

Before we begin, I'd like to remind you all that the testimonies and transcript from today's hearing will be posted on our website. I'd also like to thank the Senate Committee on Health, Education, Labor and Pensions for securing this room for our use today and the Senate Recording Studio for their assistance in live streaming this event.

We'll now begin today's hearing with our first panel.

PREPARED STATEMENT OF COMMISSIONER KIMBERLY T. GLAS
HEARING CO-CHAIR

Hearing on "China's Current Economy: Implications for Investors and Supply Chains"

August 21, 2023

Opening Statement of Commissioner Kimberly Glas

Thank you, Commissioner Cleveland, and good morning everyone. Today's hearing will call into question the health of China's economy and the overall implications for the CCP's influence over technology supply chains. The Party-state's dual circulation strategy aims to eradicate its own external vulnerabilities while increasing the world's dependence on Chinese technology.

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PANEL I INTRODUCTION BY COMMISSIONER KIMBERLY T. GLAS

COMMISSIONER GLAS: I have the honor to introduce our first panel today, and our first panel will provide an overview of the economic and financial challenges confronting China today. We will also explore how these issues impact the global economy and how investor sentiment toward the country is changing.

We'll start with Dr. Logan Wright, who is a partner at Rhodium Group and leads the firm's China market research work. His testimony will provide an overview of China's economic and financial challenges.

Next, we'll hear from Mr. Nicholas Borst, who is appearing virtually. Mr. Borst is Vice President and Director of China research at Seafarer Capital Partners, and he will discuss China's fiscal challenges and investor sentiment.

Finally, Dr. Zongyuan Zoe Liu, and I hope I'm pronouncing that somewhat correctly, will provide her testimony, and please correct me. Dr. Liu is the Maurice R. Greenberg Fellow for China Studies at the Council on Foreign Relations, and she will address the role of state-owned capital, particularly China's sovereign wealth funds, in financing the country's domestic and overseas ambitions.

Thank you all so much for your testimony and appearing before the Commission today. We all look forward to hearing your remarks. I ask all of the witnesses to please keep their remarks to seven minutes. Dr. Wright, we'll begin with you.

OPENING STATEMENT OF LOGAN WRIGHT, PARTNER AND DIRECTOR OF CHINA MARKETS RESEARCH, RHODIUM GROUP

DR. WRIGHT: Thank you, Commissioner Cleveland, Commissioner Glas, and all of the Commissioners and staff for your kind invitation to testify at this important hearing today. My testimony focuses on three principal arguments related to developments in China's economy and financial system and their implications of the United States. First, the severity of China's ongoing economic weakness is still widely underappreciated, and the United States no longer faces a growth challenge from China.

Beijing is no longer an economic pacing threat or likely to overtake the United States in any significant measure of economic power in the next two decades, assuming U.S. growth continues at roughly current rates.

Beijing will never be able to make a credible claim to global economic primacy. The challenges the United States faces in strategic competition with China are highly significant, but they will not be impacted by marginal changes in China's economic performance in the years ahead.

China's current economic slowdown is structural in nature. Simply put, most of the factors that contributed to China's rapid growth over the last two decades cannot be repeated in the next decade. These include an expanding labor force, unprecedented credit and investment growth, a booming property sector, a one-time buildup of infrastructure, and a constructive external environment.

Most analysts agree that growth in China will not recover to its previous rates, but there's still considerable disagreement about how severe the slowdown will become and the implications of those changes for the United States.

One of the least understood aspects of China's economic record over the past decade has been the linkage between the rapid growth of China's financial system and its economic performance. China's current economic slowdown is structural primarily because the credit and investment expansion that took place from 2008 to 2016 was also unprecedented.

This was the largest single country credit expansion relative to global GDP in over a century. Credit growth of this magnitude not only powered significant volumes of local government investment and property construction, but most importantly, it provided a shock absorber insulating China's economy from bankruptcies, defaults, and unemployment, and that credit expansion has ended.

China's economy as measured through GDP in 2022 was around two-thirds of the size of the U.S. economy in dollar terms, 65 percent at current exchange rates, even based on China's suspect official data.

Given China's long-term economic challenges, there is no realistic scenario in which China's economy becomes 150 percent or 200 percent of U.S. GDP in the future, surpassing the United States by a wide margin.

The United States will continue to be challenged by China's military build-up related to Taiwan and the South China Sea, China's outsized and politicized influence within specific next-generation industries and manufacturing supply chains, economic policies artificially boosting Chinese firms' competitiveness, and behavior to influence democratic political systems around the world.

Those problems are exactly where U.S. policy and legislative efforts should focus, but none of these, military, diplomatic, or ideological areas of strategic competition with China will be changed by marginal adjustments in China's economy from current levels, even if China were to improbably reach the level of U.S. GDP, and China's slow pace of economic growth is more likely to weaken Beijing's capacity to confront the United States and its allied in these areas rather than rapid economic growth boosting China's capabilities over time.

Second, Beijing is attempting to downplay public recognition of China's economic slowdown, both inside China and internationally. The most important propaganda message for China's leaders related to the economy is that the argument that China's economic rise is inevitable and that this will reinforce China's rise in great power status.

Chinese leaders believe they can influence the narratives about the economy through conventional domestic propaganda, but also by restricting the availability of economic data and stories they dislike.

China's economic data, meaning the data points likely to generate media coverage such as GDP growth, should be understood as critical elements of China's internal and external narrative management concerning the economy. Tighter controls over data and censorship of discussion of China's economy should also be understood as reactive responses to real uncertainty among economic actors in China about Beijing's policymaking.

The narrative about China and its economy is important to the United States. The success or failure of Beijing's policymaking in a state-driven economic model determines not just the relative performance of these two competitors, but the attraction and hence the global soft power of the Chinese system and its ability to displace commitment to traditional liberal, democratic, and market economic norms.

Third, the property and local government debt crises in China are intrinsically linked. As credit growth slows, investment growth will follow, and significant proportions of that credit and investment have been channeled into property construction and infrastructure over the past decade.

Property developers delayed a long-anticipated slowdown in the industry by relying upon increasingly risky forms of financing such as the proceeds of housing sales before actual construction took place. This introduced a Ponzi-type element into the financing of China's property sector.

As sales suddenly declined, a trend that was exacerbated by lockdowns in major cities in 2022, property developers not only struggled to complete construction of homes they had already sold and promised to deliver, but also stopped buying new land from local governments. Local governments' fiscal revenues are heavily dependent upon these land sales, and the sudden loss of revenues has made it far more difficult for localities to service debt accrued during the last decade as this investment was not funded directly by fiscal spending.

The property sector's adjustment has been severe. New housing starts are down over 50 percent, 60 percent from their peak, and there is no easy solution for the local debt problem without changing China's entire growth model to make it less dependent upon investment.
The structural slowdown in China means that the United States can be more narrowly concerned about the national security implications of specific economic transactions rather than whether or not a particular action will help or hurt the Chinese economy as a whole.

There is a significant national security concerns related to the transfer of advanced technologies with military or dual use applications, but there is little at stake for the United

States in U.S. or allied investors buying stocks in Chinese consumer-focused companies or Chinese government bonds.

Most trade and investment activity between the United States and China is mutually economically beneficial and poses no national security concerns. U.S. commitments to free market principles are a valuable asset that facilitates greater alignment among our allies and partners, many of whom will be far more reluctant to impose trade and investment restrictions upon Beijing.

Given the challenges that Chinese behavior and economic statecraft poses, de-risking from China's economy is widely supported and necessary, but in a decade in which China will slow significantly independently of any action by the United States, we can more confidently keep the limits around U.S. and allied economic engagement with China narrow. Thank you.

COMMISSIONER CLEVELAND: Mr. Borst, is he on-line?

MR. BORST: Yes, can you hear me?

COMMISSIONER CLEVELAND: Thank you, go ahead.

PREPARED STATEMENT OF LOGAN WRIGHT, PARTNER AND DIRECTOR OF CHINA MARKETS RESEARCH, RHODIUM GROUP

Testimony Before the US-China Economic and Security and Review Commission

Hearing on China's Financial and Economic Challenges

August 21, 2023

Logan Wright

Partner and Director of China Markets Research, Rhodium Group

Thank you to Commissioner Cleveland, Commissioner Glas, and all of the Commissioners and staff for your kind invitation to testify at this important hearing today. My written and spoken statements here reflect my personal views and not necessarily the views of Rhodium Group.

My testimony will focus on four topics related to China's structural economic slowdown and its implications for the United States. First and most importantly, I argue that the severity **of China's ongoing economic weakness is still widely underappreciated, and the United States no longer faces a *growth* challenge from China.** Beijing is no longer an economic pacing threat or likely to overtake the United States in any significant measure of economic power in the next two decades, assuming US growth continues at roughly current rates. **Beijing will never be able to make a credible claim to global economic primacy. The challenges that the United States faces in strategic competition with China are highly significant, but they will not be exacerbated by marginal changes in China's economic performance in the years ahead.**

Second, I discuss Beijing's effort to downplay public recognition of China's economic slowdown, both inside China and internationally, in order to maintain public messages that China's economic rise is inevitable. Third, I will discuss the importance of the growth of China's financial system in China's economic expansion over the past decade, and why that expansion will not be repeated. **China's past growth has been exceptional because the expansion of credit in China has been even more exceptional.** Fourth and finally, I will argue that the crises in China's property sector and local governments are interrelated, and closely linked to the end of China's unprecedented credit expansion. There is no easy solution for the local debt problem without changing China's entire growth model to make it less dependent upon investment.

China's Structural Economic Slowdown

This year should be a sobering one for both Chinese policymakers and for analysts of China's economy. At the beginning of 2023, the widespread expectation both in Beijing and among most economists was that China would have a strong recovery from the effects of COVID restrictions and lockdowns throughout 2022. Economic growth was expected to be around 5 to 6 percent, anchored by household consumption funded by a buildup of savings during the pandemic years. The property sector was expected to rebound from a dramatic correction over the previous eighteen months. And China was expected to contribute to global inflationary pressures in both goods and energy prices, with domestic demand straining supply chains. At the end of January of this year, the

International Monetary Fund raised its China growth forecasts to 5.2%, based on the probability of improving household consumption after the end of lockdowns and COVID restrictions.[1]

It is obvious at this stage that none of those expectations have been or will be met in 2023. Household consumption has been the only driver of growth in China's economy, and remains far below pre-pandemic rates. Official July retail sales growth in China was only 2.5% compared to the previous year, and full-year growth rates of retail sales are currently only 7.3%, even in comparison to the lockdown-impacted early months of 2022.[2] The property sector has continued declining, adding to broader pressure on the economy. And China is now grappling with deflation in both consumer and producer prices, rather than contributing to global inflation.

This dark view is reflected in official data; corrected for manipulation, the picture is worse. The economy has weakened far more significantly than expected over the past two years, both under the short-term pressures produced by COVID-related restrictions and a declining property market, as well as longer-term factors linked to the unsustainability of China's credit and investment-led growth model. Aggregate economic growth in 2023 is probably closer to 2 to 3 percent than the officially published 5.5 percent for the first half.

China's current economic slowdown is structural in nature. Simply put, most of the factors that contributed to China's rapid growth over the past two decades—an expanding labor force, unprecedented credit and investment growth, a booming property sector, a one-time buildup of infrastructure, and a constructive external environment—cannot be repeated in the next decade. Most analysts agree that growth in China will not recover to its previous rates. But there is still considerable disagreement about how severe the slowdown will become, and the implications of those changes for the United States.

Among those implications, the most important is that the United States no longer faces a *growth* challenge from China. Officially, China's economy as measured through GDP in 2022 was around two-thirds of the size of the US economy in dollar terms (65 percent at current exchange rates), even based on China's suspect official data.[3] Given China's long-term economic challenges, there is no realistic scenario in which China's economy becomes 150 or 200 percent of US GDP in the future, surpassing the United States by a wide margin. Narrower relative economic gains for Beijing are simply less relevant for the China-related policy problems the United States currently faces.

The United States will continue to be challenged by China's military buildup related to Taiwan and the South China Sea, powerful natural economies of scale and scope, China's outsized and politicized influence within specific next-generation industries and manufacturing supply chains, economic policies artificially boosting Chinese firms' competitiveness, and behavior to influence democratic political systems around the world. Those problems are exactly where US policy and legislative efforts should focus. **But none of these military, diplomatic, or ideological areas of strategic competition with China will be changed by marginal adjustments in China's economic heft from current levels to 90 percent or even 110 percent of the level of US GDP, even though the latter scenario is highly unlikely.** And China's slow pace of economic growth is more likely to weaken Beijing's capacity to confront the United States and its allies in these areas, rather than rapid economic growth boosting China's capabilities over time.

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[1] Paul Wiseman, "IMF upgrades outlook for the global economy in 2023," Associated Press, January 30, 2023, https://apnews.com/article/inflation-international-monetary-fund-china-economy-business-b38530a50416d0356fec60d30da97b61.

[2] Official data released on August 15, 2023, from China's National Bureau of Statistics, http://www.stats.gov.cn/sj/zxfb/202308/t20230815_1941958.html.

[3] Calculated using official GDP data from China's National Bureau of Statistics at 121.02 trillion yuan in GDP in 2022, and the exchange rate of 7.28 CNY per USD on August 15, 2023.

It will take time before the structural slowdown in China's economy becomes more widely accepted as a prevailing view, both in Washington and around the world. But if China's economic model continues to produce growth rates inadequate to achieve China's political objectives, this should change how we respond to threats from Beijing. On the assumption that China's system delivers more growth, some have counseled Western nations to follow suit. As China's economy falters, that is revealed as ill-advised. Beijing's model of economic development over the past decade has been not only ill-suited for other emerging economies, but for China itself. Changing US economic principles and market regulations with long track records of success to counter a fading Chinese economy is unadvisable.

The structural slowdown in China means that the United States can be more narrowly concerned about the national security implications of economic transactions, rather than whether or not a particular action will help or hurt the Chinese economy. There are significant national security concerns related to the transfer of advanced technologies with military or dual-use applications. But there is little at stake for the United States in US or allied investors buying stocks in Chinese consumer-focused companies or Chinese government bonds. Most trade and investment activity between the United States and China is mutually economically beneficial and poses no national security concerns. Global investors rightly want to maintain some degree of exposure to developments in the world's second-largest economy. US investment in China over the past 30 years has totaled at least $285 billion and has generated strong returns for American companies.[4] US commitments to free market principles are a valuable asset that facilitates greater alignment among our allies and partners, many of whom will be far more reluctant to impose trade and investment restrictions upon Beijing. Given the challenges that Chinese behavior and economic statecraft poses, de-risking from China's economy is widely supported and necessary. But in a decade in which China's economy will slow significantly independently of any action by the United States, we can more confidently keep the limits around US and allied economic engagement with China narrow.

The slowdown now underway is rooted in a number of factors that will keep China's economic growth through 2030 around half the pace of the previous decade.

Demographic shifts: China's demographic headwinds are well-known at this point, with the working age population declining since 2013 and the overall population declining starting in 2022.[5] There are very few examples of major economies in the world facing declining working-age populations—Japan's case is the most prominent and probably the most directly relevant for China's experience.[6] None of these countries managed to post economic growth averaging more than 3 percent five years after the working age population declined, and it is difficult to understand why China would be different.

The end of an unprecedented credit expansion. It is impossible to separate the growth of China's economy since the global financial crisis with the growth of China's financial system. From the end of 2008 to 2016, China's banks added $26.8 trillion in assets, equivalent to around one-third of global GDP. Since then, credit growth has basically been cut in half, falling from an average of 18% from 2007 to 2016 to just over 9% since 2017 (Figure 1).[7] Given the size of China's banking system, at $56 trillion in assets or over half of global GDP, and legacy costs of

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[4] Totals from Rhodium Group, "The US-China Investment Hub," covering data from 1990 to December 2020, www.us-china-investment.org.

[5] Albee Zhang and Farah Master, "China's first population drop in six decades sounds alarm on demographic crisis," Reuters, January 17, 2023, https://www.reuters.com/world/china/chinas-population-shrinks-first-time-since-1961-2023-01-17/.

[6] Other countries among the top 25 economies in the world experiencing declining working-age populations besides Japan include Germany for a limited timeframe before 2012, Poland, Russia, and Italy.

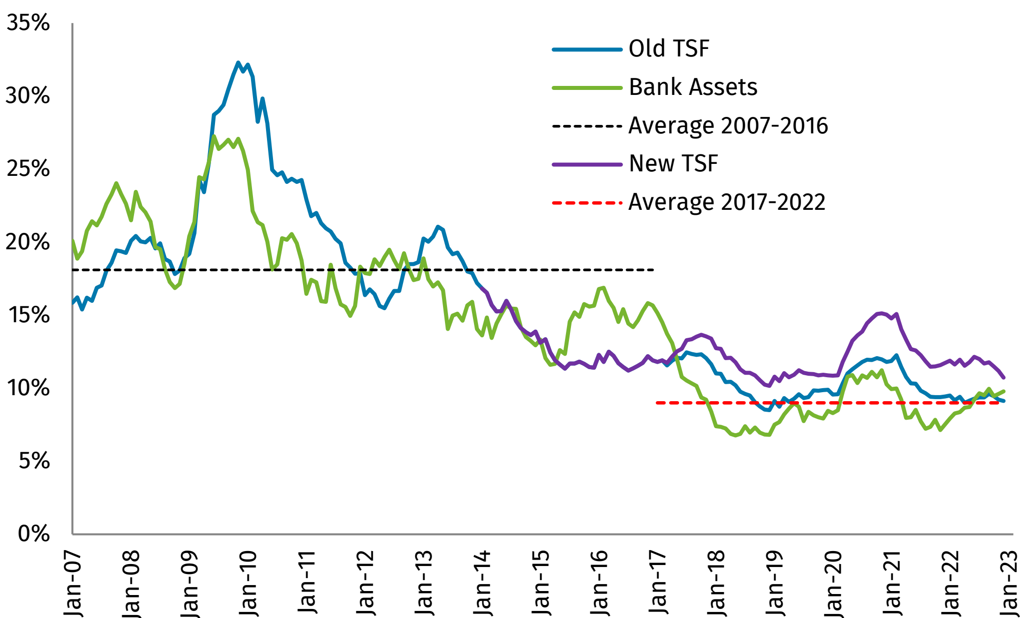
[7] Logan Wright, "The End of China's Magical Credit Machine," Rhodium Group, January 5, 2023, https://rhg.com/research/magical-credit-machine/. Credit aggregates here measured in terms of an average of total societal financing (TSF) from the People's Bank of China and bank assets as reported on the "Balance Sheet of Other Depository Corporations," with the 2023 version of the dataset here: http://www.pbc.gov.cn/diaochatongjisi/resource/cms/2023/07/2023071417041875025.htm.

the last expansion of unproductive investment, China will not be able to maintain the same rates of credit growth in the future.[8] The ceiling for credit growth between now and 2030 is probably in the range of 12-13%, and will frequently be lower (the current pace of credit growth in China is only 8.9% as of July 2023). That means that investment growth will remain under pressure as well, while China's financial system will no longer be as capable of insulating unproductive enterprises from defaults.

Figure 1

Measures of China's Credit Growth, 2007 – 2022

Percent yoy



Source: People's Bank of China, Rhodium Group calculations. "Old" and "new" TSF refer to measurements of China's total societal financing as provided by the PBOC, before and after significant revisions in how the series was calculated from 2017 to 2019.

The adjustment of China's property sector. China's property sector was the most important industry in China's economy throughout the past decade, representing around 20 to 25 percent of GDP.[9] Since major property developers started to default in 2021, new housing starts have fallen by over 56 percent from their peak levels. Land purchases by China's top 50 developers are currently at levels that are only around 10 percent of purchases from 2017 to 2020. Even when this market correction ends, China's property sector will never rebound to its past levels of construction and sales, and will probably settle around 40 to 50 percent of its previous peak. Home ownership levels in China are already very high, household debt levels have risen sharply in recent years, and new urban household formation rates will decline over time given China's demographic headwinds.

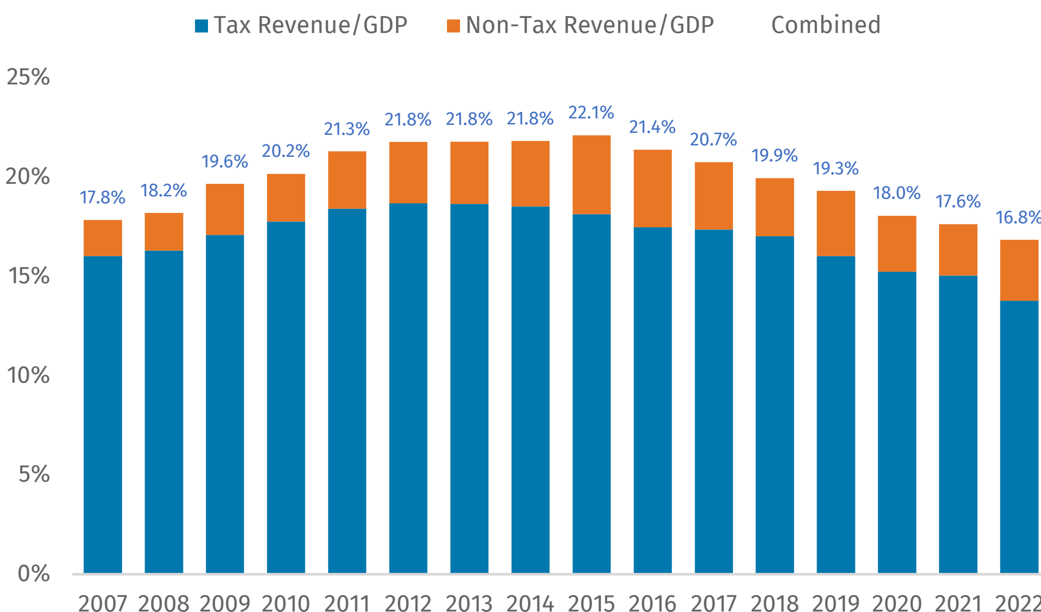
Limited fiscal capacity. China's local governments are struggling with significant debt burdens, which will limit China's capacity to use fiscal policy countercyclically to stabilize the economy. China's central government has a

[8] Calculation of the size of China's banking system based on June 2023 totals of 402.8 trillion yuan in banking system assets, from People's Bank of China, using current exchange rates of 7.2 CNY per USD. "Balance Sheet of Other Depository Corporations," http://www.pbc.gov.cn/diaochatongjisi/resource/cms/2023/07/2023071417041875025.htm.

[9] There are many different estimates within academic and financial markets literature available for the size of the property sector relative to China's GDP. The highest available estimate was 29 percent, based on 2016 data that was then revised lower, available via Kenneth Rogoff and Yuanchen Yang, "Peak China Housing," National Bureau of Economic Research, Working Paper No. 27697, August 2020, https://www.nber.org/system/files/working_papers/w27697/w27697.pdf.

relatively low level of debt, at only 21% of GDP, primarily because local governments have funded the majority of China's investment activity over the past decade, borrowing from banks through state-owned enterprises and financing vehicles.[10] Local governments are tasked with providing most social services in China, but depend upon fiscal transfers from the central government in order to meet these obligations. The debt servicing costs from past investments only add to those local fiscal pressures. Given high local debt burdens, channeling more resources to local governments is unlikely to produce a surge in investment or economic growth. Beijing also has a broader problem in maintaining tax revenues as investment and manufacturing output growth slows, given most tax comes from value-added taxes or enterprise income taxes, with aggregate tax revenues falling from 18.5% of GDP in 2014 to 13.8% in 2022 (Figure 2).[11]

Figure 2
Tax and Non-Tax Revenues in China Relative to GDP, 2007 - 2022
Percent



Source: Ministry of Finance, Bloomberg, Rhodium Group calculations.

China's external environment will be less accommodative. Over the past two decades since China's accession to the WTO, the barriers to China's external engagement with the rest of the world have been falling. The picture over the next decade will not be the same, with more countries imposing trade and investment restrictions on Beijing. Companies are actively discussing "de-risking" and diversification strategies to reduce reliance upon China as a sole supplier in several industries.

The reversal of structural reforms. One of the primary causes of both China's structural slowdown as well as the change in the external environment facing Beijing has been the slow pace or outright reversal of structural reforms to China's economy that were promised during the Third Plenum of the 18th Party Congress in 2013. China has attempted many such reforms, but has quickly reversed course when the costs of the changes became readily evident in the form of market corrections or suddenly emerging financial risks. The net result has been a

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[10] Data on China's total government debt from Chinabond, "Monthly Statistics," April 2023, with 25.6 trillion yuan in central government bonds outstanding.
[11] Data concerning total tax revenues from China's Ministry of Finance, available via Bloomberg.

low pace of total factor productivity growth, which the International Monetary Fund has estimated at 0.7 percent over the past decade.[12] Any meaningful change in China's economic trajectory will require a significant reinvigoration of structural reform efforts to reduce the role of the state in the economy and credit allocation, which will be necessary to boost productivity growth. It is probable that Beijing will soon attempt to restart some of the reform agenda that has been set aside over the past decade, given the low-growth consequences of continuing on their present course. But the costs of structural reform have risen significantly over the years of inaction.

China will still see improving economic growth from time to time over the next decade. Next year, for example, actual economic momentum in China may pick up, in part because the downturn in the property market has been much more severe than anticipated in 2023, and state-owned property developers may restart construction. But this is typical of economic cycles. The structural downshift in China's economy is already underway, and represents a far more significant break with the past than currently understood.

Narrative Matters: China's Attempts to Control Economic Data

It will take time before the structural slowdown in China's economy is accepted as conventional wisdom. Beijing will also attempt to control the internal and external narrative about China's economy, which will introduce further confusion in the years ahead.

The most important propaganda message for China's leaders related to the economy is the argument that China's economic rise is inevitable, and that this will reinforce China's rise in great power status. As a result, the international press and coverage of China's economy often forces Beijing to react to reinforce their preferred economic narratives, either with new official messages or with policy responses to address specific problems. Chinese leaders believe they can influence the narratives about the economy through conventional domestic propaganda efforts, but also by restricting the availability of economic data and stories they dislike. China's headline economic data—meaning the data points likely to generate media coverage, such as GDP growth—should be understood as critical elements of China's internal and external narrative management concerning the economy.

The shift in Beijing's censorship concerning the economy has been significant over the past decade. When I lived in Beijing for most of 2001 to 2015, discussion about the economy was relatively unrestricted, and not considered politically sensitive. That has changed under Xi Jinping, but particularly since China's stock market crash and currency depreciation in 2015. This year, however, censorship and limitations on discussion of the economy have reached a new crescendo. Because few Chinese analysts are openly discussing the weak economic rebound, discussions of deflationary pressure in China have served as a proxy for the broader economy—no one can talk about growth, but you can talk about deflation. Now with China experiencing deflation in both headline consumer and producer prices, that discussion has been limited as well.[13] Some domestic analysts have been fired from their jobs or have seen their social media access restricted for negative comments concerning the economy.[14] Just last week, China's statistical bureau suspended the publication of monthly data concerning China's youth unemployment rate, as this had become a significant focal point for overseas discussion of China's economic

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[12] Total factor productivity growth figure contained within International Monetary Fund, "Press Briefing 2021 China Article IV," January 28, 2022, https://www.imf.org/en/News/Articles/2022/01/29/tr012722-press-briefing-2021-china-article-iv.

[13] Sun Yu, "Chinese economists told not to be negative as rebound falters," Financial Times, August 5, 2023, https://www.ft.com/content/b2e0ad77-3521-4da9-8120-1f0c1fdd98f8.

[14] The case of Hong Hao leaving his prior position is discussed in Xie Yu, "China analyst leaves state-owned brokerage after bearish commentaries," Reuters, May 4, 2022, https://www.reuters.com/world/china/china-analyst-leaves-state-owned-brokerage-after-bearish-commentaries-2022-05-04/.

slowdown.[15] New controls on cross-border transmission of data raise further concerns that China is attempting to manage foreign access to data that could be used to support alternatives to official narratives concerning the economy. Ultimately, these restrictions hurt Beijing far more, as no foreign investor can have confidence in an investment in China if they are unable to perform adequate due diligence.

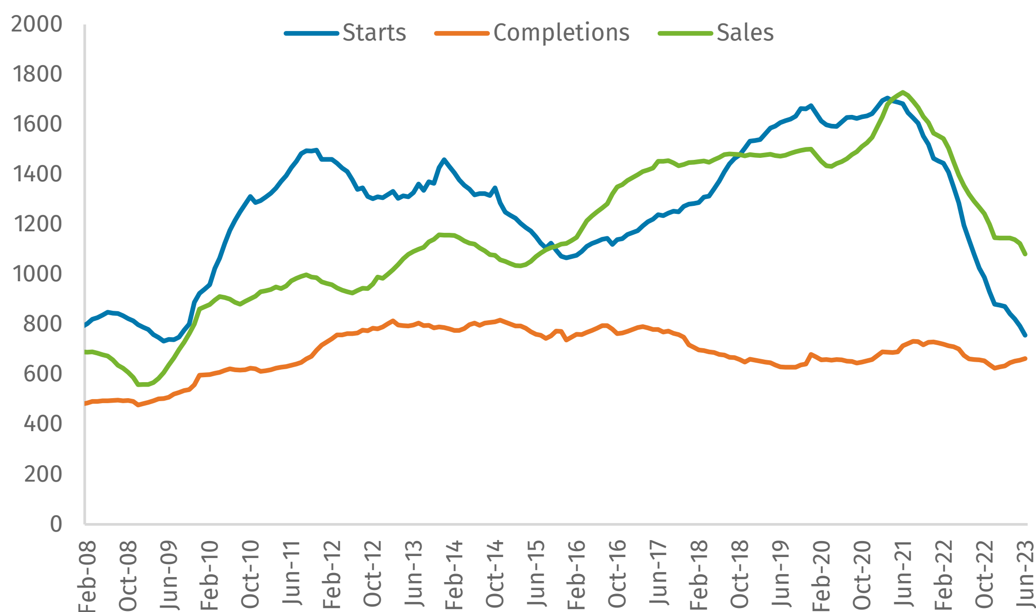
Moreover, there is considerable evidence that China's official economic growth has been overstated over the past decade, and particularly in 2022 and 2023. China's quarterly GDP data were the most stable we could find for any major economy from 2015 to 2019, varying only 1.3 percentage points in year-on-year terms over that five-year period. The reported stability in economic growth contrasted clearly with Beijing's own actions over that time, dramatically changing monetary and fiscal policy settings to manage regular economic cycles.

In 2022, it is highly probable that China's economy contracted, in contrast to reported growth of 3%, under the pressure from lockdowns and COVID restrictions in the second quarter and then in the fourth quarter last year. Headline retail sales growth was reported as falling last year, by 0.2 percent. The downturn in the property sector was extremely stark, with sales down 28%, new housing starts down 40%, overall investment levels down 10%, and land area purchased down 53%.[16] These are not minor disruptions—they reflect a bubble bursting. Aside from a modest pickup in China's trade surplus, it is difficult to understand what part of China's economy actually grew in 2022.

Figure 3

Major Property Sector Indicators in China, 2008 - 2023

Million sqm



Source: National Bureau of Statistics, Rhodium Group calculations.

This year, the story is simpler, as there has been a rebound in household consumption, but it is clearly occurring at rates too slow to support growth close to China's officially targeted level of 5%, as household consumption is only

[15] Thomas Hale, "China stops reporting youth unemployment as economic pressures mount," Financial Times, August 15, 2023, https://www.ft.com/content/a14ef388-5fea-4696-9791-0379b37e68bf.

[16] Data are all official calculations from National Bureau of Statistics data series concerning China's residential property transactions in 2022, reported via CEIC.

38% of China's economy. The property sector continues declining, and overall construction activity has slowed further. Local government investment is impaired by high debt levels, and private sector investment has contracted in China. Exports are now starting to decline as well. Economic growth in China is trending closer to 2-3% than the officially reported levels of 5.5% for the first half of the year. It is probable that the size of China's economy should be around three quarters of a trillion dollars smaller in GDP terms based on the overstatements in growth in 2022 and 2023 alone.

Most of Beijing's efforts to prop up the economy in recent months have focused on rebuilding confidence, among private sector firms, among consumers, and among foreign investors. This follows from China's response to the global financial crisis in 2008. Following the crisis, all Beijing needed to do to stimulate the economy was provide cheap credit to state-owned enterprises and local governments, while encouraging other actors in the economy to pile in. But those same tools are no longer available. Credit growth is limited, and inefficient in driving investment. Local government fiscal capacity is constrained by high debt levels. Encouraging consumer and business confidence is one of the only tools Beijing has at its disposal, which is exactly why censorship and control over economic messaging have become tighter this year.

The narrative about China and its economy is important to the United States. The success or failure in Beijing's policymaking, and in a state-driven economic model, determines not just the relative performance of these two competitors, but the attraction—and hence the global soft power—of the Chinese system and its ability to displace commitment to traditional market economic norms. China's current economic leadership is completely untested in countering challenges of this magnitude, precisely because these problems are unprecedented—there is very little global experience from which Beijing can draw. Tighter controls over data and censorship of discussion of China's economy should be understood as reactive responses to real uncertainty among economic actors in China about Beijing's policymaking.

The Financial System and China's Economic Growth

One of the least understood aspects of China's economic record over the past decade has been the linkage between the rapid growth of China's financial system and economic performance. China's current economic slowdown is structural primarily because the unprecedented credit expansion that took place from 2008 to 2016 cannot be repeated in the next decade. **This was the largest single-country credit expansion relative to global GDP in over a century. Credit growth of this magnitude not only powered significant volumes of local government investment and property construction, but most importantly, it provided a shock absorber insulating China's economy from bankruptcies, defaults, and unemployment.** China's typical response to any economic slowdown over the past decade has been to unleash the same credit-funded local investment that was used to response to the global financial crisis. Innovation in counter-cyclical policymaking has been limited. One of the most accurate post-mortems of the US financial crisis was Steve Eisman's comment about US banks, claiming "they mistook leverage for genius."[17] Over the past decade, many analysts have mistaken China's credit expansion for the competence of policymakers.

No financial system can expand significantly faster than the real economy for several years without either significantly expanding the scope of financial services ("deepening" of the financial system) or adding credit risks by extending finance to less credit-worthy borrowers. In China's case, the financial system became far less stable between 2012 and 2016. Before 2012, the system was largely financed by deposits and made loans to state-owned enterprises and local governments, while there were steady inflows of liquidity from China's trade and capital

[17] Eisman has used the quote in several media interviews, but it is mentioned in Suzy Waite and Nishant Kumar, "Steve Eisman Says Wall Street Executives Mistook Leverage for Genius," Bloomberg News, February 22, 2018, https://www.bloomberg.com/news/articles/2018-02-22/steve-eisman-says-wall-street-execs-mistook-leverage-for-genius.

account surpluses. China's financial system may have been inefficient in generating growth, but it was generally stable.

By 2016, China's shadow banking system had grown significantly, encouraged by continued credit demand, financial speculation, and a lax and uncoordinated system of regulatory oversight. Marginal financing from the system no longer came from stable deposits but was instead sourced from commercial paper-like wealth management products (WMPs). Marginal lending growth was made by third-party asset managers or informal "shadow" lenders rather than banks. And banks were forced to confront rapid changes in capital inflows and outflows, leaving them more vulnerable to sudden shifts in liquidity conditions. Many compared the growth in China's informal lending channels to US conditions ahead of the global financial crisis.[18]

Beijing launched an aggressive deleveraging campaign to reduce risks within the financial system in the summer of 2016. The net result of that campaign has been a dramatic reduction in the footprint of shadow banks within the economy, but also a significant slowdown in overall credit growth. As credit growth has been cut almost in half, more and more borrowers are struggling to manage their past debts, and credit risks have emerged rapidly—first in peer-to-peer lenders, then in smaller banks, then in trust companies and property developers, and finally among local governments themselves. The key point is that while it was sensible for Beijing to address rising financial risks, the shadow banking system was far larger than Beijing could have known at the start of the deleveraging campaign. As a result, controlling shadow banks ended up producing a significant adjustment in China's overall economic growth and in the ability of several entities to access financing.[19]

The deleveraging campaign launched in 2016 ended China's unprecedented credit expansion. But even if Beijing now wanted to expand credit rapidly, there is no way to generate the same rates of credit growth as in the past. The banking system is not only already holding assets equivalent to over half of global GDP, but is already struggling with significant de facto non-performing loans, most of which are undeclared. With the likely slowdown in credit growth to single-digit rates in the next decade, China's investment growth—the key engine of the economy—will slow as well. It is impossible to consider the long-term growth of China's economy without considering the long-term growth of China's financial system.

The Property and Local Government Crises in China

The correction in China's property market has attracted considerable media coverage over the past two years, for good reason. Property was China's most important industry, representing around 20 to 25 percent of GDP. Starting in 2017, property developers responded to the loss of credit from shadow banking channels by borrowing directly from homebuyers, offering houses for sale before construction was finished. In China, developers can collect 100% of the purchase price in advance, and homebuyers will even start paying mortgages on unfinished apartments because they believe that prices will continue to rise. This introduced a Ponzi element to China's property construction in the late 2010s: new sales were necessary to finish construction on the houses that had already been promised, but remained incomplete. Between 2015 and 2021, annual revenues from pre-construction sales tripled, from 5.3 trillion yuan ($833 billion at end-2021 exchange rates) to a peak of 16.3 trillion yuan ($2.56

[18] For a more extensive discussion of the changes in China's financial system from 2012 to 2016, please see Chapter 2 of Logan Wright and Daniel Rosen, "Credit and Credibility: Risks to China's Economic Resilience," Center for Strategic and International Studies, October 2018, https://www.csis.org/analysis/credit-and-credibility-risks-chinas-economic-resilience.
[19] For a far more extensive discussion of China's deleveraging campaign and its impact on the real economy, please see Logan Wright, "Grasping Shadows: The Politics of China's Deleveraging Campaign," Center for Strategic and International Studies, April 2023, https://www.csis.org/analysis/grasping-shadows-politics-chinas-deleveraging-campaign.

trillion).[20] This was a huge extension of credit from homebuyers to developers, funded via mortgage loans. That credit drove China's new housing starts to a new peak in 2020 and 2021, driven by demand from speculators. This speculative demand produced a massive imbalance between housing construction and fundamental demand from owner-occupiers. When sales started to decline, and then COVID controls caused them to collapse, property developers could not finish construction activity, and started to default on homebuyers. This weakened sales further in a vicious cycle, and caused more property developers to default on their debt, slowing overall construction activity and the broader economy.

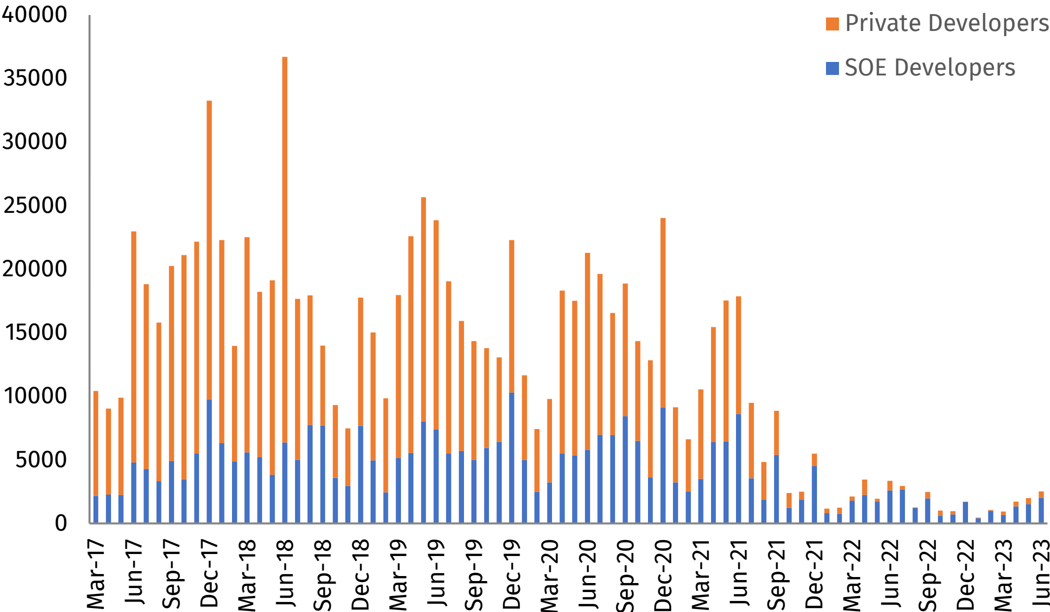
Similarly, there has been extensive focus on China's local government debt problem, with rising debt levels impacting social service provision at the local level and preventing Beijing from using fiscal policy to stabilize the economy. China's Politburo has recently pledged to unveil a comprehensive "basket of measures" to manage local government debt.[21] Local government investment has been a critical component of China's economic growth model. **There is no easy "fix" for the local debt problem without changing China's entire growth model.**

In many ways, these two crises are closely linked, and are tied to the end of China's unprecedented credit expansion. Property developers not only generated considerable employment and investment growth in China's economy, but boosted local fiscal coffers through land sales. The sudden correction of the industry has led to a sharp overall drop in land sales, particularly from the largest developers (Figure 4).

Figure 4

Land Purchases by China's Top 50 Developers, Mar 2017 – Jun 2023

Thousand sqm



Source: China Real Estate Information, via CEIC.

[20] Data on pre-construction residential housing from National Bureau of Statistics, as reported via CEIC, using annualized revenue totals.

[21] Kevin Yao and Samuel Shen, "China can no longer 'extend and pretend' on municipal debt," Reuters, August 7 2023, https://www.reuters.com/markets/asia/china-can-no-longer-extend-pretend-municipal-debt-2023-08-06/.

Fiscal revenues from land sales declined by 2 trillion yuan or 23% in 2022 alone, but land purchases are typically paid with a one-year lag.[22] China will see declining local government fiscal revenues until at least the end of 2024, even if the property sector stabilizes soon. The weakness in China's property sector has aggravated the immediate financial stress on China's local governments. These two forces worked in tandem to boost China's economy over the past decade, and now represent significant drags on economic growth.

The collapse of China's property bubble and the weakness in local government financing conditions have also aggravated Beijing's longer-term problems in maintaining fiscal capacity. China's tax collection system is far different from those in most developed economies. Beijing depends heavily upon value-added taxes, usually collected in manufacturing, and on enterprise income taxes, rather than individual income taxes or consumption taxes. China cannot grow out of its local government debt problem in ways that will make it more manageable over time, in part because weakening local government investment and industrial output will also correspond to weaker overall tax collection in China, and will widen fiscal deficits beyond the current levels of around 7% of GDP, including both central and local government balances. Tax revenues as a proportion of the economy have fallen significantly in recent years, and remain dependent upon investment-led growth.

Larger fiscal deficits alone are not necessarily a huge problem for Beijing, as they can be financed internally. But by necessity, Beijing's fiscal ambitions will also be constrained in the years ahead, because of the pressures created by the crisis in the property sector and local government finances. The scaling back of those ambitions has implications for China's military buildup, for investments in advanced technologies, and in external lending activity to other developed economies. Because Beijing will continue to prioritize these elements, none will experience a sudden drop in financing in the near future. But the economic foundation for China's broader policy ambitions will weaken. Maintaining fiscal capacity will become increasingly challenging, and will likely require significant reforms to the tax system.

Recommendations

US officials and lawmakers should speak candidly about China's current economic challenges and the problems of its economic data. All of the problems discussed above are occurring because of central features of Beijing's economic model. Negative economic spillovers from problems in China's economic model will impact American interests both directly and indirectly, and Washington has a legitimate and defensible interest in discussing the economic outlook in a systemically important country such as China. Many US officials are already discussing China's economic challenges. The United States should highlight those problems to external audiences but should not seek to aggravate them with specific policy measures. Beijing will blame the United States for doing that anyway. The audience for the US messages concerning China's economy should be countries that have deepened economic engagement with China over the past decade. Speaking more forthrightly about China's current economic challenges can help to counteract Beijing's own narratives that present its economic rise as inevitable.

Congress should prepare more active steps to extend alternative channels of financial support to emerging economies struggling to renegotiate debts with Beijing. No issue highlights the discrepancy between China's past economic strength and its current slowdown more than the change in Beijing's external lending practices to emerging economies. Beijing will not be in a strong fiscal or financial position to extend debt relief to multiple emerging economies, many of which are struggling with US dollar-denominated loans extended via commercial terms from China, in contrast to the concessionary terms offered from multilateral development banks. China has

[22] Data from Ministry of Finance and reported via CEIC. China recorded 8.68 trillion yuan in land sales revenues in 2021 and 6.71 trillion yuan in 2022.

been very slow to engage in negotiations over its external lending, as evidenced by the recent settlement involving Zambia. But without alternative financing options available, which will need to be led by the United States and its allies, Beijing will continue to remain central to economic diplomacy involving developing countries who are seeking alternative options to unlock additional channels of private sector financing. Even if these funding options are never used, a credible offer of alternatives will help to push Beijing back to the negotiating table for debt relief, out of fears of being bypassed (and facing immediate defaults) by official and private creditors.

Develop trade policy options that facilitate de-risking and supply chain diversification. In those areas which do require some degree of managed de-risking from economic engagement with China, it is crucial that Washington take stock of what next-generation trade and investment policies are needed. By design, the extant system enables China to use its natural scale and artificial policy advantages to grow its global position in many sectors. If alternative countries are to close the gap with China in critical industries, then new US economic diplomacy will be needed, both to facilitate that investment, and to reduce trade barriers to expand access to markets in the United States and among allies and partners.

Financial decoupling measures are high-risk and low-return. The main effect of US efforts to initiate financial decoupling from China will be to hand Beijing an easy explanation for falling capital inflows that will happen anyway, if economic and financial market reforms continue to be delayed, rather than bearing the blame themselves. Beijing will continue to struggle on its own to reduce perceived risks of investing in its onshore markets, given lower returns, weaker economic growth, and a volatile approach to market regulation. Market forces including responses to changing Chinese interest rates have already produced significant shifts in capital flows from China. Even “success” in driving divestment from Chinese markets may end up producing market distortions that make inbound investment more attractive to other types of global investors. There will be no shortage of capital outflows from China over the coming decade, primarily because of the diversification of China’s own household and corporate savings. But efforts to actively drive disinvestment from China offer little benefit to the United States, and may damage US pro-market credibility in other areas. Shifting global manufacturing and critical supply chains away from China will already be a costly project in terms of economic efficiency and the need for subsidized investments in some sectors, and decisions to incur those costs should be focused on areas with far greater national security concerns at stake.

OPENING STATEMENT OF NICHOLAS BORST, VICE PRESIDENT, DIRECTOR OF CHINA RESEARCH, SEAFARER CAPITAL PARTNERS

MR. BORST: Thank you so much and I'd like to start by thanking the Commissioners for the opportunity to participate in today's hearing. I will relay my observations from reviewing China's recent economic data and visits to ten different Chinese cities over the course of this year.

The Chinese economy is currently in a weak position. While the economy performed well in the early years of the pandemic, growth decelerated sharply in 2022 due to lockdowns and a severe decline in the real estate sector.

Since Beijing abruptly reopened the country at the beginning of the year, the economic situation has improved somewhat. However, activity is substantially weaker than many of the projections made at the beginning of 2023. China has not only failed to have a reopening boom, it is now in danger of losing economic momentum.

The current state of the Chinese economy can be primarily attributed to three policy decisions made over the past several years, a failure to moderate the real estate deleveraging campaign, a crackdown on the private sector that has damaged business confidence, and a failure to adequately prepare for the post-COVID era.

Equally important, the Chinese government has backtracked during this period on addressing fiscal imbalances between the central and local governments. This has created new financial risks and further hindered the country's economic recovery.

The first policy mistake was the real estate deleveraging campaign. In 2020, the Chinese government decided to push ahead with a major restructuring of the property sector. A primary focus of this effort was to force property developers to deleverage their balance sheets.

However, these policies soon created a severe financing crunch across the entire industry. The riskiest and most overleveraged property developers ran into trouble first, but the financial stress soon expanded to the entire sector.

No longer able to obtain financing, property developers began pausing work on new housing projects. Many Chinese home buyers who had prepurchased apartments refused to make mortgage payments, fearing that their homes would not be completed.

The government has since tried to unwind many of these policies. However, the property market remains weak and financing challenges for real estate developers have not been resolved.

The second policy mistake was the crackdown on the private sector. In late 2020, Chinese regulators initiated a sweeping and unpredictable campaign that became known as the regulatory storm.

Chinese social media and e-commerce platforms were forced to restructure their business models. Certain industries, most notably the private education sector, were nearly regulated out of business.

China's creative industries faced stringent new censorship rules and a freeze on content approvals. The retail, payment, and consumer lending industries were put under new regulations that fundamentally crimped demand.

At the same time, the Communist Party redoubled its efforts to establish party organizations within private companies and exert greater control. The cumulative effect of these new policies has been devastating for many of China's leading private firms, and has contributed to the sharp decline in private investment.

The third policy mistake was the lack of planning for the post-pandemic era. At the end of 2020, it became clear that effective COVID-19 vaccines were possible and that countries needed to begin adjusting their approach to the pandemic. However, China held steadfast to a Zero-COVID policy that effectively sealed it off from the rest of the world.

While most countries unwound pandemic controls in 2021 and 2022, Chinese authorities engaged in a series of strict lockdowns and quarantine measures. The economic damage from these lockdowns was tremendous, especially to small businesses who received insufficient government support.

This has had a direct impact on high levels of youth unemployment today, and even though pandemic restrictions have now been lifted, consumers are understandably cautious and unwilling to increase their spending.

Perhaps most importantly, Beijing has failed to address local government debt problems during this period. The severe fiscal imbalances between the central government and local governments are at the heart of many distortions in the Chinese economy and are the most pressing financial risk facing the country.

Local governments have borrowed extensively, both directly and through off-balance sheet vehicles called LGFVs. While some of this investment may be going into useful projects such as infrastructure, there is also likely to be a significant amount of waste.

Further compounding problems, most LGFVs have limited cash flows and must rely on new financing. To remain financially solvent, LGFVs must either continue to borrow or receive financial support from local governments.

However, the financial condition of local governments has deteriorated due to lower land sales and high levels of pandemic spending. This has increased the risk that local governments may no longer be able to bail out struggling LGFVs, leading to an increase in defaults.

China's unresolved debt problems mean that the economy is likely to continue slowing. Beijing's past approach has been to muddle through by providing support to struggling borrowers and relying on rapid economic growth to lessen debt burdens over time. However, this is unlikely to work well this time. The economy's slowing trajectory means that China cannot easily grow its way out of debt.

Additionally, local governments are constrained in their ability to support the economy due to highly indebted balance sheets. If China neglects to undertake important fiscal reforms, it faces the risk of a prolonged period of slow economic growth.

Fiscal reform could be an opportunity to set China on a path towards more rapid growth and address many of the core imbalances in the economy. However, I believe this course of action is unlikely given that many of the adjustments required directly conflict with the ideological priorities of the Xi Jinping government.

While these issues are primarily domestic for China, I believe there are implications for the U.S. The economic challenge from China has changed. China's economy has slowed and it is unlikely to recover its rapid growth trajectory.

The Chinese government is likely to be intensively focused on efforts to address its own internal economic challenges over the next several years. The Party's efforts to exert greater control over the private sector have damaged some of the most dynamic and innovative parts of the Chinese economy, and Chinese local governments will have fewer financial resources to support Beijing's policy initiatives and stimulate the economy.

China's economic slowdown, combined with the strong performance of the American economy, provide U.S. policymakers with a strong negotiating position. China needs foreign investment and access to overseas markets to sustain its economy.

China is still one of the United States' most important export and investment markets, and improving conditions for American companies doing business with China should be a priority. The current moment is a favorable one to seek greater market access and other reforms that will directly benefit American firms and boost exports. Thank you.

COMMISSIONER GLAS: Thank you. Dr. Liu?

PREPARED STATEMENT OF NICHOLAS BORST, VICE PRESIDENT, DIRECTOR OF CHINA RESEARCH, SEAFARER CAPITAL PARTNERS

Testimony before the US-China Economic and Security Review Commission

Hearing on China's Current Economy: Implications for Investors and Supply Chains

August 21, 2023

Nicholas Borst

Vice President and Director of China Research, Seafarer Capital Partners

The Chinese economy is currently in a weak position. The country's economy performed well in the early years of the pandemic. However, growth decelerated sharply in 2022 due to the implementation of draconian lockdowns in cities across the country and a severe decline in the real estate sector. Since Beijing abruptly reopened the country at the beginning of the year, the economic situation has improved somewhat (Figure 1). However, activity is substantially weaker than many of the optimistic projections that prevailed at the outset of 2023. China not only failed to have a reopening boom, it is now losing economic momentum.

Much attention has been focused on long-term factors impacting China's growth, such as an aging and shrinking population. But the current state of the Chinese economy can be more directly attributed to three policy decisions made over the past several years: a failure to moderate the real estate deleveraging campaign, a crackdown on the private sector that has damaged business confidence, and a failure to adequately prepare for the post-Covid era.

Equally important, the Chinese government has backtracked during this period on addressing fiscal imbalances between the central government and local governments. This created new financial risks and further hindered the country's economic recovery. Local governments play a key role in stimulating the economy during downturns through infrastructure investment and other spending. However, as local governments have become more indebted, they have become less able to support the economy. As a result, one of the key tools Beijing has relied upon to boost economic growth has become significantly less effective.

I. Policy Mistakes Have Damaged the Economy

Real Estate Deleveraging Campaign: In 2020, the Chinese government decided to push ahead with a major restructuring of the property sector. One of the most important policies issued during this period was the Three Red Lines, a set of balance sheet constraints for property developers that were intended to force deleveraging.[1] Economists for years had warned about the potential dangers of a real estate

[1] The policy sets out balance sheet rules that real estate developers must adhere to or face restrictions on their ability to borrow. They require developers to maintain a liabilities-to-assets ratio of less than 70%, a net-debt-to-

bubble.[2] According to international comparisons, the share of the Chinese economy connected to real estate was extraordinarily high.[3] Moreover, price levels in China's Tier 1 and Tier 2 cities had increased well beyond what could be supported by the income of a typical Chinese household.

China's real estate developers were at the heart of many of the imbalances in the property market. As China underwent the largest urbanization transition in world history, Chinese real estate developers grew to be enormous. Between 2010 and 2021, the total liabilities of Chinese real estate enterprises increased by more than 5 times, to more than 12 trillion dollars.[4]

Many real estate developers expanded their businesses in a financially reckless manner, borrowing heavily to fund an aggressive accumulation of land holdings and using pre-sales from one project to fund another. Additionally, some real estate developers used their ability to borrow to expand into completely unrelated business lines, such as electric vehicles. It is therefore unsurprising that policymakers in China would seek to tame speculation in the property market and force real estate developers to clean up their balance sheets. The problem is that the approach adopted by Beijing was too rigid and implemented during a time when the rest of the economy was facing a slowdown.

In 2021 and 2022, property developers soon faced a severe financing crunch. Obtaining funding from pre-sales, bank loans, and bond issuances all became difficult (Figure 2). The riskiest and most overleveraged property developers ran into trouble first, but the financial stress soon expanded to the entire sector. No longer able to obtain financing, property developers began pausing work on new housing projects. The Chinese residential real estate market relies heavily on pre-sales of new homes. Faced with the prospect that their pre-purchased homes would not be completed, some Chinese homebuyers refused to make mortgage payments, further increasing stress in the property market.

Once the impact of the real estate crackdown began to be fully recognized, the Chinese government moved to undo some of the damage. Policies such as the Three Red Lines were relaxed, and the government put forward a series of measures to restore financing channels to real estate developers. Moreover, at Beijing's direction, local governments started to force the completion of stalled property projects, ordering construction to resume while the debate over who would bear debts and losses continued. To help put a floor underneath the land sales market, local government financing vehicles (LGFVs) stepped in as the buyers of last resort during land auctions.

As a result of this turnabout in government policy, there is some indication that the sharp decline in real estate has been arrested. However, the property market remains weak, and the recovery has continued to significantly underperform optimistic assessments by analysts. One key problem is that the financing challenges for real estate developers have not been fully resolved. This is particularly the case for private sector developers who have faced more severe financing constraints relative to their state-owned competitors. Another major issue is that investment demand for new properties is now substantially lower.[5] The events of the past few years have convinced many Chinese investors that real

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equity ratio of less than 100%, and a cash-to-short-term-debt ratio of less than 1. Bloomberg. "What China's Three Red Lines Mean for Property Firms," October 8, 2020. https://www.bloomberg.com/news/articles/2020-10-08/what-china-s-three-red-lines-mean-for-property-firms-quicktake#xj4y7vzkg.

[2] Lardy, Nicholas. 2012. Sustaining China's Economic Growth After the Global Financial Crisis. The Peterson Institute for International Economics.

[3] Rogoff, Kenneth, and Yuanchen Yang. 2020. "Peak China Housing." National Bureau of Economic Research, August. https://www.nber.org/system/files/working_papers/w27697/w27697.pdf.

[4] CEIC Data, accessed August 7, 2023.

[5] Wang, Lisheng, Hui Shan, Maggie Wei, Xinquan Chen, Yuting Yang, and Andrew Tilton. "China: 'L-Shaped' Property Sector Recovery Ahead without a Quick Fix." Goldman Sachs. June 11, 2023.

estate investment is no longer a sure bet and that they may indeed face losses if they overpay for a second or third apartment. Finally, Chinese demographic trends are now turning against the housing market. A shrinking population and slowing urbanization rate mean that there will be less demand for new housing going forward. All these factors mean that the Chinese real estate market is unlikely to return to rapid growth.

Crackdown on the Private Sector: A sweeping and unpredictable regulatory campaign has damaged the business environment in China. These efforts began with the abrupt cancellation of Ant Group's much-anticipated initial public offering (IPO) mere days before it was scheduled to occur in 2020. Ant Group had originally been spun out of Alibaba Group and had quickly revolutionized the Chinese financial system by offering convenient retail payments, affordable consumer loans, and attractive savings products.

There remains significant debate about why the IPO was terminated so suddenly. Some analysts point to an October 2020 speech given by Alibaba's Jack Ma in which he is alleged to have challenged the authority of Chinese regulators and attracted the attention of Xi Jinping.[6] Others point to the speed of Ant's growth and the number of different product lines it offered as creating concerns about potential risks in the financial system. Additionally, Ant had emerged as a potent threat to China's state-owned banks, which have never been innovative or oriented toward retail customers. Regardless of the reason, after the IPO was terminated, both Ant and Alibaba were subjected to intense regulatory scrutiny, forced to change key business practices, and subjected to large fines.

Following the actions against Ant and Alibaba, China's regulators initiated a wide-ranging series of new restrictions that would become known as the "Regulatory Storm." These new policies had a devasting impact on many of China's leading private firms. China's social media and e-commerce platforms were forced to restructure their business models. Certain industries, most notably the private education sector, were nearly regulated out of business. China's creative industries faced a freeze on new movie and game approvals. Retail payments and consumer lending were put under strict new regulations, significantly reducing the profitability of private sector firms operating in these areas. The Communist Party redoubled its efforts to establish organizations within private companies.[7] A new data security law created significant regulatory uncertainty for private companies dealing with large amounts of user data. Finally, the government began pressuring private companies to play a larger role in supporting social initiatives, a policy referred to as "common prosperity."

The scope of action seen between 2020 and 2022 was far broader than what can be considered the normal purview of regulators. It can be instead understood as a renewed effort to steer the economy towards supporting Beijing's policy goals.[8] There were two primary motivations behind the campaign. First, the Chinese government had become increasingly uneasy with private companies controlling critical nodes in the economy. The Party would prefer to see the new "commanding heights" economy,

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https://marquee.gs.com/content/research/en/reports/2023/06/11/60ea2884-8c12-4e41-a5a3-f31a5c101a0b.html.

[6] Yang, Jing, and Lingling Wei. 2020. "China's President Xi Jinping Personally Scuttled Jack Ma's Ant IPO." WSJ, November 12, 2020. https://www.wsj.com/articles/china-president-xi-jinping-halted-jack-ma-ant-ipo-11605203556.

[7] Livingston, Scott. 2022. "The Chinese Communist Party Targets the Private Sector." https://www.csis.org/analysis/chinese-communist-party-targets-private-sector.

[8] Naughton, Barry. 2022. Grand Steerage as the New Paradigm for State-Economy Relations. CPC Futures: The New Era of Socialism with Chinese Characteristics. NUS Press. http://www.epress.nus.sg/cpcfutures/9789811852060-13.pdf.

focused on technology and information flow, controlled by entities it can reliably supervise and control. Thus, the campaign was focused on reshaping these industries and directing them towards activities Beijing views as productive. Second, the growing competition between China and the United States has increased the interventionist impulses of the Chinese government. Because they are engaged in increasingly fierce economic competition with the world's largest economy, Chinese leaders have become more inclined to intervene in the economy to reduce potential risks and direct resources toward national policy goals.

As acknowledged by Xi Jinping, the private sector is responsible for most of the economic growth, employment, and innovation.[9] However, the unpredictable and draconian policy changes of the last several years have significantly damaged the operating environment for private companies in China and shaken the confidence of many entrepreneurs. As a result, the market capitalization of many of China's leading private companies was significantly reduced and private sector investment growth has withered (Figure 3).

Policymakers in China have subsequently conceded the need for greater regulatory certainty for private companies. However, even some of the more recent policy documents aimed at supporting the private sector still reference the need to establish greater party oversight over companies and to increase the role of the private sector in supporting national objectives.[10] As a result, private sector business confidence in China is at a low level and unlikely to recover rapidly. Absent a significant change in government policy, private-sector business confidence will remain weak.

Lack of Planning for the Post-Pandemic Era: In the second half of 2020, it became clear that effective vaccines for Covid-19 were possible and that countries needed to begin adjusting their approach toward the pandemic. However, China did not seize that opportunity to begin preparing for an environment where Covid would become less deadly. Instead, the country held steadfast to a “zero Covid” policy that effectively sealed off China from the rest of the world.

In 2022, new variants of Covid-19 began to emerge that while less deadly, were increasingly transmissible. In response, Chinese authorities engaged in a series of draconian lockdowns and quarantine measures throughout 2022. The most notable was the two-month lockdown of Shanghai, the country’s largest city. The economic damage from these Covid lockdowns was tremendous. Consumption was severely impacted as people avoided crowded areas for fear that they could face a mandatory quarantine if they were exposed to someone who later tested positive. The domestic and international tourism industries were devasted as people stayed home and the country’s borders remained largely closed. Pressures in the real estate sector were exacerbated as homebuyers stayed home instead of house shopping.

Meanwhile, China’s economic stimulus was insufficient to counteract the impact of the Covid lockdowns. The millions of small and medium enterprises that make up the backbone of the Chinese economy were severely damaged. Government tax breaks and policy-driven lending were not enough to offset the precipitous decline in demand. Chinese consumers increased their savings during the pandemic, leading some analysts to predict a surge of "revenge spending" once the country opened

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[9] Xi Jinping, “Speech at the Private Company Symposium (习近平: 在民营企业座谈会上的讲话),” Xinhua, November 1, 2018. http://www.xinhuanet.com/politics/2018-11/01/c_1123649488.htm

[10] “Opinions of the Central Committee of the Communist Party of China and the State Council on Promoting the Development and Growth of the Private Sector (中共中央 国务院关于促进民营经济发展壮大的意见).” 2023. The State Council of the People’s Republic of China. July 19, 2023. https://www.gov.cn/zhengce/202307/content_6893055.htm.

back up in 2023. However, this analysis misunderstood the drivers behind the increase in savings. Concerned about the future, Chinese households have increased their savings and are consuming and investing less, a phenomenon known as precautionary saving.[11]

China surprised most observers when it abruptly dismantled its Covid restrictions at the end of 2022. As a result, the most economically damaging pandemic controls have been removed as of today. From that perspective, China is now in a post-Covid environment, although the virus continues to circulate in the rest of the world. However, the economic impact of the country's draconian pandemic controls still lingers. Chinese consumers and small businesses have been scarred by the shocks to their income in 2022 and are behaving cautiously in terms of spending and hiring. Government financial support has been largely focused on supply-side policies and has done much less to support consumption demand. China's economy will eventually recover from the pandemic-era controls, but it will be a gradual and uneven process.

II. China's Fiscal Challenge Is Significant

History of Local Government Borrowing: One of China's most significant missed opportunities of the past several years is the failure to address the severe fiscal imbalances between the central government and local governments. These imbalances are at the heart of many of the distortions in the Chinese economy and are the most pressing financial risk facing the country.

Following the budgetary reforms of 1994, local governments began to face structural budgetary shortfalls.[12] This stemmed from spending outlays that were considerably larger than what their official revenues could cover. The financial problems of local governments were compounded by prohibitions that prevented them from directly issuing debt. To circumvent these financial constraints, local governments established various non-tax revenue streams and methods for off-balance sheet borrowing. These alternative revenue and financing sources would become critically important, often exceeding the official tax revenues for some local governments.[13]

One of the key workarounds used by local governments was off-balance sheet financing companies, known as LGFVs. Local governments used these shell companies to borrow and spend on their behalf. The debts incurred by LGFVs were not officially recognized on the balance sheets of local governments, creating a fiction that local government debt was not increasing.

LGFVs gained prominence during China's response to the 2008 global financial crisis, serving as a major tool to stimulate the economy. The central government directly financed just 30% of the headline 4 trillion Renminbi (RMB) ($580 million) economic stimulus. The rest of the spending was done by local governments, LGFVs, and state-owned enterprises (SOEs). To finance that spending, debt levels

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[11] Posen, Adam S. "The End of China's Economic Miracle: How Beijing's Struggles Could Be an Opportunity for Washington." Foreign Affairs, August 3, 2023. https://www.foreignaffairs.com/china/end-china-economic-miracle-beijing-washington.

[12] Philippe Wingender, "Intergovernmental Fiscal Reform in China," International Monetary Fund, April 13, 2018, https://www.imf.org/en/Publications/WP/Issues/2018/04/13/Intergovernmental-Fiscal-Reform-in-China-45743

[13] Carl E. Walter, The Red Dream: The Chinese Communist Party and the Financial Deterioration of China (Hoboken, NJ: Wiley, 2022).

increased substantially. By 2013, a national audit estimated that local governments had accumulated 17.9 trillion RMB ($2.6 trillion) in debt via LGFVs and other channels.[14]

The risks from growing levels of off-balance sheet debt became readily apparent to policymakers and economists. One problem was that LGFVs were borrowing short term from banks and at high interest rates, making servicing their debts very expensive. Another question was the murky issue of implicit guarantees. LGFVs were able to borrow such large amounts because lenders assumed their debts would be guaranteed by local governments, yet local governments refused to explicitly make those commitments.

In 2015, the central government tried to fix the situation and end off-balance sheet borrowing by LGFVs. A swap program was created whereby LGFV debts could be converted into local government bonds that were longer in duration and had lower interest rates. The policy led to the creation of China's municipal bond market, where local governments, subject to central government approval, could issue debt directly. It also led to the official recognition of a significant portion of LGFV debts as official local government debt.

The 2015 reform was successful in creating a transparent and low-cost financing channel for local governments. However, it did not solve the underlying revenue issues facing local governments. Local governments continued to use LGFVs to engage in off-balance sheet borrowing (Figure 4). As a result, LGFVs would go on to issue more than $5 trillion in debt in less than a decade, an amount larger than that of the U.S. municipal bond market.[15]

The Risks from LGFV Debt: The sustainability of LGFV debt will ultimately depend on how wisely these funds were invested. Some spending by LGFVs may be useful, particularly investments in infrastructure that provide critical social goods, such as better transportation and cleaner water. These projects may result in a more productive Chinese economy and a healthier population. However, it is also apparent that a large portion of LGFV investment has been driven by political imperatives. Local governments are tasked with making sure their economies continue to grow rapidly and supporting national policy initiatives from the central government. As a result, LGFVs have spent heavily in real estate projects and politically driven policy objectives, like creating a domestic semiconductor industry. Much of this spending is likely to prove to be wasteful.

Another key problem for many LGFVs is that their investments, productive or wasteful, do not generate sufficient revenues to service their debt. An IMF analysis highlights that LGFVs engage in new external financing to cover 80–90% of their spending because the income from their operating activities is minimal.[16] Thus, to remain financially solvent, LGFVs must continue to borrow and receive financial support from local governments. In the past, local governments could transfer land to LGFVs and assume that real estate demand would lead to price appreciation of that land. However, with land sales and prices decreasing in many markets, this method of asset injection into the balance sheets of LGFVs has come under pressure.

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[14] "National Government Debt Audit Results" (全国政府性债务审计结果), National Audit Office of the People's Republic of China (中华人民共和国审计署), December 30, 2013, accessed January 31, 2023, https://www.audit.gov.cn/n5/n25/c63642/part/27403.pdf.

[15] SIFMA. "US Municipal Bonds Statistics - SIFMA." August 2, 2023. https://www.sifma.org/resources/research/us-municipal-bonds-statistics.

[16] "People's Republic of China: Selected Issues," International Monetary Fund, February 4, 2022, accessed January 31, 2023, https://www.imf.org/en/Publications/CR/Issues/2022/01/26/Peoples-Republic-of-China-Selected-Issues-512253

The ability of local governments to support LGFVs has deteriorated due to increased spending requirements and flagging revenues. Over the past several years, the central government delegated the bulk of Covid spending and economic stimulus to local governments, increasing their spending requirements without an offsetting increase in revenues. At the same time, the problems in the real estate market have led to slowing growth of land transfer revenues, a major revenue source for local governments. As a result, local governments' financial resources have become strained at the precise moment when LGFVs require more support.

The level of risk varies significantly across China as the distribution of total local government debt (direct and LGFV) is uneven. While the average local government debt-to-GDP ratio was 68%, several provinces had debt loads over 100% of GDP (Figure 5). The less economically developed and slower-growing provinces will have trouble supporting these levels of debt.

Options for Addressing Local Government Debt: China has several options available to it to address local government debt issues. However, none of these options will be easy to implement given the current political environment in the country.

The first option and most immediate way to address local government debt is to use the central government's balance sheet. By global standards, the balance sheet of China's central government is exceptionally strong, with a debt-to-GDP ratio that is significantly lower than that of any other major economy. Moreover, the central government can currently borrow at low rates over long durations: China's Ministry of Finance is able to issue 10-year bonds at lower interest rates than the U.S. Treasury. Thus, the central government could likely increase its borrowing without substantially increasing its borrowing costs. The central government could set up bailout funds for troubled local governments and LGFVs or explicitly transfer some local government debts onto its balance sheet. Alternatively, the central government could recapitalize the state-owned banks, policy banks, and asset management companies so that they could provide additional financial support to local governments.

The second option to address local government debt is to readjust the fiscal balance between the central and local governments. The central government could grant local governments control over a larger share of total tax revenues. Despite having a highly centralized political system, China's fiscal system is among the most decentralized in the world, with most of the government spending happening at the local level. Local governments face a perpetual funding gap, which Beijing partially helps to fill through transfers to local governments that account for over 40% of local government revenues.[17] If Beijing is unwilling to adjust the current fiscal balance, it could create new sources of revenue for local governments. As mentioned above, local governments have been highly dependent on land sales for revenues. However, land sales are a cyclical and unreliable source of funding compared to a residential real estate tax that taxes existing properties based on a periodic assessment of value.

The third option to address the balance sheet problems of local governments is to sell state assets. Beijing could authorize local governments to sell assets to help cover their debt and those of their LGFVs. According to an estimate from a Chinese government think tank, the central and local governments held around $19 trillion in financial assets at the end of 2019 and around 60% of that was the listed and unlisted equity of SOEs.[18] It's impossible to say how much this equity is currently worth,

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[17] Nicholas Borst, "The Balance Sheet Constraints on China's Economic Stimulus," Seafarer Capital Partners, August 2022, https://www.seafarerfunds.com/prevailing-winds/the-balance-sheet-constraints-on-chinas-economic-stimulus.

[18] Yang Li and Xiaojing Zhang, 中国国家资产负债表 2020 (China's National Balance Sheet 2020) (Beijing: 中国社会科学出版社 [China Social Sciences Press], 2020).

much may be illiquid and overvalued. However, some of the assets could likely be sold to private investors at a discount. While Beijing has indicated some openness to this approach through policies like mixed ownership reform and debt-to-equity swaps, overall, it remains extremely unlikely that the Xi Jinping administration would approve the large-scale sale of state assets.

Rather than any of the options above, Beijing is most likely to muddle through utilizing its old playbook. If systemic risks appear, the Chinese government will take action to prevent a financial crisis. Previously, Beijing has used the balance sheets of commercial banks, policy banks, and asset management companies to absorb risks and conduct indirect bailouts. As the controlling shareholder of China's largest banks, Beijing operates them as public utilities, directing them to lend to preferred sectors, help resolve troubled debt and defuse financial risks. They are directed to put the central government's interests ahead of their commercial interests. This approach may work in the immediate term, but it risks the further accumulation of financial risks and a substantial decline in economic growth.

III. China Faces the Risk of a Balance Sheet-Driven Slowdown

Beijing's historical approach to debt problems has been to muddle through by providing indirect support to struggling borrowers and relying on rapid economic growth to lessen debt burdens over time. However, this approach is unlikely to work as it has in the past. The entities that Beijing has relied upon to provide support to struggling borrowers are facing balance sheet challenges of their own. Additionally, the economy's slowing trajectory means that China cannot easily grow its way out of debt. Therefore, if China neglects to undertake important fiscal reforms, it faces the risk of a prolonged period of slow economic growth.

Without support, China's highly indebted local governments face the difficult task of repairing their balance sheets, a project that could stretch on for years. To service their debts, local governments will be forced to reduce spending and investment. This will lead to a further slowdown in economic growth, thereby reducing tax revenues for local governments and further straining their balance sheets. The property sector is currently in this type of negative feedback loop whereby lower property prices lead to less investment, less government revenue, and slower growth, which will ultimately put further pressure on property prices.[19] The net economic effect of many borrowers cutting spending and investment to pay down debt is referred to as a balance sheet recession. In this environment, the tools frequently used by governments to stimulate the economy, such as lowering interest rates, have little effect.

Japan of the 1990s is the classic example of how balance sheet problems can affect an economy. After its real estate bubble burst in the late 1980s, the country entered a prolonged economic slowdown. The Japanese government, fearing significant unemployment, was reluctant to force the recognition of bad debts. Troubled banks were unable to lend, and corporations were reluctant to borrow given the collapse in the value of their assets. Over the next decade, overindebted borrowers focused on repairing their balance sheets, cutting investment to pay down debts. The fiscal stimulus done by the government was insufficient to counterbalance the loss in demand. After a prolonged period, Japan finally ended its economic malaise when the central government began using its balance sheet to stimulate the economy.

[19] Michael Pettis, "China's Overextended Real Estate Sector Is a Systemic Problem," Carnegie Endowment for International Peace, August 24, 2022, accessed January 31, 2023, https://carnegieendowment.org/chinafinancialmarkets/87751

If China refuses to address its local government debt problem, the economy faces the risk of a Japanese-style lost decade.[20] Local governments have been essential in stimulating the economy, especially during downturns. However, in doing so they have incurred enormous debts. Absent help from Beijing, they now face a lengthy period of balance sheet deleveraging and will therefore be constrained in their ability to spend. Fiscal reform could be an opportunity to set China on the path to more rapid growth and address many of the core imbalances in the economy. However, this course of action is unlikely given that many of the adjustments required conflict with the ideological priorities of Xi Jinping's government.

IV. Recommendations for Congress

I. Recognize that the Economic Challenge Represented by China Has Changed

a. China's economy has slowed, and it is unlikely to recover to its previous rapid growth trajectory.
b. The Chinese government is likely to be intensely focused on efforts to address its economic challenges over the next several years.
c. The Party's efforts to exert greater control over the private sector have damaged the most dynamic and innovative parts of the Chinese economy.
d. Chinese local governments will have fewer financial resources to support Beijing's policy initiatives.

II. Use the Moment to Press for Concessions that will Benefit American Firms

a. China's economic slowdown, combined with the strong performance of the American economy, provides U.S. policymakers with a strong negotiating position.
b. China needs foreign investment and access to overseas markets to sustain its economy.
c. China is still one of the United States' most important export and investment markets and improving conditions for American companies doing business with China should be a priority.
d. The current moment is a favorable one to seek greater market access and other reforms that will directly benefit American firms and boost exports.

III. Give Investors Clear Rules and Chinese Companies an Opportunity to Comply

a. U.S. policymakers have rightfully put into effect national security restrictions around investment into and from China.
b. These rules should focus on transparency and predictability, and provide scope for adjustment in case unintended consequences occur.
c. U.S. policymakers should adopt an approach that uses both positive (access to U.S. markets and capital) and negative (sanctions and other restrictions) incentives to encourage Chinese companies to cease problematic behavior.
d. A push for hard economic decoupling would be counterproductive for U.S. interests as it would reinforce the worst trends in both Chinese economic policy and Chinese companies.

[20] Richard Koo, "China's Balance Sheet Recession and Structural Problems in Light of 1990s Japan." Nomura Research Institute. July 19, 2023. https://researchcdn.nomuranow.com/03/prod/1145961.file.

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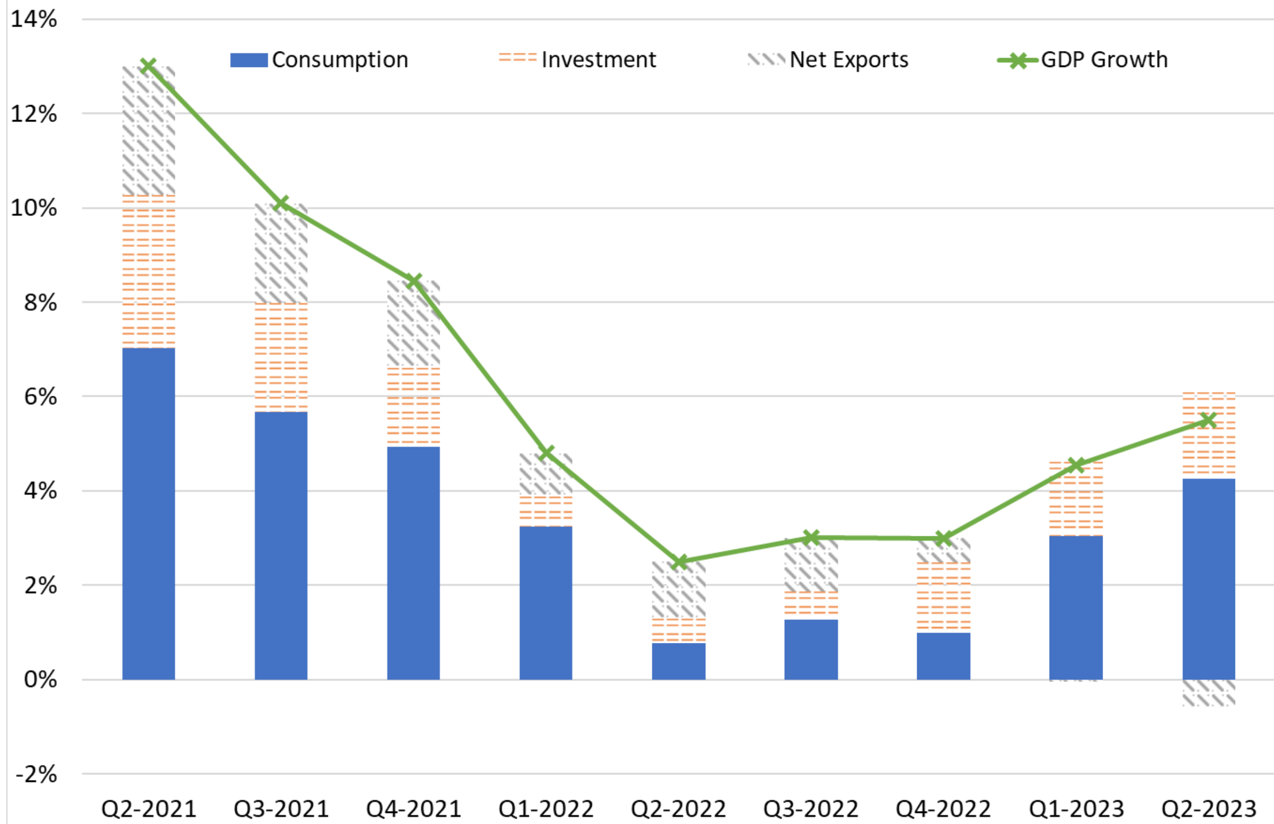
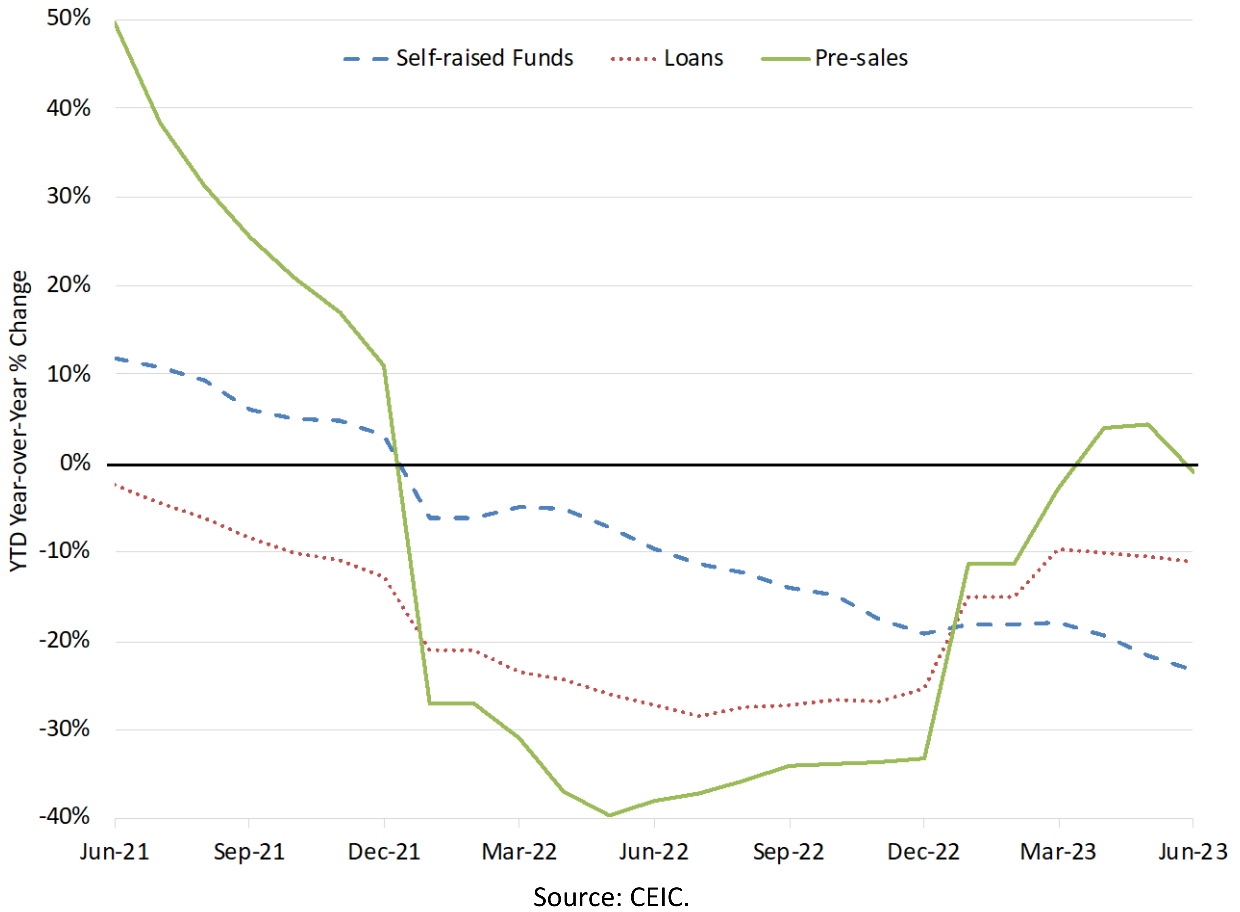
V. Figures

Figure 1 - Demand Side Contribution to China's GDP Growth YTD., (Q2 2021 – Q2 2023)



Source: CEIC.

Figure 2 - Major Sources of Funding for Real Estate Developers in China (June 2021 – June 2023)

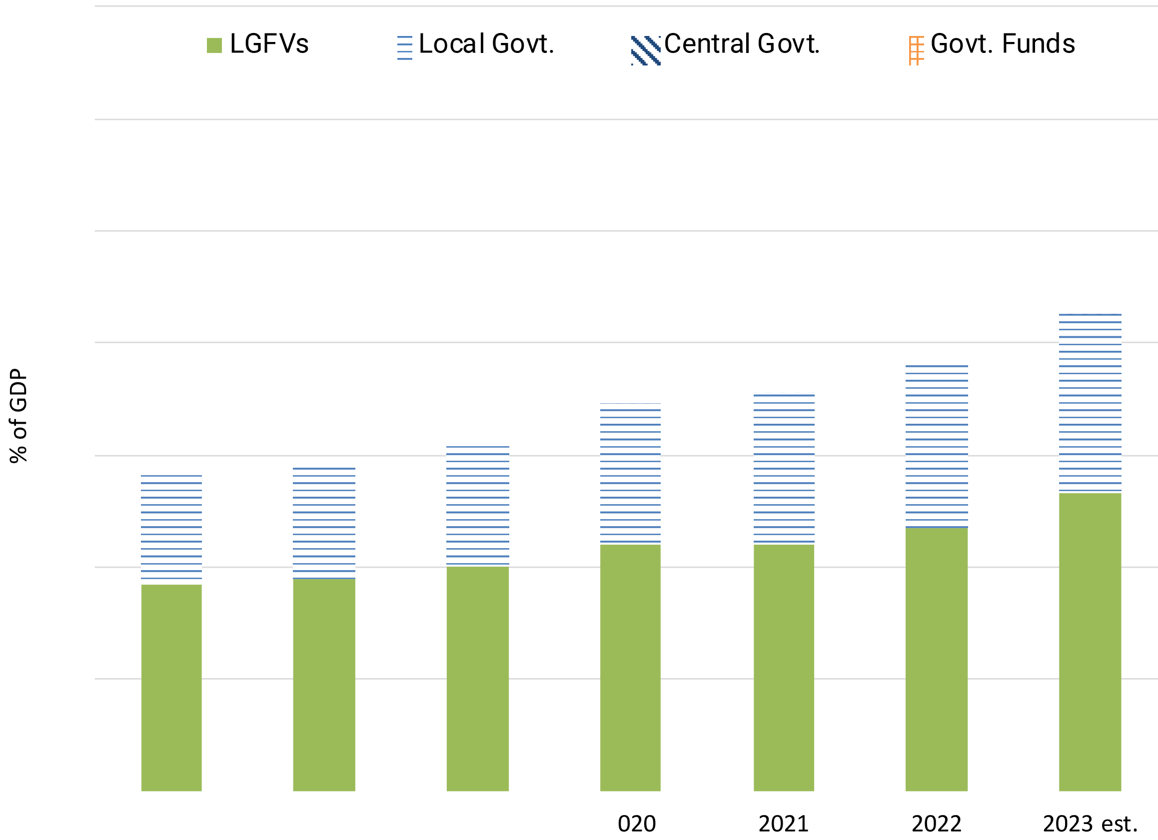


Source: CEIC.

Figure 3 - Private Sector Share of Fixed Asset Investment in China (January 2013 – June 2023)

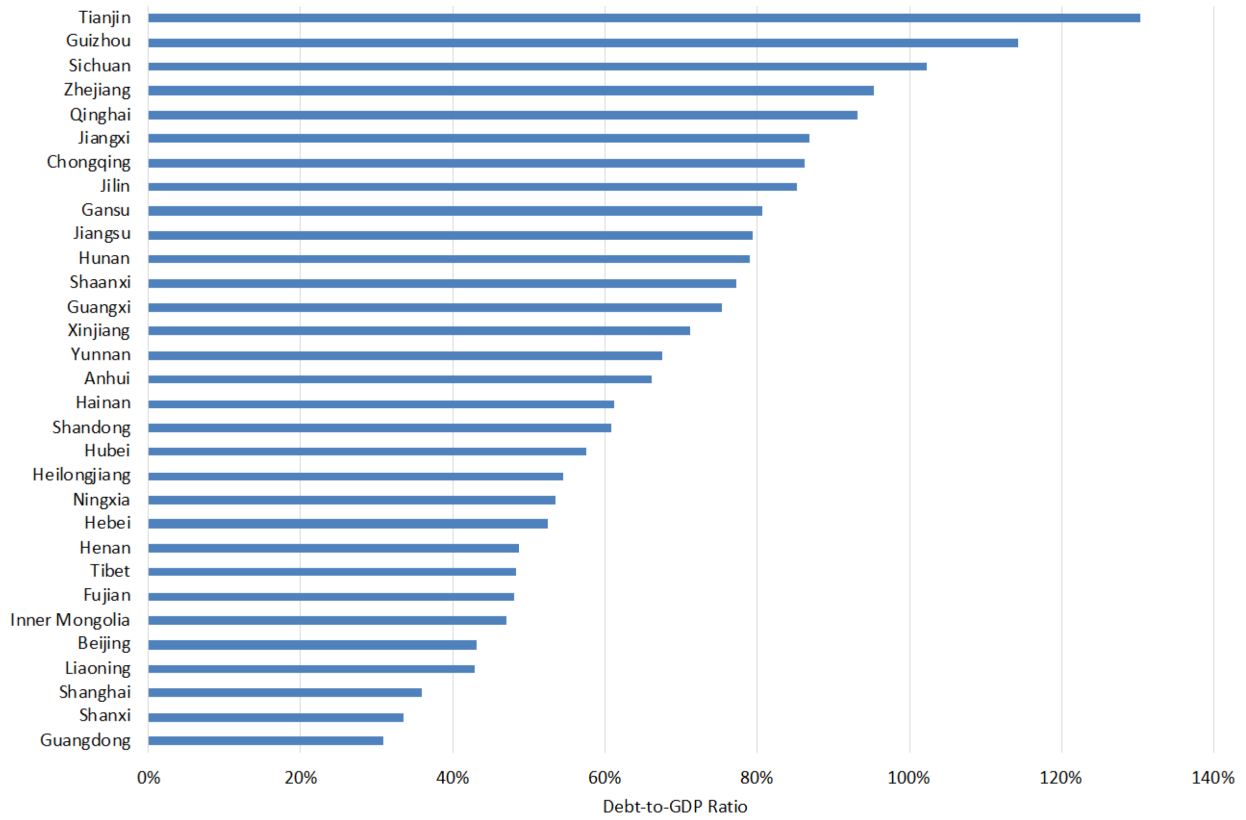
Source: CEIC.

Figure 4 - China's Total Government Debt, by Source (2017 –2023 Est.)



Source: International Monetary Fund.

Figure 5 – Local Government Debt-to-GDP Ratios in China (2022)



Source: Wind Information.
Note: Debt is calculated as (Local Debt + LGFV Interest-bearing Debt) / GDP

OPENING STATEMENT OF ZONGYUAN ZOE LIU, MAURICE R. GREENBERG FELLOW FOR CHINA STUDIES, COUNCIL ON FOREIGN RELATIONS

DR. LIU: Thank you, Chair Cleveland, Chair Glas, and Commissioners, as well as all of the staff members of the U.S. China Commission. I really appreciate the opportunity today to testify in front of you with regards to the role of China's sovereign funds in financing the Communist Party of China's global ambitions.

For the past two decades, China's sovereign funds have played a significant role in China's economy, mitigating financial crises, and tempering exogenous shocks. They have supported China's industrial policies by financing the state's procurement of strategic overseas assets, bankrolling Chinese enterprises' mergers and acquisitions abroad, and sponsoring the development of indigenous Chinese technological startups.

I would like to make three points today. The first point is that while the Community Party of China first leveraged the foreign exchange reserve to establish such sovereign funds, that first time was to address a domestic financial crisis in the early 2000s, but despite the first time was crisis-driven, since President Xi Jinping came to power, the Communist Party of China and the Chinese government has been more proactively using foreign exchange reserves to finance its global ambitions.

And my second point is that the Chinese sovereign funds have evolved and the change in their investment strategies in response to enhanced investment screening. In areas where direct investment became more difficult, they choose or they have resorted to establish joint ventures and partnerships to mitigate scrutiny risk.

And my third point is that China's sovereign funds and their overseas assets are not necessarily uncompromised strengths, but actually they can be strategic vulnerabilities, and this means that the Chinese government is likely to advance the development of alternative non-dollar-based financial infrastructure and financial system to reduce their strategic vulnerabilities. Now, let me elaborate on these three points. The first point, the first time that the Chinese government leveraged its foreign exchange reserves was to create Central Huijin back in 2003, and at that time, the Chinese banking system was crippled with nonperforming loans.

But since President Xi Jinping came to power and the rollout of the Belt and Road Initiative or the so-called BRI has motivated the party to leverage China's foreign exchange reserves as a strategic financial power to advance China's overseas interests.

Since 2013, the party has used foreign exchange reserves to replenish China's policy banks, establish several new sovereign funds, and this includes the Silk Road Fund, China-Latin America Production Capacity Cooperation Investment Fund, China-Africa Industrial Capacity Cooperation Fund, and Guoxin International Investment Corporation Limited.

The Silk Road Fund in particular is a good example. It was created by President Xi Jinping to finance the Belt and Road Initiative, and since then has not just invested in overseas strategic assets, but also financed Chinese companies' overseas acquisitions, including supporting COSCO Shipping Ports investing overseas port project.

And on top of supporting China's overseas acquisitions, the Silk Road Fund has actually also received a second-time capital injection using renminbi back in 2017, and the purpose of using renminbi to recapitalize the Silk Road Fund was on the one part to strengthen its capital base. On the other part it's also to advance the capacity of the Silk Road Fund and through the Belt and Road Initiative to broaden the renminbi's use through regional and multilateral frameworks.

And this brings me to my second point, which is Chinese sovereign funds have evolved and changed their investment strategies over the years. In areas where direct investment become more difficult, they established joint ventures.

For example, Silk Road Fund is the sole sponsor of the $2 billion China-Kazakhstan Production Capacity Cooperation Fund, and China investment cooperation since 2016 has also been resorting to multilateral investment partnerships.

And my third point is that Chinese policy thinkers, they have realized the strategic vulnerabilities that Chinese overseas investment has exposed them to. Therefore, in particular, they have learned the lesson from Russia's war against Ukraine, as well as the West's collective sanction against Russia.

Therefore, the current policy debate inside China is not necessarily with regard to how to fully diversify foreign exchange reserves because diversification cannot diversify away systematic risk for the Community Party.

In this current scenario, it means a possible militarized contention with regard to Taiwan. Therefore, they are likely to further promote the development of alternative financial system that is not necessarily based on the U.S. dollar. And I will stop there. Thank you.

COMMISSIONER GLAS: Thank you so much. Do you want to --

PREPARED TESTIMONY OF ZONGYAN ZOE LIU, MAURICE R. GREENBERG FELLOW FOR CHINA STUDIES, COUNCIL ON FOREIGN RELATIONS

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Hearing On "China's Current Economy: Implications for Investors and Supply Chains"

Prepared statement by

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Council on Foreign Relations

Before the

U.S.-China Economic and Security Review Commission
1st Session, 118th Congress

Chair Cleveland, Chair Glas, and members of the Commission, thank you for inviting me to testify before the Commission. I appreciate the opportunity to appear before you today to testify about the distinctive features of China's sovereign funds and their evolution in financing the global ambitions of the Communist Party of China (CPC) since President Xi came to power.

Sovereign funds globally today collectively manage over $11.5 trillion in assets under management. These funds are predominantly based in commodity-exporting economies and capitalized by revenues from the monetization of natural resources, notably oil and gas. The world's first sovereign fund was the Kuwait Investment Authority, established in 1953 from oil revenues. However, the largest of them in terms of assets under management is China Investment Corporation (CIC), based in China, the world's leading commodity-importing country.[1] In 2022, CIC surpassed the Government Pension Fund of Norway and became the largest sovereign fund in the world, having more than $1.35 trillion assets under management – exceeding the GDP of Mexico, the world's 15th largest economy.

The evolution of China's sovereign funds has unfolded against the backdrop of China's domestic financial reform and the globalization of Chinese capital. Once a backward country, China has caught up with Western powers on gross

[1] China surpassed the United States as the world's largest crude oil importer in 2017. More details, see U.S. Energy Information Administration, https://www.eia.gov/todayinenergy/detail.php?id=37821. China overtook Japan as the world's top LNG importing country in 2021 due to rising demand from the power generation and industrial sectors. However, in 2022, Covid-19 lockdowns and high prices curbed demand for LNG in China. That year, Japan the world's top LNG importer, although both Japan and China imported less LNG in 2022 when compared to 2021. For detail, see "Japan was the world's largest LNG importer in 2022, followed by China," *LGPrime,* January 19, 2023, https://lngprime.com/asia/japan-was-the-worlds-largest-lng-importer-in-2022-followed-by-china/71299/

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economic terms by relying upon its ability to mobilize capital. No other country in history has so rapidly transformed its economy from being among the world's poorest and most isolated to one of the world's largest economies, at the heart of the global supply chain, and a leading source of international investment capital. For the last two decades, China's sovereign funds have played a significant role in China's economy, mitigating financial crises and tempering exogenous shocks. They have supported China's industrial policies by financing the state's procurement of strategic overseas assets, bankrolling Chinese enterprises' mergers and acquisitions abroad, and sponsoring the development of indigenous Chinese technology startups. As China's state-owned capital has gone global, the scope of China's geoeconomic influence has duly expanded.

Let me explain how China's sovereign funds fit into the state's political economic system, why these funds are "leveraged" funds rather than "wealth" funds, and how they relate to China's approach to managing its massive foreign exchange reserves. Unlike traditional commodity-based SWFs, China's way of leveraging foreign exchange reserves to create sovereign funds does not rely upon natural resource revenues. China's experience with sovereign funds demonstrates that a state without significant natural resource revenues can take on explicit or implicit leverage to source the seed capital for the founding of what I call sovereign leveraged funds (SLFs). China's sovereign funds differ from commodity-based SWFs and constitute a distinct class. An inherent trait of SLFs is their funding scheme, which relies upon a series of complicated transactions, including debt issuances and other forms of implicit financial leverage. SLFs are a political-economic innovation because they are the product of the state leveraging its financial and political resources to make it possible to capitalize a fund without relying upon a high-profit revenue stream like the export of commodities.

The way through which China created its sovereign funds is by using both explicit leverage and implicit leverage foreign exchange reserves. Explicit leverage means the issuance of debt and using the debt proceeds to capitalize SLFs. How the debts are structured and raised, who provide the debt proceeds, and who would control the newly established funds are not only financial issues but political issues. In other words, the decisions about how the newly issued debt will be underwritten and who will ultimately control the resultant SLF are the product of intensive political negotiation and aggressive bureaucratic competition. The establishment of CIC is an example of using explicit leverage.[2] An alternative approach for the state to obtain investment capital is the use of implicit leverage to convert existing pools of low-risk capital, or state-owned assets like foreign exchange reserves, into high-risk-bearing capital that is subsequently transferred to the management of the SLF. How this process constitutes an increase in the state's financial leverage can be understood by considering the typical investment made by a SLF. In general, the fund uses its capital to make an equity investment in a target company that is itself internally leveraged—that is, carrying debt on its own balance sheet. The sovereign fund's equity interest is subordinate to the debt of the target company. The state is implicitly leveraged because the debt of the company stays off the balance sheet of the state, but the state still bears the risk of losing its entire equity stake if the company's debt cannot be repaid. In other words, the leverage is external to the state's balance sheet. In this way, the state itself does not issue any new debt or expand its balance sheet, but it still increases its financial leverage.

China's experiment with implicitly leveraging its reserves started with the transfer to Central Huijin of $66.4 billion in foreign exchange reserves in 2003 to recapitalize China's failing banks and reform China's nonbanking financial institutions. At that time Central Huijin was not created with the intention to be a sovereign fund but instead a special purpose vehicle for the sole purpose of restructuring China's failing state-owned commercial banks. The success of Central Huijin's restructuring of the banks ultimately led Central Huijin to outlive its original mission and take on new tasks of reforming China's nonbanking financial institutions, such as the brokerage firms and capitalizing major Chinese policy-oriented financial institutions. While Central Huijin was China's first attempt at leveraging foreign exchange reserves to solve an urgent domestic crisis, its proven track record has made it an indispensable part of the

[2] For more details about CIC, see Liu, Z. Z. (2023) *Sovereign Funds: How the Communist Party of China Finances Its Global Ambitions*. 1st ed. Cambridge: Harvard University Press.

government's crisis response toolbox. In May this year, the Ministry of Finance (MOF) reportedly proposed to restructure the state's biggest bad-debt managers, or the so-called asset management companies, by moving MOF's stakes in three asset management companies to Central Huijin.[3] This proposal is in line with the government's commitment to separate the government's role as a regulator and shareholder, strengthening the role of Central Huijin as the "shareholder in chief" on behalf of the party-state while having the state's regulators, including the newly-established National Administration of Financial Regulation, focus on financial risk prevention and mitigation.

The creation of CIC can illustrate the explicit use of leverage over China's foreign exchange reserves. The Ministry of Finance issued RMB1.55 trillion special purpose bonds and used the bond proceeds to purchase $200 billion foreign exchange reserves from the People's Bank of China (PBoC), the central bank, and then capitalize CIC. The effect of these transactions was the transfer of $200 billion to CIC from the PBoC, but MOF remained as the sole shareholder of CIC. On September 29, 2007, CIC was officially incorporated as a wholly state-owned company under China's Company Law. The key takeaway is that this process does not take any sophisticated financial engineering, but it does require a tremendous amount of political engineering and multi-agency political levering in order to move the foreign exchange reserves out of the PBoC for investment purposes without having to revise the PBoC Law, which prohibits the central bank from directly purchasing government bonds and financing fiscal expenditure.

Economically, the use of either explicit (internal) or implicit (external) leverage over foreign exchange reserves decreases the stock of foreign exchange assets that can be counted towards foreign exchange reserves as defined by the International Monetary Fund (IMF). A most important distinction between the two approaches is the accounting treatment and awareness among the general public of its existence. Regardless of which type of leverage the state chooses when raising capital, the political outcome is the same: it will inevitably precipitate a political conflict among those that aspire to control the resultant capital. Implicit leverage is usually the more politically expedient choice because the associated liabilities are usually not recorded in official accounts. Both Central Huijin and investment companies affiliated with the State Adiministration of Foreign Exchange (SAFE) serve as examples of how the state takes on implicit leverage and then political conflict ensues.

Since 2007, CIC and SAFE-owned investment funds have become more sophisticated in overseas investment activities. They have become significant market participants in terms of assets under management and prestige. Each has developed its own distinct culture and approach to investing. CIC has taken pains to present itself to the global financial community as a traditional institutional investor by being relatively transparent and pledging to be impartial to politics. Soon after its founding, CIC signed on to the Santiago Principles, a set of guidelines on transparency and governance designed by the IMF and meant explicitly for government-owned investment funds. In CIC's early days, Chairman Lou Jiwei made great efforts to present CIC as a market-oriented, stabilizing force in global markets. Not everyone shared this view of CIC, and Chairman Lou publicly expressed frustration that some Western countries used "national security" as an excuse to block CIC's investments. After Lou left CIC and was succeeded as chairman by Ding Xuedong in 2013, CIC began to align its investment strategy much closer to China's national economic strategy while still maintaining its previous transparency.

Compared to CIC, SAFE remains an opaque institution that has largely been able to avoid public scrutiny. Neither SAFE nor its affiliated investment funds disclose their portfolio holdings or gains and losses. At times, this penchant for secrecy has protected SAFE from criticism. For example, CIC received heavy public criticism when its first investments made during the 2008 financial crisis turned out to be loss-making. By contrast, SAFE's public reputation was unaffected even though its investment losses in 2008 were likely much greater than CIC's. The *Financial Times*

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[3] The three asset management companies include China Cinda Asset Management Company, China Great Wall Asset Management Company, and China Orient Asset Management Company. "China Considers Moving Stakes in Bad Banks to Sovereign Wealth Fund," *Bloomberg News*, May 18, 2023. Available at https://www.bloomberg.com/news/articles/2023-05-19/china-mulls-moving-stakes-in-bad-banks-to-sovereign-wealth-fund?sref=51J26SiN

reported that while CIC was savaged domestically for losing more than $4 billion in its misjudged investment in Blackstone and Morgan Stanley, the secretive SAFE hardly faced any criticism even though its losses were greater than those of CIC by an estimated twenty-fold.[4] CIC may have learned a political lesson from SAFE that transparency is not always worthwhile. One long-time observer of CIC said the fund "has turned to stealth mode; it is doing transactions and is looking at lots of resource-related deals all over the world, but it is trying to hide its involvement."[5] Undoubtedly, there is some truth to these comments. CIC may be motivated by a desire to avoid potential domestic criticism of its actions and to head off reactionary protectionism in the countries in which it invests.

Let me now turn to explain the Chinese government's strategic use of foreign exchange reserves under President Xi. The bottom line is that the ascendance of Xi Jinping to China's top leadership position in 2012 and the rollout of the Belt and Road Initiative (BRI) has motivated the party to leverage China's foreign exchange reserves as strategic financial power to advance China's overseas interests. According to Li Hongyan (李红燕), director of SAFE's Central Foreign Exchange Business Center, since 2013, the party has used foreign exchange reserves to replenish China's policy banks and establish several new sovereign funds. These new funds include the Silk Road Fund, China-Latin America Production Capacity Cooperation Investment Fund (CLAC Fund), China-Africa Industrial Capacity Cooperation Fund, and Guoxin International Investment Corporation Limited (commonly known as CNIC Corporation). Li Hongyan identified three areas where the diversified use of foreign exchange reserves serves China's national strategies. First, she argued that creating policy banks and sovereign funds provides a sustainable mechanism to put China's foreign exchange reserves to work in service of China's national strategies. Such diversified reserve usage has informed the formation of a Chinese investment system featuring equity and debt in adherence to commercial principles that can provide stable financial support for the Belt and Road Initiative and other national strategies. Second, she stated that using China's foreign exchange reserves for international investment and cooperation can advance China's participation in global governance and create a favorable international environment for the Belt and Road Initiative. Third, she asserted that strengthening the party's leadership and corporate governance can discipline equity investment institutions and drive convergence towards professional management standards that will ultimately serve China's national strategies.[6]

Under President Xi, the party-state has gradually expanded the SLFs model, applying it to reform state-owned enterprises (SOEs) to update the state's industrial policy. China's SOEs are supervised by the State-Owned Assets Supervision and Administration Commission (SASAC), formed in 2003 to consolidate many industry-specific bureaucracies. SASAC's purview does not include the financial sector overseen by Central Huijin, itself sometimes called the "Financial SASAC." Unlike in the financial sector, SOEs in the other sectors haven't benefited from a SLF like Central Huijin, which sits atop the whole industry and directs capital flow down to individual SOEs.[7] However, this began to change in November 2013 after President Xi laid out his vision for China's economy for the first time at the Third Plenary Session of the Eighteenth CPC Central Committee. Xi led the working group that called for

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[4] "China Forex Funds Find Security in Secrecy," *Financial Times*, March 15, 2009.

[5] Ibid.

[6] "Li Hongyan: Foreign Exchange Reserve Management Serves National Strategies and Prioritizes Risk Management" (李红燕: 外汇储备管理服务国家战略 风险防范放在首位). *China Finance* (中国金融杂志), January 17, 2019. Accessed at https://www.sohu.com/a/289648623_481887 ; "Yi Gang: the marginal cost of additional FX reserves accumulation outweighs the benefit," (易纲: 继续积累外储边际成本大于收益), *Caixin*, November 21, 2013.

[7] China's state-owned assets include two primary categories: financial assets and industrial and commercial assets. Central government controlled financial assets include centrally-owned financial enterprises and institutions, which are managed by the Ministry of Finance. Central Huijin also invests in some of these enterprises and enjoys shareholder rights. At the central level, industrial and commercial assets include three types of state-owned industrial and commercial enterprises: 1) more than 100 large enterprise groups under the jurisdiction of the Sate-owned Assets Supervision and Administration Commission; 2) China Post Group, China Railway Corporation, China National Tobacco Corporation, and approximately 104 state-owned cultural enterprises under the jurisdiction of the Ministry of Finance; 3) enterprises directly managed by about 75 central government departments or administrative units, of which there were about 5,200 first-level legal person enterprises. The data is from reformdata.org (中国改革信息库)。

creating "state-owned capital investment companies" to invest in "key industries and fields that are vital to national security and are the lifeline of the national economy."[8] In effect, Xi's proposed state-owned capital investment companies are SLFs mandated to focus on financing development in state-prioritized strategic industries like civil aviation, energy and mineral resources, nuclear power, and global shipping and logistics. Since July 2014, SASAC has begun reforming nineteen centrally administered SOEs in these strategic sectors and critical for the party's military-civil fusion strategy to state-owned capital investment companies.[9] Finance Minister Lou Jiwei (楼继伟), the founding chairman of CIC and its former CEO, was the person in charge of fleshing out the details of Xi's vision. As the primary author of the State Council's policy document "Opinions on Reforming and Improving the State-Owned Assets Management System," Lou clearly drew upon his familiarity with the organizational models of CIC and Central Huijin while describing how a group of state-owned capital investment companies could exercise their shareholder's rights in portfolio companies to "form a 'separation zone' between the government and the market."[10]

Such a change in the mode of interactions between the state and the market does not represent the complete retreat of the state from the market but a retrenchment. The ongoing transformation of SASAC speaks to the continued centrality of the state in the market. In May 2017, the State Council approved SASAC's plan to change its mandate from the administration of SOEs to the management of capital with the stated goals of pursuing long-term interests by channeling state capital into essential industries, critical infrastructure, and forward-looking strategic sectors of national security interest.[11]

Xi's prioritization of capital management in China's economic reform—and his use of SLFs as a tool to accomplish this—is not a complete departure from the path of his predecessors. Instead, it reflects the enduring influence on China's economic policymaking of the dual successes of Central Huijin in stabilizing China's financial system and CIC's expansion into global financial markets. Like SLFs, the state-owned investment companies of SASAC allow the party-state to exercise control by leveraging capital instead of resorting to administrative directives. For Xi's generation of CPC leadership, the SLFs model provides a ready playbook for expanding the influence of the party-state both at home and abroad.

In recent years, Chinese sovereign leveraged funds have rarely been reported as involved in crass geoeconomic powerplays after SAFE was exposed for using its foreign exchange reserves to buy Costa Rica switching diplomatic

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[8] Full text in English of the "Decision Of The Central Committee Of The Communist Party Of China On Some Major Issues Concerning Comprehensively Deepening The Reform" is available on the website of USC US-China Institute at https://china.usc.edu/decision-central-committee-communist-party-china-some-major-issues-concerning-comprehensively. The original Chinese text (十八届三中全会《决定》、公报、说明全文) is available at http://www.ce.cn/xwzx/gnsz/szyw/201311/18/t20131118_1767104.shtml

[9] As of June 2022, the State Council and SASAC declared that five centrally administered SOEs completed the reform into state-owned capital investment companies. These five SOEs include: China Baowu Group, State Development & Investment Corporation, China Merchants Group, China Resources, and China National Building Material. The Chinese government also identified twelve centrally administered SOEs to deepen the restructure process, these include: Aviation Industry Corporation of China, China COSCO Shipping Corporation, China Energy, State Power, China Minmetals, China National Machinery Industry Corporation, Aluminum Corporation of China, China National Cereals, Oils and Foodstuffs Corporation (or COFCO Group), China General Technology Group, China Communications Construction, China Poly Group, and China General Nuclear Power Group. Details see SASAC official website, "SASAC deepens the reform of state-owned capital investment companies" (国资委深入推进国有资本投资公司改革), June 20, 2022, available at http://www.sasac.gov.cn/n2588030/n2588924/c25197635/content.html. Also, "Five centrally adiministered SOEs officially transformed into state-owned capital investment companies" (5 家央企正式转为国有资本投资公司), Chinareform.org (中国改革论坛), June 20, 2022, accessed at http://www.chinareform.org.cn/2022/0622/36202.shtml.

[10] "Lou Jiwei: State asset supervision has problems of overreach, absence, and misplacement" (楼继伟：国有资产监管存在越位、缺位、错位现象), people.com (人民网), November 4, 2015. Accessed at http://finance.people.com.cn/n/2015/1104/c1004-27777431.html

[11] "State-owned Assets Supervision and Administration Commission of the State Council Plan to Transform Functions towards Focusing on Capital Management" (国务院国资委以管资本为主推进职能转变方案), Office of the State Council (国务院办公厅), April 27, 2017. Accessed at http://www.gov.cn/zhengce/content/2017-05/10/content_5192390.htm

relations to Beijing instead of Taipei in 2008.[12] This is indicative of the considered steps taken to structure and obfuscate the funds' activities in such a way that provides plausible deniability of their role in advancing the party-state's strategic interests. Cultivating a sense of being detached from China's geopolitical interests helps Chinese sovereign funds reduce market access barriers and transaction costs when they invest in Western markets, where China's state-led investment bids have frequently been red-flagged as having geopolitical motives. As foreign animosity toward Chinese state-backed investments has risen, CIC has increasingly turned to joint ventures with influential institutional investors in host countries to shelter its assets from undue scrutiny by foreign governments or to sidestep administrative blocks on investing. CIC has seen some success with this method, as evidenced by the China-U.S. Industrial Cooperation Partnership, a private equity fund jointly launched by CIC and Goldman Sachs. The Partnership has bought several U.S. firms despite escalating U.S.-China trade tensions and intense scrutiny from Washington. The effectiveness of the joint venture strategy is most vividly illustrated by Goldman Sachs's successful advocacy in front of the Committee on Foreign Investment in the United States (CFIUS) that the joint venture's plan to buy Boyd Corp., a manufacturer of rubber gaskets and seals, be allowed to proceed.

With the evolution of China's sovereign funds in mind, I would like to discuss the specific case of the Silk Road Fund (SRF) to illustrate how the party-state under President Xi has strategically used China's foreign exchange reserves and sovereign funds. SRF is unique among China's sovereign funds that leverage foreign exchange reserves for overseas investment and strategic asset acquisitions. President Xi Jinping created the SRF to finance his BRI global campaign. The fund has closely followed the priorities of the BRI, focusing on infrastructure, connectivity, resource development, and industrial capacity cooperation. SAFE is the majority shareholder of this signature BRI financing vehicle, owning a 65 percent interest in the fund. Former PBoC Governor Zhou Xiaochuan described the SRF as a "private equity investor with a longer investment return."[13] He compared SRF to the World Bank's International Finance Corp, the African Development Bank's Mutual Development Fund, and the China-Africa Development Fund.

Apart from the initial $10 billion invested into SRF discussed earlier, President Xi committed an additional RMB100 billion in capital to SRF at the opening ceremony of the Belt and Road Forum for International Cooperation in May 2017.[14] Notably, this capital injection was in China's currency, the renminbi, not in foreign exchange. Deputy Governor of the PBoC Yi Gang (易纲) endorsed the plan the day after President Xi's announcement, calling it "quite necessary and timely to expand SRF's capital." Yi explained that abundant capital would help SRF mobilize additional resources in BRI countries and crowd-in investment from other financial institutions.[15] With ample capital, SRF proceeded to finance projects under the BRI umbrella. Bloomberg data show that during SRF's first three years of operating, it invested $10.5 billion in Europe,[16] more than one-quarter of the $40 billion that President Xi promised when he announced the fund's establishment. SRF Chairman Xie Duo (谢多) disclosed that SRF had signed forty-seven projects and committed more than $17.8 billion in investment as of October 2020.[17] SRF's investment track

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[12] In September 2008, SAFE purchased $300 million of US-denominated Costa Rican government bonds and offered a grant of $130 million to incentivize and reward Costa Rica to cut diplomatic ties with Taiwan and establish relationship with Beijing. For more details, see "Beijing uses forex reserves to target Taiwan," *Financial Times*, September 12, 2008. https://www.ft.com/content/22fe798e-802c-11dd-99a9-000077b07658. After taking office, President Xi visited Costa Rica in 2013, when the two countries signed nine cooperation agreements totaling $1.5 billion on infrastructure development cooperation such as building roads and public transit fleets in Costa Rica, purchasing solar panels from China, and the building of a new police school. See "China Buys Costa Rica for $1.5 Billion," *The Costa Rican Times*, June 3, 2013. Accessed at https://www.costaricantimes.com/china-buys-costa-rica-for-1-5-billion/16500

[13] "The Silk Road Fund Begins Operations: An Interview with Zhou Xiaochuan," February 16, 2015. Full text available on the official website of the Silk Road Fund at http://www.silkroadfund.com.cn/enweb/23809/23812/26884/index.html

[14] Xi Jinping Opening Remarks at the Belt and Road Forum for International Cooperation(习近平在"一带一路"国际合作高峰论坛开幕式上的演讲), *People's Daily*, May 15, 2017. Full text available at http://cpc.people.com.cn/n1/2017/0515/c64094-29274601.html

[15] "Deputy Governor of the Central Bank Yi Gang: It is very necessary to expand the size of the SRF now." (央行副行长易纲: 现阶段扩大丝路基金规模非常必要). *Sinanews*, May 15, 2017.

[16] "How China Is Buying Its Way Into Europe," *Bloomberg*, April 23, 2018.

[17] "丝路基金成立六年，承诺投资金额 178 亿美元," *Seetao*, October 26, 2020.

record suggests that it indeed has an investment horizon similar to that of a medium-to-long-term private equity fund, just as Governor Zhou said it would at the fund's inception. The fund's average investment period is seven to ten years, with some investments projected to be fifteen years or longer. Chairwoman Jin Qi disclosed that more than 70 percent of SRF's committed investments are in the form of equity, with the rest being debt investment and project financing.[18]

The infusion of an additional RMB100 billion in cash into SRF was motivated by more than just ensuring the fund had adequate capital; it also served to advance cross-border payment and settlement using renminbi within the framework of the BRI. In a *People's Daily* article commemorating the fifth anniversary of the BRI and reviewing the achievements of SRF, Chairwoman Jin Qi said that the renminbi capital injection meant that SRF could "provide financial support to Belt and Road projects in multiple currencies." She added this would allow SRF to "satisfy different needs of Belt and Road countries for cross-border payment and settlement." According to her, SRF was "exploring and promoting effective ways of investment in renminbi" and was aiming to take advantage of more "renminbi-denominated investment."[19]

Using SRF as a vehicle to promote the use of the renminbi in international finance has clear benefits for China. First, it decreases currency risks for Chinese investors. Second, the renminbi's internationalization is essential if China ever develops a financial network independent of the U.S. dollar. Using the BRI to promote renminbi internationalization gives the CPC more control over the process. This allows the party to decide how and at what pace renminbi internationalization will proceed, providing confidence that financial instability can be avoided.

SRF has supported leading Chinese SOEs in their overseas project financing. SRF's debut was its commitment to cooperate with China Three Gorges Corporation (CTG) and to finance the Karot Hydropower Project. The Karot Hydropower Project is a high-profile piece of the China-Pakistan Economic Corridor proposed by Premier Li Keqiang in May 2013. During President Xi's visit to Islamabad in April 2015, SRF, CTG, and Pakistan Private Power and Infrastructure Board signed a memorandum of understanding to develop Pakistan's hydropower project. According to SRF's official statement, the total planned investment for the project is $1.65 billion. SRF's financial support for this project took the form of both equity investment and debt participation. SRF bought an equity stake in CTG's investment and operation platform for clean energy projects in South Asia, CTG South Asia Investment. SRF also agreed to participate in a consortium led by the Export-Import Bank of China to provide loans to the project.[20] Besides the project in Pakistan, SRF also agreed to buy a 9.9 percent stake in Russia's Yamal LNG project – of which China National Petroleum Corporation owns a 20 percent equity stake – and provide a fifteen-year loan of around €730 million (about $790 million).[21] It also joined a consortium of four Chinese and international banks to invest $2.43 billion in the Hassyan Clean Coal Power Plant in Dubai, a project that China Harbin Electric International serves as the general contractor.[22]

Besides providing project financing using equity investment and loan provisions, SRF has financed major asset acquisitions by Chinese SOEs. In 2015, SRF provided financing to China National Chemical Corporation (ChemChina), China's largest chemical company, to buy the Italian company Pirelli, the world's fifth-largest tire

[18] Qi, J. (2018). Building a Golden Bridge and Pursuing Mutual Benefit. *People's Daily*, March 27, 2018.
[19] Ibid.
[20] "Q&A about the Silk Road Fund's First Project Investment" Silk Road Fund press release, April 20, 2015. Accessed at http://www.silkroadfund.com.cn/enweb/23809/23812/23942/index.html
[21] Sun Kai, Ma Yanhong. China-Russia Arctic Energy Cooperation in the Context of the "Polar Silk Road"—A Case Study of Yamal LNG Project. *Journal of Ocean University of China* (Social Sciences), 2018, (6): 1-6. "Opportunities created by Sino-Russian cooperation on Yamal LNG project with investment by the Silk Road Fund" (丝路基金入股的中俄合作亚马尔 LNG 项目造就了哪些机会), *Sohu Finance* (搜狐财经), October 26, 2015. Accessed at http://business.sohu.com/20151026/n424177115.shtml
[22] "How banks and enterprises can join forces to go out: lessons from the Dubai Hassyan project" (从迪拜哈翔项目看银企如何"抱团出海"), Bank of China official website, March 20, 2017. Accessed at https://www.boc.cn/aboutboc/ab8/201703/t20170320_9126429.html

maker, for $7.7 billion. The deal was structured in multiple steps, including a voluntary tender offer, mandatory tender offer, sell-out procedure, and squeeze-out procedure.[23] To finance the purchase, SRF signed an equity investment agreement with ChemChina in June 2015, agreeing to purchase a 25 percent stake in CNRC International Holding (HK) Limited, a special purpose vehicle used to acquire the Pirelli ordinary shares owned by Camfin, an Italian holding company. ChemChina took out a syndicated loan from CDB, China Construction Bank, and the Export-Import Bank of China, all of which previously received cash injections from CIC at different times.[24] The deal was completed in 2017, resulting in a combined entity with a 10 percent global market share in tire manufacturing. The Pirelli acquisition gave ChemChina access to technology to make premium tires that sold at higher margins and gave the Italian manufacturer preferential access to China, the world's largest automotive market.

At the time of ChemChina's Pirelli acquisition, Italian Prime Minister Matteo Renzi was uncharacteristically silent about the deal. The Italian government made no protectionist noise against ChemChina's acquisition.[25] The deal led some Italian business leaders, including Pirelli's CEO Marco Tronchetti Provera, to lobby the Italian government and steer Italian foreign policy towards a pro-China direction.[26] The lobbying may have influenced Italian Prime Minister Giuseppe Conte to sign a preliminary accord for Italy to join the BRI during a visit by President Xi in March 2019. Italy was the first, and so far only, G7 country to sign on to support the BRI. Alongside this signing, Italy and China made about thirty deals that were cumulatively worth an initial €2.5 billion ($2.8 billion) but a potential total value of €20 billion.[27] One of these deals was a memorandum of understanding to cooperate on international investments in China and BRI countries signed by SRF, Italian investment bank Cassa Depositi e Prestiti SpA (83 percent owned by the Italian Ministry of Economy and Finance), and Snam, Italy's leading natural gas company. Recently, as the Italian government has become more wary about undesired Chinese influence, Prime Minister Giorgia Meloni's administration has taken actions to block ChemChina from taking control over Pirelli and has been reviewing its options to exit BRI.[28]

In recent years, SRF has acquired strategic infrastructure assets like pipelines and ports in the countries along the BRI. SRF participated in a consortium that bought a 49 percent equity stake in Aramco Oil Pipelines for $12.4 billion in June 2021, one of the highest-value energy infrastructure transactions globally. Aramco Oil Pipelines is a new subsidiary of Saudi Aramco, Saudi Arabia's national oil company and the world's single largest oil producer. Aramco Oil Pipelines has the right to collect tariff payments for oil transported through Aramco's crude oil pipeline network for twenty-five years. The consortium included Mubadala Investment Corporation (Abu Dhabi's sovereign wealth fund), Samsung Asset Management, and Hassana Investment Company, a financial institution controlled by the Saudi government.[29] SRF's participation in such a large infrastructure deal shows that less than five years after its inception, it has already ascended to the ranks of the world's largest and most respected sovereign funds and private institutional investors.

SRF partnered with COSCO Shipping Ports (CSP), one of the world's largest port terminal operators, to acquire port assets and advance China's maritime strategies as part of the 21st Century Maritime Silk Road. In July 2019, SRF and CSP launched Navigator Investco in Hong Kong as an investment platform for equity investment in port assets and

[23] "ChemChina to buy into Italian tire maker Pirelli in $7.7 billion deal," *Reuters*, March 23, 2015.
[24] "Silk Road Fund Joins ChemChina in Industrial Investment in Pirelli," SinoChem corporation news, June 5, 2015. Accessed at SinoChem website http://www.china-bluestar.com/en/xwymt/jtxw/webinfo/2015/06/1433463198162102.htm
[25] "ChemChina to buy into Italian tire maker Pirelli in $7.7 billion deal," *Reuters*, March 23, 2015.
[26] Interview with an Italian scholar in European University Institute, September 2017.
[27] "Italy signs deals worth 2.5 billion euros with China," *Reuters*, March 23, 2019.
[28] "Pirelli: Italy blocks Chinese control of tyre giant," *BBC*, June 19, 2023. Accessed at https://www.bbc.com/news/business-65947050. "Italy to hold talks with China about exiting Belt and Road Initiative," *Financial Times*, May 11, 2023. Accessed at https://www.ft.com/content/5666fcde-2a5d-4af0-927c-ab971517554d
[29] "EIG-led consortium closes $12.4 bln Aramco pipelines deal," *Reuters*, June 18, 2021.

related businesses upstream and downstream.[30] SRF owns 49 percent of Navigator Investco through its wholly-owned subsidiary TRD Investco, and CSP holds the remaining 51 percent shares.[31] In October 2021, Navigator Investco agreed to acquire 100 percent of the shares of COSCO Shipping Ports (Rotterdam) Limited (Rotterdam Company), a wholly-owned subsidiary of CSP that owns a 35 percent stake in the Netherlands' Euromax Terminal. Navigator's acquisition of CSP's subsidiary Rotterdam Company has two direct effects. First, upon completing this transaction, Navigator—and SRF, by extension—will become an indirect shareholder of Euromax Terminal through its full ownership of Rotterdam Company. Holding a minority share in Euromax Terminal firmly fits SRF's mission to support the BRI and contributes to SRF's portfolio diversification. Second, CSP will replenish its capital base by selling its subsidiary to Navigator and receiving cash. In effect, SRF is providing a capital injection to CSP via Navigator. The essence of SRF's partnership with CSP and their joint investment platform Navigator is to leverage SRF's access to China's foreign exchange reserves and support CSP's endeavor to establish a global terminal network and advance China's maritime strategic interests.

Besides working alongside Chinese corporations and directly supporting their overseas investment, SRF has entered into many cooperation agreements and memoranda of understanding to establish partnerships with foreign sovereign funds, state-owned asset management firms, and leading private institutional investors.[32] A few of these agreements have already materialized into joint investment funds or cooperation funds. For example, SRF is the sole sponsor of the $2 billion China-Kazakhstan Production Capacity Cooperation Fund,[33] with the Kazakhstan government agreeing to provide tax exemptions to the fund's investments.[34] This is the first such cooperation fund where SRF has participated as the sole sponsor structure. For its first investment, the fund bought common shares of stocks on the Astana International Exchange. Another example is the China-EU Co-Investment Fund, first proposed in June 2017 and launched in July 2018. The fund made its first investment in Cathay Midcap II, and it is committed to fostering synergies and advancing collaboration among businesses and enterprises in China and Europe. CIC has also adopted joint investment funds as a strategy to more expeditiously invest abroad amid heightened scrutiny of Chinese foreign direct investment (FDI) in foreign countries. For CIC, the primary purpose of investing through joint funds is to mitigate the risk that a foreign government will block an overseas investment. While this is certainly applicable for SRF, SRF's cooperation funds also have China's broader strategic agenda in mind concerning acquiring assets overseas and developing China's long-term geoeconomic capacity in the long run.

The economic difficulties triggered by the COVID-19 pandemic have driven policymakers in many countries to strengthen FDI reviews in order to head off opportunistic acquisitions by geopolitically-motivated investors. The supply chain disruptions stemming from the pandemic have brought home to many in government the dependence of the domestic economy on international suppliers. As multinationals reconfigure their global industrial supply chains, it is imperative that the United States and its allies strengthen and coordinate their FDI screening measures to ensure that hostile foreign governments are not allowed to gain control over companies that are critical to the global supply chain. In this context, I would like to conclude with three recommendations for legislative action.

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[30] "Silk Road Fund Acquires Minority Stakes in Europmax Terminal (Netherlands)," Silk Road Fund Press Release, Octover 26, 2021. Accessed at http://www.silkroadfund.com.cn/enweb/23809/23812/42316/index.html. "COSCO Shipping Ports and Silk Road Fund agreed to establish cooperative strategic relationship," COSCO SHIPPING Port press release, October 20, 2021. Full text of the press release in English is accessible at https://doc.irasia.com/listco/hk/coscoship/press/p211020.pdf

[31] "COSCO Shipping Ports and Silk Road Fund agreed to establish cooperative strategic relationship," COSCO SHIPPING Port press release, October 20, 2021. Full text of the press release in English is accessible at https://doc.irasia.com/listco/hk/coscoship/press/p211020.pdf

[32] For details, see "Table 4.3 Silk Road Fund Cooperation with foreign institutional investors" in Liu, Z. Z. (2023) *Sovereign Funds: How the Communist Party of China Finances Its Global Ambitions*. 1st ed. Cambridge: Harvard University Press, pp 167-169.

[33] http://www.silkroadfund.com.cn/enweb/23809/23812/34267/index.html

[34] "China and Kazakhstan Sign the Agreement on Tax Exemption with Regard to Certain Types of Income of China-Kazakhstan Production Capacity Cooperation Fund Making Direct Investment in Kazakhstan," Silk Road Fund press release, June 9, 2017. Accessed at http://www.silkroadfund.com.cn/enweb/23809/23812/35432/index.html

First, the U.S. government should take the initiative to consider working with the EU and lead a concerted effort to protect companies in critical sectors from undesired foreign takeovers that may hurt the national interests of FDI recipient countries. The launch of the EU-U.S. Trade and Technology Council in June 2021 is a step towards an integrated transatlantic approach to foreign investment. While high-level consultations are necessary, well-designed procedures for implementation are critical. An important first step is to identify hidden sources of state-owned or state-sponsored investors by enforcing the rule of "follow the money" in a multi-jurisdictional FDI reviewing process. China's SLFs often operate through an offshore subsidy or joint investment fund, partnering with reputable Western investment brands to mask the source of capital for their investments and ultimately obscuring their connections to the Chinese state. This hidden state-owned capital requires that regulators conduct a forensic audit during the FDI review process. U.S. authorities have enforced the rule of "follow the money in the financial services sector and should consider integrating the practice into its FDI review process. There ought to be more formal cooperation between CFIUS and authorities from other countries going forward. Since the passage of the Foreign Investment Risk Review Modernization Act (FIRRMA) in 2018, the U.S. Treasury has engaged with dozens of countries on FDI screening. FIRRMA provisions make sharing information with national counterparts easier.

Secondly, besides "follow the money," an integrated transatlantic approach to FDI calls for creating a shared Entity List that identifies which foreign investors are unwelcome and a list of exempted foreign entities that are pre-approved, a so-called "white list." This effort should include commonly adopted and enforced ground rules for determining which industries and segments of companies' supply chains are off-limits to FDI. Implementing the shared Entity List will require not just support from government officials but also input from legal professionals specializing in cross-border mergers and acquisitions. The governments of the West are bound by the rule of law, and foreign state-led investors have increasingly spared no expense in hiring top-flight legal representation to help navigate FDI screenings and bring to close their cross-border mergers and acquisitions. Thus, western governments must work with legal service professionals to develop and enforce industry-wide best practices to successfully fend off foreign investment from undesired foreign entities.

The goal of an internationally coordinated FDI screening regime should not be to implement protectionist policies but to strengthen U.S. leadership in shaping the global FDI investment environment. Ultimately, the United States and its allies should aim to create a level playfield that can protect the national interests of FDI recipient countries while maintaining a fair and open global investment system. When appropriate, domestic capital markets or government support should meet the capital needs of strategically important companies.

Finally, the experience of China's SLFs shows that there is an effective role to be played by the state as a direct participant in the market so as to maximize the embeddedness of national interests in market operations. The advent of China's SLFs speaks to the broader issue of the rise of state-led investment and finance globally. Western policymakers tend to discredit the idea of state-led investment institutions. This thinking requires some change. With proper design and supervision, Western liberal market economies can establish their own SLFs to work as white knights to fend off undesired foreign takeovers in defense of their strategic industries and national interests. In fact, France and Germany have been making progress along this line. Like China, Western countries can establish and use their SLFs to strengthen the international competitiveness of specific critical companies, defend those companies from foreign takeover, and support the development of strategic industries.

PANEL I QUESTION AND ANSWER

COMMISSIONER CLEVELAND: Mr. Wright, I'd like to begin with you just so that I have a very, excuse me, very clear picture of what's at stake.

In your testimony, you talk about LGFVs borrowing from banks representing 76 percent of debt, and then bonds issued are $1.8 trillion, and then another number was the total debt is $7.45 trillion. Can you do sort of a cascade for me of sort of what's the total debt at the local level, what's bonds, what's loans, and what do you view as inherently riskier in terms of the overall economic picture?

DR. WRIGHT: Sure, basically, total local government debt is around China's GDP, somewhere between 90 to 110 percent of GDP, meaning somewhere between, you know, $16 trillion, $17 trillion.

The riskiest part of that is probably what is happening in short-term payables, in privately placed notes, and in the corporate bond market. So, short-term payables are 6 trillion yuan, so something close to $800 billion.

Total local government interest bearing debt is 54 trillion yuan as of the end of 2022, you know, so something close to $8 trillion or so, and the riskiest part of that interest-bearing debt is the corporate bonds, which have been shrinking in duration, and are around 13.5 trillion Yuan. Average duration on that LGFV debt is around two and a half years. The remaining portion of -- so in total, all of that LGFV-accrued debt is about half of the stock, which is about half of China's GDP.

So, the remaining portion, there's an explicitly guaranteed, by Beijing, local government bond issuance that is explicitly issued. That's 36 trillion Yuan as of the end of 2022, so that's about 30 percent of GDP, and then there's an unknown portion, which is stuff issued by schools, hospitals, other government-affiliated institutions at the local level that nobody really counts. That's probably also implicit.

So, roughly, we're talking about 70 percent of GDP or roughly $11 trillion to $12 trillion in debt that needs to be restructured, and the problem with local government debt restructuring is not just the stock, but the flow.

What happens not only when you manage the existing, you know, the existing obligations and prevent the immediate financial market risk on a wide range of assets that are perceived to be guaranteed in China's financial markets, but how do you more sustainably finance investment in the future at a lower rate?

COMMISSIONER CLEVELAND: And as you see it now, what entities are responsible for purchasing each of these pieces of the pie? Because it --

DR. WRIGHT: Yeah.

COMMISSIONER CLEVELAND: In my pea brain, I just see this as the debt just keeps washing through the system, and the policy banks buy and then they push it off on a regional bank, and it just keeps money washing through the system.

DR. WRIGHT: Yeah, my colleagues at Rhodium Group have done a lot of work on exactly where this concentration of lending is held within the Chinese financial system. So, the most exposed would probably be, it's not in the bond portfolio, but the loan portfolio, and around loans to LGFVs are around 20 to 25 percent of the total loans in China's banking system, so it's quite a high level of exposure.

And the banks that are most exposed are most likely to be city commercial banks. Within the bond portfolio -- and so, the smaller city banks that kind of serve as quasi-fiscal institutions to Chinese cities and towns.

Among the bond portfolio, the highest exposure is among privately-placed notes, privately-placed LGFV notes, because those are shorter term in duration and we don't really have great visibility about where the holdings are.

What happens in China's system is that there's still a shadow banking component where banks will sell products from third-party institutions that will then try to basically add leverage or obtain higher-yielding assets in order to repay investors at higher rates.

And LGFV bonds were a good source of yield because everyone assumes them to be guaranteed by the government, but they're still trading at a premium to government bonds, and so that's, you know, a reasonable place to go search for what is seen to be safe yield and that's where you have greater exposure within some of those shadow banking components, trust companies, asset management companies, in some cases brokerages, asset management arms.

That's where the exposure, I think, is most concentrated at this point. That's kind of what we can say. It's still unknown exactly where all of this can be concentrated.

COMMISSIONER CLEVELAND: And in all of those instances, are the assets owned exclusively by Chinese entities or is there access to foreign investors, access by foreign investors?

DR. WRIGHT: There is some foreign ownership of China's onshore corporate bonds, but it's extremely small. There is some foreign ownership of LGFV debt issued offshore, but that is also extremely small relative to the -- there's not really a significant foreign component.

Everyone likes to say that China's debt is all owed to itself, that this is a left pocket, right pocket game, that this can all just be reorganized internally. That is a politically fraught process because what you're actually talking about in that case is who is going to bear the losses and how those losses will be allocated within the system, and the implications that has for future growth and the stability of that system.

The problem now is that every, all of these, all of this borrowing is implicitly guaranteed. Someone in Beijing needs to decide that we need to expose certain borrowers to market risk, and therefore risk some of these loans being cut off or not being rolled over, and someone has to decide that that's enough market risk and not too much that might spill over into broader contagion or financial crisis. That's difficult.

COMMISSIONER CLEVELAND: Did you see the -- I'm sorry I'm way over time. Did you see the article that was in Nikkei Magazine a few months ago where 43 LGFVs did not roll over their paper? Did you see that as an indicator of Beijing suggesting that they're going to let some of these localities go?

DR. WRIGHT: I think that that is the -- I don't view it as an indication that Beijing has made that decision yet. I think it is an indication of the financial stress that is building upon local government financing vehicles. The payables, the short-term corporate acceptances, that's -- we also see other evidence of even more defaults, we can track those on a monthly basis and they have been rising very steadily, and with -- so it shows that local government financing vehicles are not currently able to meet their obligations within their existing debt burdens, and Beijing needs to intervene to restructure that debt.

I don't think -- you know, the Politburo called for a comprehensive plan to address local government debt as their late July statement on the economy, but I don't think the fact that some of these instruments have defaulted necessarily indicates that there is a decision that's been

reached about what to do about this or to allow some cities to default or some types of bonds to default. Those are very difficult decisions.

COMMISSIONER CLEVELAND: Thank you. I have questions for the other witnesses if we have that time.

COMMISSIONER GLAS: I will go next and then we'll go in alphabetical order. First, thank you to all of you for preparing such great testimony and appearing before us today. You know, I'm really struggling here a little bit. I think all of you have, are mirroring each other in what you're saying in terms of the economic slowdown is the trajectory over the next decade, the next couple of decades? It is over the next five years? You know, I'm not sure what the crystal ball says, but I think, you know, I think policymakers in Washington -- rightly so, Dr. Wright, you pointed out in your testimony, people need to ingrain this as part of their thinking about what's happening to the Chinese economy.

Are we getting out front as aggressively as we should about the implications to the U.S. economy if the Chinese economy continues to slow down. Not just risk to U.S. investors who are making investments in China, but also to our own sectors here at home, and what could Congress be doing right now in anticipation that this will have serious implications, not just here, but globally? So, I'll start with you, but Mr. Borst and Dr. Liu, feel free to chime in.

DR. WRIGHT: Thank you. I mean, I think that the primary immediate spillover that we will see is not only – is through disinflationary pressure or potential deflationary pressures through China's currency and through global commodity prices, which is what we've started to see some of this dynamic already, in which case some of that pressure is salutary for the U.S. economy, taking some pressure off of inflation, but that channel is fairly limited, I mean, given the low level of U.S. imports relative to the overall price level.

So, the concern, I think, is about China no longer being a source of growth in the region for our allies and partners as well, and the potential for greater disinflationary pressure from China's currency, if you will, feeding into competitive pressures to devalue other currencies as well, so let me just stop there.

COMMISSIONER GLAS: Our other witnesses?

MR. BORST: Sure, I'll just add a couple of remarks. You know, I think, at least in terms of the financial markets, the slowdown in China is well understood now.
It's very reflective in the performance of the major Chinese investment indices over the course of this year. So, I think there is a lot of transparency and look-through to a pretty broad consensus that the Chinese economy is slowing.

In terms of the direct implications for the U.S., you know, obviously, despite the slowdown in the bilateral trade relationship, China continues to be a major export market for a lot of U.S. companies, and so that will certainly impact their growth. China is also a major investment-focused market for a lot of U.S. investors, and so that will ultimately filter through to lower investment returns going forward.

I think, you know, this notion of China's slowdown is much broader than just the country itself. I mean, in many ways, it has been kind of the heart of growth in the Asian economic region, and so to the extent that China continues to slow in the way that many of us are predicting, it will have a direct economic impact on many of our allies in the region who have huge economic ties to China.

So, I think, you know, the impact on growth will be significant, but I would also say that, you know, there's a variety of different ways that this could play out. I think there's a pretty broad consensus that the growth miracle is over, that we're not going to see Chinese growth go

back to eight or nine percent, but there's a range of other outcomes that can occur, and that could be a relatively soft landing, something in the three to four percent ratio, or if they don't handle many of these financial risks that we've covered, it could be something much lower and much more volatile than that.

COMMISSIONER GLAS: Thank you.

DR. LIU: Thank you very much for the question. I will make two points. The first point is with regard to the deflationary pressure right now.

And it's likely that the deflationary pressure in the Chinese economy could be transitory, could be temporary because the component driving consumer price down right now, from the latest data, mainly comes from a significant reduction in pork prices. That can potentially be temporary, but if this became a prolonged process, then a deflationary Chinese economy would also mean the Chinese export prices could be cheaper, and that makes Chinese goods more competitive in global market.

The second point that I would want to make is that a slowdown of the Chinese economy, yes, would relieve some of the commodity prices from oil to gas, but that does not necessarily mean every commodity price would go down, because in areas where the Chinese government put a lot of emphasis in such as chips, such as electric vehicle, such as renewable technologies and renewable energies, for those, critical mineral demand in China is still going to be very high. Therefore, even if the Chinese economy slows down, it does not necessarily mean every country would be impacted to the same extent.

COMMISSIONER GLAS: Thank you. I will now recognize Chairwoman Bartholomew. Chairwoman, You're on mute.

CHAIRMAN BARTHOLOMEW: Sorry about that. Thank you very much, and thank you to our witnesses for their testimony. I guess what I'm trying to think about right now is what are the implications both within China and how China's model is being perceived elsewhere in the world as a result of these economic problems?

I mean, I know watching them, the people of China going through COVID and the faith and their trust in the system that was quite shaken by the lockdowns, for example. Do you think that it's having any impact within China on people's trust or faith in the ability of the CCP to manage the economy in a way that benefits people?

That's the first piece, and then the second piece is for countries around the world that have been finding the Chinese model attractive, you know, economic growth and authoritarianism, is there any evidence that these structural problems might be having any impact on how these countries are finding this as an attractive option? And that's for any of you.

MR. BORST: I can start on this and I'm happy to yield time to my panelists. You know, I think the events of the past few years really have shaken a lot of faith in the Chinese economic model.

You know, there has historically been this implicit guarantee between, you know, the Party and the people of, you know, stay out of politics, focus on the economy, everything will get better over time. The severe direct impact on many people's day-to-day lives of COVID lockdowns have shaken that for a lot of people, and so I think a lot of people are cautious about what the future means, and that's one of the reasons why we haven't seen this real strong resumption in consumption spending that a lot of people were predicting.

I think a lot of people's outlook on the future has changed for the negative. And that's also quite true in the business world where, you know, China usually had a very vibrant, dynamic private sector, really made a lot of progress throughout the 2010s, and then I think the

regulatory storm that I referred to at the beginning of my testimony really shook confidence in that.

You know, you can't have big, modern companies without rule of law, and when you implement policies in such a non-transparent, draconian way, that really shakes the confidences of businesses. You know, people lose confidence to invest in the future.

They don't believe that their assets will be safe. They believe, you know, a government regulatory policy could come down at any time and really, you know, fundamentally disrupt the business model on the businesses that they have spent so many years building.

So, in a variety of different ways, I think it really has shaken some internal domestic confidence, and then as we've all kind of hinted at, you know, the key role of local governments within China's economy is changing now, and that's really due to the high levels of debt that they are now burdened with.

So, local governments have been a key player in the real estate boom. They're a key player in stimulating the Chinese economy during downturns, and they've been a key player in many of Beijing's kind of national level policy priorities, whether it's, you know, creating a semiconductor industry or Belt and Road projects.

So, now that these financial constraints are growing ever larger for local governments, they're just not going to be able to play that same role, and so one of Beijing's, you know, key tools in its toolbox for stimulating the economy and pushing forward some of these national policy priorities is just not going to work as well as it did in the past.

And then for the question about the global implications, yeah, I think that will take time to filter through. You know, China's had such a strong economic track record for the past two or three decades. I'm not sure many countries were trying to model the Chinese economic system as a whole.

It's far too distinctive and really driven kind of by the party and state dynamics that are so important in China, but the idea of a real focus on infrastructure, infrastructure-led development, I think we're seeing the kind of natural consequences of when that goes too far, and I think that will have big implications for a lot of different countries.

CHAIRMAN BARTHOLOMEW: Thank you. Do any of our other witnesses have anything they want to add?

DR. WRIGHT: If I could add one point just on the external, you know, the external impact of the Chinese slowdown so far, I mean, it's obviously hard to monitor public opinion in other countries, but if you look at the Pew Research surveys that have been released recently, you know, negative impressions of China have risen to all-time highs.

The issue I would urge everyone to watch is how China manages negotiations on its external loans and its external debt at this point because that is really where the slowdown and the inability of the Chinese domestic system to absorb financial losses from some of those loans, and our own work illustrates that there has been about $88 billion, or $78 billion in loans that are either in default or under renegotiation since 2020 alone in terms of China's external lending.

And the way in which China participates in that process is going to be, I think, where the rubber hits the road for their external diplomacy because it reveals the constraints of their own domestic political system at the same time, and their own financial stress, at the same time as their external attachment to trying to provide debt relief and their engagement with the global south as well.

CHAIRMAN BARTHOLOMEW: Dr. Wright, so just quickly, do you see that there's going to be a slowdown in external lending? Because that certainly would have diplomatic consequences for the Chinese government also.

DR. WRIGHT: We have already seen a slowdown in external lending, basically since 2018, 2019, over that time frame, and the rising risk of defaults and renegotiations on those loans suggest that there will continue to be an ongoing slowdown in external loans.

CHAIRMAN BARTHOLOMEW: All right, thank you very much.

DR. LIU: If I can just add two points very quickly with regards to the question about trust, faith, and evidence with regards to what extent the Chinese model might be appealing. So, on the question about faith, I think right now what we are observing of the Chinese economy really is a run on confidence, and this run on confidence comes from both domestic and international. The reason I said right now we are observing the crisis right now at this particular moment is because of the timing we're considering.

China's domestic structural problems have been existing for a long period of time, and there is a pretty good argument to be made saying that back around the time of 2009 or even 2012, a lot of these structural problems already dragged the Chinese economy growth, but at that moment, those structural problems were not necessarily crushing the Chinese economy.

Because right now, it seems to be that there is a crushing moment, and I think this really comes down to a crisis around confidence, and the run on confidence comes from international and domestic. The domestic really comes from, on the one hand, the consumer confidence index has been on a downward trajectory since April of last year to April of this year, and April of this year was the last time the Chinese government updated the consumer confidence index and they paused updating it.

During this three-month horizon, only three months from January this year to March of this year, only those, consumer confidence was about 90. Most of the time, it was below 90. So, that basically means that consumers in China are deeply not confident about the economy, and part of the reason comes from their income growth has slowed down, and then part of that is they were waiting for the government to make more stimulus incentives.

There is there popular saying these days on Chinese social media. In Chinese, it's --

(Foreign language spoken.)

DR. LIU: Translating into English, it means if you don't buy, I don't buy, the price is going to do down by 200 Yen tomorrow, next week. So, from that perspective, policy right now is very much deflationary.

Therefore, Chinese consumers, households, individuals are not confident about the economy, and for that matter, they have, at an individual level, they are also concerned that their economic security would be bogged down or they might even fall victim to broader economic confidence.

And with regard to international, it really comes down to President Xi Jinping's policy swings and policy uncertainties generated lots of risk and uncertainty. So, I'll just stop there in the interests of time. Thank you.

COMMISSIONER GLAS: Thank you.

CHAIRMAN BARTHOLOMEW: Thank you very much.

COMMISSIONER GLAS: Commissioner Borochoff?

COMMISSIONER BOROCHOFF: Wow, so many questions and so little time. What a great panel. Thank you all very, very much.

I started my own business in the early '80s, and within just a couple of years, we had all of the savings and loans in the country go broke, largely for reasons that you're describing occurring in China right now, which is surprising to me a little, although I've been reading about it.

So, I have a sense of what's going to happen because we had all of the developers in the United States effectively borrowing against future promises, and then the market changed a little bit. We passed a law that changed it and everybody failed.

All of you have talked a bit about the debt ratio to the GDP and I understand that. In the private sector in America, it's common to have a large loan with a bank where quarterly you have to talk about your debt versus your overall income, and when it hits a certain number, in my case, say, in the '90s, we got up to around two-thirds of our gross, what was our GDP, we suddenly had to come up with money to lower that ratio. So, it's something that is common in business and government, and obviously not in China.

I'm going to ask a question first of Mr. Borst, and then I guess in order, if we have time, Dr. Wright and Dr. Liu. Mr. Borst you talk a bit about the debt to GDP ratio, and that strikes a chord with me because I know that, on the one hand, the local governments are running over 100 percent, but as a country, they're one of the best in the world, right, around high 60s.

And America has continually increased for a very, very long time. In fact, we have the 12th worst ratio in the world behind countries like Venezuela, Japan, Greece, Lebanon, Singapore, and Bahrain all have worse ratios than us. Everybody else's is better. We're at like 128, I think, if I just looked.

So, my question for you, Mr. Borst, is if our ratio to GDP as a country is one of the worst in the world, why is that not a major disaster compared with China and what they're facing? It would seem like each of you has said that systemically the central government could bail them out, but probably won't, and I'm inclined to agree because of politics, but how do the two compare when ours is so high and theirs is so low? Are we at risk, really at risk if they have a further slowdown?

MR. BORST: Yeah, thank you for the great question. You know, the U.S. and China total at the GDP ratio, if you're looking at both households, business, and government debt, is about the same. I think China has surpassed the U.S. in the last year or two, but both about 300 percent.

But the real issue, I think, is the structure of that debt. There's an issue -- the first level of, you know, we think of economies, as they advance, have this process called financial deepening, and it's much more sustainable and normal for an advanced economy to have higher levels of debt.

Well, China has hit advanced economy levels of debt at a much lower level of GDP per capita. So, China essentially has rich country levels of debt at middle income levels of GDP development, so that's one problem.

But the real issue is, again, the way the debt is structured. And so, you mentioned on the government side, it's true that the central government of China has a very low debt to GDP ratio. It's about 25 percent, which is extraordinarily low compared to most other major economies. You know, the U.S. is about 100 percent. Japan is, you know, 250 percent.

So, from that direct perspective, you could say, well, the Chinese government has all of this fiscal capacity, but the problem is, as we discussed earlier, is the local government debt situation, and so a lot of debt that in other countries would probably be considered central government debt has been really foisted upon the local governments.

And there's this core imbalance in China's fiscal system that I talk about in my testimony that has been the source of so many problems in the economy, and that is that Chinese local governments are responsible for about 80 percent of total spending, but they only get about 50 percent of the revenues, and so the central government takes more than its share of revenues.

It does distribute that back to the provinces a little bit through transfers, but local governments in China are constantly facing a structural fiscal deficit, and so they have invented all sorts of ways to get around that. Part of that is making money through land sales, although that line of business has dried up due to the real estate correction, and the other has been these off-balance sheet vehicles that we've talked about, the LGFVs.

And so, local governments have used off-balance sheet vehicles to borrow heavily, to spend on their behalf, but the problem is that these off-balance sheet vehicles really don't have any revenues of their own. They're completely dependent on new borrowing or from financial injections from the local governments.

And so, this issue of local governments having all of these spending responsibilities but not enough revenues to do it hasn't been resolved, and until it's resolved, I'm very pessimistic about some of these financial problems.

There are possibilities where they could take steps that I think would help change this. I talk about in my testimony, you know, the central government could take on more of these debts or could give more revenue to local governments, or they could finally sell some state assets to cover these debts.

The problem is all of those different policy choices are very difficult from an ideological perspective in China today, and so, you know, the debt levels are high, but the real problem is the way the debt is structured, and I think they're ideologically constrained from taking some of the steps that would be necessary to resolve that problem.

COMMISSIONER BOROCHOFF: I think we're out of time, so I'm going to defer to the Chair.

COMMISSIONER GLAS: Thank you. Commissioner Friedberg?

COMMISSIONER FRIEDBERG: Thank you very much, and thanks to all of our witnesses. It seems that all of you, to the extent that you've touched on this point, seem to be agreed that China is headed for perhaps a sustained period of slower growth, and that the reason for that is something that's deep in the structure of the system as it currently exists. It's just not the result of short-term policy.

So, my questions, and I guess for all three, and one, is there reason to believe that the CCP is perhaps okay with this? They might prefer that they were growing more rapidly, but they seem to be talking about making the point that growth is not the only objective, and that control, and security, and so on are critical.

So, first, is there reason to think that they're okay with it? And second, if not, what exactly could they do about it? And there's one answer to that that's implicit, I think, in some of the testimony, and that is that they could go back to the direction in which people though they were moving ten or 15 years ago, towards loosening CCP control.

If that's not likely in the short term, what are the alternatives for that? Could they push exports? Could they rely more on technological innovation? What could they do to get out of this corner? So, Mr. Borst, maybe we could start with you.

MR. BORST: Sure, I'll just speak briefly because I want to leave time for the other panelists to chime in, but I think we are seeing a real struggle. I mean, they are -- we've seen over the past month or so, a suite of new private sector reforms come out really aimed at, you

know, improving the operating environment for the private sector. I think at the end of the day, the Chinese economy knows they can't grow entirely through SOEs, that they need the private sector for employment, for revenue, and for innovation, but it's been difficult.

I would note that even these private sector new reform initiatives still talk about increasing the role of party committees at private companies and having private companies support national policy objectives, which, in my opinion, are not great drivers of growth.

So, I think there's a struggle going on right now to figure out what the new driver of growth is, and from my conversations with Chinese economists, I think they're most likely to lean on the old playbook, which is just build more infrastructure even if the country doesn't need it.

COMMISSIONER FRIEDBERG: Okay, thank you. Dr. Wright?

DR. WRIGHT: Certainly, and, I mean, I think that the way I would answer that question is that there's an understanding in China and Beijing that there are real constraints in the previous growth rate, but the forward-looking expectations are still very much contingent upon political objectives, to double Chinese GDP by 2035, for example, and that requires rates of growth that are probably higher than what can be sustainably financed with China's system or under these new structural constraints.

So, it's more that the political discussion around, if you tell Chinese leaders that, you know, growth needs to be lower in the future, everyone can accept that. If you say that growth needs to be lower in the future, and that probably means that people are going to question whether we're inevitably rising in great power status and that the great rejuvenation of the Chinese nation will be complete, then that's unacceptable.

And so, then you get into these constraints about what can actually be done in terms of structural reform, and, you know, Dr. Friedberg, just in response to the question, I mean, I think You're exactly right. You need some sort of reinvigoration of the reform agenda that was put in place with the 60 decisions of the third plenum in 2013.

And it's been obvious that there's been, you know, initial attempts along those lines, and then rapid backtracking of when the market implications, the economic implications, those reforms become apparent.

So, the problem now is that after ten years of backtracking and more statist direction of the economy, how do you actually send that sort of, you know, big bang signal that things are actually different? How do you credibly do it? Because there really is an inverse relationship between the concentration of political power and the credibility of some of these counter-cyclical and reform signals.

COMMISSIONER FRIEDBERG: Okay, thank you. Dr. Liu?

DR. LIU: Thank you for the question, and I would emphasize two aspects, the first part in terms of if the CCP is not okay with lower growth, what are they going to do? The two aspects that the CCP would emphasize, and they have given clear policy signals to do, is to incentivize consumer spending and to focus on efficient investment.

On the point with regard to incentivize consumer spending, since last year, last December in particular, they put out for the very first time a strategic plan to expand domestic demand, and on the domestic demand expansion aspect, for the very first time, they prioritized the incentivized consumer spending rather than focusing on government-led investment. And since the beginning of this year, there have been several policy guidelines focusing to ease consumer credit, the environment, and all of that.

So, from that perspective, the incentivized Chinese household, in particular private consumption, is one important aspect, and they do have the reason to do that because right now private consumption as a percentage of Chinese GDP is about 40 percent, whereas the global average is about 60 percent, so from that perspective, the Chinese economy has significantly been under consuming.

And then the second point with regard to efficient investment, the primary aspect obviously is related to where, the strategic factors such as electric vehicle, quantum computing, artificial intelligence and all of that, but then also very important are practical aspects that Xi Jinping is prioritizing, which is rural revitalization, and focusing on not just land, farmland, but also food security, and the idea is to strengthen the rural base of the Chinese economy because major cities have basically been built out, whereas the further investment potential area would be the rural area.

COMMISSIONER FRIEDBERG: Thank you very much.

COMMISSIONER GLAS: Commissioner Goodwin?

COMMISSIONER GOODWIN: Thank you, Madam Chair, and my appreciation to the panel. Dr. Wright and Mr. Borst, I want to return to this conversation about China's efforts to address local government debt problems.

And Chair Cleveland was exploring this early on in her questions, but earlier this month, I know the Politburo announced what they refer to as a basket of measures to help address this challenge, and some news reports earlier this month suggested among those measures will be a refinancing, a refinancing bond program authorizing these local governments and municipalities to issue up to $140 billion in bonds to repay or refinance outstanding LGFV debt with better interest rates.

So, I want your thoughts on the wisdom of that, essentially going into debt to repay outstanding debt, but also if you have any insight into the structure of those refinancing issues? Have they identified a dedicated revenue stream to pay the debt service on those bonds, and to what extent will the central government be involved in backing those issuances?

DR. WRIGHT: I'll start if that's all right. The problems in local government debt refinancing, it's really a fourfold problem that China has to grapple with all at once. First, you have the stock of existing debt.

Second, you have the flow of how you're going to fund, finance new investment in the future. Third, you have the entire basis of the central local fiscal relationship and how you can more sustainably put local government finances, you know, on a new plane.

And fourth, you have a broader problem of how to raise fiscal revenues in the system all together. Because most of the tax system is heavily dependent upon investment-led growth, and local government investment-led growth, and the property sector overall.

So, this is a huge structural problem, of which the measure you were discussing, the news announcement, is, you know, a very tiny first step in terms of alleviating some of the short-term financial pressure, when You're talking about a trillion yuan or 1.5 trillion yuan. Something that would meaningfully address the stock of local government investment probably needs to be in the range of 30 to 50 trillion yuan.

And ultimately, the only source of financing for this type of bond issuance to refinance older high-interest debt with lower-interest government bonds is probably going to be the central bank balance sheet, and that could be done quickly. It could be done slowly. Beijing has a lot of choices in this regard and none of them are very good.

Do you want to start small and then sort of expand this program over time so as not to frighten markets? Do you want to, you know, start with individual provinces or cities, or individual debt instruments, but when you do that, you hypothetically expose those others that are not directly guaranteed to market risk? Not an easy choice, or do you want to try to break the implicit guarantees in local governments by allowing a few of these to default and then coming in with sort of a rescue package?

These are uncharted waters is all I would say, and the kind of measures you're hearing so far as, you know, very tiny incremental steps along those lines. I think we will see a plan emerge in the next six to 12 months, but I think it's far more likely to be a reactive incremental plan to address this rather than something more, you know, comprehensive and proactive.

MR. BORST: I would just add on that I think all of us are a little bit having déjà vu because we've seen this happen before. So, if you, you know, go back a decade, 2011, 2013, they're trying to get a handle on just the sheer amount of local government debt, sending out audit and inspection teams. In 2023, that's happening yet again. The central government still doesn't know exactly how much local government debt is out there.

And then one of the main changes being talked about is, you know, local governments issuing more bonds, taking some of that off-balance sheet debt and making it explicit. That happened in 2015.

And, you know, in general, it's good to take, you know, high-interest rate, very short-term debt and transform it into something that's lower interest rate, more sustainable over the long run, but it doesn't solve the fundamental issue of as long as these local governments continue to have this structural financial deficit, they're going to keep borrowing through these channels, so a little bit of a blast from the past. We're seeing the old playbook, maybe even not as aggressively as it was pursued in 2015.

The other thing that we're seeing is that, you know, the losses from some of these debts are really being hidden, and the way that's occurring is that, for example, with many of the off-balance sheet local government bank loans, banks are being told to extend that, you know, extend the loan tenure five, ten years, zero interest payments for five years, that sort of thing.

That has the same effect of recognizing a debt. You're just doing it in a different way, and so I believe a lot of these losses will ultimately show up on the balance sheets of banks, the balance sheets of insurance companies and other investors in these bonds, and other investors.

COMMISSIONER GOODWIN: Thank you.

COMMISSIONER GLAS: Commissioner Helberg?

COMMISSIONER HELBERG: Thank you, and thank you to our witnesses for their testimony today. Having seemingly run out of dissidents and business leaders to disappear, it looks like the Chinese government has now graduated to disappearing its data.

The Economist and The Guardian have described China's real estate market as a giant Ponzi scheme. The Washington Post also reported that a study of satellite imagery suggests that China may be inflating its GDP by up to 30 percent on any given year.

If real estate activity makes up the lion's share of China's GDP growth, if China lies about its GDP numbers, if the Chinese government is juggling debt by using its right pocket to fill up its left pocket, if China is now hiding all of its underlying GDP data and investors aren't able to do any meaningful due diligence, can you explain to me how any investors could be confident that China's economy isn't a giant Ponzi scheme, and would any of you hypothetically invest your own family's retirement accounts in China?

MR. BORST: Maybe I can start with that one. You know, I think we're very concerned about the trend and direction with Chinese data transparency.

I've been following Chinese data for a long time and I think, you know, earlier, a decade or so ago, it was actually getting better in terms of frequency and transparency for a lot of data releases, but particularly over the past two or three years, I think we've seen more and more data sets kind of not reflect what we're seeing in reality, and then also data sets that we've relied on no longer being published or being published very infrequently, so that's a major concern.

I think, you know, that's macrodata. For company data, which is what I primarily deal with, you know, we are always skeptical of every company's data. I think that's key to being an investor is to approach a company's data with a skeptical mind, and so we try to rely on many different methods, you know, looking at audited financial results, combing through financial models, talking to outside analysts, really making sure that a company's data can be triangulated in a variety of different fashions.

But I think investors as a whole, if they can't get comfortable with either the macrodata or the company level data coming out of China, will reduce their exposure to that market, and I think that's --

COMMISSIONER HELBERG: How do you triangulate data about a company in China?

MR. BORST: Yeah, so there's a variety of different methods. You know, that's going and talking to the company, looking at outside sources of data that might be able to be matched against the data the company itself is putting out, comparing that company not only to its domestic competitors, but what we see in international companies that are in an similar industry or similar business model, and really trying to look at it from a variety of different ways and just see if it passes the smell test.

COMMISSIONER HELBERG: Next witness, please?

DR. WRIGHT: And just in response to that, I mean, I think one of the things that we try to do is to follow the money in China's financial system rather than the official data.

So, there is actually, you know, fairly reasonable data on China's credit expansion, the state of the banking system, and one of the reasons that we've done this for so long is precisely because that is a very robust sort of area of data that's available, while the headline economic data is less reliable, particularly in terms of GDP.

It's just not realistic to assume that China's GDP was more stable than any other countries that we could find over the 2014 to 2019 period where, you know, GDP growth barely moved at all despite the fact that policy changes, both monetary and fiscal, adjusted quite a lot over that time frame that were more indicative of a regular economic cycle.

Similarly, it's not really realistic to say that China's economy grew at all in 2022. It's far more likely that the economy contracted in 2022 given the impact of lockdowns and other restrictions on activity. Headline Chinese consumption growth was negative. Investment from the property sector certainly contracted over that time.

COMMISSIONER HELBERG: How do you follow the money in a system that basically treats as espionage and criminalizes doing basic due diligence on a company, and would any of you invest your own family's retirements in China at this point in 2023?

DR. WRIGHT: I think the point on that that I would argue is that China faces this long-term problem in restoring investor confidence. The outflows from China's system are inevitable. The inflows are not. The inflows are highly contingent.

The outflows are inevitable because China has the world's largest money supply in dollar terms. The inflows depend upon all of those individual decisions that investors make, and

investors have different priorities, and an absence of information can sometimes be a benefit to certain investors if they think that's an opportunity that they have information that others don't, and that is a different type of market environment and it's not the one where China has been trying to develop over the last two decades, but this is sort of where we are.

MR. BORST: I will just add on that, too, you know, I can only speak to my personal experience, but I've done two trips to the country this year. I've met with more than two dozen Chinese companies, found them very willing to talk to me, open and transparent about the challenges they were facing.

And to answer your question, Commissioner, I do have my own personal funds invested in some Chinese investments.

COMMISSIONER HELBERG: And so -- and you talk to Chinese business executives in China, and you don't think that Chinese business executives have a long history of misrepresenting their books and misrepresenting their information to American visitors?

You don't find that there is a long 20-year track record of misrepresentations and their characterizations of their economy? Do you trust that we should invest billions of dollars of pension fund money in the Chinese market at this point?

MR. BORST: Yeah. We invest in a lot of difficult markets around the world, and I would say we're -- we always approach every single investment with a skeptical eye, and we never invest unless we can get beyond some of those thresholds.

COMMISSIONER HELBERG: And you think we should be -- from a U.S. Government standpoint, the U.S. Government should allow American pension funds to deploy billions of dollars of funds based on a smell test and verbal conversations with business executives in China, not based off of objective due diligence that every American company has to go through here in the United States that's based on disclosure, accounting rules, and so forth.

MR. BORST: Yeah. I think the most important things from a U.S. investor perspective I think is transparency and disclosure. You know, I think --

COMMISSIONER HELBERG: Do we have transparency in China?

MR. BORST: I do --

COMMISSIONER HELBERG: Didn't they just outlaw that?

MR. BORST: So, I'm talking about the funds themselves. So, I think it's very important for funds to be very clear about what their investment objective is, what exposure they will have, and most importantly what are the risks that investors in a particular fund will face. And so that is a key component of investor education, and I think there's always a lot more we can do to make sure that American investors, when they invest in China or any other overseas market, really understand the risks associated with their investment.

COMMISSIONER HELBERG: Well, I don't want to take up more time, but my view based on this exchange is that it's high time to suspend the deployment of American pension funds in China, and typically American pension funds are not in the gambling business. They're in the wealth preservation business.

Thank you.

COMMISSIONER GLAS: And we will have a round two if time allots.

Commissioner Price.

COMMISSIONER PRICE: Hello, and thank you all for your testimony today. I found it very, very compelling.

I want to pivot to some of your recommendations that you put in your written testimony. Some of them were very interesting, and I'd like to flesh them out a little bit more.

So, I have questions for each of you. I'll put them -- I'll ask them all at top. And if we run out of time, we'll either go over -- we'll come back to it afterwards. So, thank you.

So, Dr. Wright, in your second and third recommendations, you talk about taking more active steps for financial support to emerging economies struggling to renegotiate debt. Can you talk about that a little bit more, and also trade policy that facilitates de-risking? You probably could do a whole other 20 minutes on that, but give me some -- your top priorities for de-risking. Mr. Borst, you talk about giving investors clear rules. Can you just expand on that a little bit briefly?

And, Dr. Liu, you talk about a shared entity list, make a recommendation around that. I'd like you to flesh that out a little bit more as well.

So, Dr. Wright.

DR. WRIGHT: Certainly. Thank you for the question. So I think that the point is that unless there is an alternative to Chinese lending, and an additional source of finance, that it's going to be -- put a lot of pressure on emerging economies to -- Beijing is still going to stay at the center of that diplomacy in terms of how to renegotiate the external loans that countries are struggling with at this point -- what Congress can do, what other lenders can -- what other, in combination with the private sectors, provide a realistic alternative for alternative sources of financing.

And that can help at least at the very -- to be an effective bargaining chip and force Beijing sort of back to the table in negotiations, even if it doesn't -- even if it's not necessarily, you know, productive in the -- in the short term, the point being that all of these countries are going to continue to be dependent upon Beijing actually acting, renegotiating, and extending debt, unless we can offer something else as a source of financing. And so, we need to actively consider what that would be and what that might do for a more positive and externally oriented aspect of U.S. financial diplomacy to the rest of the world and to the global south where Beijing has been extending influence in recent years.

So that's the argument within that recommendation. And, similarly, when we're talking about de-risking from China's economy, we are talking about diversifying supply chains. We need to have a trade policy that is lowering trade barriers and facilitating the kind of public-private investment that is consistent with those markets where we're developing alternative manufacturing capacity, being able to access U.S. and allied markets more effectively. And that's the argument.

COMMISSIONER PRICE: Thank you.

Mr. Borst?

MR. BORST: Sure. So just to add a little bit about the clear rules. So, I think, you know, U.S. policymakers have rightfully identified areas where there are key national security risks to providing Chinese companies with capital. And I think the vast majority of investors understand that, support it, but I think the key is setting out a framework that is transparent, predictable, gives U.S. investors plenty of time to understand the new rules, is very clear about how investors can comply with those new rules, and I think really importantly is being a review mechanism in some of these restrictions as they go into effect over the course of years.

You know, it's -- once a restriction goes into place, it can prove to be very difficult to unwind it, even if the situation has changed, if it is creating unintended consequences.

So I would really just advocate as policymakers rightfully target specific areas of the Chinese economy to prohibit investment that they are also thinking about, you know, what lookbacks are we doing, one, two, three, four years out to make sure that these rules are really

working the way we thought they would, that they're not having unintended consequences, and that is a clear framework for U.S. investors to comply with this and not inadvertently trip over some of these restrictions.

COMMISSIONER PRICE: Thank you.

Dr. Liu?

DR. LIU: Thank you, Commissioner Price, for the question. The shared entity list that I proposed as a recommendation is really with regards to -- in the broader context of a coordinated FDI screening, both inbound and outbound, both in the United States and with our European allies, because the European Union has implemented their own version of FDI screening, but they are not necessarily to the same expertise or the same extent as the United States.

The whole idea is not to implement protectionist policies, but really to strengthen U.S. leadership in shaping the FDI investment environment in the world. And I think there are some ground rules that should be adopted in -- with regard to both a shared entity list in terms of companies or foreign investors that are not welcomed and an exempted foreign entity list that are sort of, you know, the so-called white list. These are okay.

And the whole idea is to convey to our strategic rivals, you know, such as China or other competitors, the idea is not to constrain China's growth, but really is to not put a boundary with regards to what are off the limit, because right now I think in the U.S.-China relationship the point of contention is that America's idea or America's intention of not to -- not focusing on containing China, this message is not delivered to the Communist Party and Chinese leaders.

Therefore, by having a white list and another -- a restricted list, perhaps it would be a good way to communicate America's intention.

COMMISSIONER PRICE: Thank you. Very helpful.

COMMISSIONER GLAS: Commissioner Schriver.

COMMISSIONER SCHRIVER: Thank you. This has been a fascinating discussion, and that was actually an excellent segue to what I wanted to ask about, but thank you to all our witnesses.

So, focusing on what the U.S. policy toolkit is, and what we might do in response to the trajectory of the economy, I mean, mostly we have talked about insulating ourselves from spillover and protecting ourselves. We've talked a little bit about how we can stabilize, but I want to ask a different question. This is our strategic adversary, our rival. What if we wanted to pile on? What if we wanted to make these problems worse? What if we wanted to put Xi Jinping under tremendous pressure?

What if we wanted to, you know, divert their attention in ways that they would never bother us on the outside again by having to focus, you know, very intently on the economic problems and youth unemployment, and the like.

So even if you don't agree with it, and even if it's marginal, what are things we could do to kick them while they're down if you will, put pressure on them given the experiences that they are having right now, the trajectory they are on?

DR. WRIGHT: You know, I would argue against that sort of approach simply because Beijing is going to blame the United States for doing that anyway as that occurs.
Sorry. Go ahead.

COMMISSIONER SCHRIVER: No. I was -- I said even if you don't agree with --

DR. WRIGHT: Okay.

COMMISSIONER SCHRIVER: -- marginally -- yeah.

DR. WRIGHT: Understood. I mean, I think the challenges that that course of action confronts are also about alignment with our allies and partners. And so, any direct action we would take would have -- be far more difficult to maintain the sort of agreement and transatlantic alignment toward policies and, you know, preventing backfilling among sort of controls on supply chains and changes in manufacturing policy that we would -- that we would expect.

I mean, I think that the -- that's sort of the concern we would -- that's sort of the concern we would have. I mean, in terms of hypotheticals about what could -- in terms of hypotheticals about what could hurt the Chinese economy in greater sense, it's very difficult for me to come up with anything externally that would do more than what has already taken place in China over the last five to ten years.

In other words, if you were going to think about how to sort of undermine the vitality of a robust private sector in China, you would do roughly what Beijing has done in trying to single out some of these firms for political -- as political targets in the last couple of years.

So, it's a hard question to answer, just because, I mean, is anything that the United States thinks about likely to have anywhere close to the same effect as a signal from China's government itself in that context?

MR. BORST: Just to add on that, I totally agree with that, that most of the problems China is facing now are self-created. So, in that sense, you know, they're their own worst enemy at this point.

But, you know, for the hypothetical, if we want to continue to increase economic pressure on China, I think, you know, further decoupling will increase pressure on China. There has been more extreme measures that have been discussed in the policy world, and those could be put forward.

Those will have a direct cost on U.S. companies and U.S. investors, but maybe, you know, if you weigh the cost it will be more heavily on the Chinese side.

But, you know, just to echo some of the comments, I think the -- that approach in the short run will increase pressure on China. But I think over the long run it will actually be damaging to U.S. interests, because I think -- I continue to believe that an angry and isolated China is a greater danger to U.S. interests than one that is interconnected.

And we have seen, you know, the approach of sanction and isolate applied to many different countries, even smaller, more isolated countries that really haven't paid real dividends. The Chinese economy is too big, too interconnected, too dynamic to be isolated in that sense.

And I think if we don't -- if we pull away the ladder and tell, you know, policymakers in Beijing and Chinese businesses that there is no room for them in the international economy, I think we're going to see some behavior and reactions in China that are much worse than what we're dealing with right now.

DR. LIU: Thank you for the question, Commissioner. And I would -- also wanted to echo my panelists. A key argument with regards to perhaps there is more harm -- the harm to the United States in terms of further pressure on I think China, especially right now when the economic growth slows down, is probably -- it hurts Transatlantic Partnership as far as our trying to be -- strengthening our alliance with Japan and Korea.

And on top of a lot of the supply chain pressure spillover effect, there is perhaps another underappreciated challenge that -- for the United States, if the Chinese economy continues towards, and that is immigration problem. Since the COVID pandemic, Chinese illegal immigrants came across -- came across the Mexican border actually have more than doubled.

So, from that perspective, I think the -- further pressuring China probably would create more harm to the United States, both economic-wise and for us dealing with our immigration problem.

In a hypothetical world, in terms of pressurizing China, perhaps trade is a very important aspect, because the Chinese economy is still very much export driven. But, again, trade would be hurting American companies' interests as well.

COMMISSIONER SCHRIVER: Thank you. Just for the record, I think if we were on our back heels, I don't think the discussion in Zhongnanhai would be how can we help the United States. And I think we've got problems with fentanyl right now, we've got all kinds of problems, and I see them pouring fuel on the fire at every opportunity they get. But thanks for the thoughtful answers.

COMMISSIONER HELBERG: Commissioner Wessel.

COMMISSIONER WESSEL: Thank you all. To the witnesses and Ms. Liu, I was hoping to be there today to have you sign the book, your recent book. Appreciated it, and I've followed your work at CFR and elsewhere. So, thank you.

I'd like to go up for altitude maybe literally as well. I think it was the economist that had an article earlier this summer. I think that the headline on the -- or on the cover was Peak China. And what I'm hearing from each of the witnesses today is in some ways that China has peaked. And I think that is -- underappreciates what China is doing, that it is de-risking, whether it's through Belt and Road, whether it's through other industrial policies, whether it's through outbound investment approaches with Indonesia and nickel supply chains, or many other things.

And I think what all of this -- what I've heard today is potentially following some of the flaws in our earlier approach -- earlier analysis of China, first that reform would come from economic engagement.

As you said, Mr. Borst, we have been through this somewhat before in the 2010s or so, and we're, you know, following the debt issues. We continue to evaluate China's approaches through a Western lens rather than through the CCP's lens. And I think that leads to fundamental flaws in terms of how policymakers are being told to respond to China.

And what I hear is de-escalation. What I hear is de-risking. What I hear is don't push too hard too fast. Rather than what are Western interests, first the U.S., how should we pursue them, and worry a little less about how the CCP is going to -- how the CCP leadership is going to respond.

So, first, the question of, has China peaked? Is that relevant? Is there a different trajectory they're on and we don't appreciate it? And is the current reset in U.S. policy with a limited outbound investment executive order, slowdown of congressional action on China, a sign that, you know, potentially we're reaching a new status?

Mr. Borst, do you want to start?

MR. BORST: Sure. Yeah. It's a great question. You know, it's -- I saw The Economist's cover, too. It was very provocative. I guess I don't quite know what they mean by "peak," you know. I, and others, have argued that the growth miracle in China is over, and we're not going back to eight or nine or ten percent growth.

And so, from that perspective, we have entered a new era. But China is still going to be around. I don't think the Chinese economy is collapsing. I think there is many scenarios where the Chinese economy could grow slower, but still healthily, at a three, four, five percent level for, you know, the next decade or more.

So, China will continue to be an important global economy. It will continue to be a major source of global economic growth. I think the IMF is projecting that even with the slowdown in growth, China is still going to be about a third of total global growth. And the U.S. will continue to have significant business interests in China.

And I think now, as I say in my written testimony, is a really opportune moment where tables have turned a little bit. The U.S. economy is doing quite well. Chinese economy is kind of on the back foot.

These have been the periods in Chinese history when they are actually most open to economic reform. You know, China doesn't reform just to reform. It doesn't do it out of the good nature of its heart. It does it because it knows it needs to continue economic growth and how important economic growth is for the country.

So, I think this is a good moment. You know, if we understand that China is not going anywhere, they're not going to disappear, I don't think the Soviet Union, you know, outcome is likely, how do we continue to live with the Chinese and how do we proactively advocate for U.S. interests as it comes to the U.S.-China economic relationship? That's what I think -- I would hope that policymakers would really be focused on right now.

COMMISSIONER WESSEL: Mr. Wright?

DR. WRIGHT: Yeah. I would agree with much of what Nick just -- what Nick just said as well. And I think this is an opportunity -- it's not that the peak in China so to speak is probably true in a broader economic growth or economic trajectory sense, but that still doesn't mean that the challenges that we're facing from China in many senses have peaked, whether we think -- and, instead, I would argue that this is an opportunity to refocus U.S. efforts, not on what the interaction between China's growth and "inevitable rise" will do to those challenges, but instead focus on these individually, focus on them far more narrowly when we're dealing with military insecurity challenges in Taiwan and the South China Sea or dealing about -- with spread of advanced technologies and competition and advanced industries, and then China's politicized influence over some of the next generation industries we are dealing with. And that's the only thing I'd add.

DR. LIU: Thank you, Mr. Wessel, for your question. With regard to the question about a peaked China, I would say I agree with my panelists, Nick and Logan. And in particular, I would want to emphasize that actually China is still very much a leader in renewable technologies in the transition towards a cleaner energy future. And China is still very much dominating the supply chains of critical minerals that are necessary for the world to transition to a renewable future.

So, from that perspective, I think that, yes, if we measure the Chinese GDP growth or measure export as a percentage of GDP, Chinese -- China or China's economic growth model, or the old playbook perhaps has reached -- is running out of pages perhaps. But depending upon how the government reform goes out -- goes forward, and in particular the politics of that, there is a chance that China can sustain. But given the current political environment, it is not clear.

And with regards to de-escalating or the tension, I very much appreciate that question, and I think perhaps both countries or policymakers in both countries can borrow from a page book by Otto Von Bismarck.

I remember he once said -- I forgot which year, but he once said diplomacy is about the art of building ladders to let people climb down. And in Chinese I think it basically means to (foreign language spoken), let somebody gracefully climb down. And I think perhaps right now American leaders should lead the moral high ground to give President Xi Jinping and the Chinese leaders an opportunity to gracefully climb down.

COMMISSIONER GLAS: Thank you.

COMMISSIONER WESSEL: Thank you.

COMMISSIONER GLAS: I'd like to recognize Vice Chairman Wong.

VICE CHAIRMAN WONG: Well, since Bismarck was involved, he also said war is diplomacy or the continuation of policy by other means. I don't know how that fits with the ladder, but anyway.

Dr. Wright, I want to focus in on some of your recommendations. You recommend what you term alternative channels of financial support for developing economies that are struggling to renegotiate debt with China. What do you mean by that specifically if it doesn't mean the kind of current multilateral lending institution from -- or multilateral development bank lending that we do with our allies?

DR. WRIGHT: That would likely be a component of it, I would say, Commissioner. But you would probably need some additional policy support for private sector -- to invigorate private sector support for that as well.

The point is, you need an alternative if country -- if Beijing is not going to provide meaningful debt relief and the negotiations are sort of starting to bog down in that respect, and countries are struggling with significant financial stress, then they are going to need some sort of additional marginal source of new financing. And ultimately this means the rest of -- we will need to provide some sort of alternative for that, which has the added benefit of, if you will, removing Beijing from the center of that aspect of economic diplomacy with some of their primary allies in those countries aligned with them because of Belt and Road related lending.

VICE CHAIRMAN WONG: So, would that in effect be the U.S. and our allies helping to refinance debt to China, I mean, effectively?

DR. WRIGHT: The whole argument would be that if China is not going to provide meaningful relief that you'd need to provide countries with an alternative of saying you can walk away from your debts to China, and we will still provide -- and that will not impact your broader creditworthy credit status and your creditworthiness in global markets. That's kind of what we need to offer, renegotiating with everyone else.

VICE CHAIRMAN WONG: Okay. And the strategic impetus behind that is that for us to blunt Chinese influence, is that humanitarian, is that to maintain global financial stability, or is it all three?

DR. WRIGHT: It can definitely be all three. I mean, I think you can argue this is very self-interested from the United States' perspective, that it fulfills this strategic objective because many emerging economies are going to be struggling to maintain basic services, to -- you know, there is various measures of just how distressed and a rise -- given the rise in U.S. dollar financing costs, the rise in debt in recent years, there is going to be significant pressure in emerging economies unless someone provides that form of debt relief.

So, you can argue it's explicitly -- it's explicitly self-interested in that respect that we maintain global financial stability through those channels, but it also has the added benefit of expanding the U.S. channels of influence with countries in which -- with whom China has engaged most directly in recent years.

COMMISSIONER CLEVELAND: Alex, can I clarify something, please?

VICE CHAIRMAN WONG: Sure.

COMMISSIONER CLEVELAND: In that context, are you suggesting that China's -- the underlying asset or the project they're severed from? So international donors step in to try to

offer the relief that some country needs. What's the ongoing relationship with China, and how do you avoid free riding?

DR. WRIGHT: I'm not sure exactly how that will work out. I mean, that is going to be -- that is going to be a problem. The point is, without an alternative, these countries are still going to be within Beijing's orbit and engaged in this very slow process where Beijing is not providing this.

But in terms of the actual mechanics of how debt renegotiation will work, I can imagine some scenarios in which they would be walking away from those -- from those projects. I can imagine some scenarios in which you would find alternative financing channels for them.

COMMISSIONER WONG: Okay. I think I'll send some follow-up written questions, because I think it's a nuanced and detailed topic.

But I also want to talk a little bit about your phrase in one of your other recommendations about next generation trade and investment policies to aid in de-risking and supply chain diversification. Now you touched on this in another question and answer session with Commissioner Price, but I just want to ask, at the risk of being somewhat sensitive here, I mean, this term "next generation" I know is stylish, but are we really just talking about old generation kind of investment treaties and trade agreements? Whether it's sectoral or broadly -- more broadly based?

DR. WRIGHT: Absolutely. I'm not trying to imply there is anything really innovative or different about this. I think what we need to do is if we are ensuring -- I mean, in order to sort of reinvigorate, you know, the trade policy agenda to try to reduce barriers over time, if you are going to be trying to provide or offer alternative sources of manufacturing supply chains from locations in China, you are going to need to be reducing trade barriers so that countries can be encouraging investment at lower cost, and the byproducts of that investment can also be traded more regularly.

So, yeah, it is a basic call for reinvigorating U.S. trade policy in Asia in particular, and -- you know, and more broadly. But that is -- that is the argument is that if you are thinking about de-risking or decoupling kind of risks, you need to be thinking about the next step of this as well. That's what I was trying to say in the recommendation.

VICE CHAIRMAN WONG: Great. Thank you very much.

COMMISSIONER GLAS: We are running up against time. I know several of the Commissioners are going to be submitting questions for the record, and we are very grateful for you coming before the Commission today. This is very rich testimony, as you can tell by the discussion and the number of questions. So, thank you so much. We will adjourn until 11:25, until our second panel.

Thank you.

COMMISSIONER CLEVELAND: And acknowledge Nargiza.

COMMISSIONER GLAS: Oh. And, Nargiza, nice to see you. Thanks for being here.

(Whereupon, the above-entitled matter went off the record at 11:16 a.m. and resumed at 11:26 a.m.)

PANEL II INTRODUCTION BY COMMISSIONER ROBIN CLEVELAND

COMMISSIONER CLEVELAND: Panel II. Our second panel will examine evolving trade and supply chain challenges in the U.S.-China relationship. We'll start with Dr. Christopher Gopal, who is a former executive, a global supply chain consultant, and the author of the recent book Breakthrough Supply Chains: How Companies and Nations Can Thrive in an Uncertain World. He will provide an overview of the evolving supply chain landscape.

Then we'll hear from Dr. Ilaria Mazzocco, a senior fellow with the trustee chair in Chinese business and economics in the Center for Strategic and International Studies. She will address the rapid rise of China's EV exports and the role of China's green industrial policies and its trade and supply chains.

We very much appreciate both of your testimony and would like to remind you to keep your remarks to seven minutes, so that there is ample time for questions.

Dr. Gopal, there you are virtually. Why don't we begin with you.

DR. GOPAL: Thank you, ma'am. And, first, members of the Commission, I'd like to thank you for the opportunity -- can you hear me?

COMMISSIONER CLEVELAND: Yes.

DR. GOPAL: Oh good. I'd like to --

COMMISSIONER CLEVELAND: Now we can't. Count backwards. Okay. Something is happening with our sound with our witness. Do you suppose that we could correct that? Because I know I can't.

Why don't we move to Ms. Mazzocco. Could you pick up --

DR. MAZZOCCO: Yes. Yes.

COMMISSIONER CLEVELAND: -- while we're trying to sort out whatever pixie dust needs to fix that.

Thank you.

DR. MAZZOCCO: Thank you, members of the Commission, and staff members of the Commission, for the opportunity to be here today. I've been asked to discuss the electric vehicle sector in China and implications for the United States.

Let me start by saying that like with other clean energy technologies, such as solar panels, China's growing importance in the EV supply chain hinges on its cost advantage. Vehicles made in China are affordable and have increased in quality.

DR. GOPAL: I can hear you, and I'm hearing several people.

DR. MAZZOCCO: Should I just --

COMMISSIONER CLEVELAND: Mr. Gopal, we've asked your colleague to go ahead and speak because we couldn't hear you. So, we're trying to correct your technical difficulties. Can you hear her speak?

DR. GOPAL: I can hear you. I can hear Ilaria. Yes.

COMMISSIONER CLEVELAND: All right. Well, if you'll wait until she is finished testifying, then we'll turn to your testimony.

DR. GOPAL: Absolutely.

COMMISSIONER CLEVELAND: Thank you.

OPENING STATEMENT OF ILARIA MAZZOCCO, SENIOR FELLOW WITH THE TRUSTEE CHAIR IN CHINESE BUSINESS AND ECONOMICS, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES

DR. MAZZOCCO: Great. So, vehicles made in China are affordable and of increasing quality, making them attractive to consumers worldwide. The cost of these vehicles could also undermine the supply chain diversification efforts underway in the United States, although they could also help advance electric vehicle -- the electric vehicle adoption worldwide.

As a consequence, policies should take into consideration the tradeoffs as well as costs and competitiveness.

I will now discuss briefly the state of the industry in China and how competition in large manufacturing capacity there, combined with increasing international demand, are driving a surge in exports, then discuss what the patterns in exports looks like, and finally how growing exports are setting the scene for an expansion in international manufacturing on the part of Chinese companies.

I will now offer some recommendations.

The EV industry is considered today one of the most successful instances of industrial policy in China in recent years. Indeed, as a result of --

DR. GOPAL: I can hear you.

DR. MAZZOCCO: -- converging industrial policy, government interventions, including subsidies, market, and technological trends, most EVs today are bought and made in China. As is typical of industrial policy in China, after a wave of overinvestment, we may be headed towards overcapacity, and intense competition is certainly underway. A very large number of companies enter the market, attracted by subsidies, but they are now navigating the most competitive EV market in the world, driving down prices.

Consolidation of the industry may be complicated by the web of relationships between companies and local governments, something that has characterized the traditional automotive sector in China as well. Local governments have provided various types of support, including tax breaks and preferential procurement contracts, but they are also quite literally invested in the success of companies.

Importantly, several investment funds owned by local governments are investors in EV companies. This is an example of below market equity, but access to below market credit is also widespread and an industrial policy tool in China that EV companies have benefitted from. Some non-Chinese companies have also benefitted from government-supported ties, especially from local governments. This competition is driving down costs and putting pressure on companies to find new markets. As a result, EV exports from China are growing fast. They doubled in dollar terms from 2021 to 2022. And based on data from 2023, it looks like they are probably on track to double again. Europe and Asia are the main destinations of these exports.

Foreign companies are certainly part of this trend. In the first half of 2023, Tesla accounted for almost 40 percent of exports from China, and joint ventures between Chinese and European companies accounted for another 9.5 percent. So that adds up to almost half of the exports.

This points to two concurrent trends. China is becoming a manufacturing export hub for multinational companies, and Chinese-owned firms are becoming increasingly competitive and exporting more to new markets. As these Chinese firms expand their market presence outside of China, they have an increased incentive to localize production. By making vehicles and batteries

locally, companies can avoid tariffs and high transportation costs, benefit from host government incentives, and mitigate political backlash.

There are multiple planned factories of this kind and a few that are already existing. Thailand is by far the greatest recipient of these investments. Host governments are not passive players. In many cases, they are actively trying to attract investment. This is the case both in Thailand and Brazil, for example.

Even in Europe where imports from China are contentious, FDI is far less so. So far most investments in Europe and North America are in the battery segment, not vehicle construction, but it is not immediately clear whether Chinese firms will be able to maintain these very low costs and prices when they are operating abroad, especially in regions like Europe with high energy and labor costs.

So, this all adds up to a complicated picture, because growing exports in China create a dilemma for policymakers. On the one hand, Chinese supply chains can help reduce costs. On the other, automotive manufacturing continues to be an important sector for many advanced economies, including the United States. And if production were to relocate to China, this could undermine domestic job creation and potentially lead to de-industrialization. It would also undermine de-risking efforts.

So, what can be done? I would strongly recommend against trying to slow down the transition to electric vehicles in the United States. Quite honestly, the United States tried this and it didn't really work. It would also be counterproductive because the transition is well underway globally, and the United States would become even more of a laggard if it tried to reverse this domestically.

Instead, policymakers should continue to provide more incentives to advance a diversified and competitive industry and promote innovation in line with the Inflation Reduction Act. This will require realistic assessment of supply chains as well as the tradeoffs attached to trade policies.

To this end, I recommend that policymakers: one, identify under what conditions Chinese companies can and cannot play a role in American EV supply chains. To make this judgment, policymakers will need access to better data on supply chains and costs and require more transparency from companies, consistent with recommendations that this Commission has made last year.

Two, trade tools can be powerful instruments in achieving de-risking, and policymakers should explore their use. But they should also evaluate their impact on costs very carefully as they could undermine the industry more broadly.

Three, this is not a uniquely American challenge, and there are certainly opportunities to further coordination and cooperation with other countries that are grappling with China's rise in this sector and what this means for their economy.

I will stop here and look forward to your questions. Thank you.

COMMISSIONER CLEVELAND: Thank you. Mr. Gopal, can you hear us? Are you prepared to testify? Please proceed.

Jameson?

Mr. Gopal, we could hear you a few moments ago. For some reason we're not able to hear you right now.

DR. GOPAL: Can you hear me now?

COMMISSIONER CLEVELAND: Yes.

DR. GOPAL: Thank you. I hear somebody else talking.

COMMISSIONER CLEVELAND: Oh. You probably hear the congressional studio. Could we turn those off, please, so that he is not distracted by that chatter?

DR. GOPAL: So --

COMMISSIONER CLEVELAND: So why don't you proceed.

DR. GOPAL: Oh good. Can you hear me now?

COMMISSIONER CLEVELAND: Yes.

DR. GOPAL: Okay. Great. I heard about three different people talking at the same time, and one of them wasn't me. Let me start again.

I want to thank all the members of the Commission for the opportunity to testify on this. I think it's one of the most important topics and one that impacts pretty much every citizen in the country. So, I shall talk based on a supply chain perspective, and that is not a macroeconomic perspective, but -- I can hear everybody.

COMMISSIONER CLEVELAND: Could you describe what it is that you're hearing, so maybe we can clear it out? What is the problem?

DR. GOPAL: Should I? Okay.

Again, so today I'd like to lay out --

ROOM AUDIO: Dr. Gopal, close your other internet browser window that has the livestream going.

DR. GOPAL: Okay. Now can you hear me?

COMMISSIONER CLEVELAND: Yes.

PREPARED STATEMENT OF ILARIA MAZZOCCO, SENIOR FELLOW WITH THE TRUSTEE CHAIR IN CHINESE BUSINESS AND ECONOMICS, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES

August 21, 2023

Ilaria Mazzocco

Senior Fellow, Trustee Chair in Chinese Business and Economics, Center for Strategic and International Studies (CSIS)

Testimony before the U.S.-China Economic and Security Review Commission

Hearing on "China's Current Economy: Implications for Investors and Supply Chains"

China's Electric Vehicle Industry's Internationalization

Members of the Commission, I would like to thank you for the opportunity to appear before you today and testify on the state of China's electric vehicle industry, its internationalization, and its implications for the United States and the world.

The shift towards electric vehicles (EVs) is already reshaping the automotive sector, calling into question the future of companies that have led the industry for decades, and bringing new geopolitical challenges to the fore. The shift has coincided and been fueled by China's rise as an EV and EV component manufacturing hub and the rapid growth of Chinese companies in this sector. For several years we've seen these trends at play in China, the largest automotive market in the world, and now as exports grow, they will shape the industry globally.

The challenge posed to the United States by growing Chinese EV exports primarily pertains to cost. Vehicles made in China are affordable and of increasing quality, making them attractive to consumers worldwide. The cost of these vehicles could undermine production efforts underway in the United States and elsewhere as well as incumbent automotive companies. Solutions that aim to limit the negative impact of the growing importance of vehicles made in China should be evaluated on how they affect costs and competitiveness.

My testimony will proceed with discussing 1) the dynamics at play within China and the evolution of the industry 2) trends in exports 3) the internationalization of Chinese EV firms 4) implications for the United States and recommendations.

The Emergence of China's Electric Vehicle Industry

China's initiatives targeting the EV industry over the past 15 years are one of the most successful cases of industrial policy in the country's recent history. Extensive government interventions, including subsidies, enabled the domestic industry and the market to grow at the same time.[1] The

[1] Ilaria Mazzocco, "Electrifying: How China Built an EV Industry in a Decade" (MacroPolo, July 8, 2020), https://macropolo.org/analysis/china-electric-vehicle-ev-industry/; Scott Kennedy, "China's Risky Drive into New-Energy Vehicles," CSIS Freeman Chair in China Studies and the CSIS Technology Policy Program, China Innovation Policy Series (Center for Strategic & International Studies (CSIS), November 2018).

timing of the policies was crucial because they coincided with and magnified technological advancements in battery technology and greater consumer acceptance of EVs. Importantly, many incumbent automotive companies dismissed EV technology until recently. Meanwhile, their Chinese competitors were quick to grasp the opportunity to technologically leapfrog multinational corporations with decades of IP accumulated in internal combustion engine technology.

There are challenges to replicating the experience gained in the EV sector in other industries. The hydrogen fuel cell vehicle industry may be an instructive case. The government has provided the industry with incentives similar to those made available to electric vehicle manufacturers for the same amount of time, but there have been no comparable breakthroughs in commercialization.

Other strategic sectors in China already receive significant industrial policy support, but the same type of large-scale commercialization strategy may not always be applicable. A cornerstone of EV policy was the deployment of subsidies that helped lower the cost of vehicles to consumers, combined with local government experimentation and support for producers. Catalyzing the consumer market will not be as easily applicable to other industries that the government considers strategic such as AI, advanced computing, or biotech. This does not mean that these industries will not continue to be the object of government interventions, but they will likely not be able to draw directly on lessons learned in the EV industry.

China is now by far the largest market for EVs, accounting for 60 percent of new vehicle registrations last year and 40 percent of the global electric car stock.[2] Most of the EVs sold in the country are produced there, as is a growing number of exported vehicles. China is also by far the main producer of lithium batteries globally, which are the main component in EVs. According to the IEA, the country accounts for 65 percent of battery production and 80 percent of cathode production, and the Department of Energy's estimate is even higher.[3]

As a result of policies supporting the industry, China is home to an outsized number of EV producers, as many as 300 in 2021, some successful, others less so.[4] The industry should be heading towards consolidation, especially since the phasing out of purchase subsidies this year (sales taxes will continue to be waived until 2025).[5] However, this may be complicated by the web of relationships between companies and local governments. Not only have local

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[2] "Electric Vehicles," IEA, accessed August 10, 2023, https://www.iea.org/energy-system/transport/electric-vehicles.
[3] IEA, "Global EV Outlook 2023" (Paris: IEA, April 2023), https://www.iea.org/reports/global-ev-outlook-2023/trends-in-batteries; White House, "Building Resilient Supply Chains, Revitalizing American Manufacturing, And Fostering Broad-Based Growth," 100-Day Reviews under Executive Order 14017 (White House, June 2021), https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf.
[4] Automotive News China, "China to Consolidate Overcrowded Electric Vehicle Industry, Minister Says," *Automotive News*, September 13, 2021, sec. China, https://www.autonews.com/china/china-consolidate-overcrowded-electric-vehicle-industry-minister-says.
[5] Mengnan Jiang, "China Ends Electric Vehicle Subsidies," *China Dialogue*, January 12, 2023, https://chinadialogue.net/en/digest/china-ends-electric-vehicle-subsidies/.

governments supported companies every step of the way through various types of support mechanisms, including tax breaks, and preferential procurement contracts, but they also are quite literally invested in their success. Several investment funds owned by local governments are stockholders or investors in EV companies. The Hefei city government's intervention to save the startup NIO in early 2020 when it was on the verge of bankruptcy is a good example of how this works.[6]

Chinese EV companies have different kinds of ownership structures including state-owned enterprises (for example SAIC or BAIC), private firms that are publicly traded (for example BYD or NIO), and a variety of joint ventures with foreign companies (for example Wuling-SAIC-GM). Several companies are listed on US stock exchanges (for example, NIO, XPeng, Li Auto, Polestar), although listing on other exchanges has not been an obstacle to raising funds internationally. For example, the American holding company Berkshire Hathaway owns a 10 percent stake in BYD, which is listed on the Hong Kong stock exchange. It is hard to say exactly how much access to international financial markets and foreign investment has contributed to the rise of these companies, but it would have likely been insufficient without other supporting factors.

There are other sources of domestic financing that have and continue to benefit EV manufacturers in China as well as companies in other strategic sectors. In addition to government investment funds (guidance funds), which have been particularly important in the semiconductor industry, below-market credit is widespread although challenging to quantify.[7] Access to below-market equity and credit is not unique to the EV industry and is part of the broader Chinese ecosystem aimed at promoting manufacturing domestically.

Non-Chinese companies have benefitted from many of the same incentives aimed at supporting manufacturing as Chinese companies, especially at the local level. For example, Tesla's Gigafactory was granted a beneficial tax rate from the Shanghai government.[8]

Other sectors that have benefitted from industrial policy in China have followed a pattern of overinvestment and overcapacity followed by intense competition, which eventually led to a more select number of firms emerging as global leaders. This was the case in the solar industry for example, and the EV industry may be headed in a similar direction. Many companies that have benefitted from government support in China are now navigating the most competitive EV

[6] Tom Hancock, "China's Communist Officials Are Turning Into Venture Capitalists," *Bloomberg Markets*, February 6, 2022, https://www.bloomberg.com/news/features/2022-02-06/where-is-china-investing-communist-leaders-are-becoming-venture-capitalists.

[7] Gerard DiPippo et al., "Red Ink: Estimating Chinese Industrial Policy Spending in Comparative Perspective," May 23, 2022, https://www.csis.org/analysis/red-ink-estimating-chinese-industrial-policy-spending-comparative-perspective.

[8] Craig Trudell, "Tesla Shanghai Factory Granted Beneficial Tax Rate Through 2023," Bloomberg Tax, February 8, 2021, https://news.bloombergtax.com/daily-tax-report-international/tesla-shanghai-factory-granted-beneficial-tax-rate-through-2023.

market in the world. It is indicative that several Chinese EV manufacturers have been reporting losses for years.[9]

The highly competitive field, combined with low consumer sentiment in China is contributing to a "price war" between EV companies. For example, the cost of a Model 3 Tesla in China fell by more than $4,500 since January and NIO lowered prices by $4,200 in June.[10] This competition also provides a further incentive for companies to internationalize and gain a foothold in new markets where competition is less intense.

The Rise of EV Exports

In 2022, 35 percent of all exported electric cars originated from China, ten percentage points higher than the previous year. Most of the vehicles, and the batteries they are powered with, were destined for Europe where 16 percent of batteries and vehicles sold were made in China in 2022.[11]

The data include non-Chinese companies. For example, the single largest exporter from China is the American company Tesla. The latter accounted for 40.25 percent of EV exports from China between January and April 2023, up from 36.5 percent in 2022.[12] Several other multinationals are expanding their presence in China and are already exporting or planning to export to other markets, including BMW, Renault, and Volkswagen.

This points to two concurrent trends: China is becoming a manufacturing export hub for multinational companies and Chinese-owned firms are becoming increasingly competitive and exporting more to new markets. The latter trend is leading some Chinese firms to seek manufacturing outside the country to better access those new markets as well.

There are two factors that fuel China's rise as a manufacturing hub. First, there are cost advantages to producing EVs in China. Exact estimates are challenging because of differences in quality and size but as an example in 2022, 20 percent of electric car models on offer in China were priced at less than $15,000. By comparison in 2022 in the United States and Europe there were no electric models on sale for less than $20,000. According to some industry insiders,

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[9] For example, see: NIO, "NIO Annual Report on Form 20-F," April 28, 2023, https://ir.nio.com/static-files/a5408c40-1840-488c-9658-dcf5e21c9665.

[10] Evelyn Cheng, "Nio Cuts Prices for Its Cars — and Delays Business Expansion Plans," *CNBC*, June 12, 2023, https://www.cnbc.com/2023/06/12/nio-cuts-prices-for-its-cars-and-delays-business-expansion-plans.html.

[11] IEA, "Global EV Outlook 2023."

[12] Ilaria Mazzocco and Gregor Sebastian, "Electric Shock: Interpreting China's EV Export Boom" (Center for Strategic & International Studies (CSIS), Forthcoming).

production in China may mean up to $10,000 in savings.[13] In 2022, battery pack prices were 24 percent lower in China than in the United States.[14]

Second, many multinationals operating in China have built up extensive manufacturing capacity in the county but have lost market share in recent years due to competition with Chinese brands. This means that they may continue to redirect production from China to other countries, especially while capacity in other markets is unable to meet soaring international demand.

Chinese firms also have large manufacturing capacity and are under increased pressure due to growing competition, which may be a further driver for exports. Exports by Chinese firms can be broken down into two large categories. Most exports to Europe consist of Western brands owned or produced by Chinese companies, such as Volvo, Polestar, Smart, and MG. In many cases, these brands were acquired years ago by Chinese firms.

Some Chinese brands are building on their successes at home and entering new markets. BYD is now the largest EV producer in the world, surpassing Tesla, and is expanding rapidly abroad.[15] Chinese brands are especially popular in emerging markets, such as Southeast Asia. For example, Thailand was the third largest recipient of Chinese EV exports by quantity in 2022. This trend is driven by the availability of affordable and attractive car models. BYD has recently released a $11,000 electric hatchback model, the Seagull, which is likely to appeal to many consumers.

As several countries in the Global South adopt EV promotion policies, Chinese firms are especially well-positioned to expand rapidly there given that non-Chinese manufacturers do not have low-cost offerings. Even in the more expensive segments, however, Chinese branding is gaining increasing popularity. In other words, these vehicles are not just cheap, they're attractive and functional. It is worth noting that foreign multinationals such as Volkswagen and GM used to dominate the Chinese market for internal combustion engine vehicles but are finding it hard to compete in the EV segment.

China is likely to continue to grow as an exporter of EVs thanks to the increasing competitiveness of Chinese EVs, cost advantages of production, and large production capacity in China. Since cost remains one of the biggest challenges to the adoption of EVs, an expansion of Chinese models will likely facilitate further penetration of EVs in the global market.

[13] Joseph White, "China Has a 10,000 Euro Cost Advantage in Small EVs, Auto Supplier Says," *Reuters*, January 5, 2023, sec. Autos & Transportation, https://www.reuters.com/business/autos-transportation/china-has-10000-euro-cost-advantage-small-evs-auto-supplier-says-2023-01-05/.
[14] "Lithium-Ion Battery Pack Prices Rise for First Time to an Average of $151/KWh," *BloombergNEF* (blog), December 6, 2022, https://about.bnef.com/blog/lithium-ion-battery-pack-prices-rise-for-first-time-to-an-average-of-151-kwh/.
[15] Meaghan Tobin and Lyric Li, "Chinese EV Giant BYD Overtakes Tesla, but Can It Crack the U.S. Market?," *Washington Post*, June 14, 2023, https://www.washingtonpost.com/world/2023/06/13/china-byd-electric-vehicle-tesla-rival/.

The Internationalization of China's EV Firms

In addition to leveraging economies of scale for export, Chinese companies are beginning to expand their manufacturing presence in third countries. Most new investments are planned in Europe, Southeast Asia (especially Thailand), and Brazil.[16] The decision to open factories outside of China seems to follow from the increasing number of exports. By producing vehicles and batteries locally, companies can avoid tariffs and high transportation costs, benefit from host government incentives, and mitigate political backlash.

Some countries have been proactively trying to attract investment. For example, the Thai government announced several incentives for EV manufacturers including temporary corporate tax waivers last year.[17] As a result, announced investments have reached $2.2 billion so far in 2023, largely thanks to Chinese companies.[18] At least six Chinese companies have opened or plan to open a factory in Thailand in the next couple of years. Other Southeast Asian countries, for example, Malaysia, are also trying to attract more Chinese investment as well. In Brazil, the current government has been openly championing a deal that will see BYD take over an old Ford plant.[19] Great Wall Motors also has plans to open a factory in the South American country.[20] In both Thailand and Brazil, Chinese manufacturing plants could serve the broader region building on the existing manufacturing base and trade networks.

Even in Europe, imports from China are far more contentious than FDI, which is soaring in the battery segment. It is not immediately clear, however, whether Chinese firms will be able to maintain the same low prices abroad, especially in regions like Europe with high energy and labor costs.

Chinese battery manufacturers have expanded internationally far more quickly than EV manufacturers because they supply multinationals as well as Chinese companies.[21] The battery industry is also more concentrated than the automotive one, and some players like CATL have expanded rapidly as demand soars.

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[16] Mazzocco and Sebastian, "Electric Shock: Interpreting China's EV Export Boom."
[17] International Trade Administration of the United States of America, "Thailand Duty for Electric Vehicles," Market Intelligence, March 21, 2022, https://www.trade.gov/market-intelligence/thailand-duty-electric-vehicles.
[18] Danny Lee and Patpicha Tanakasempipat, "Detroit of Asia Targets Battery Makers to Stay Ahead in EV Race," *Bloomberg*, July 17, 2023, https://www.bloomberg.com/news/articles/2023-07-17/detroit-of-asia-targets-battery-makers-to-stay-ahead-in-ev-race.
[19] Simone Preissler Iglesias and Leonardo Lara, "Ford Shuts down in Brazil, and China's Top EV Maker Comes to the Rescue," *Bloomberg*, August 9, 2023, sec. China, https://www.autonews.com/china/chinas-top-ev-maker-replaces-ford-brazil.
[20] Gabriel Araujo, "China's GWM to Start Brazil Plant Operations in May 2024," *Reuters*, April 27, 2023, https://www.reuters.com/business/autos-transportation/chinas-gwm-start-brazil-plant-operations-may-2024-2023-04-27/.
[21] Ilaria Mazzocco, "Domestic Incentives and the Internationalization of Chinese Manufacturing in the Wind, Electric Vehicle, and Battery Industries," Working Paper (UC Institute on Global Conflict and Cooperation, February 2023).

Europe has been the biggest recipient of these investments, with multiple battery companies investing or planning to invest in several countries in the region. For example, CATL owns a factory in Germany and is building another in Hungary. The expansion of battery companies was so significant that it was the driver of growth in greenfield investment from China into Europe in 2022.[22] The United States has also become a destination for Chinese battery companies since the passing of the IRA, most notably the CATL-Ford collaboration and the planned Gotion factory in Michigan.

Battery manufacturers like CATL and to a lesser extent BYD, as well as some carmakers like NIO, have become more vertically integrated and making more investments to secure critical minerals. Investments into mineral mining and refining operations, mostly lithium, especially outside of China appear to have accelerated after 2017—consistent with growing demand for batteries and EVs.[23]

The move towards vertical integration is not unique to Chinese automakers. Several Western carmakers have been trying to expand into the battery industry to capture more value-added as well. One of the more vertically integrated American companies, Tesla, has also invested in lithium refining.[24]

Conclusion and Implications for U.S. Policymakers

Growing exports from China create a dilemma for policymakers: on the one hand, production in China can help reduce costs, benefiting consumers and enabling the electrification of the transportation sector. On the other, automotive manufacturing continues to be an important sector for many advanced economies, including the United States, and if more production were to relocate to China this could undermine domestic job creation and potentially lead to de-industrialization.

Opting to slow down the transition to electric vehicles and reduce incentives or cancel mandates for American automakers to invest in EVs would be counterproductive. The transition is well underway globally and the United States would be even more of a laggard if it tried to reverse it domestically. Complete insulation from competition would likely also make American companies even less competitive in the long term. Instead, policymakers should provide more incentives to advance a diversified and competitive industry and promote innovation—in line with the IRA. This will require a realistic assessment of supply chains as well as the trade-offs attached to trade policies. To this end, I recommend that policymakers:

1- Identify under what conditions Chinese companies can play a role in American EV supply chains

[22] Agatha Kratz et al., "Chinese FDI in Europe: 2022 Update" (Merics, May 9, 2023), https://rhg.com/research/chinese-fdi-in-europe-2022-update/.
[23] Ning Xu, "一年布局三个项目，宁德时代手里到底有多少矿？[Three Projects in One Year, How Many Mines Does CATL Actually Own?]," STCN, March 23, 2023, https://www.stcn.com/article/detail/822782.html.
[24] Tesla, "Tesla Lithium Refinery Groundbreaking," Tesla, May 8, 2023, https://www.tesla.com/blog/tesla-lithium-refinery-groundbreaking.

The current position of Chinese firms (especially in the battery segment) means that it will be extremely challenging to create affordable, competitive products in the United States or elsewhere without any reliance on Chinese supply chains in the medium term. Clarifying when and under what conditions, and for how long such integration is acceptable could be helpful for companies navigating this space. In practice, this may mean welcoming some Chinese FDI into the United States when it meets high standards for labor and environmental conditions and helps meet supply chain diversification goals.

2- Explore trade tools to promote supply chain diversification in the EV sector without raising costs further

The United States already levies relatively high tariffs on car imports from China, 27.5 percent. This barrier will make it hard for Chinese companies to export to the United States but not impossible. There are other mechanisms that could be used to incentivize diversification, including a potential carbon tariff which would have the benefit of incentivizing manufacturers in China to lower their carbon footprint. However, given the current inflationary environment and the imperative to maintain competitive costs, any additional tariffs should be considered against the type of cost increase it would impose on consumers and gains in potential domestic investment and de-risking.

3- Coordinate with partner countries that are facing a similar dilemma to avoid a tariff war that could undermine broader diplomatic relations

This is not a uniquely American challenge. The European Union and Britain, which have lower tariffs and higher sales rates of EVs, are already facing an influx of imports from China. There may be further opportunities for coordination and dialogue with countries that the United States is already engaging with on the topic of de-risking.

Ultimately, policymakers will need to balance policies aimed at capturing greater shares of the economic benefits from decarbonization by incentivizing further domestic innovation without slowing the deployment of EVs and while maintaining a stable international system.

OPENING STATEMENT OF CHRISTOPHER GOPAL, FORMER EXECUTIVE; GLOBAL SUPPLY CHAIN CONSULTANT; AUTHOR, *BREAKTHROUGH SUPPLY CHAINS*

DR. GOPAL: Terrific. Let me start off again.

Thank you, everybody, for this opportunity, and please let me know if you can't hear me at any point.

So, I think I'll talk from a supply chain perspective, from a ground level, from an executive level. And Chairperson Glas accurately summarized the situation very well in her opening statement. We have come to the realization over the past year that driven by pandemic, global conflicts, and events, our critical global supply chains from the point of first supply to the end consumer and back, what we call "dust to dust," are highly vulnerable and dependent on China.

This is the result of what somebody called "willful blindness" on our part to the U.S.-China relationship. Let me describe some of that from a supply chain perspective.

First, I've heard the term "critical supply chains" quite a bit. Critical supply chains are all the products, capabilities, technologies and investments that impact all areas of our national security, defense, health, and well-being, everything from PPE and antibiotics to defense, to hypersonics, to electric vehicles, and artificial intelligence.

And disruption in any one of these can have cascading effects throughout the supply chain and pretty much bring our economy to a halt. So, the situation has been driven by several different issues. A lot of them, we talk about the China issue, but a lot of them have been our own doing.

For instance, our trade philosophies and globalization assumptions maybe assume the movement of goods, money, people, technology, would flow across countries with no government intervention, very smoothly, where competition with fuel growth, small businesses, lower overall total costs, and generate innovation; in other words, the level playing field.

What we have found is that hasn't happened -- the aggressive national supply chain policies and objectives of China, and there are several: market incentives, financial incentives, low cost and stable labor, promised access to the markets -- in order to become the manufacturing center of the world. We see that very clearly.

The coercion of companies to adhere to political and social standards, the acquisition of technology and intellectual property by almost any means available, location in third-party countries to sidestep U.S. and other government policies, and a strong -- and this was discussed by the earlier panel -- investment and initiative in other countries to corral the supply of essential elements and minerals which drive our supply chains.

And, finally, the most obvious one, dumping at low cost. And I think we can agree that these have been pretty successful from a supply chain perspective.

And then something of our own doing in this situation, which I call the financialization of the supply chain. A topic and concept highlighted by Rana Foroohar in a book Makers and Takers some time ago -- basically decisions made by individual executives and boards to drive costs down, reduce assets, offshore capabilities, to basically address the benefits to shareholders, not other stakeholders or national security or communities.

It is driven by what we used to call short-term Wall Street demands, as well as executive compensation based on share price.

And, finally, the concentration of various industries and domination of distribution channels, mainly because of our laxity in enforcing our own rules and regulations.

The combination of all of these external and internal forces has been to develop fragile supply chains globally. In other words, supply chains that are built to break under stress, and the stress includes everything that comes at us from the outside.

And the characteristics of these supply chains are dangerous choke points in China and other places, which could disrupt the industry, loss of our intellectual property and technology, the loss of our own education system, manufacturing, supply chain, technology and education, our hollow communities, and let's not forget the vulnerability to our national security.

But this has not been a surprise. Okay? The dangers and risks have been brought together by this particular Commission in 2002, and my forward thinkers, such as Barry Lynn in his book The End of the Line.

Let me read one particular extract from the 2002 report. U.S. responses towards China has been driven by narrow commercial interests, specific human rights issues, or particular military and security issues. The increasing transfer of U.S. research and manufacturing facilities to China could have a negative impact on the strength of our technological and industrial base as well as our relative military strengths.

Nobody could have said it better, and this was said 20 years ago. So hence the term "willful blindness."

So, what can we do to help our supply chain. There are several things that we can do, and I have laid them out in the written testimony, but a brief summary.

First, it's a tug of war between national security, between individual wealth and company wealth. And we have to get around that. But essentially I would suggest we must continue the funding of our U.S. manufacturing and infrastructure. Great start, a lot more has to be done, and it has to be expanded.

Critical supply chains are not just semiconductors and not just artificial intelligence. They are everything. We need to help small businesses with financing, and help them with innovation. We need to know what we are dealing with, so we need to map our critical supply chains end to end.

Very importantly, we need to mandate sourcing parameters and foreign ownership parameters, so that we can look at critical industries, not being tied to one country but maybe re-shoring, near-shoring, ally-shoring, anything other than stuck in one country with one source. We need to preserve and protect our research and technology through what the Biden Administration has done recently, and we need to do a lot more of that, including restricting access to our technologies as well as restricting foreign enrollment in our prime technology at our universities.

And, finally, I have to add this, we have to emphasize and fund STEM in our vocational schools.

And with that, I will stop. And thank you very much for the opportunity.

COMMISSIONER CLEVELAND: Thank you, Dr. Gopal.

I think, Carolyn, are you there? No. So, we'll begin with Commissioner Borochoff.

PREPARED STATEMENT OF CHRISTOPHER GOPAL, FORMER EXECUTIVE; GLOBAL SUPPLY CHAIN CONSULTANT; AUTHOR, *BREAKTHROUGH SUPPLY CHAINS*

Testimony of:

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Before the

U.S.-China Economic and Security Review Commission

Title of Hearing:

"China's Current Economy: Implications for Investors and Supply Chains"

Topic: "Evolving US-China Trade and Supply Chains"

August 21st, 2023

EXECUTIVE SUMMARY

Supply Chains complex, span national and geographical boundaries and operate in an increasingly variable and risky environment. Today, *supply chains compete*, and *nations compete* through their supply chains. Key supply chain decisions and designs are made by **individual** executives and companies based on meeting corporate objectives while navigating national laws and managing business risk. Over the course of the past thirty years, through a variety of economic Neo-Liberal philosophies and "short-termism" corporate strategies designed to maximize short-term results and increase stock prices, our supply chains have been *designed and* ***"Built to Break***".

In the process we have ignored National Security and risk and exported entire supply chains and US jobs and created hollow communities and significant income inequality in companies. This, coupled with increased industry concentration, has resulted in fragile supply chains with *increase of points of failure and dangerous "chokepoints"* for our critical supply chains – where supply disruptions could trigger potentially catastrophic effects. As a result, we have given China extraordinary power over our security, economy and the average American's standard of living. We are in a vulnerable situation and, effectively, in the midst of a supply chain war that is every bit as important as a physical war.

The US government has now broken with and moved away from the Neo-Liberalism of the past and has taken a number of powerful and timely steps and actions to address this broad issue. This is not enough and *much more needs to be done.*

There are several legislative areas that we should consider addressing National Security and Economic vulnerabilities and meet our national goals. They are:

Continue the Funding of US Manufacturing, Capabilities and Infrastructure
The Government has made a great start with programs such as the CHIPS and Science Act, the Infrastructure Investment and Jobs Act, and restrictions on the export of certain technologies to China but years of neglect in policy and investment in our critical supply chains and National Security have left us vulnerable. We must expand these to a broader range of critical components, products, supply chain infrastructure and large scale supply chain initiatives .

Define and Map the Critical Products for National Security, Economy and Health While necessary, the current definitions are not enough. The definition must be broadened to include the spectrum of supply chains and technologies (for example, food, renewable energy products, aircraft, and automobiles), that are critical to our economy and National Security. Many of the risks lie upstream in the supply chain. Disruption of our critical supply chains would very likely cause a cascading effect of industry disruptions, some of which would be very hard to contain and recover soon. Disruptions in industries such as semiconductors and pharmaceuticals could, in a worst case scenario, bring the country to a standstill.

Set and Mandate Sourcing Parameters and Guidelines – with our Allies
We must develop and implement resilient supply chains that identify and mitigate risk. Given the complex and interconnected nature of today's supply chains, it is obvious that we cannot do this alone, and it should be developed in cooperation with our allies. We certainly cannot expect individual companies do it on their own. *We must m*andate and encourage diversified sourcing for critical components and products, as well as provide and mandate sourcing parameters and "guardrails" that include China and other adversarial countries, along with acceptable alternatives (such as re-shoring or friend-shoring). Such mandates should have "teeth" for companies that ignore these mandates or try and circumvent them. We are not playing on a "level playing field" or a "flat world".

Emphasize Supply Chain Technology Security
We have already made an excellent start through the restrictions of the sales and transfer of critical technologies to China, but we must do more. We must continue these efforts and not water them down under pressure from domestic companies. In addition, we must ensure that the investigative process into foreign investments in US technology companies is comprehensive and rigorous. Finally, we must evaluate and review Government policies that put US Supply Chains at a competitive disadvantage.

Focus on Talent and Skill Sets
Building up our manufacturing capability and capacity requires supply chain talent and skill sets. The other side of this coin involves restricting the access of our adversary in obtaining such skill sets and using those skill sets to penetrate our critical industries. To this end, we must encourage and resource STEM Education in schools, vocational schools and Universities, while also restricting hiring and access to our own critical technology development and research.

Provide Finance & Tax Assistance
Financial incentives and financing are what enables and encourages companies and industries to re-shore and friend-shore from China, and to help small and medium-sized businesses (where much of our innovation takes place) to run their operations, and to enable job creation. To achieve this, we must provide tax incentives and enable Supply Chain financing in the form of low-cost loans for small and medium-sized businesses in the US.

Set up Public-Private Partnerships and Enlist the Private Sector for Management skills:
We must harmonize the needs of the private and public sectors for critical Supply Chains in today's increasing complex and changing environment, and the government has to assume some the costs of increased resilience. Such Public-Private Partnerships will help leverage the "whole of country" to meet our goals, while recruiting part-time and short-term skill sets will be a critical aspect of getting leading edge management concepts, innovation and experience into critical supply chains, the Government and Department of Defense.

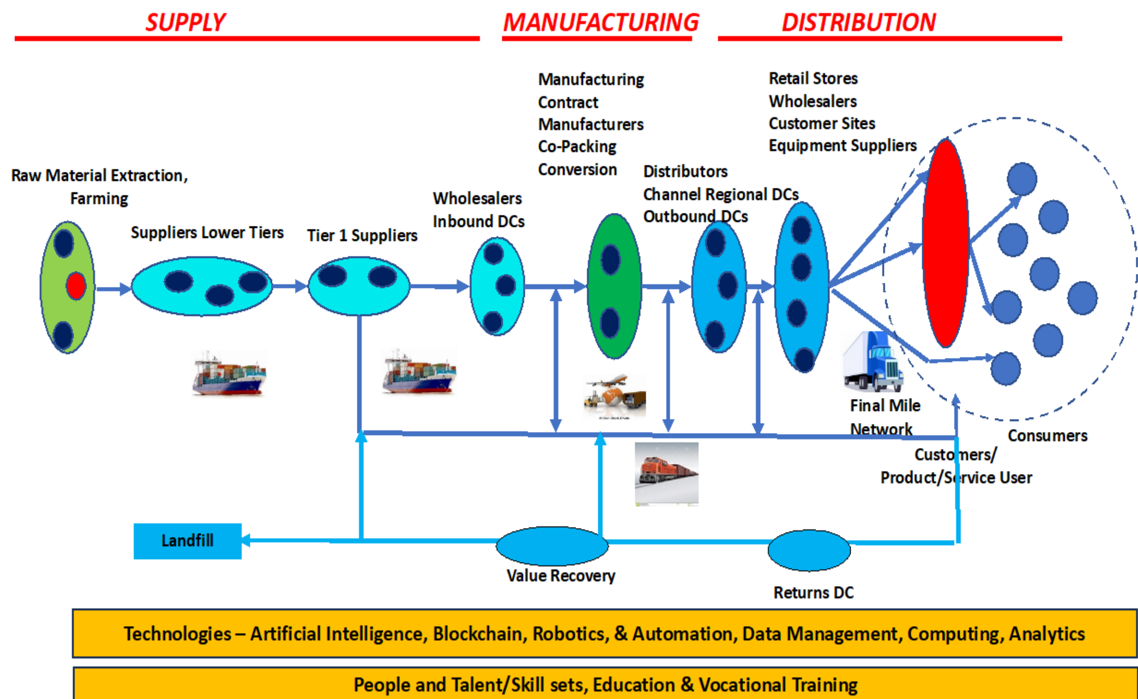
INTRODUCTION:

Definition of Supply Chains for this Discussion:

Supply Chains are what drive the international movement of goods, services, cash and people from the point of first supply to the end consumer and back to re-use and ultimately, landfill– or, more succinctly put, from "dust to dust".

Figure 1 is a simplified depiction of a global supply chain. It includes Sourcing & Procurement, Logistics (warehousing, materials handling and transportation), assembly & manufacturing, delivery, order management, planning & Inventory management, customer management and the returns and disposal process. The technologies core to the Supply Chain include Artificial Intelligence, Blockchain, Data Management, Analytics, Robotics and Automation.

Figure 1: The End-to-End Global Supply Chain



The global supply chain is complex, spans national and geographical boundaries, requires several logistics modes and crosses multiple trade, customs, tax and regulatory regions. Furthermore, today's business and global supply chain environment is variable and risky and can best be described by the old US Military term VUCA - volatile, uncertain, complex and ambiguous. More than ever, it has become obvious that individual companies do not compete with each other – *supply chains compete*, and *nations compete* through their supply chains. This

is particularly true when it comes to the end-to-end supply chains of **critical** raw materials, manufacturing and logistics capabilities and capacity, talent and finished goods products.

The objectives of the global supply chains are several, and include:

- satisfy multiple stakeholders in terms of sustained growth and profit, working capital needs.
- be "good citizens" in their communities.
- consider National Security (economic and military) in their decisions.
- be resilient and secure.

Key Supply Chain decisions and designs are made by individual executives or management teams based on meeting corporate objectives while managing risk. They are based on financial conditions, costs of capital, market conditions and trends, government policies, laws and spending. They sometimes include National Security and Sustainability constraints. However, they are always decisions that are made by individual companies. As a result, this discussion is from a business supply chain perspective, and not from a macro-economic or academic one.

"Built to Break" – the Situation:

Over the course of the past thirty years, through a variety of business and international trends, economic philosophies, government policies and individual executive actions, our supply chains have been designed to minimize costs and working capital, maximize growth and maximize share price – all, theoretically, over a sustained time period. In order to achieve this, executives developed strategies based on a few critical trends and assumptions:

- off-shoring and out-sourcing, looking for the lowest production costs, foreign government incentives and subsidies, and labor stability (mainly to China, which offered all of these)
- low taxes
- market access
- just-in-time systems that minimized inventory through the supply chain.
- The assumption of a stable global economy where supply was based on economics and flowed smoothly in a "flat world", while competition would keep costs down, increase capacity and improve service in key infrastructure areas such as containerized shipping.

*But the last few years have shown that these assumptions were wrong, and it became obvious that many of our critical supply chains were designed and **"Built to Break**"*, (a term first put forward by Barry Lynn in 2012).

In the process we have ignored National Security and risk. Our supply chains were fragile, and disruptions in supply led to shortages of everything from medical supplies to consumer goods and semiconductor chips. We have exported entire supply chains and US jobs under false assumptions and promised benefits of globalization. Probably the most dangerous result of this

approach to supply chain design, coupled with increased industry concentration (in terms of size, capacity, ownership of distribution and market power), has been the *increase of points of failure and dangerous "chokepoints"* for our critical supply chains – where disruption could trigger potentially catastrophic effects - and, most importantly, giving China extraordinary power over our security, economy and the average American's standard of living.

The US government, over the past few years, has broken with and moved away from some of the economic philosophies of the past and has taken a number of steps and actions to address this broad issue, including investments in critical industries, capacity and infrastructure. These have been powerful and timely. The investments and focus, however, concentrated on a few industries that were identified as important to National Security. This is not enough. The list of industries must be expanded, and the situation needs to be looked at holistically, with all the attendant interdependencies, and we must address the costs of resilience and who pays for it. *In short, much more needs to be done.*

It is becoming apparent that we are in the midst of a supply chain war that is every bit as important as a physical war. This testimony seeks to provide, from a business and supply chain ground level view, the rationale and actions needed.

MAJOR TRENDS AND ISSUES IMPACTING SUPPLY CHAINS

A good way to address the issue of how U.S. corporations are addressing National Security vulnerabilities is to discuss the major supply chain trends, issues and government policies impacting the development of supply chain strategies and designs. From a business executive perspective, I have highlighted six important and inter-related ones, which can serve as guidelines to policy.

1. ***A Lack of Defining and Mapping the Critical Products for National Security, Economy and Health***

Historically, we have not defined or mapped the supply chains for our critical products. Part of the reason is that we have never had to do this. The Center for a New American Security (CNAS)'s project on Securing America's Critical Supply Chains (part of their U.S. National Technology Strategy project) has developed a framework that helps determine these critical supply chains, with one of the key goals being the identification of the supply chains "where known vulnerabilities pose excessive risks to a country's well-being." This is a landmark project but still appears to narrowly define "well-being" as defense-related, addressing strategic and critical materials, innovation, talent, cyber-security, manufacturing technologies, and small business. The "critical focus areas" include categories such as Castings & Forgings, Missiles and Munitions, Energy Storage & Batteries, Strategic & Critical Rare Earth Elements and Microelectronics.

While necessary, the current definitions are not enough. The approach must be broadened to include the supply chains (products, capabilities, materials) and technologies that impact health

(PPEs, antibiotics, Active Pharmaceutical Ingredients), food, renewable energy products, aircraft, and automobiles, amongst others. The definition of "Critical Products" cannot be restricted to just some overall end products or a few components. Some of the more dangerous, often-overlooked risks lie upstream in the supply chain (refer to **Figure 1** – *Supply*, including Tier 1 Suppliers, Lower Tier Suppliers and Raw Materials). There must be a rigorous method to assessing this, determining vulnerability, sourcing, capacity, structuring and the time to execute.

Such an analysis must include the true effects of disruption. Critical supply chain disruption causes a cascading effect of industry disruptions. Some of these disruptions would be very hard to contain and it would be difficult to replace these lost supplies soon (for instance, setting up semiconductor fabs and pharmaceutical manufacturing facilities). For instance, the semiconductor supply shortage which started in 2020 impacted industries from automobiles to communications. A stoppage of semiconductor supply (a major disruption), brought on by a China-Taiwan blockade and a North Korea aggression against South Korea and Japan, for example, would have far worse effects. For a start, the primary industries affected would include automobiles, heavy trucks, aircraft, computers, consumer electronics, weapons systems, networking, guidance and navigation, construction equipment, and industrial machinery. These would, in turn, impact the secondary and tertiary industries such as freight, maintenance and services, tourism, retail, construction, manufacturing, petroleum products, media, toys, food and the operations of infrastructure (traffic lights, signals, air traffic control, etc.). Quantifying this impact on the economy is a mind-numbing exercise, with one conclusion being that a semiconductor supply shut-off could bring the economy and part of the National Security capability to a standstill. In a similar fashion, the loss of Active Pharmaceutical Products (APIs) and antibiotics could be devastating to our health, economy and military capability. Similar scenarios could be built for food, medical equipment, and supplies. Equally importantly, this analysis must map out the supply chains to the bottom of the Bills of Material for every critical product and system, the sources, diversification and risks of disruption.

2. ***National Trade Policies Assuming Free Trade and a Level Playing Field***

Neo-Liberalism has been defined as "a policy model that encompasses both politics and economics. It favors private enterprise and seeks to transfer the control of economic factors from the government to the private sector. Many neoliberal policies concern the efficient functioning of free market capitalism and focus on limiting government spending, government regulation, and public ownership" (Investopedia.com). This has been the economic philosophy adopted by many Western countries over the past several years, and assumed:

- a level playing field in terms of national rules, regulations, tariffs and taxes (remember Ronald Reagan's statement "free trade is, by definition, fair trade")
- a smooth and seamless flow of goods and services across national and geographical boundaries, unencumbered by national issues and economics.
- competition would foster innovation, lower costs and increase service.
- movement of capital, capabilities and jobs to the lowest cost regions to provide the cheapest goods.

The first three were quite false while, unfortunately, the fourth was all too true because it was allowed to take place with little or no consideration for National Security. This approach resulted in:

- a mass export of US manufacturing jobs
- a hollowing out of traditional communities and a loss of social cohesion
- a lowering of wages and large income equality between senior executives compensated on stock price and everyone else and, very importantly.
- a loss of critical manufacturing, engineering and supply chain skills and technologies.

Furthermore, this mindset has resulted in three additional sets of factors:

- The imposition of laws and reporting regulations on companies with international operations that puts them at a disadvantage against companies from China and, in particular, those controlled by the Chinese government. Many of these were crafted with little regard for the competitive position of US companies on the international environment. These laws requiring reporting to policy adherence encompass everything from Conflict Minerals and social issues to environmental impact.
- The ignoring of STEM and Supply Chain disciplines by universities as they were not viewed as core US capabilities, and the elimination of Vocational Education & Training for similar reasons.
- Investment and control by China and Chinese companies in US technological companies, coupled with the "dumping" of Chinese products to the US.

It has now been recognized that this approach is self-defeating to the broader population and to our National Security. The movement away from this Neo-Liberal perspective started in the previous administration with the tariffs on many Chinese goods and has continued in this administration with restrictions on the export of technologies to China and investments in manufacturing and infrastructure. But a lot more needs to be done.

3. "Weaponization" and Concentration of the Supply Chain

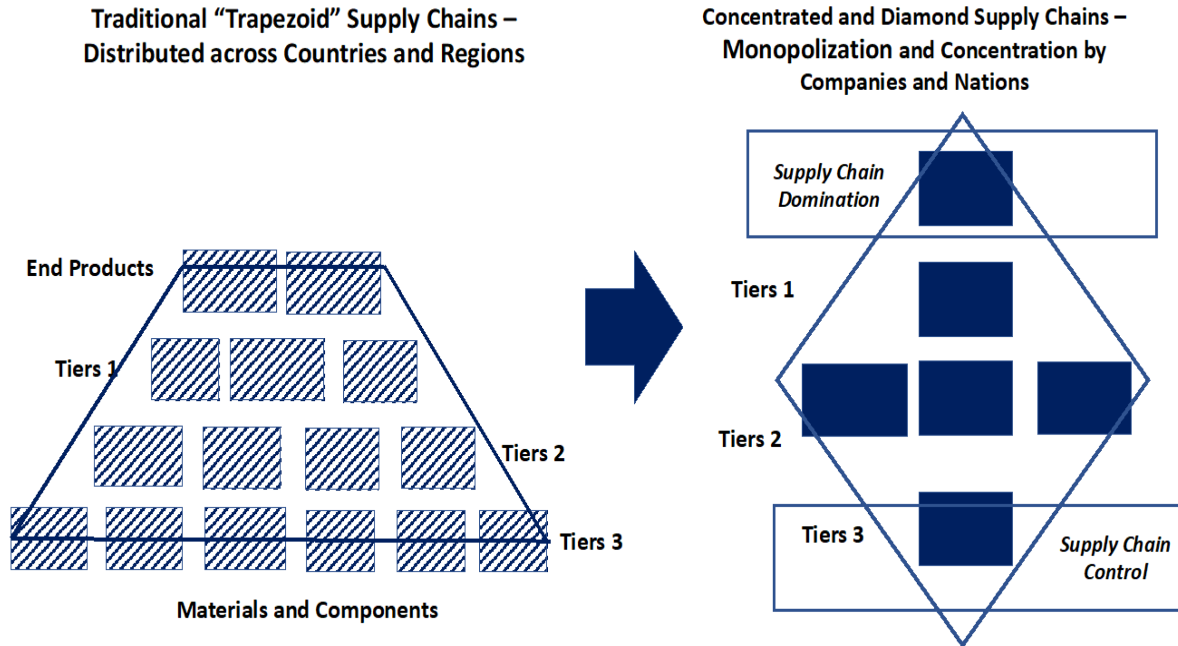
Countries such as China have long recognized that control over global supply chains can be a political, economic and military weapon and, as such, they have worked to "weaponize" their supply chains. This has led to explicit strategies to control raw materials, the manufacture and supply of critical components and processes, turning the "traditional trapezoid" supply chain into a "diamond" supply chain. The differences between the traditional "trapezoid" global supply chains and the "diamond" supply chains and the movement from one to the other is shown in **Figure 2.**

For example, China's initiatives, (including its aggressive $1 trillion Belt and Road Initiative) to capture private, corporate, and national assets across the global supply chain is succeeding in many areas and has put our critical supply chains at risk. The willingness of the Chinese to use

this as a weapon has manifested itself in several ways, including the Rare Earth threats to Japan, supply cut-offs of gallium, germanium and related compounds to the US and its allies, and the coercion of electronics companies to accept Chinese political control of communication. Historically, China has used many informal methods to pressure western firms to agree to their social, political and intellectual property demands – these have included arranging boycotts (a major one because of a "lack of respect for customers in the Chinese market"), action against executives, actions against market access, covert rules against removing capital equipment and enforcement of unclear rules. While these still exist, they have been augmented by more direct methods based on increasing supply chain control.

The results are clear. China controls the current supply and manufacture of electric car batteries and the critical elements needed (cobalt, lithium and nickel), Active Pharmaceutical Ingredients (APIs) for the manufacture of pharmaceuticals, antibiotics, polysilicon for solar cells and Rare Earth Elements (17 elements collectively called REEs) used in defense systems, communications and electronics (in 1993, 38% of the supply of REEs were produced in China and 33% were produced in the US. We then began to outsource its mining, production and processing, and, by 2011, China controlled 97% of REEs).

However, the development of the "diamond" supply chain, controlled by a few entities, has also been greatly helped by the actions of individual companies to offshore and drive up stock values, and the US Government's reluctance to enforce anti-trust and anti-monopolization legislation over the last several years. This has resulted a in a high degree of concentration in many critical industries and domination by a few firms. The key tactics used are Mergers & Acquisitions (including the new evaluation of vertical integration), domination of distribution channels and loss-leading pricing by larger firms. The most obvious examples of the results are the defense industry, pharmaceuticals, food, meat, electronics and media (including social media). In some of these, though, this concentration, coupled with off-shoring, has led to "chokepoints" of critical supply chains in China and areas within the Chinese sphere of influence. This means that our critical supplies can be stopped or disrupted very easily.



The US, while not embracing the entire "whole of country" approach, could and should develop and fund Public-Private partnerships for Supply Chain Technology and structure development. Initiatives such as the CHIPS and Science Act (with over 460 statements of interest from companies around the world) and the Infrastructure Investment and Jobs Act will prove to be enormously successful but must be expanded to other critical industries – electronics, communication and networking, defense-related industries, pharmaceuticals, renewable energy materials, mining and component manufacturing, to name a few. This includes not allowing the mining of critical elements in the US to be stopped by various interest groups.

It is a tremendous start, made even more so by the recent announcement mandating reporting and restricting private equity investments and US Venture Capital into Chinese companies in semiconductors and microelectronics, quantum information technologies and artificial intelligence systems. This has been coupled with the creation of an "outbound investment" review group and capability to ensure that foreign investments do not impact National Security. The Foreign Investment and National Security Act is probably applied well to Defense contractors but given the increasing dependence on commercial companies and technologies and the spectrum of other critical industries, should be expanded and strengthened.

China is pouring huge amounts into its own chip industry as part of its "Made in China 2025" plan which seeks 70% self-sufficiency in semiconductors by 2025 ($73 billion thus far in funding, not including grants, equity investments and low-interest loans, which exceed $50 billion).

However, there are some strong challenges towards successful implementation. Some are obvious while others may be directional and cause some apprehension.

- Talent and Recruiting: US chipmakers are struggling to fill key positions, and it's taking them over twice as long as other industries to hire technical personnel.
- Exemptions, which have been given to some major semiconductor firms, may dilute the impact.
- Impact on US equipment and technology companies who count China as a major market (For instance, Applied Materials cut its 4th quarter projections by $400 m, and the CEO of Nvidia warned of "enormous damage" to American companies if they were prevented from selling advanced chips to China – including chips critical to the development of Artificial Intelligence), and they may apply pressure to grant more exemptions.
- Retaliation risks by China in terms of essential products such as minerals, rare earths, EV batteries and pharmaceuticals,
- Impact on US citizens, green card and visa holders who work for Chinese firms or supply services to Chinese firms impacted.
- Commercial consumer products that are non-essential and which rely on low-end chips, where US companies may lose supply and revenue. This category can include fund managers who want to get client returns on China investments.
- It's currently taking a long time for the government to release the funding – it may be an inefficient process run by people who do not understand the speed of relevance and the speed of business.
- The fear that non-business and social conditions that may be imposed as a requirement for the funding.

The administration must hold firm and prioritize National Security over non-critical commercial company interests. It must extend these restrictions, as it is currently doing and, very importantly, launch mitigation plans around other critical products aside from high technology.

4. "The Financialization of the Supply Chain"

This is an insightful concept introduced by Rana Foroohar of the Financial Times to describe the supply chain management strategies adopted by many companies to drive up market value. It was driven by three intersecting trends – first, the "short-termism" driven by the emphasis on quarterly results from Wall Street, second, the increasing number and scale of compensation schemes for senior executives based on short-term stock prices and, third, the assumption that the business environment would be stable with few disruptions and risks. This led to a number of supply chain strategies based on short-term results rather than long-term success. Among these (and some of these were mentioned earlier) were:

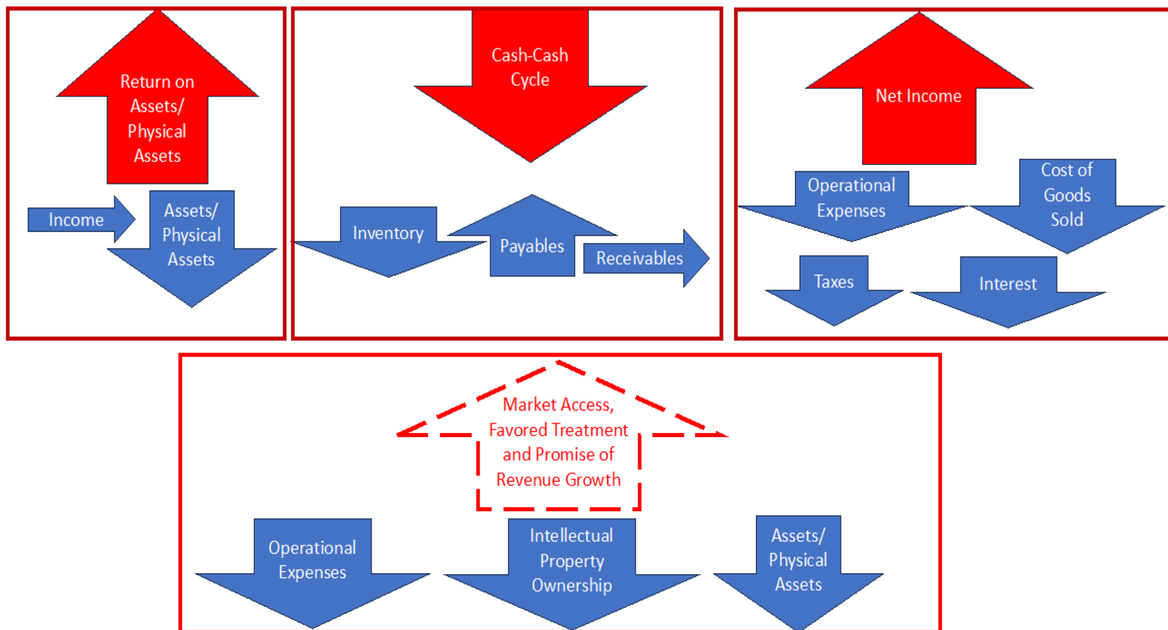
- Lowest possible unit costs through low-cost material and labor, and cheap products – leading to mass outsourcing and off-shoring. Outsourcing physical production assets also results in an Increase in Return on Assets number.

- Location and operations in countries that would provide low taxes, guaranteed labor stability, low costs of operation, and other direct and indirect financial benefits.
- Reduced Cash-Cash Cycles through lowest possible inventory through the adoption of "Just-in-Time" Supply Chain systems, and sourcing from low-cost and smaller off-shore suppliers who could be persuaded to increase accounts payable.
- Outsourcing information technology, white collar and support jobs to low-cost countries to reduce Operational Costs.
- Giving away Intellectual Property and transferring technology to China in exchange for financing, favorable treatment or local market access.
- The increasing lengthening and complexity of supply chains as companies have sourced farther afield to get the lowest cost materials and components.

These strategies resulted in dramatic short-term results – increased cash flow from operations, improved returns on assets (the assets having gone overseas), increased sales (through low prices) and profit margins – leading to higher stock prices and executive compensation for senior executives. The rationale behind these strategies is simply depicted in **Figure 3.**

Figure 3: "Financialization of the Supply Chain"

Engineering the Balance Sheet and Financials



The other side of the coin was dramatic in both the short and longer term, and I have referred to some of these in an earlier section:

- Export of jobs, closing of basic industries and hollowed communities
- Lower wages

- Loss of Intellectual Property and technology through government theft or corporate theft, or company executives just giving it away in exchange for financing, favorable treatment and market access
- Export of engineering, technology, manufacturing and supply chain capabilities
- Lack of attraction for STEM and Supply Chain education studies in universities
- Elimination of vocational schools
- An adoption of the "low-cost, throw-away" culture, and
- Reduction in National Security.

5. *Management of Risk*

The major challenge facing supply chain executives today is the identification, assessment and management of risk. This was not so critical in an era when supply chains were simple in structure and the impact of crises were local. Today's global supply chains, however, are complex, lengthy, often concentrated, multitier interconnected networks that are highly vulnerable to a wide range of risks and disruptions. There has been a massive increase and variability of risks over the past few years that have disrupted, and promise to disrupt, global supply chains, and the impacts of these disruptions can be significant:

- Retaliation for Government restrictions on technology transfer to China and tariffs on Chinese-made products
- Pandemics and the threat of future ones
- The emergence of a new primary strategic adversary – China – one which has territorial and global ambitions
- Major global and local conflicts, and the threat of major conflicts – Russia-Ukraine, China-Taiwan, North Korea, India-Pakistan, Middle East and Iran, to name a few
- Concentration in critical infrastructure industries such as shipping that can result in increased costs and capacity shortage
- Climate Change-fueled disasters, including droughts, floods and storms – disrupting shipping, mineral and food supplies
- Supply Disruption Risks
- Disruption of raw materials in regions such as Africa, owing to the increased and seemingly successful influence of China and Russia
- And, last, the increasing awareness of consumers and companies regarding the sourcing, climate and social impacts of the products they buy.

Identifying and Evaluating Risks

The question often asked is "Where does the United States face the largest risks of supply chain disruptions from actions by China's government?". This should be expanded to include the allies of the Chinese government. These include Russia, North Korea, Iran, many of the Arab states and many of the African states. If we look at this expanded definition, there are several areas of risk that we must consider:

- Pharmaceuticals and APIs from China
- Energy supplies from the Arab states and the Gulf
- Semiconductors from China, Taiwan, South Korea
- Electronics from China, Taiwan, Vietnam and Japan
- Raw materials, rare earth minerals and minerals from China, Africa and Southeast Asia
- Fertilizer from Russia.

The assumption here is that, despite the heavy Chinese economic influence in the EU, that will not be one of the risk areas.

The risks have to specifically identified and evaluated in terms of alternate sources readily available, time and cost to ramp-up production, current diversification, likelihood and impact.

De-Risking and De-Coupling Sourcing Strategies

The realization that China is the major adversary of today and the future, and the "whole of country" Chinese approach to politics, military and technological/ weapons development (this involves the integration and control of Chinese companies and capabilities with the Chinese government and military) has prompted the US government to impose restrictions, over the past few years, on Chinese investments in US companies, the export of US technologies to China and selected exports to the US by Chinese companies. This, coupled with the Chinese aggression towards Taiwan, actions in Southeast Asia and policies in Hong Kong, as well as a belligerent North Korea, along with Chinese industrial and social policies, have convinced many companies that locating and sourcing in China poses a major supply chain risk.

This trend has been encouraged by the Government investments in industry capability and infrastructure, such as the CHIPS and Science Act and the Infrastructure Investment and Jobs Act (IIJA), and the re-invigorated Government actions against industry concentration. Companies have now realized that managing risk is a critical part of their operations. A recent report (Everstream) listed China sourcing as the chief risk facing supply chains in 2023. Companies and governments are addressing this through a strategy commonly known as "de-risking". De-risking is the strategy to reduce dependence on a single country, source of risk or concentration. It involves a combination of initiatives:

- supply chain regionalization and "stratification" (not all supply chains are treated the same way!), including the establishment of "hubs" – linking sources of supply, manufacturing and customers
- hedging inventory to guard against supply disruption
- vertical integration to assure supply
- diversification of sources of supplies
- moving away from risky countries entirely. This last is called "de-coupling". De-Coupling from China is seen by some in industry (and some in the EU who view this as an anti-China engagement strategy with implications for investing in Chinese technology stocks) as an extreme measure and, in some cases, not even possible – the Chief Executive of

Raytheon, for instance, recently said "We can de-risk but not de-couple", citing their several thousand suppliers in China – a situation resulting from off-shoring to reduce costs).

The government has also started to catalog and encourage the issues of supply chain operations and sourcing location – ranging from location and sourcing in adversarial (China) and potentially adversarial nations, allies and friends ("ally-shoring and friend-shoring"), near spheres of influence ("near-shoring") and, of course, for critical products and components, "re-shoring", or locating and sourcing in the US. It can be a complex process, with multiple options and one that needs careful planning, risk and cost analysis, prioritization and urgency.

Several industries are moving quickly to de-risk away from China. Fashion and apparel manufacturers, for instance, are pulling back from China, and 61% recently said that China is no longer their top supplier country. Companies such as Samsung, Hasbro and Adidas have moved to Vietnam and India, while Volvo (owned by a Chinese company) has located a new factory in Slovakia. A recent risk survey conducted by Willis Towers Watson found that 95 percent of multinationals are now concerned about the risk of doing business in the Indo-Pacific (read, China), up from 62 percent just two years ago.

Efforts To Combat De-Risking and Restrictions:

Chinese companies and the government are now using various strategies to side-step and circumvent our National Security safeguards. These include investments and locating operations in third countries such as Mexico, Canada (thus undermining US efforts for nearshoring) and Vietnam, and regions such as Europe and Africa. Some major companies, rather than move away from Chinese influence, are asking their suppliers and manufacturers to move to other countries – such as India and Vietnam – and provide the appearance of moving away from China.

The Chinese government is keenly aware of the impacts, both current and potential, of de-risking on their economy, social cohesion and political power. They launched a big push against de-risking initiatives during the June 27-29 World Economic Forum (WEF) "Summer meeting" in Tianjin, China, trying to convince western executives that de-risking is "politicizing" business, and that individual Multi-National Companies (MNCs) should be allowed to decide on the individual and unrestricted sourcing strategies that best suit them.

Incidentally, many of these MNCs are also those that have helped create, and prosper in, this environment through strategies of "engineering the balance sheet and financials". These include the companies (manufacturing, distribution and entertainment) and major funds whose profits are dependent on China. Some have actively complied with Chinese rules and policies (indeed, invested even more heavily) on technological surveillance and censorship to obtain favored terms and market access. While the concepts of Jack Welch, a pioneer in offshoring in 1998 ("Ideally "you'd have every plant you own on a barge to move with currencies and changes in the economy.") and Milton Friedman (whose shareholder primacy views shareholders being the

only group to which the firm is socially responsible), may have been appropriate in another day or age, today's complex environment, technology advances, National Security needs, sustainability mandates and stakeholder perspective demands something much more and direct.

Addressing the often-conflicting issues of National Security and economic well-being with "globalism and free-trade" issues will require government policies that may not prove popular among some who advocate unfettered free trade and capitalism. These are discussed in the last section of this testimony.

6. The Need for Talent and Skills Management:

A critical issue facing commercial and defense supply chains today is a lack of talent in various supply chain disciplines – engineering, technology, management, quantitative analysis and systems-thinking. This has been variously attributed to a lack of resources invested by universities and the educational system, a lack of emphasis by schools and universities, and a focus on the growth of liberal arts and social-type studies in universities and schools. This situation has resulted in a shortage of talent and skillsets, lower numbers of graduates and test scores compared to countries such as China and India, and a drive by our universities to recruit students (and faculty) from these countries to increase tuition revenue. While this may be a good idea for the universities and general economy, it also allows Chinese students – a few of whom may be under the control of their government or families in China – access to our research and jobs in our critical industries.

An often-overlooked part of the educational spectrum are vocational schools. These were a victim of the "China Shock" to US labor. Neither universities nor schools teach supply chain manufacturing skills in professions that include computer technicians, welding, machining, robotics and automation and equipment maintenance. Industry is now slowly taking it into their own hands and expenses to set up and train employees in these skills, and these skills are sorely needed if supply chain manufacturing and jobs are to return to this US.

It is critical that the government directs its resources, grants and loan funding to the universities and schools into these disciplines and less into the liberal arts and social studies areas.

An additional area in talent management is the current skillsets and personnel running major government programs such as the CHIPS and Science Act, the Department of Transportation, business areas of the Department of Defense, etc. The current force and set of personnel may not always be aware of, nor operate, at the efficiencies and speeds required in today's environment – the "speed of relevance" and the "speed of business". Rather than seconding executives from industry, it may be equally effective to set up Business Advisory Boards or Fixed Term appointments of, say, retired executives who can provide expertise and guidance.

RECOMMENDATIONS FOR LEGISLATION:

The discussion of these six trends and factors, and their impacts on our National Security and Economy suggest several legislative actions that could be taken. These have been categorized into seven areas and include:

Continue the Funding of US Manufacture, Capabilities and Infrastructure
*The Government has made a great start (*the *CHIPS and Science Act* and the *Infrastructure Investment and Jobs Act) but years of neglect of emphasis and investing in our industry and National Security have left us vulnerable. More needs to be done across an expanded range of critical components, products, supply chain infrastructure and large scale supply chain initiatives.*

Definition and Mapping of Critical Supply Chains
We must define what's critical for National Security and economic well-being and identify and understand our vulnerabilities and chokepoints.

- Develop and launch a central government initiative that expands the definition of critical supply chains – products, material and capabilities – and maps them end-to-end in terms of volume, sources, diversification, capacity, capability and risks. We need to understand the interwoven nature of global supply chains and guard against unintended consequences. "Critical" cannot include products such as consumables, toys, apparel which are good for some companies and consumer satisfaction but have little bearing on National Security and the economy. Rather, they must include categories such as defense, technology, electronics, pharmaceuticals, medical products, raw material and minerals and core energy-related products. *This is critical for identifying vulnerabilities and "chokepoints" in these supply chains and developing mitigative actions and policies.* Analyses of these "chokepoints" must be comprehensive, encompass all tiers of the supply chain, and include all major types of disruptive risk, as well as chokepoints within the US and our allies.

Sourcing Parameters and Guidelines
Given the complex, multi-national and interconnected nature of today's supply chains, we must develop and implement resilient supply chains. We cannot do this alone, and it should be developed in cooperation with our allies. Furthermore, individual companies will not do this on their own.

- Mandate and encourage diversified sourcing for critical components and products.

- Mandate and specify sourcing parameters and "guardrails" to include China and other adversarial countries, friend and ally-shoring potentials and near-shoring acceptable alternatives. There should be consequences for the executives responsible for locating manufacturing, conducting sole or primary sourcing of critical products and materials in China and other adversarial countries, or deliberately sourcing with Chinese companies

located in friendly or nearby countries in attempts to circumvent US security considerations.

Supply Chain Technology Security
Many of the critical technologies are essential for the development, design and management of complex supply chains. These technologies include Artificial Intelligence/Machine Learning, Robotics, Warehouse Automation, Blockchain, Data Management, Advanced Computing and Analytics.

- Ensure that the investigative process into foreign investments is rigorous in terms of sources, ownership and financing of products and materials. Without such rigor, these investments could present easy access to US markets (for companies such as Huawei) and investment into US technology companies.
- Carefully evaluate and continue restrictions, and expansion of restrictions, on technology transfer to China in exchange for finance and market access
- Evaluate and review Government reporting and compliance policies that put US Supply Chains at a competitive disadvantage.

Talent
Building up our manufacturing capability and capacity requires supply chain talent and skillsets. The other side of this coin involves restricting the access of our adversary in obtaining such skill sets and using those skill sets to penetrate our critical industries. It is critical here that we do not arbitrarily make policies that will cut off the flow of talent and co-operation among countries for ***research*** *in terms of areas of "global well-being" such as health, medicine, food production, climate change and renewables.*

- Monitor and have caps (in some fields, restrict) on university recruiting of students from China in Supply Chain Engineering, Technology and Research
- Encourage and resource STEM Education in schools, vocational schools and Universities.
- Develop, implement rules, guidelines on hiring engineers from countries such as China for **selected critical products and industries**.

Finance & Tax
This is what enables and encourages companies and industries to return to the US and our allies, to help small and medium-sized businesses to run their operations. Small and Medium-sized business are the ones that innovate, and we must support a range of critical industries.

- Evaluate the tax code to encourage US firms to re-shore from China.
- Encourage local manufacturing location for Job creation and retention in exchange for tax breaks and financing.
- Enable Supply Chain (Working Capital, Operating Expenses, Capital Expenses) financing in the form of low-cost loans for small and medium-sized businesses in the US.

Development & Management

The Government and the Department of defense cannot operate on its own in today's increasing complex and changing environment. We must harmonize the needs of the private and public sectors for critical Supply Chains and the government has to assume some the costs of increased resilience. Public-Private Partnerships help leverage the "whole of country" to meet our goals, while recruiting part-time and short-term skill sets is a critical aspect of getting leading edge management concepts into important areas.

- Set up and fund Public-Private Partnerships and structures to develop next-generation supply chains and for the development of Supply Chain technologies (e.g., Artificial Intelligence/Machine Learning, Blockchain, Visibility) and application for commercial and defense use, Cyber-Security and the logistics structures necessary for streamlining, and increasing competition in, the logistics process.
- Set up Advisory Boards and Short-Term appointments of senior and retired executives from industry and academia to help in the analysis, oversight and management of these initiatives to lend speed, efficiency and a broader business vision to what is developing to be a war fought with supply chains.

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PANEL II QUESTION AND ANSWER

COMMISSIONER BOROCHOFF: Thank you both very much for your very interesting takes. From my viewpoint, Dr. Mazzocco, you were very specific talking about EVs, and Dr. Gopal a much more general look at what's happening and what needs to happen.

So, my -- it's hard because I can't ask a question or I'm not capable of asking a question that applies to both of you after listening.

So, Mr. Mazzocco, I know that a huge percentage of the EV battery market is 100 -- I mean, what is it, 80 percent controlled by China. Lithium batteries are just their purview at the moment. And yet it's clear that America, if it chose to, could get involved in that in some fashion. And we have immense resources to be able to do that, both here and near here.

Our EV vehicles are selling extremely well domestically that are made here, and you pointed out not well at all in Europe or China. Given the fact that the batteries are such an integral part of this, is there even a way for us to grow our market?

I'm concerned about the domestic sales of EVs. I mean, Ford has a waiting list for their -- for their trucks. You know, their vehicles are in great demand, but they aren't making the batteries.

So, my question is, is that a lost cause, or is it something that in your opinion can be corrected?

DR. MAZZOCCO: So, actually, as a result of the Inflation Reduction Act, there has been a surge in investment in battery supply chains in the United States. I would say what is something to keep an eye on is that a lot of it has to do with the assembly of the battery, so the battery pack, as opposed to the components that go into that battery, right?

So, the cathodes is really where a lot of -- I think 80 percent according to DOE are made in China.

Now, in terms of whether it's a lost cause, I think actually the question is not so much whether they can be made here. I think they can. There are some concerns about cost. I think that's a big one. Environmental cost as well, right, is -- can be very polluting to refine some of these materials. That's why they got offshored in the first place.

But it's also which companies are going to be doing that, right? So, I think that's a big concern here, and that's part of my recommendation is that we need to actually have a better conversation about whether or not to allow or embrace FDI from China, because it is already happening, right? We already have the Ford-CATL deal. We have the Gotion factory in Michigan. And that's because there are no real American companies that are making these batteries at a large scale.

We do have, you know, the Inflation Reduction Act facility to encourage investment from other companies, you know, from Korea or Japan, but because Chinese companies are just so advanced in these batteries, in some cases there are some technologies that other companies don't have.

Now I don't doubt -- in fact, I'm certain that a lot of American companies and scientists have the technology to even produce more advanced batteries, but the problem is creating them at scale and at cost. And Chinese companies have just had a lot of advantage. They have had a decade of experience in making these, in part because that's where the market was until recently. You know, they just have been selling electric vehicles over a much longer time.

So, I think it just requires time, and it requires -- I think it's going to be very difficult to do without foreign investment. And I think, frankly, it's going to be very difficult to do without

any involvement of the part of Chinese companies. And now that might be involvement in -- on U.S. soil, and may be, you know, in countries with which the U.S. has an FTA and in terms of refining or extracting minerals.

So, I think, you know, it's -- I think it will be important to maintain that de-risking mentality and encourage more of that investment in the U.S. or in partner countries. But I think we need probably to have more realistic assessment of where Chinese companies may be entering and where that is more of a risk or not, because I think in some cases it may not be as risky as in other situations.

COMMISSIONER BOROCHOFF: Thank you for that. I would point out that a man from America who just passed away, Dr. Goodenough, who won the Nobel Prize, invented all of those and recently has invented, just before he passed away, batteries that he thinks will last effectively for decades. And we gave that away to a foreign country because we wanted to save money on construction and manufacturing. So, it's unfortunate we did it that way.

And I -- we have about 20 seconds left, Dr. Gopal, if you can pop in and pop out, if You're interested.

DR. GOPAL: I certainly am, sir. Thank you. I agree with everything my colleague said. But looking at it from a supply chain perspective, which is the perspective I always look at things from, the upstream end of the supply chain is at risk. In other words, lithium, cobalt, nickel, all of those minerals are things we don't control right now.

I'm not saying that we couldn't have them here, but that will require not reinvestment but a lot of political will about mining, and so on. But right now, we are busy building the front end and the downstream of electric vehicles. And it's the upstream that's really the concerning part of it, because we don't own that. A lot of that is controlled by China and Chinese companies, and it's something they are going to have to work around and discuss.

COMMISSIONER BOROCHOFF: Thank you very much.

COMMISSIONER CLEVELAND: Thank you, Commissioner Borochoff.

I'm next. So, I'm interested, Ms. Mazzocco, you talk at length about the approach to evaluating supply chains must be broadened to include the supply chains' products, capabilities, materials, and technologies that impact health, PPEs, antibiotics, active pharmaceutical ingredients, food, renewable energy products, aircraft and automobiles, amongst others.
Is it really possible for us to define -- to determine a definitive list of what comprises critical items for our supply chain? Or is this a fool's errand?

DR. MAZZOCCO: I believe that wasn't my statement, but I can comment on it. Yes, I do think it's challenging to identify what is critical. I actually think it is important to identify what is critical because otherwise everything becomes critical, and so I would actually encourage to have a narrow view on what is actually, for example, a national security threat as opposed to just something that may threaten certain elements of the economy. Right?

And I think, you know, for example, when it comes to the electric vehicle industry and batteries, this is very important from an economic standpoint. I think it has very big implications for the political economy. I think national security-wise it -- the implications are far less concerning.

And so, I think, for example, here that doesn't mean that one shouldn't take action, but one can take action in different ways, right? And so, the types of risks that are involved are different, and so that's part of my, you know, recommendation is to take a very clear stance on identifying what exactly the objectives are and how to act upon them.

So, for example, cooperation with partner countries can be far more effective I think when it's not a national security concern. And I think there may be certain flexibility when it comes to allowing certain types of companies perhaps being involved in certain levels and certain elements of the supply chain.

COMMISSIONER CLEVELAND: Thank you.

Dr. Gopal?

DR. GOPAL: Yes?

COMMISSIONER CLEVELAND: Is it possible to establish a definitive list of what is or is not critical?

DR. GOPAL: I believe it is. Now, let me back up a minute because that was my statement you read.

We have to look at criticality, the things that will seriously hurt us if they are disrupted and on a number of fronts. This does not mean the things that will seriously hurt a few companies, a few investors, things like that, but seriously hurt the country.

And the second part of that is, what are the risk profiles of these things? So, a critical supply chain may not be something we want to focus on if we can recover from disruption very quickly with our allies.

A critical supply chain is something we have to focus on if it will take a lot of time and money and effort to recover while the economy is being hurt. And there are several of those. It's not an inexhaustible list. It's a fairly short list, but it has to be looked at both from the point of criticality and risk.

COMMISSIONER CLEVELAND: Is there any evidence that in these items that you have identified, at least as a preliminary list, is there any evidence that the United States is taking action to stockpile either critical materials or items that you view as national security risks?

DR. GOPAL: I believe in the defense arena, yes. But, otherwise, I don't see much of that from the point of view of private supply chain companies or even the government. And I'm hoping we don't actually stockpile them, but we build the capability to manufacture and get them out, which is the better way of doing it.

COMMISSIONER CLEVELAND: Well, like the strategic oil stockpile, I'm not sure I agree with you, but I also don't think that we should stockpile everything. But if we do believe something is, as you characterize it, both at risk and necessary, it would be interesting to see if there was any effort to map to stockpiles.

Commissioner Friedberg, are you there?

COMMISSIONER FRIEDBERG: Thank you very much.

I have a question. I would like to pose one question for each of our witnesses.

Dr. Mazzocco, you started off by making the point that this forthcoming flood -- you didn't use that term -- but of low-cost Chinese electric vehicles could undermine the efforts of the United States and others to build up their own sources of production and supply for the components of these vehicles and for the vehicles themselves.

And my question to you is, will it be possible, in fact, for other countries to catch up with China, to build up their own industries, the EVs, the batteries, and so on, without imposing some kind of restrictions on imports of these products from China? And what are the implications of that, if it's true?

Dr. Gopal, you used a very interesting term, "a supply chain war," which I think is a good way of describing what's going on. In a war, of course, you have two sides and each is pursuing its own interests and objectives and has its own strategy. And China seems to have a pretty clear

strategy of trying to reduce its dependence, basically, on the West for various things, while doing things to maintain our dependence on them.

And so, my question for you is, what are the implications for U.S. and sort of the wider allied strategy of the strategy that China is pursuing, essentially, to try to prevent us from reducing our vulnerability and dependence? Because it appears now as if we don't really have much of a strategy. There are private sector actions, government action in a few narrow cases, but no overarching strategy.

So, Dr. Mazzocco, first, to you.

DR. MAZZOCCO: Yes. Thank you. That's a very good question.

I would say, currently, most countries do have some level of protection when it comes to the automotive sector, right? We have 27.5 percent tariffs right now in this country on Chinese imports. In Europe, it's much lower. And that's why we're seeing more imports from China. I think it's around 10 percent. So, these already exist.

So, I think it's more of a question of whether they should be increased or changed. I think, in reality, what needs to happen is some sort of balancing towards the trade side of things and, also, attracting FDI level of types of policies, right?

So, on the one hand, there needs to be far more investment domestically to build up manufacturing, and on the other, the need to be maintaining of a certain level of tariffs, right? I'm not necessarily suggesting -- I'm actually not suggesting to increase tariffs, but I think reducing them would probably not be ideal.

I do think there is a risk of overcapacity in certain countries. I think that's, basically, where we're headed towards in China. I think that's part of the issue, that we're going to see more exports because of that. There is a question, though, whether these companies can keep it up, right? I think, in some cases, many Chinese companies are actually operating at loss. That's something to take into consideration.

COMMISSIONER FRIEDBERG: Thank you.

Dr. Gopal?

DR. GOPAL: Thank you, sir.

So, what I am about to say probably makes me unpopular with a lot of my colleagues, and that's okay.

Yes, I don't believe we have a national trade strategy, and I believe we should. It should be based around economic well-being, our long-term sustainability, and our national security. We don't have all of that.

Everything is in bits and pieces. And a lot of our national trade strategy is subject to individuals and individual companies, individual industries. So, for instance, we talk about auto tariffs and we talk about some restriction on technology. Yet, our major companies are giving away our IP to China, building factories in China, working with the Chinese to circumvent any restrictions. And we don't have any policy as to what defines sourcing, ally sourcing, friend sourcing, reshoring, any of these things.

So, sir, I do believe we need to have a national trade policy that addresses all of these, and that addresses it from a national, not an individual or industry, point of view.

And I hope that answers your question.

COMMISSIONER FRIEDBERG: Thank you very much.

DR. GOPAL: Thank you, sir.

COMMISSIONER GLAS: Many thanks to both of our witnesses for coming before us today.

You know, I have a few questions. It sort of dovetails from panel No. 1.

So, what we know is there's fragility in the Chinese economy that has created a lack of consumer confidence to the same extent it used to exist in China; lack of consumer spending. We've got a party official who is trying to stabilize and paint a different picture on the world stage, masking what is really, essentially, a recession happening in China, and its implications to the world.

So, I'm trying to think about supply chains in that regard -- lack of consumer spending; looking at export markets, secondary markets to the U.S. economy; investing in other markets to gain access to the U.S. economy, as a workaround to the current trade rules that exist, including the Section 301 tariffs.

And I lose sleep at night in terms of, what are the implications to U.S. manufacturers and service providers because the Chinese government, its party, its officials are doing everything they can to help prop up industries right now? I know we've talked about EVs quite a bit during this session, and we have an EV expert here. But what are the implications longer term, and do we have enough trade tools in our toolkit to address what could be a very severe economic harm, both to the United States economy and to our allies?

And that's my read on the situation. So, please disagree if you have a different perspective.

DR. GOPAL: I'd like to just jump into that quickly, then, and, yes, I completely agree with you.

From a supply chain perspective, what we are looking at across the ocean is not what economists look at. We're looking at an economy in China that's going down slightly. Consumer spending is down. But the capacity is still there. So, what have countries, traditionally, done with that capacity?

So, we are looking at dumping. We are looking dumping low-cost, lower-than-cost items in our markets, either directly or to subsidiaries located in Mexico or in other places, or to other companies that are controlled. But we are looking at that sort of thing.

And the only way I think -- well, that's one of the main issues -- the way we can handle that is through our restrictive laws, as we have it, about dumping and things like that. But that is a serious, serious concern.

Meanwhile, there's going to be no letup in the Chinese attempting to take our technology because of their development of defense systems and their own military capabilities. So, they will buy stuff.

So, I see no letup in the degree of competition in the supply chain world with those developments in China.

Over.

DR. MAZZOCCO: Yes, this is, clearly, something that's very concerning that the U.S. should be keeping an eye on.

I spend a lot of time thinking about clean energy supply chains. And there, the dilemma is particularly acute I think. Because, on the one hand, this is an industry that the U.S. does not have a handle on, right? This is an industry that we're trying to develop currently in the United States, and similar efforts are underway in other countries, like in the European Union, for example, and even in some developing countries, like India, for example, right? They're trying to develop their own clean energy supply chains.

But, at the same time, costs are continuing to fall in China. And so, we continue to see exports. That's not a bad thing in terms of consumers globally, right? There is access to these

technologies. But it's not good from a perspective of our domestic economy and de-risking, which are all pretty important targets. So, it creates this big policy dilemma that I have been talking about.

I don't think there is an immediate panacea. I don't think there's one trade tool that we can point to that can solve everything. I do think there needs to be far more thinking about this, and it needs to be happening fairly quickly.

At the moment, there are none of these -- you know, the flood of Chinese EVs has not happened in the U.S., but, you know, the cost is so low that, eventually, a 27.5 percent tariff may not be that big of an obstacle. This might take some time; it may take very little time. We don't know. But I think there needs to be a lot more creative thinking about different types of tools that can be utilized.

I do worry that cost is going to be a very big concern because that's, typically, what trade tariffs do, right, they raise costs. And once these products are not competitive, there are alternatives to these, which are fossil fuels or, you know, traditional automotives -- the traditional automotive industry, which, then, undermines the broader transition, which makes the U.S. less competitive and less innovative, right?

So, I think there is a bit of a -- you know, there's a lot of juggling that needs to happen in this.

COMMISSIONER GLAS: Thank you.

DR. GOPAL: If I can just say a couple of sentences on that? I agree with everything Ilaria said. That's terrific.

I think another implication of this, reduction in costs in other countries leads to our own costs being, quote, "uncompetitive," which in the past, because our executives are compensated on share price, and we have some short-termism in what we get from Wall Street, will lead to increased outsourcing and offshoring of critical things, which in the past has led to hollowed-out communities and everything else that we talk about.

So, this is an issue that we need to look at from a nuanced and multifunctional perspective, not just the economics of it.

Over.

COMMISSIONER GLAS: Thank you.

COMMISSIONER CLEVELAND: Commissioner Goodwin?

COMMISSIONER GOODWIN: Thank you, Madam Chair.
Dr. Mazzocco, in your testimony, you indicate that attempts to completely insulate us from competition is not the right approach, and instead, continuing to pursue incentives to advance our domestic manufacturing capacity and encourage investment in EV supply chains, like IRA, is the right approach.

And you recommend, then, what we need to do is identify under what conditions Chinese companies can play a role in our EV supply chain. And I wonder whether the IRA and some of the specific investments you reference in your testimony raise a separate question, which is: under what conditions should Chinese companies be allowed to directly benefit from the financial incentives and consumer subsidies in place to encourage EV production here in the United States?

DR. MAZZOCCO: So, your question -- excuse me -- the question is, under what conditions they should be able to benefit from the incentives?

COMMISSIONER GOODWIN: Yes. And do you see that as different from the way you framed it, which is under what conditions should they be able to (audio interference) supply

chain and the differences -- step back and consider, under what conditions should they be able to actually access financial incentives and benefits that we've put in place to encourage investment in EV vehicles here in the United States?

DR. MAZZOCCO: Yes. So, I think my recommendation stemmed from the fact that there has been a lot of unclarity and a lot of confusion over whether these companies should qualify for subsidies in the United States, for example; and also, from the fact that there has been increasing investments on the part of Chinese companies upstream in countries that, then, would qualify under FTAs for supplying critical minerals for the production of batteries, that, then, would qualify for subsidies, right?

So, I think the question is, my question I guess or the question I raised is not so much that I have -- I don't necessarily have the exact conditions at hand, because I think they really depend on the segment of the industry, on the industry itself, and then, on the companies themselves as well.

But I do think it's worth raising the issue that it doesn't seem to me like we have a very clear framework of how to deal with Chinese companies as they internationalize. So, that's what I was pointing to in my recommendation.

I mean, I think if the two companies that we're talking about qualify, if they are meeting the legal requirements to be in the United States, then there's not much I can say or do to say that they shouldn't be here, right, and neither can anyone else.

But I think if policymakers think that it's risky, based on data, then they should certainly amend the legislation. I haven't seen anything that suggests to me that these companies are a risk to the United States. I think they're helping expand capacity, but I may be wrong, right? I may not have access to all the documents, and I think that's part of the issue here, is exactly what types of investments we're talking about.

I do think, though, that it's going to be unavoidable, that we're going to keep seeing these questions coming up. And I think we need to just have a very clear framework.
I think this is also going to be very helpful for American companies, as they engage with Chinese companies, to know what they can and cannot do. So, I think there should be more of a clear framework in this sense.

I hope that answers the question.

COMMISSIONER GOODWIN: Sure. Thank you.

Dr. Gopal, do you have any thoughts on that question?

DR. GOPAL: Yes, it's the same, also, that I had on the previous one, sir. And that is we have to decide, when we look at investments and things like that, what our key priority is. Is it national security? Is it our own jobs and economy? Or is it the proliferation of one particular industry?

And with that in view, I think as Ilaria pointed out, we have no specific framework with which to analyze Chinese companies working here, but we never need to forget that the long game that the Chinese government takes is not necessarily how do we get the best EVs or green technology in the U.S. It's how they can profit by this over the longer term.

And given that, I would say there's a lot of issues in allowing Chinese companies at this stage to be part of the spending -- the infrastructure spending that we are talking about right now. I think we have to look at that very carefully.

Over.

COMMISSIONER GOODWIN: Thank you.

COMMISSIONER CLEVELAND: Thank you.

Are you finished, Mr. Goodwin?

COMMISSIONER GOODWIN: Yes, thank you.

COMMISSIONER CLEVELAND: Thank you.

Is Commissioner Helberg there?

COMMISSIONER HELBERG: Yes.

Thank you to all the witnesses for insightful testimonies.

I wholeheartedly agree with one of the testimonies that too many parts of today's global supply chains were built to break and without any regard for national security.

China's accession to the WTO was, in my view, one of the greatest single American foreign policy miscalculations in U.S. foreign policy history and fueled the rise of a hostile geopolitical adversary, the likes of which our country has never faced. But we are where we are.

My question is addressed to all witnesses. If you could wave a wand and get the Administration or Congress to do anything, what specific types of bills or Executive Orders do you think the government could take to administer a shock therapy to revive our manufacturing base and secure our independence in critical raw materials?

Maybe we can start in alphabetical order with the witnesses?

DR. GOPAL: Okay. I don't feel like I'm ahead of Ilaria on this one.

But my first thing that we do, I think, sir, that if I can wave the magic wand, I would have a few different things that we had to do, and none of them are surprises or anything else.

No. 1, I would increase our funding of U.S. manufacturing and infrastructure and the scope of it, to build up the capacity we have lost.

No. 2, wave of a magic wand -- while we're having a few of these -- would be to look very closely at the critical supply chains and, yes, impose some restrictions on who can buy into them, who can invest into them, and how we can protect them, both from the point of view of the supply chain and the technology that accompanies the supply chain.

Third, I'd provide, with my wands, sourcing parameters that I would require our companies to look at and adhere to, in terms of different products and industries, as to where they can source; how much of a percentage can they source from a particular country; what their distribution is; what their diversification is, and what their regionalization of the supply chain should be.

And finally, I would hit the education front where we've lost a lot of talent, where we've lost a lot of research. We're desperately short of STEM talent, and we need to emphasize and fund those programs.

Thank you, sir. That's over.

COMMISSIONER HELBERG: And, Mr. Gopal, before we move on to the next witness, what types of infrastructure funding do you view as being particularly contributive to manufacturing activity? Is it transportation infrastructure, energy infrastructure? I'm curious if You're thinking about specific types of infrastructure that need additional funding. Or are you referring to infrastructure as a whole?

DR. GOPAL: Specific types, sir. Specific types.

Firstly, transportation, and in all modes -- air, road, rail, and ocean. Ocean transportation is now controlled by a few companies, and that's a capacity-at-risk issue.

Secondly, digital infrastructure -- 5G, internet, satellites, global positioning systems, and the cybersecurity that supports them. That's the second piece.

And thirdly, sir, energy. I have no answer to the energy; nobody does. But I do know that we have to be practical and see what energy our industries need to be competitive, as opposed to telling them they should this or the other thing.

So, those are the three issues that I would look at.

COMMISSIONER HELBERG: Thank you very much.

DR. MAZZOCCO: Thank you.

I would agree on the R&D and the education piece of that Dr. Gopal outlined. I would actually increase R&D in efficiency, you know, efforts to improve efficiency in the usage of these minerals. Recycling efforts, there's a lot of potential there as well. Alternative chemistries for a lot of these, you know, batteries, for example.

I think all these could, then, you know, certainly, the research side of it could have more investment, but I think, especially, there should be a framework to help them commercialize, which is where China has really excelled and the United States has, generally, lagged, right? We, generally, have very strong research in American universities, and that doesn't necessarily get commercialized or produce a skill in the United States because that piece is missing, right? But I know I'm talking about something that you're all familiar with.

The second part is that I think there is a potential for more -- and I think this is already happening, but it could be, I think, enhanced -- partnerships with other countries and collaboration and seeking ways of enacting the de-risking. It just cannot be done only in the United States, right? I think autarky is neither desirable nor achievable in this sense.

And then, third, I think the permitting reform conversation is the one that's important, and that's already undergoing. It's a complicated one, but, obviously, moving that forward would be important.

COMMISSIONER HELBERG: Thank you.

COMMISSIONER CLEVELAND: Commissioner Price?

COMMISSIONER PRICE: Great. Thank you both for your participation today.

Several of my questions have been answered in part. So, excuse me if I'm a little redundant.

But, before I get there, Dr. Gopal, in your recommendations you talk about mapping of critical supply chains.

One, my first question is, do we have the data that would allow us to do that?

No. 2, what already exists.

And No. 3, we don't seem to have a whole lot of time. How long does something -- or when you came up with this idea, how long were you thinking this would take to do, and how do we implement?

So, why don't you go ahead? And, Dr. Mazzocco, you can add in, if you would like.

DR. GOPAL: Thank you, ma'am.

Let me start with the last one first. How do I think this would take to implement? I think no more than six months. This is an exercise that requires a lot of thought, but not that much data.

Because let's just take a simple of semiconductors, the different types of semiconductors. We know it's critical. What are the industries they go in? We can get that from the semiconductor industry. What are the industries that depend on those? So, semiconductors drive computers, defense, all of these, which, in turn, drive airlines, tourism, information technology, and all of those, which, in turn, drive a whole lot of other things.

I think we can map the cascading effect. The key is mapping the impact, and that will require some modeling, rather than much data. But I think that can be done fairly quickly with a solid task force.

And I don't believe it should be made too complex, because complexity is always the enemy of action. And I think it should be made understandable and fairly simple, so that you folks and the Commission and the government can prescribe actions to work for the front end of those, the critical supply chains.

I hope that answers your question, ma'am.

COMMISSIONER PRICE: Do you think we have the data that we need, though?

DR. GOPAL: I believe we do.

COMMISSIONER PRICE: Okay. Thank you.

Do you have anything you would like to add?

DR. MAZZOCCO: My sense is that a comprehensive analysis and data-collection effort on critical materials, on the upstream side of critical materials, would probably be -- it would require some effort in collecting all the data, putting it all together.

You know, I don't question that the data is out there. I think finding it and making sure it's up-to-date, and actually understanding what is happening on the ground, I think in many cases the mining is happening in countries that might not have very good data.

You know, I think of the cobalt industry in the DRC, for example. Understanding which mines are open, you know, who is relying on artisanal mining, right? I think there are efforts there, and there is definitely data out there, but I think it might take, from my perspective, it might be a bit complicated by that. But that might not be what Dr. Gopal is suggesting.

I do think it is important, though, to have a sense of all the players involved. That might not be completely comprehensive, but I do think my sense is that there is quite a bit of confusion at the moment, due to not very good data on exactly which types of Chinese companies are involved at which levels of the supply chain, and which foreign companies and what type of foreign investment -- you know, non-Chinese companies are also involved in those -- and who our partnering might be, and some points with the Chinese companies as well. As well as what the host governments are doing and how much they control some of this, the supply chain as well.

COMMISSIONER PRICE: Thank you.

Dr. Gopal, one other question, a clarification on the piece, the recommendation you have about talent. Just a few minutes ago, you also said something about we need to restrict foreign enrollment. Can you clarify what you're talking about?

DR. GOPAL: Absolutely, ma'am.

So, let me start it from the top. Our universities today are getting increasingly dependent on foreign students -- Chinese students who pay full tuition. That's point one.

Point two, there are disciplines that the government pays for research that the universities do that are critical to our national defense and to our economy in some ways. We have to vet seriously the students who we allow to enroll in that, so that this is not a revolving door and a straight pipeline back to China or Korea or Russia, or wherever, of our technology and the research. And as Ilaria pointed out, coupled with that should be the ability on how do we apply this and take it commercial and take it to use.

So, yes, the answer is we have to look at who we have enrolled into many of these disciplines in several of our universities, and take a good, hard look at that.
Over.

COMMISSIONER PRICE: Thank you very much.

COMMISSIONER CLEVELAND: Commissioner Schriver?

COMMISSIONER SCHRIVER: Just to add my thanks to the witnesses. I think most of my questions have been addressed, so I'll pass.

COMMISSIONER CLEVELAND: Thank you.

Commissioner Wessel?

COMMISSIONER WESSEL: Thank you.

And, Dr. Gopal, I appreciate your recognition of Rana and Barry's work. They have been toiling in this field, as you have, for many years.

You referred to and used the term "willful blindness," and I appreciate your recognition of the long-term work of this Commission. But I would argue to you that willful blindness continues to cloud visibility as to many of the challenges we face.

Recently, appreciative of the work of the Administration on an outbound investment Executive Order, it is still limited in terms of providing us the data on critical supply chains -- batteries, pharmaceutical, et cetera.

We have existing U.S. authorities that this Commission has referred to in the past. For example, at the Department of Commerce, the power to compel any multinational business doing business in the U.S. to respond to questions. That could be used to provide us data on supply chains, whether it's in batteries, critical minerals, materials, aerospace.

And you serve on the Defense Business Board, which I think has mostly been focused in the last couple of years on talent pipeline issues.

But what new tools, in terms of transparency and data, do you think would be needed? Dr. Mazzocco, for you as well, you know, I think, for example, Ford's efforts with CATL on BlueOval don't fully identify what's happening in the battery supply chain and the IP that is being utilized there.

How do we get to data in a granular sense when business has been opposing any of those data transmission efforts?

Dr. Gopal, do you want to start there?

DR. GOPAL: Yes, sir, I'll start.

You've posed a question of the decade. In an economy like ours, how do we get business to help with the national profile? And we've seen what has happened in the past.

The only way I can think of, from a purely simplistic view of an executive, is mandating the data, making sure that the data is going to be highly confidential, the security of the data, but, in effect, mandating the data.

And secondly, sir, it's looking at data as a tool and a weapon, because that's what it is. The warfare of the future is around data. So, just not going overboard with asking every type of data, but asking for the little data that matters where we can make our decisions. I know that's an iffy, whiffy way of putting things, but it's actually true.

We have so much data. We need to specify specifically what we need from companies, so that you folks can make your decisions on criticality and policy.

So, it's focusing on the data and what data we have. Because the data is there. The transparency is there. We need to focus on the "what."

COMMISSIONER WESSEL: But let me pull on that, if I can, because, again, you're a member of the Defense Business Board, which, as leaders of industry from CFOs to CEOs, and otherwise, all of whom depend on data to make the right kind of decisions for their businesses, should that be a higher priority at DoD in terms of supply chain transparency, and transparency

in a BPI sense? I don't mean that it has to be fully expressed. But we don't know where all the critical minerals come from or where the processing facilities are.

China just first sold its commercial jets, the C919, and it's going to be making further incursions into aerospace.

What would you, as a business leader, need? And you can do this as a follow-up. And are you seeing enough within the defense establishment to be able to get the kind of data that is needed to make those decisions?

DR. GOPAL: The short answer, sir, is, yes, certainly. Everybody recognizes the data, the need for data, and what we call the infrastructure that the data needs.

And, yes, we may not have all the data you're talking about. As a country, I don't believe we do, or as companies. But, yes, I think we're on the path to getting that.

But I still think that, for the private sector, we need to mandate the turning over of the right type of data, because they're big collectors.

COMMISSIONER WESSEL: Dr. Mazzocco, a quick response?

DR. MAZZOCCO: I think it's a very broad question. I appreciate the challenge there. And I think there's different parts to that.

I think, to be honest, if I have to pick something, what concerns me more is lack of transparency in Chinese companies. I think in the previous panel there was a discussion about poor access to economic data in China. So, it's something that I would focus on, which I do think is data that is going to be increasingly hard to get, is the actual Chinese supply chains and which companies are operating in which sectors and their background, when they are, for example, doing FDI in the United States -- something that I think came up with CATL, for example, recently.

So, I think that's one thing to focus on. That's probably going to require a lot of external research, auditing, and perhaps even some level of high-level dialog with China, right, with the Chinese government. Because this is, obviously, part of an ongoing challenge there that may be undermining American companies in the United States -- operating in China as well. So, that's one piece of it.

I think the other piece is, I think you mentioned IP in the CATL/Ford deal. You know, I cannot speak to that, obviously, but I do think that's an interesting point. And that, I think, points to something that indicates a reversal of previous concerns in the United States, where American companies, I mean, we're giving away IP to Chinese companies, but now we are much more concerned about Chinese companies actually providing access to their IP to American companies.

I think, again, that's something that should be explored and should be clarified in the legislation, right? I don't think there is any requirement for CATL to give its IP to Ford, for example. So, I think that's identified as a real challenge and that's something that should be clarified, as I mentioned before, right? Identifying actual goals and what companies can and cannot do in the United States is probably important.

I think that's all there is time for. There's a long conversation. I'd be happy to have it at another point in time, if there's more questions.

COMMISSIONER WESSEL: Thank you.

COMMISSIONER CLEVELAND: Thank you.

Commissioner Wong, do you have questions?

COMMISSIONER WONG: Yes.

Dr. Mazzocco, thank you for your testimony.

I don't know if you have it at hand because I'm having trouble finding the actual number, but what is the current Chinese tariff on U.S. auto imports?

DR. MAZZOCCO: I can't remember it off the top of my head right now. Yes, it's significant.

COMMISSIONER WONG: Yes, I remember they raised it to 40 percent at some point in 2018, and then, there were some reports they were going to lower it, but I'm not sure if they ever did that, and if it was part of a phase one. I just can't remember.

But suffice it to say, I think there's at least still a 25 percent tariff on U.S. autos in China. There has been a long-time disparity between the tariff we had placed on Chinese auto imports before 2018. I think it was like 2.5 percent before we raised it to 27.5 percent.

But this goes to my question. I mean, would you agree with me that the Chinese advantage in EVs came out of a combination of a number of policy choices.

One is the subsidies, the purchase subsidies you mentioned, which were tens if not hundreds of billions of dollars.

Second is protection through tariffs of their market, which is the largest automobile market and largest EV market in the world. The U.S. is second.

No. 3, lower environmental standards, which allows them to refine and mine critical minerals at a much cheaper rate, as well as lower labor standards.

And I think, importantly, at least at the beginning of the EV industry in China, theft of intellectual property from Western companies, and particularly, American companies.

Are those factors correct in what has built the Chinese advantage?

DR. MAZZOCCO: I think, yes, they all played a role. I would say, also, it came at the right time, right? I think these policies were initiated around 2010, and by 2015, we started seeing the technological advancements in a lot of these areas, and at the same time, consumers really took up, were really interested in EVs, which is something, to be honest, I don't think many even predicted in China. So, I think there's conversions of various factors, but I think the ones that you mentioned all played a role.

I would say that the tariffs into China probably were especially significant in ensuring that companies invested domestically in China to produce capacity. Certainly, I think that was the case for Tesla, for example.

And one more thing. I think, you know, to qualify for subsidies in China, the vehicles had to be produced in China.

COMMISSIONER WONG: Okay. And if I'm not mistaken, I think the tariff levels between the United States for a long time -- between the United States -- the tariff levels that China applied to the United States versus those they applied to European cars, they actually had higher tariffs on U.S. cars for a long time, and I think still do. Am I right about that?

DR. MAZZOCCO: I, actually, am not sure. I'm sorry, I don't have that data in hand.

COMMISSIONER WONG: Yes, we'll research that.

DR. MAZZOCCO: Yes.

COMMISSIONER WONG: That goes to my question. I mean, would you agree that there's kind of -- I think there's, clearly, a strategic valence or a strategic impetus behind these policy choices; namely, it seems that there's a conscious decision by the Chinese to develop, obviously, an industrial leadership position in EVs, but, in particular, to build dependence throughout the Western world, including in America, on these technologies, but also to undermine the U.S. industry. Is that correct? Or would you disagree with that?

DR. MAZZOCCO: I would say that, when the policies were first launched, the actual focus was to reduce China's dependence on foreign technology. So, this was very clear. They identified a technology where Chinese companies stood a chance to compete more directly with Western and the non-Western foreign automakers. Since I think, basically, since the 1980s, there have been several policies in place in China that aim to do that and have completely failed in internal combustion engine vehicle industry.

So, for example, the reason why there's so many joint ventures between foreign companies and Chinese companies is because that's mandated, as an effort to help Chinese companies upgrade. And that never really led to their advancement in the industry.

So, by shifting towards electric vehicles and investing in electric vehicles, the hope of the Chinese government would be that the more -- you know, obviously, we've talked about how it's not necessarily a homegrown industry, but a homegrown technology, but a technology that was developed further in China and where supply chains could be more controlled by Chinese companies would reduce their reliance on American and European and Japanese automakers.

So, I would say that's, most certainly, what happened initially. I think, as the time progressed, and as the industry really took off -- and I should note that I think, based on my research, when these policies were first launched, they were fairly obscure and not necessarily something that most of the Chinese government was focused on.

But, after a few years that really took off, the market was really developing. And I think that's when we see more of an understanding of the potential of this industry as an export industry. And I think, certainly now, I'm sure there are considerations about how this could be increasing foreign dependencies on China in line with dual circulation. But I don't think that was the case originally.

COMMISSIONER WONG: Okay. I appreciate your answers and the suppleness of your research.

I just think a lot of these factors we will have to consider. And I am very worried and question the wisdom of what I see as the current trend in the United States of adopting policies that, essentially, dovetail with that strategic impetus of China; namely, subsidies for purchases of EVs in the U.S.; outright bans on internal combustion engines, and either bans on or extremely difficult permitting processes for mining and refining here. That would seem to back us right into the strategic pocket of what the Chinese are trying to do in the EV industry. And I think we have to take a very strong look at that.

But thank you for your testimony.

COMMISSIONER CLEVELAND: Thank you to our witnesses.

This is the last hearing -- unless somebody else has some burning issue -- this is the last hearing of the year. We are in the process of wrapping up the annual report.

But we very much appreciate you coming and offering your observations today.

So, with that, the hearing is adjourned.

(Whereupon, the above-entitled matter went off the record at 12:41 p.m.)