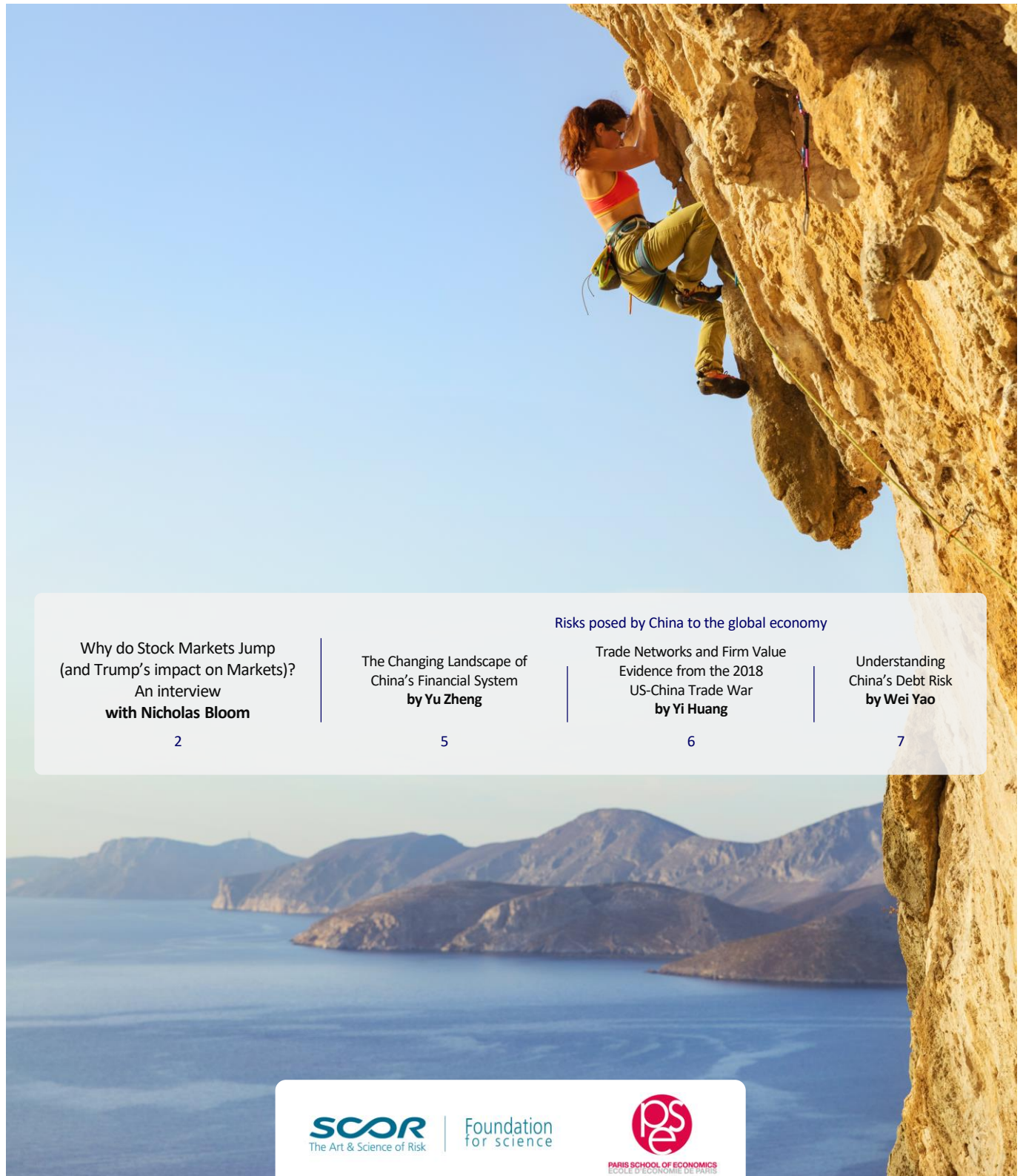


The **first annual Lecture of the SCOR-PSE Chair** took place on December 5, 2019. **Professor Nicholas Bloom (Stanford University)** came at PSE to discuss the effects of uncertainty on stock markets. Furthermore, **the SCOR-PSE Chair organized a workshop** on January 17, 2020, entitled: **"Risks posed by China to the global economy"**. Three specialists of the Chinese economy shared their view on the current situation in China: **Yu Zheng (Queen Mary), Yi Huang (IIES Geneva) and Wei Yao (Société Générale)**.

This newsletter includes an interview of Nicholas Bloom, and a brief description of the research and policy discussions which took place in the workshop on Chinese economy. [+](#)



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Why do Stock Markets Jump (and Trump's impact on Markets)?

AN INTERVIEW WITH NICHOLAS BLOOM

On December 5, 2019, **Nicholas Bloom** (Stanford University) gave a lecture on the theme of uncertainty. Following this lecture, we had the opportunity to interview him about his latest research.

LET US START WITH A SIMPLE QUESTION. WHAT IS UNCERTAINTY?

Uncertainty is typically defined as being uncertain about the future. Often two types are distinguished. One – that is often called risk – is about outcomes that have a known distribution. For example, the toss of a fair coin is uncertain but you can say it has a 50% chance of being heads and 50% chance of being tails. The other – that is often called Knightian Uncertainty (after Frank Knight) – is about outcomes that have no easily known distribution. For example, the probability that there is life on another planet has no easy distribution – we are uncertain, but I think nobody could confidently say the odds of this were 1/10 rather than 1/20.

My work has focused on trying to measure overall “economic uncertainty” which is a rather vague concept – how uncertain are individuals and businesses about the future. For example, are we uncertain about a possible war or election, or more certain that growth will remain low and stable? The broad idea is at some times the distribution of possible future economic outcomes – prices, interest rates, demand – is far wider so people are more uncertain. Examples of this would be after the 9/11 attacks or in Britain after the Brexit vote. Other times are more calm and predictable, for example during the mid-1990s when both economic growth and politics were relatively stable and moderate.

HOW CAN WE ACTUALLY QUANTIFY UNCERTAINTY IN THE ECONOMY? WHAT CHALLENGES DO WE FACE WHEN MEASURING UNCERTAINTY?

Measuring economic uncertainty is of course hard. One measure is the stock-market – we typically think that uncertainty is high when the stock market is very volatile. If the stock-market is bouncing around because of major shocks it implies a high degree of uncertainty. Another measure is the extent of disagreement in forecasters surveys – if major economic forecasts make very different predictions about the future we presumably would feel



more uncertain. Yet another measure uses surveys – for example, comparing responses over time to questions like “Is the degree

Stock-markets in contract are very calm, as is economic growth so that forecasts tend to have little disagreement.

of sales uncertainty facing your business this month below, at or above average?”. Finally, I have recently been using newspapers – looking for the frequency of articles discussing economic uncertainty. Thankfully these measures tend to move together – they are on rise in recessions, such as during the 2008/09 financial crisis – and after major shocks, like wars, terrorist attacks or major political events like the Brexit vote. Since about 2016, however, these measures have started to diverge somewhat. Newspapers are filled with stories about economic uncertainty around global politics, so suggest very high levels of overall uncertainty. Stock-markets in contract are very calm, as is economic growth so that forecasts tend to have little disagreement.

HOW DO YOU EXPLAIN THIS PARADOX? IS IT A "MEDIA HYPERBOLE" OR SHOULD WE RETHINK THE ROLE OF FINANCIAL INDICATORS, SUCH AS THE VIX INDEX, AS PROXY FOR ECONOMIC UNCERTAINTY?

This is a very interesting question and I am not sure. We see several conflicting trends. Newspapers talk more about

uncertainty, while the stock-market is calm. More generally, several perceptions of uncertainty (like the frequency of the word “uncertainty” in the economist intelligence unit publications) are high, while economic growth is low but very stable. My best guess is that longer-run uncertainty is higher – for example, whether the US will turn away from free-markets and internationalism, and towards



cronyism under Trump is increasing long-run uncertainty. Since World War II the US has provided an anchor for the world, promoting free-markets, free-trade and relatively uncorrupt politics, but all of this is changing recently. On the other hand, in the short-run, Trump has cut taxes and reduce regulation which has stabilized markets.

MORE GENERALLY, WHAT IS THE RELATIONSHIP BETWEEN UNCERTAINTY AND GROWTH? COULD YOU TELL US A BIT MORE ABOUT THE CHANNELS THROUGH WHICH UNCERTAINTY AFFECTS FIRMS' DECISIONS AND, IN TURN, MACROECONOMIC AGGREGATES?

There is an exceedingly strong relationship between uncertainty and growth. In particular, measures of uncertainty shoot up in recessions, and are higher in poor (developing) countries compared to rich countries. At the industry or firm level we find a similar relationship. What is much less obvious is the direction of causality. One obvious story is that higher uncertainty leads to economic slowdowns. When uncertainty rises firms are tempted to pause hiring and investing – a phenomenon known as the “real options effect”. That is firms have an option to invest now or later, and when uncertainty is high that option is more valuable so they tend to wait. A similar effect arises for hiring, and indeed any costly action that firms undertake, like spending on training or R&D. As a result uncertainty typically slows down growth. But in reverse slower growth can itself induce uncertainty – recessions are unusual, and their occurrence often causes uncertainty as it is a break from “business as usual”. Moreover, often governments try more radical policies during downturns, increasing political uncertainty. Hence, it is likely rises in uncertainty both cause recessions



and are in turn amplified by the downturn.

THE BREXIT SEEMS A PERFECT EXAMPLE TO TEST YOUR THEORY: NO ACTUAL SHOCK YET, BUT A LOT OF INDETERMINATION REGARDING THE FUTURE OF THE UK ECONOMY AND ITS RELATION TO THE CONTINENT. HOW DOES THE DATA LOOK LIKE?

Brexit – or to be precise the Brexit vote – is a great test of the uncertainty theory. Interestingly, as the time of the vote I made a forecast of about a 3% to 4% drop inactivity after Brexit and a rapid rebound. In fact, what arose is a gradual fall in GDP of about 3% versus trend (where trend is the average growth rates of the rest of the G7 which the UK had

been following very closely until the June 2016 vote). So the prediction was about right – a roughly 3% drop in GDP – but the timing was wrong in that I initially believed this would take 6 months whereas it took 3 years. Furthermore the actual Brexit event has not yet occurred, so depending on the

form of Brexit this could induce additional falls in GDP. So, overall, the Brexit vote has been followed by substantial losses in GDP – about 3% – and even greater falls in investment of about 15%, but over a longer time period than initially predicted.

THE PAPER YOU PRESENTED IN THE SCOR-PSE LECTURE AIMS AT DETERMINING EMPIRICALLY THE MAIN CAUSES OF FINANCIAL MARKETS' FLUCTUATIONS. HOW DID YOU BUILD THE DATABASE FOR YOUR ANALYSIS? WHAT ARE THE ADVANTAGES OF USING HUMAN CODERS OVER STANDARD TEXT-MINING ALGORITHMS (E.G. NLP)?

We use a large team of undergraduate students to determine the cause and clarity of stock market jumps since 1900 in the US and since about 1980 in around 20 countries. We use human readers as they can discern far more from newspaper articles. Not only can they carefully evaluate the cause of the jump but also the confidence of the journalist. For example, journalist will place the explanation clearly up front when they are certain of the cause of a stock-market jump – for example, a monetary policy announcement, war or terrorist attack. Often the causes of stock jumps are very

When uncertainty rises firms are tempted to pause hiring and investing – a phenomenon known as the “real options effect”.





clear and the job of the journalist is easy. On other occasions the stock-market may drift down all day, say falling by 4% which is a major drop, but without any clear identifiable cause. In this case journalists tend to describe the event – when the market fell, which sectors and how – but delay providing a cause until several paragraphs into the article. When they do provide a cause they often provide multiple causes, and frequently attribute it – for example they may write “Goldman Sachs trade Sarah Smith said the jump could have been due to the monetary uncertainty, or the oil price or possibly comments by the White House”. As such a trained undergraduate can ascertain both the cause and the clarity of stock-market jumps, something that – at least currently – no computer is able to do.

SO, ACCORDING TO YOUR DATABASE, WHAT TRIGGERS STOCK MARKET JUMPS IN THE END? DOES CLARITY MATTER?

A few key findings. First, government policies account for 40% of US stock-market jumps and about 30% internationally. This is huge – we were genuinely surprised that

the stock price of public companies would be so sensitive to government policies.

Monetary policy events seemed to reduce uncertainty – potentially because policy makers calmed the markets, while macro jumps tended to increase volatility.

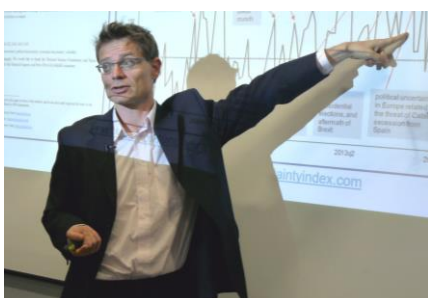
Second, the US is dominant in driving international stock-markets – around 40% of global stock-market jumps are sourced to US events, which is really amazing. Take a country like South Africa or New Zealand – the fact that on average 40% of their jumps are driven by US events is highly surprising. Finally, clarity appears to be improving over time. Back in the early 1900s stock-markets accounts sounded like the wild-west – run, jumps and crashes based on rumors and individual wealth investors. But by the 1970s many of the formally illegal practices of stock ramping, rumor starting etc had been stamped out, and markets were more driven by large institutions – banks, mutual funds etc. As such the US stock market is far more liquid and transparent now than it was 100 years ago. This suggests that for countries as they develop their financial markets naturally mature and improve.

YOU DISTINGUISH BETWEEN POLICY- AND NON-POLICY CAUSES. DO THEY HAVE DIFFERENT EFFECTS?

We found interestingly a major difference between the largest single non-policy driver (macro news) and the largest policy driver (Monetary policy). While jumps due to macro news tended to be followed by a long tail of stock-market volatility monetary policy jumps did not. That is, monetary policy events seemed to reduce uncertainty – potentially because policy makers calmed the markets, while macro jumps tended to increase volatility.

ONE LAST QUESTION, ABOUT THE US PRESIDENT: WHAT IS TRUMP'S IMPACT ON MARKETS?

Trump does not appear to have changed total levels of volatility – the number of jumps per year before and after Trump is about the same. But he has changed their nature – after his election there have been 5 jumps attributed to trade. Before his election we had no trade jumps since World War II, so this is unprecedented. Trump also appears to have reduced overall stock-market clarity. Since his election measures of stock-market clarity have been falling – more jumps are hard to explain, possibly because his administration relies more on “gut instinct” and less on expert advisers, so that policy is unpredictable and subject to heavy rumor.



Nicholas (Nick) Bloom is the William Eberle Professor of Economics at Stanford University, a Senior Fellow of SIEPR, and the Co-Director of the Productivity, Innovation and Entrepreneurship program at the National Bureau of Economic Research. His research focuses on management practices and uncertainty. He previously worked at the UK Treasury and McKinsey & Company.

He is a Fellow of the American Academy of Arts and Sciences, and the recipient of the Alfred Sloan Fellowship, the Bernacer Prize, the European Investment Bank Prize, the Frisch Medal, the Kauffman Medal and a National Science Foundation Career Award. He has a BA from Cambridge, an MPhil from Oxford, and a PhD from University College London.

The Changing Landscape of China's Financial System

Yu Zheng (Queen Mary), *The Changing Landscape of China's Financial System* +

This presentation was the opening talk of the workshop organized by the SCOR-PSE Chair at PSE on January 17, 2020, on the topic: "Risks posed by China to the global economy".

China is increasingly integrated in the world economy: it accounts for more than one tenth of global trade in goods and is second only to the US in terms of Foreign Direct Investment (FDI) flows. Yet, integration also means more linkages through which shocks can propagate, and hence greater exposure to risk. Today, **the Chinese government wishes to pursue integration in the global financial markets by opening up its financial system.** From the point of view of both China and the rest of the world, does it represent a risk or an opportunity?

CHINA'S INTEGRATION INTO THE GLOBAL ECONOMY

It is helpful to assess the opening-up measures against some historical background.

Until very recently, foreign investors had to comply with the 1995 *Catalogue of Industries for Guiding Foreign Investment*. This paternalistic approach was replaced in 2017 by a "negative list approach", which simply emphasized deviations from national treatment. The key change in the 2018 negative list concerns the banking, securities, insurance and futures industries. Importantly, it commits to opening-up the financial sector. In brief, the implications are twofold: lower entry barriers to the financial sector for foreign financial firms and a higher autonomy when operating in China. These

The implications are twofold: lower entry barriers to the financial sector for foreign financial firms and a higher autonomy when operating in China.

commitments were highly publicized but is it a market worth entering for a foreign investor though?

CURRENT STATE OF THE CHINESE FINANCIAL SYSTEM

Let us take an overview of the current state of the Chinese financial system. First, **the formal financial sector is dominated by state-owned banks.** This contrasts with other emerging economies where market-based systems are prevalent. Two statistics reflect well this fact: bank credit to GDP ratio is 2.5 times that of other EM countries and around 40% of all banks assets are detained by state-owned banks. Second, **the bond market is growing fast**, in particular in the subnational government bonds market. However,

challenges to further development remain: segmented markets and regulatory frameworks, underdeveloped market discipline (problems with credit ratings and ad hoc defaults). In fact, **foreign investment is still limited to a large extent.** FDIs are still subject to state intervention risk and long licensing processes while Foreign Portfolio Investments (FPIs) face trading restrictions, such as short sale constraints or access to derivative products.

THE CHINESE POINT OF VIEW

In order to understand such limitations, the Chinese point of view has to be considered.



First, the fundamental economic model is state capitalism. Second, the Chinese state wishes to mitigate the risks potentially posed by foreign investors: lessons from the 1990s Asian crisis and the Global Financial Crisis have been learned (1). At the same time, **China needs to open-up its financial markets if it wants to promote RMB as an international currency.** To conclude, the financial integration path will have to be compatible with both Chinese demand for stability and foreign demand for liberalized financial instruments.

(1) This explains the preference for investments with "skin in the game", i.e. for FDIs over FPIs.





Trade Networks and Firm Value Evidence from the 2018 US-China Trade War

Yi Huang (IIES Geneva), *Economics risk of the trade war and finance war to be ?* +

This second presentation of the workshop on “Risks posed by China to the global economy” was based on the research paper: “Trade Linkages and Firm Value: Evidence from the 2018 US-China “Trade War””, co-authored with Chen Lin (University of Hong Kong), Sibio Liu (Lingnan University) and Heiwai Tang (University of Hong Kong). +

China’s incredible, export-fuelled economic rise generated tensions with the US. Indeed, the build-up of a giant trade deficit led to accusations by the US government of Chinese unfair trading practises and intellectual property thefts. In particular, the election of US president Trump, who vowed during his campaign to take a tougher stance on China, marked the beginning of a **shift in the US-China relationship from global partnership to global rivalry**. Tensions culminated in March 2018 when Trump launched a trade war by deciding unilaterally to raise tariffs on Chinese imports. What are the consequences of the trade war for US firms?

IMPORT COMPETITION...

The rationale for tariff hikes is that higher import prices will reduce the price competitiveness of Chinese firms and

help revive American industrial sector. Nevertheless, such ideas are based on an outdated vision of global trade in which firms primarily exchange final goods. In contrast to this naïve view, **today’s firms buy and sell intermediate goods and trade occurs along global values chains**. Hence, the decision to raise tariffs may backfire as American firms could find it more expensive to buy Chinese inputs - which reduces proportionately their own competitiveness. Moreover, **even firms with no direct ties to China may also have been affected by the trade war** because of propagation through their connections in the US input-output production network.

... AND IMPACT OF THE TRADE WAR ON AMERICAN AND CHINESE FIRMS

This paper aims at estimating **the costs of the trade war for American firms**. It is

challenging to estimate such costs for two reasons. First, the complex supply chains and input-output network structures mentioned above render estimation difficult. Second, the actual economic consequences are still to be observed because of lags in the national accounting process. Therefore, this article focuses on real-time financial data and obtains identification by adopting the event-study methodology. In other words, this means that the authors have looked at the cumulative distribution of raw and abnormal returns on a three-day time window around March 22 2018, which corresponds to the announcement by the Trump administration of US tariffs on \$50 billions of Chinese imports.

They show that **both direct and indirect exposure to exports to and imports from China negatively affected American firms**. They find that a 10%-point increase in a firm’s share of sales to China is associated with 0.8% lower average cumulative returns while US firms that directly offshore inputs from China have a 1% lower average cumulative return than those that do not (1). Moreover, they present evidence of **transmission through domestic production networks**: exposure to sales to and inputs from Chinese across supplier and customer industries has led to lower cumulative returns of the same order of magnitude. This confirms that the network of supply chains matters, especially when it comes to trade policy.

(1) They also find that a 10%-point increase in firm’s share of sales to the US is associated with a 0.12% decrease in raw cumulative returns for Chinese firms.



Understanding China's Debt Risk

Wei Yao (Société Générale), *Understanding China's Debt Risk*

This presentation took place during the workshop organized by the SCOR-PSE Chair at PSE on January 17, 2020, on the topic: "Risks posed by China to the global economy".



It is well-known today that after the Global Financial Crisis, China's debt surged and rose to the level of advanced economies. What does it imply in terms of macroeconomic risk? Taking a look at the different components of national debt is informative about where the risk could materialize. At first sight, it seems that corporate debt increased the most: it attains nowadays levels unknown in both emerging and advanced economies. However, a closer look reveals that **most of the recent build-up in corporate debt stems from State-Owned Enterprises (SOEs)**. Hence, it should better be taken into account as quasigovernment debt. What policy steps has the Chinese government implemented so far?

A HISTORICAL PERSPECTIVE

First, let us take an historical perspective. The Chinese government has already achieved a debt-clean up once. Indeed, the state organized in 1999 the disposal of a high amount of non-performing loans. A combination of bank recapitalization and financial repression and growth ensured the success of the process. At the time, favorable conditions during the restructuring were met: an all-bank and state-owned financial system, a successful corporate sector and trade-opening up in 2002.

CURRENT DEBT RESTRUCTURING

Today, a process of debt restructuring is taking place once more.

It is organized along three core principles:

- **"Disciplined cyclical easing"**, meaning limited fiscal stimulus (in particular, infrastructure investments) and limited decline in the interest rate.

- **"Failure is now an option"**: The number of accepted bankruptcy cases are sharply increasing, to encourage lender to better price risks.

- **"Not all failures are created equal"**: A differentiated approach to bankruptcy, with higher state-guarantees for systemic actors. Big, state-owned firms are still largely shielded from default, despite higher fractions of loss making firms among them.

Reforms are underway in order to progressively deleverage those large, still protected actors: SOEs, Local Government Financing Vehicles (LGFVs) or banks. However, this process of deleveraging comes

at the risk of generating a cascade of defaults, with possibly disproportionate macro economic consequences.

Reforms are underway in order to progressively deleverage those large, still protected actors: SOEs, Local Government Financing Vehicles (LGFVs) or banks.

To summarize, the Chinese state has acknowledged of the gravity of the challenges posed by high corporate indebtedness (in particular, in the state-owned sector) and is currently taking policy measures in order to push firms to deleverage progressively. Yet, **the government is facing increasingly difficult trade-offs**: for instance, between growth stability and debt sustainability or between financial stability and efficient credit allocation.

Editorial Committee: Axelle Ferriere, Léonard Bocquet, Samuel Chich, Sylvain Riffé Stern, Gilles Saint-Paul

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COMING NEXT

April 28, 2020, 4pm

SCOR-PSE Chair Online Lecture and Junior Research Prize Talk

Jesús Fernández-Villaverde: "Simple Rules for a Complex World with Artificial Intelligence"

Ludwig Straub & Robert Ulbricht: "Endogenous Uncertainty and Credit Crunches"

September 17, 2020

Annual Lecture of the SCOR-PSE Chair

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