THE BROOKINGS INSTITUTION

CHINA 2049: ECONOMIC CHALLENGES OF A RISING GLOBAL POWER

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P R O C E E D I N G S

MR. LI: Yes, please be seated. Good morning. I'm Cheng Li, director and a senior fellow of the John L. Thornton China Center here at Brookings.

It's my pleasure to welcome you to this important event on China's long-term economic outlook and its global implications. This event is unusual in present day Washington for at least three reasons. First, as it has been widely perceived, people here have been preoccupied with current issues and immediate challenges. As the year 2020 has barely begun, there are already several pressing geopolitical dilemmas on which our policymakers must focus.

However, as we cross into the new decade it will be important to look ahead toward China's economic progress and the challenges it will present, both for China and for the world. China's rapid economic development has arguably been, and will continue to be, the most consequential global story of the 21st Century, and its ramifications surely go far beyond the economic domain.

It is also important to note that traditionally, and perhaps even today, China tends to take a long-term perspective and to outline its objectives. As the famous Chinese saying goes, I quote, "Those who do not plan for the distant future will find trouble at their doorstep." (Speaking in Chinese)

Second, in recent years, Washington's policy discourse regarding China tends to look at the country in a monolithic way, and therefore often overlook the internal debate and the multidimensional assessments within the Chinese public community. Of course the same observation may also be valid when it comes to the other side of the Pacific.

It is truly invaluable, as we are going to hear from our Chinese colleagues from Beijing, to have a comprehensive understanding of how they perceive the demographic, economic, and administrative challenges that China confronts in its drive for a fully-developed country by 2049.

A discussion of these challenges, like China's aging population, growing economic disparity, potential middle-class and middle-income trap, social dislocation due to rapid urbanization, and environment degradation. The list actually is quite long. This discussion will help us grasp the policy choices and social political restraints in Beijing in the years and decades to come.

The third and final reason that this is an unusual event is the fact that this -- all this conference today and a soon-to-be-released book reflect an impressive example of the U.S.-China scholarly collaboration. The book project which began in 2018 is an in-depth research and intellectual partnership. It presents the outcomes of two workshops at Peking University in December 2018 and May 2019.

I would like to extend my congratulations to the editors of the book, David Dollar, Yao Yang and Huang Yiping, as well as the other contributors from the both sides for their excellent scholarly work, and the spirit of teamwork, especially at a time when some believe that the United States and China should decouple, even in the area of scholarly and educational exchanges.

We are fortunate to have so many distinguished economists and experts in other academic fields to speak to us this morning, especially our colleagues from the National School of Development at Peking University, one of China's most influential think tanks affiliated with one of China's most prestigious universities.

Dean of the school, Yao Yang, will first present the main findings of this study, and then be followed by two panels, moderated by my esteemed Brookings colleagues, David Dollar and Mireya Solís.

Without further ado, please join me in welcoming Dean Yao Yang to the stage and giving our participants a warm round of applause. Thank you very much. (Applause)

MR. YAO: Thank you, Dr. Li, for this lively introduction. My name is Yao Yang. Yao is my last name. So, I'm the Dean of the National School of Development in Peking University.

As Dr. Li just introduced, we have done a joint project, a book project with Brookings, and then finally at the stage where we are happy to present the results of this book project to the American audience. This is actually before we have done this wider in China.

So before my colleagues, and also friends in Brookings, to prevent the main results of the book, let me take this opportunity to say a few words about the National School of Development.

The National School of Development was first created in 1994 with the name of China Center for Economic Research. We were quite unique at that time because all of us were trained abroad. But, you know, that was more than 25 years ago. Then by 2008 we changed our name to the National School of Development. We did that because the center was so expanded and it covered a much wider range of issues in China.

So now the National School of Development, of course we do teaching, we do research, but as Dr. Li said, we are also a major think tank in China, we do policy advising for the government. This book project is a wider result of policy advising.

So with that, I will also say a few words about our intention to work with Brookings on this book project. China has an ambitious plan to make the country one of the rich countries in 2049, the so-called Second Millennial Goal. So my take on becoming a rich country is that countries because the GDP is going to be at least 45 percent of American level in real terms.

Today, China's per capita income is about 27 percent of American level in real terms, right. So, this is going to mean that China will have to almost double that ratio in the next 30 years. That's a greater challenge because, you know, China is already a huge economy, I think about the size of the economy is USD14 trillion, so in order to grow say even by 3 percent that's going to be real hard because that means almost a median-sized country.

So, in this book project we looked at two sets of challenges facing China. One is domestic, and the other one is international. Domestically, of course, they face the headwind for China's further growth, is going to be aging, so aging is a major subject in our book project.

My colleagues are going to present, to me I think, the encouraging results, because most of the problems of aging will be overcome by (inaudible) forces in the future.

But on the international front, China probably faces more challenges because the international environment has dramatically changed in the last decade. Of course in the center is U.S.-China relations. It could be we may not want to take it, but in the end, we have to look at the both competition and cooperation of those two largest economies. And in this book project we deal with that, particularly like technological competition between the two countries, but we also deal with the issues in which the two countries can cooperate together.

I mean, in the next several decades on the world stage, the big step, play, must be U.S.-China relations, and managing well this relationship is now going -- is going to be, not just good for both countries, but also good for the whole world.

So for that, I feel really thankful for Brookings Institute to work with us, and particular thanks to David Dollar to lead the Brookings Team to work with us.

As Dr. Li just said, the two sides can still work together. Show the world that the two countries still have a strong will come together, right, so competition probably is inevitable, but we still have a lot of room for collaboration and cooperation. And for that I wish today's workshop will be a successful one. Thank you. (Applause)

MR. DOLLAR: Can I get my first panel up here, please?

Good morning. I'm David Dollar from the China Center here at Brookings, and I'm going to moderate this panel. And we called it, *Domestic challenges that China is facing as it aspires for these goals out to 2049*.

Now, of course, that's a huge topic, the domestic challenges. I'll just warn you right now there are a number of important issues we're not going to cover on this panel. We'll get into financial sector reform in the next panel, and issues of state enterprise reform might come up there. What we've chosen to do here is focus on four issues that generally fall in the category of social and environment challenges.

As my colleague, Chang Li, suggested, we have a lot of discussions in Washington about different topics concerning China. I don't think we've really covered that much, some of these important domestic issues.

So I'm very happy that we're going to start with the Professor Lei Xiaoyan, and she's going to talk about the critical issue of demographics. I wanted to start with that because I think that's really a defining issue for China.

And then Wang Xun, who is a Research Fellow. All of the colleagues are from the National School of Development at Peking University, and Wang Xun is going to talk about the phenomenon of convergence, and what are different convergence paths, and some of the policies that will affect that,

And then Wang Min is going to talk about consumption, and that may seem like a bit of an odd topic, but thinking about the different aspirations, part of which is about per capita income, in recent years China has -- most of China's growth on the demand side has come from consumption. Investment has slowed down dramatically, there are fewer and fewer good investment opportunities. There's not much potential for net exports to contribute to China's growth in the near future for a variety of reasons. So China has been growing based on consumption.

So, as it develops and ages it's natural to ask what's going to happen to consumption, and in all of these we want to think about some of the policies that will direct outcomes in a better direction.

And then last but not least, Professor Xu Jintao is going to talk about the environmental issues, including climate change.

So I've asked to each of them to stick to about seven minutes to start, so we should have time to interact and open up to the audience. And we're going to start with the Professor Lei Xiaoyan on demographics.

MS. XIAOYAN: Okay. Thank you. So for the demographics, in this chapter we actually find five main trends of the population aging.

So number one is population aging will deepen in the next 30 years. By 2049, the Chinese population over age 65 will be close to 400 million, which accounts for more than a quarter of the population. At the working age population will shrink. It started to shrink already, and it will further shrink, from 990 million to about 800 million, 990 million to about 800 million, which is about 200 million reduction in these 30 years.

Number two, not only the total population trend of the aging, but also the composition of the elderly will shrink -- will shift from the young old to the oldest old. For young old, we mean 65 to 80. For oldest old, we mean age 80 and above. So by 2049 the proportion of Chinese oldest old in the aging population will be about 35 percent. Right now it's about 20 percent. So that is a very big increase.

Number three, the composition of the working-age population will also change. By 2049, the proportion of the older work force will increase sharply from about 17 percent to 27 percent. For older workforce, we mean age 55 to 64. So the workers themselves will also become older.

Number four, the total dependence ratio will increase to about 72 by 2049, and among the total dependence ratio, the major part of that will be the elderly dependence ratio. So the elderly dependence ratio will reach about 50, and the burden of care for the elderly will be much larger than the burden for childcare.

Number five, the family size will decrease from about 2.9 currently to about 2.5. That means we will have greater proportion of the elderly living alone. So the elderly people living alone will reach about 53 million. That will be about 10 percent of all the households. So that's the main trend. So we will have challenges according to that.

There are three major challenges we will face. Number one, that is a challenge for economic growth. So the reduction in the working-age population and the increased peopling of the population aging will lead to increase in labor cost, and contraction of profit margin.

And also, it may lower the rates of savings and investment. And of course, my colleague will address the importance of consumption later.

Number two challenge is the financial pressure on the pension system. We will have the risk of a funding gap between -- it will become more dominant with the acceleration of population aging. Especially currently we talk about the vacancy of the individual counts and also the burden on the social (inaudible) count. And with the sharp increasing of the number of pension recipients and the decreasing in the contributors, we will have more burden on pension system.

Number three challenge is the rising burden of elderly care. So according to the research, there will be about 30 percent of the elderly people, the oldest old, will have some sort of difficulty in activity of daily living. That means they will need -- they will need elderly care, very intensive elderly care.

But with composition change, we will have more oldest old, and also there will be more elderly people living alone with the migrating of their children, and the shrinking of the number of children. That will become a big challenge in the future.

So that's basically the three major challenges we face. Yeah. Thank you.

MR. DOLLAR: Okay. So I think I'd actually like to follow up immediately with a policy question.

MS. XIAOYAN: Okay.

MR. DOLLAR: So, in your chapter, among all those statistics, the one that really grabbed me is this rising share of the older workers. You know, the 55 to 64-year-old cohort. So the labor force is going to decline pretty dramatically. But the number of 55 to 64-year-olds is actually going to increase significantly. And as you say, their share is going to go up.

So what are the policy implications of that? I mean, what can you do to keep that group productive and in the labor force?

MS. XIAOYAN: Yeah. I think there are at least two policy suggestions for this part, the shrinking of the working-age population. Number one is the retirement system. I think we need to reform the retirement system. Currently, for men, Chinese men, we have retirement, mandatory retirement age of 60. But for Chinese women, we have a retirement age of 50 for blue-collar workers, and 55 for white-collar workers. That is actually very young, depending on the current life expectancy.

So we need to consider, extend the retirement age. That's the first one. And the second one, I think we should consider the education and the training program. So we are talking about the shrinking of demographic dividend. But now, we may actually consider how to improve the demographic bonus to deeply probe that.

So human capital may be one way we think about that. As you just mentioned, we have the larger fraction of the elderly workers. The education of those elderly workers is quite low. So we may have to improve the education of them. Not the regular education level, but through the training program. So not only the regular education of the relatively young, but also, the training program for the relatively older workers.

Also, I think health is quite important. According to the China Health and the Retirement Study I am involved in, although we have longer life expectancy now, but the health status is not so good. So we have to invest more in health in order to improve the human capital, literally on health capital, I think.

MR. DOLLAR: Okay. Thank you very much, Professor Lei. All of the topics on this panel are interrelated. So later, we'll get to some of the air pollution issues, and, you know, how that's affecting people's health; and so all of our issues are interrelated. So thank you.

So now I'm going to turn to Wang Xun to talk about convergence. As Dean Yao Yang mentioned, one way to think about this aspiration of the Chinese is to reach about

45 percent of U.S. real per capita income by 2049. In general, that is what we think of as the convergence phenomenon. I think China started out at about 4 percent of U.S. per capita GDP. And now, the Dean said, it's up to 27. And the aspiration is 45. So let's talk about the convergence framework.

MR. XUN: Okay. Good morning, everyone. I'm glad to be here. I'd like to talk about two issues. One is the growth prospects. And the other thing is the determinants of successful convergence.

The first one is the growth prospects. Actually our growth projection is based on the theory of convergence of per capita of GDP in open economies. That is, you know, according to the growth theory and empirical evidence, the lower the per capita GDP growth at the initial period of open up the first it grew in the following decades.

Actually, I will not go detailed about the techniques, and I will go directly to (inaudible) results. And on the basics -- on the basic assumption of successful convergence, we have found the following main results.

The number one is that the potential GDP growth of China in the next three decades will decline gradually from around 7 percent in 2015 to around 3 percent in 2049.

And number two is that the per capita GDP of China, relative to that of the United States will rise gradually from 24 percent in 2015 to around 65 percent in 2049, according to the Madison database -- or actually the Madison database actually takes account into, you know, the PBP adjustment.

Number three is that the China's share in the world economy will approach 24 percent in the year of 2049.

And number four is that China is expected to surpass U.S., in terms of GDP in the year around 2030. And this is the main result of our growth projection. And the second thing is the determinants of a successful convergence.

Actually you'll find the following three results are important. Number one is that often, actually as suggested by the Professor Prasad, openness, especially trade openness, actually, is the prerequisite for development countries to narrow the gap with leading economies.

Because openness actually provides opportunities for developing countries to access technology spillover from the leading economy, and that access actually is vital for the poor economy to take off. And also, in the process of opening up, it is also important for developing countries to enhance the protection of intellectual property rights, which will help create the sort of institutional environment conducive to innovation and technology transfer.

Number two is that as Professor Lei said -- as Professor Lei said, the aging population actually is increasingly becoming the drag on the sustainability of China's economic growth in the following three decades.

And number three is that we find urbanization and the accumulation of human capitals are quite important for China to catch up in the three -- in the following decades. And we find that these two cannot be achieved separately because, you know, in the process of urbanization cities will cities will become the centers of intellectual interchange and the recipients of technology inflow. And human capital actually is important for the ability of absorbing and -- of adopting and absorbing appropriate technology.

But, you know, in most developing countries the major fraction, or a higher fraction of the population is in the rural area. Take China as an example, at the very beginning of China's opening up, actually 82 percent of the total population was concentrated in rural areas. And at that time, the human capital of China was less than half than that of United States, and only 55 percent that of Japan. And even now, actually, we have much room to improve in these two areas.

So, to sum up, number one is that China's growth potential will slow down in the three following decades. Number two, sort of open up actually is still important for China to catch up. And number three, China will promote the accumulation of human capital in the process of urbanization, I think can (inaudible).

MR. DOLLAR: That was very clear and concise. Thank you very much.

MR. XUN: Thank you.

MR. DOLLAR: So these kinds of historical convergence estimates, obviously relies on historical experience.

MR. XUN: Yes.

MR. DOLLAR: The world may change. We don't know if this will persist. But you emphasize in your chapter that you get this convergence among open economies.

MR. XUN: Yes.

MR. DOLLAR: And my sense is when we look at this historical experience, that all of these economies have, you know, not are they only relatively open at any given moment compared to their other developing countries, but they've all tended to continue to open up over time.

MR. XUN: Exactly.

MR. DOLLAR: South Korea has become much more open in terms of trade and foreign investment which is -- so my sense, and I should have prefaced this by saying that the chapter has different scenarios, and whether China is on a high path or a low path, it makes a pretty big difference by the time you get out to 2049.

MR. XUN: Yes.

MR. DOLLAR: So one message I took away, was China continuing to open up is important to try to get onto that higher growth path.

MR. XUN: Yes.

MR. DOLLAR: Do you agree with that?

MR. XUN: Yeah, yeah. I totally agree with that, and talking about the policy implications, actually I think China should further open up its domestic market to both the foreign capital and to, you know, to domestic private capital, and especially in the field of SOE sectors and the financial system.

And actually, in the process of opening up, China should, you know, enhance the transparency of the domestic economic policies, and the protection for both the intellectual property rights and the domestic private property rights, which will, you know, help to reduce the policy uncertainty, and enhance the incentive to innovate.

And also, I think China should adopt matters to help the inner mobility, you know, from the poor to rich, from rural to urban, such matters should include, you know, the elimination of Hukou system, and bus control policy, and improvement in the education system, like especially for, you know, the migrant workers' children, and also improvement in the social security system. Yeah.

MR. DOLLAR: Okay. Thank you. So we're going to turn to Professor Wang Min to talk about consumption. I think the convergence analysis, in a lot of ways, is really looking at the supply side. And as I mentioned in the intro, consumption is the main source of demand in China. That's likely to continue. So, let's look at the picture of consumption out to 2049.

MR. MIN: Okay. Thanks, David, for the introduction. So actually, I think this year, China will be the world's largest consumer market. So, and actually in the past several years, consumption has already become the most important driving force for the economic growth.

So just look at the number in 2018. So in 2018, the GDP growth rate by 6.6 percentage, and actually, the consumption contributes about 77 percentage of the total GDP growth rate. And the capital investment contributes about 32 percentage of the GDP growth rate. And the net exports negatively contribute about 9 percentage of our GDP growth rate.

So from the number you can see, actually the consumption has already become the most important factor, but in the future, but it will continue to be the most important driver for the economic growth.

So in my study, for cost of the future consumption for 2049 we focused on actually three factors. Of course, there are many factors that will affect consumptions. And we focus on income growth, aging, and the urbanizations. Okay.

As Professor Lei Xiaoyan and Wang Xun mentioned, aging will now become a very important concern for many people. Okay. And we can see in the media, a lot of news report said, okay, aging will be a bigger threat to China's future growth. But on the other hand, we can see that also in our study, we can show that income growth and urbanization effect actually is way larger than the negative effect brought out by the aging on the total consumption.

Now, the aging, the mechanism of the (inaudible) of the aging on the (inaudible) -- so because the older own less and they consume less, so for the same size of the population, when there are more proportion of the older people, so the total consumption will be reduced. Okay.

But from our calculation, the size on the -- on the 2049, the aging will only contribute about negative-4 percentage of the increase of the household consumption from now to 2049, only negative-4 percentage. But the urbanization alone will contribute about 24 percentage of the increase of the total consumption part from today to 2049.

So why urbanization will have such large impact on the consumption; there are two channels actually. One is that as the rural migrate to the cities, they will have a high income, so that is basically the income effect, that way will increase their consumption. On the other hand, actually there are pure urbanizing effects.

So from the data, we look at the household survey data, the micro data. For two family living in the house or rural, with living the urban, if they have the same, exact same income, the lower household will consume more, based on the --

MS. XIAOYAN: Urban?

MR. MIN: Oh. I'm sorry. Urban, urban household will consume more, for example, education. So basically, because in the city, in the urban, you have more, you know, consumption choice. So there are two effects here. And again now let's look at the number of the urbanization rate in China. So in 2018, the official number for the urbanization in China is about a 60 percentage -- 60 percentage.

But among the 60 percent of the population that are working and -- working and living in the city, about 203 millions, population, are actually rural migrants. They work most of the year in the cities. But their home, their family members are still living in the rural areas, which are maybe thousands or hundreds of miles away.

And the other thing about that, if this -- but this size of population that can now -- two-thirds total U.S. populations, two-thirds of U.S. population that work temporary in cities, and they have family member, and their home far away. And that those populations will not make investment in cities. Especially, like buying a house.

So, and if we take away all those rural migrants, the real urbanization rate is only about 43 percentage. Okay. And now, another reason is for the rural migrants, only temporarily working in the city is because China has a system called, Hukou system. The Hukou system is kind of like a green card in the city, or like urban citizenship.

Only if the rural migrants get the Hukou, they can get access to the social welfare service in the cities, including public educations, Medicare, and the social security. Now, for those 230 million rural migrants that work and live in the city, they cannot have this kind of social welfare service.

And as I mentioned, and now the real urbanization rate only 43 percentage, but for a mature economy, like the U.S. and other East Asia countries, the urbanization rate will be as high as 80 percentage or 75 percentage. So now, China is way, you know, slower than that number. So in the future, we have comment that we have a lot of work -- a lot to do, a lot of space for the urbanization rate.

So again, lastly, I want to share the number we forecast for the 2049 China total consumption. Let's first look at the 2018 number. In 2018, China's total consumption is about 38 trillion Chinese yuan, among this 38 trillion, the household consumption is about 27 trillion. So our study is only focusing on the household consumption. Okay.

Now, in 2018, the household consumption is about 27 trillion in China. If we assume that GDP growth rate is on average about 4 percentage from now to 2049, and that the urbanization rate will reach as high as 80 percentage, and that given now the projection of the aging structure. In 2049, the total household consumption could be around -- based on our estimation -- is around 98 trillion, from 27 to 98 trillion.

And that there is an increase about 70 -- so the increase size is about 70 trillion Chinese yuan of total consumption, and of course the income growth will contribute most, like around maybe 80 percentage. As I mentioned, urbanization will contribute about 25 percentage of the total increase of the consumption.

And the aging will contribute negatively, and about a negative-4 percentage of the total consumption increase. That's basically what we find.

MR. DOLLAR: Thank you. So, I heard a really interesting symmetry between the last two presentations about this important issue of urbanization. So, on the supply side you need the agglomeration in order to get more productivity growth and higher GDP, and then on the demand side, you need more urban households to actually provide the demand. So that's kind of win/win.

MR. MIN: Sure.

MR. DOLLAR: I mean, I've heard talk about reforming the Hukou system for 20 years now. So why is it so -- why is it so difficult? And what's actually happening in terms of reforming Hukou system?

MR. MIN: But the most difficult part, actually from the financial pressure from the local governments. So now, the local government -- actually maybe you know that China's local government has very large debts. So now there are many rural migrants working the city, but they don't have -- the city government don't have to provide social welfare for those rural migrants. But even doing that the debt -- a lot of debt, and most of that debt was investing in the infrastructure.

So even, the Hukou system was founded in early 1960's. So it now is almost a 60-year-old and the main -- but only because of the local government's issue. But now, I want to share very good news. Just last week, the central government made a bigger push on the Hukou system.

The central government just announced last week that all -- for the prefecture cities with a metro population less than 3 million, for those cities, they just completed already, the Hukou system. That means all rural migrants can get Hukou in those cities. But for the prefecture city with metro population above 3 million, basically very big, larger cities, they can keep that, but for those on -- so look at the number. How large is the effect?

China now has a total 293 prefecture cities, and for the cities with the metro (inaudible) about 3 million is only 27. That means about 270 cities will just, you know, rid of this Hukou system. But I think it (inaudible) is time, not immediately effect, because as I mentioned, there is a lot of pressure on the local government.

They have to provide public education surveys, and the social security and the medical service. So it takes time. But it is a good signal and the message for the rural migrants. That means I can live permanently in the city without any discriminations. That will encourage their investment.

And then it will encourage them to bring up their kids, and the families, and come to the city and live together. And then maybe then they will have more incentive to buy a house in the city. So all this will, you know, boost the consumption for those rural migrants.

MR. DOLLAR: All right. Thank you very much. And then last but not least, Professor Xu Jintao on the environmental issues.

MR. JINTAO: Our sector focused on economic growth pattern, change. And basically, the general sentiment is that the economic growth pattern in China formed in the past four decades is no longer sustainable. We have to change it. In that improving the environment is the very important component and we face these great environmental challenges.

There are a wide range of estimates, but people generally learnt that environmental damage caused severe social costs, premature death, and chronic diseases.

And also, China is a major carbon-emitting country in the world. For the world to achieve the goal of carbon reduction, China has to do a lot more. So year 2020 is critical because all major emitting countries have to advise their NDCs.

And put the particular high pressure on China to modify its NDCs, basically, improving the goals, the efforts in carbon reduction. So changing economic growth pattern is not only important for China, but also important for the whole world. And we have a lot of aspirations in this respect. First, for the future 30 years, by mid this century, our environmental quality has to -- will reach the WHO criteria, and relative to a lot of health improvement.

And in order to do that, we have to do two things. We have to change our industrial structure. We used to be too heavy-industry oriented, heavy industry lead to China's economic growth, and also lead the export growth after WTO, but the carbon footprint has been too high.

The second, we have to change our energy structure. So China environmental issue, carbon emission issues are mainly related to China's energy structure, and used to rely on too much fossil fuel. And in the future, we have to increase the share of renewables.

And in order to achieve these two goals, two or three goals, we have institutional barriers to address. And we also have a price structure to improve, and we have to give local government, basically, the policy-implementing agencies, high incentive to implement environmental regulation and the policies. And looking ahead, we see a lot of promises, and recently, our industry structure has been improving. But it might be mainly because of economic slowdown.

So the concern from environmental sector is that if there is economic recovery, or if some stimulus is given that structure might come back.

We also see a lot of improvement in renewable energies. So our renewable energy grew fast, but the share is still low. But there's good development.

Recently, we changed the competition scheme from feeding tariff to auctioning program.

Yang Yao has made major contribution to that development, and the price has gone down again dramatically. And there's new round of energy sector reforms. Just like Wang said, last week we had the new government policy introducing higher involvement of market forces into energy sector, oil and gas sector. It's a very major breakthrough.

And environmental tax was not launched last year, but Chinese Government also announced next year we will have a common trade -- a nationwide common trade scheme, so lot of market-based instruments have been introduced recently.

But just still too slow to -- yeah -- to my mind. But the starting points are there. So looking ahead, yeah, I'm cautiously optimistic. Okay.

MR. DOLLAR: So, can I ask what the local government reaction is to things like the steeper environmental tax? Or the plan to have carbon trading? I mean, in general, we distinguish between administrative measures and market based. And what I take from your chapter is urging for China to do more market-based. But what is the resistance to that?

MR. JINTAO: We have to do more empirical analysis on that. But the belief is that environmental tax will provide local a government stronger incentive to do more environmental protection, because the incentive would be more compatible with local government incentive structure. And the local government has too many responsibilities, and too little budget.

And to give them incentive, and for them to work harder on environmental protection, I think generating revenue from the action I think is a reasonable policy thinking. And I'll see probably (inaudible) trade is not in that line. I think we need to make -- have a trade scheme also a high incentive program, for local government, so that it will be more effective.

So for now, I personally prefer environmental tax and carbon tax. So it's debatable.

MR. DOLLAR: Can I ask who gets to keep the revenue from the environmental tax?

MR. JINTAO: Local.

MR. DOLLAR: Local government?

MR. JINTAO: It's a local tax.

MR. DOLLAR: All right. Okay. So that should increase the incentive for them to --

MR. JINTAO: Yeah.

MR. DOLLAR: To be taken seriously?

MR. JINTAO: Yeah.

MR. DOLLAR: So I've asked my questions as we've gone along, and we have a decent amount of time to open up to the audience. We'll start with our distinguished friend, Fred Burkestein, who's got his hand up. We've got microphones. We've got microphones.

SPEAKER: David, thank you. And first of all, congratulations to you and your colleagues from Beijing, this is a terrific project and it will make a huge contribution. And I think all of you should be very proud of it. And it's going to be extremely well received, and extremely important.

I have a couple questions on the convergence presentation. You mentioned that your projection was that China's growth in 2049 would be dropping to about 3 percent.

MR. XUN: Yes.

SPEAKER: And David mentioned that you have different scenarios between now and then. I know how difficult these are. But I'd like to ask you for your best guess as to what the trajectory looks like between now and 2049, over these next 30 years. Is it going to be a gradual reduction from the 7 percent of 2015 to 3? Or if it's going to continue at the current 6 for a while, and then drop?

And give us a little more flavor of the path that you see for the Chinese economy over this period. And maybe what the key variables are in determining the difference between which scenario prevails? Openness is one that David mentioned, but give us a little more flavor of both the quantity and the qualitative nature of the evolution over this period.

And then a very specific question, you mentioned that China's share of the world economy in 2049 would be about 24 percent. What's the U.S. share on your projection?

MR. XUN: Almost the same.

SPEAKER: The same?

MR. XUN: Almost the same.

SPEAKER: So roughly, rough equivalent?

MR. XUN: Yes. Yes.

SPEAKER: It's my own projection too, but just confirming. So, tell us about the trajectory.

MR. DOLLAR: So, can I just amend it slightly, because we got three decades? So can we think of it, you know, as 2030 -- sorry -- 2020s, 2030s, 2040? How do you see the growth rate?

MR. XUN: Okay. Actually, in our upcoming book of -- especially in my chapter, actually we did three scenarios. According to our projection framework, actually the per capita GDP, it's a growth rate of per capita GDP of China actually depend on three arguments.

One is the growth rate of -- the growth rate per capita GDP of the leading economy, for example, the U.S. Actually, you know, for the leading economy, as the leading economy, actually it's on steady state, actually, we have three scenarios for the leading economy for the United States. Actually, one is 2 percent, the other one is 2.3 percent, and the third one is 2.6 percent.

And the second argument actually, the second argument determining the process of convergence actually is the technology the spill over. Actually, there is a parameter of technology spill over.

And the third argument actually is relative per capita of the development followed and to the leading economy.

So according to our projection, in the following three decades, China's per capita -- the growth rate of China's per capita actually will not suffer from, you know, a sharp decline. It will decline gradually. And if you look at the details in my chapter, we have divided, you know, the three decades into four-year intervals.

And you can find that the per capita GDP of China will decline gradually from, you know, at maybe 6.4 percent in the first four-year interval, I mean, between 2016 to 2020, gradually to maybe 3.5 percent in the last five-year interval, and actually, the chapter said at the beginning, the projection results actually are based on the basic assumption of a successful convergence.

Successful convergence means that either there are two points about convergence. Convergence means, you know, the growth rate of per capita. Per capita GDP converge to the leading economy. And the relative per capita -- relative per capita of GDP converge to -- you know, to one. I mean, per capita GDP of China converged to per capita GDP of U.S. And actually, we do have some, you know, best scenarios.

For example, China just a shut down as the door to the outside world, if we can, you know, take the reform period as a reference. And we find that in the pre-reform period the average growth rate -- actually I didn't remember the exact -- exact figure, maybe around 3.5 or so. In that case -- in that case the per capita GDP of China relative to that of the United States will, you know, grow gradually. Actually, from 24 percent, maybe to 33 -- let me see -- less than 40 percent in that case.

SPEAKER: Just one quick follow up, if I could. Presumably, the convergence continues beyond 2049, do you do any projections out longer?

MR. XUN: No. Actually, no, but you know that our projection actually we use historical data of similar open economies. And actually, we wanted to use the data from The World Bank, but The World Bank actually is the data of -- it's the data from WDI actually back to 1960s. We want to make a much longer projection, we should have a much longer, you know, data set. So, we resort to, you know, 2018 and WD 9.1 -- 9.0.

MR. DOLLAR: Ken Lieberthal?

MR. LIEBERTHAL: Again, congratulations on this study. I can't wait to get the book in hand and read it. It sounds like it will be tremendous. I have several questions for Professor Xu about your environmental considerations in this study. One, can you give us some more detail on the new environmental tax? How is that calculated? I mean, what is it actually taxing? And what are the mandates on how it will be -- how those revenues will be spent?

Secondly, China is, arguably, the most vulnerable major country in the world to the impact of climate change. And China's own studies have shown that over the years. Are you figuring in sea level rise and its implications for the Lower Yangtze, and for the Pearl River Delta Region?

And this is also a question for China's projections of economic growth. The implications of sea level rise for the most productive parts of the Chinese -- productive localities in the Chinese economy are truly dramatic. And the same is true with distribution of water availability in North China and South China. So with your concern with the environment, are you also factoring into your analysis the implications of what's going to happen to that environment over the coming 30 years, for the array of issues that this book is considering?

And finally -- if I can abuse the privilege of asking more than two questions -- with BRI, the Belt and Road Initiative, one of the concerns that climate scientists have is that a lot of the power-generation facilities being built under BRI, in fact are coal-fired power plants that will have an effective life of 40 years or so. And, therefore, will lock in, very likely, coal as a major source of CO_2 emissions in developing countries for decades to come. And is that something that's being -- as someone concerned with climate change and the Chinese environment -- is that something that you see any way of reigning in, or making the BRI more of a clean-power program? Thank you.

MR. JINTAO: Thank you for your questions. For the first one, yeah, basically, we have some 40 years of experiences in pollution levy. Basically we charge pollution emission for fee. And so there had to be formulas, the way of monitoring. So basically, environmental tax is a legalization of that system. So pollution levies, a sector fee, but the tax became fiscal revenue for local government.

And so the tax was calculated based on what we call the pollution equivalent, they calculate the pollution equivalent for your emission by different pollutants. And calculate the tax liability, then charge the highest one to you. And the revenue goes to local taxation bureau as a local tax revenue.

And also, as general fiscal revenue, this is not earmarked tax revenue. People would like to see that as earmarked tax revenue for environmental protection, but it makes better economic sense to make it general fiscal revenue for local government. Yes, we want to give the local government incentives.

The second is that our national leaders have a very strong support climate action. So probably if you pay attention, the recent five, six years, China national government's attention on climate change has increased a lot because of the strong support from top leader of China.

And there are a lot of considerations behind this. And I think that probably the first one is CO_2 emission is highly correlated domestic pollutions. And the technology that's beneficial to reduce carbon emission probably is also beneficial to reduce criteria pollutions, because, basically, all came from the same energy structure.

So the need to improve domestic environment probably has played a very important role to China's, improve the carbon climate position. And, of course, there are a lot of sciences behind the change of climate strategy, including sea level rise, and from the

World Bank report in 2012, it's China, 2030. And so it's a joint project between World Bank and China's State Council Development Research Center.

So it must have important impact on the decision makers, and sea level rise. So China is also identified as the major country who suffers sea level rise from climate change, but there are a lot of analyses on impact of climate change agriculture, and because our government emphasized food security, and so the damage to agriculture will be a major concern. So there are a lot of sciences behind China's climate strategy.

In terms of Belt and Road Initiative, I think it's still in the early pilot stage. It seems to be -- it's the major state company trying things in the Belt and Road countries. And I think -- and we do see a lot of power plants built, like in Pakistan, a lot of countries. And more thermal-based power plants, but they're also renewable energies.

Look at Pakistan's case. There are several renewable energy-based power plants also built. And I think China has competitive advantage in exporting renewable energy technologies. I think it -- take an improved, integrated approach from the decision-making process to ensure the Belt and Road Initiative is for the green growth. Yeah.

MR. DOLLAR: So, why don't we take these two questions together? And then we're going to have to move on. Can you introduce yourselves?

SPEAKER: Thank you. I'm Jeanie (inaudible) Vietnamese American. So China and Vietnam are very close to each other, as lips and tongue. All the difficulties you have in China have been transferred out to Vietnam, the situation with the Mekong River, and the sea level rise, and the saltwater flooding into the rice paddies of Vietnam.

I understand that the Lower Mekong River Commission has asked China for a long, long time, through decades, to stop the dams and talk to the people in the Lower Mekong River, especially Vietnam, and Laos, and Cambodia. That has not happened. And for this year, there's significant drought affecting all the Lower Mekong River.

I would like to ask China to take action and mitigate that from the Upper Mekong River to stop the dams, and most of all, to work with The World Bank, the United

Nations, the Lower Mekong River Commissions, to mitigate your action and mitigate the very damaging effects.

There's another concern in Myanmar and the Upper Mekong River, because you diverted the water over to your own use. The water is unable to take the toxic waste down, and out to the sea. So high level of toxic waste is being kept in the upper level of the Mekong River, Myanmar and other areas up there, including your country, too.

Arsenic and other toxic are now getting into food, into rice, and in many other foods that is very dangerous to the people. We need to raise this and I'm asking you all to take this into account.

There's a question regarding the carbon emissions mitigation. China has moved many, many of its power plants run by coal to Vietnam. And it has been clear that for the last few years, Vietnam suffered pollutions even higher than at Beijing, because China is moving its own coal plants power to Vietnam, and so the electricity to us at a very high, a very high price. That is not acceptable. And if China is thinking that you're helping us in climate change, and helping us in many other ways, we ask China to stop those coal plants in Vietnam and other countries.

And at the most, spend some money and clean up what you have done. There are a lot issues with toxic waste being pushed down to the South China Sea through Vietnam coast, and you heard that loud and clear five years back, in Formosa, that tens of thousands tons of fish were dying because the steel industry from China being moved out and put on our seashores.

Cambodia had refused to let it happen to them. But the Vietnamese people have suffered. We ask you to change that. And stop steel industry. And now Vietnam is suffering 450 percent of tariff on steels in Vietnam because of your action. So I know that U.S. scholars and economists, and if you care for the world, if China is stepping up as the world leaders in climate change and environmental issues, please don't do that, while you're talking a different way.

You need to take your actions and I'm suggesting that you bring this back to Beijing. Thank you.

MR. DOLLAR: Let's take one more. And I'm going to ask Professor Xu to respond to that. But let's take one more and then we're going to have to wrap this panel up.

MR. ORLEK: Thanks very much. I'm Tom Orlek from Bloomberg. I have a question primarily on the convergence forecasts. So before I ask the question, let me just briefly echo the remarks of the previous people who said this seems like a really fascinating study. And I really look forward to getting my hands on the book when it comes out in May.

So could I ask? What are the assumptions on the supply side of the economy, which are embedded in the forecasts for convergence? When I think about the supply side of China's economy I think about some of the demographic challenges we heard about from the first speaker, a shrinking working-age population.

I think about productivity growth where the big gains from the shift from a rural to a manufacturing workforce have already been used up. And heightened trade tensions will make further productivity gains harder, harder to achieve. And I think about a capital -- a capital stock where there's already very, very significant overcapacity in a large number of sectors, and concerns that local governments and businesses have taken on too much debt.

So across demographics, productivity and the capital stock, I see some reasons for pessimism on China's capacity for convergence. And I'm wondering how that -- how that thinking is factored into your longer-term forecasts. Thank you.

MR. DOLLAR: Okay. So we do need brief responses to these, starting with Professor Xu.

MR. JINTAO: Okay. In terms of Mekong River issue, I'm not an expert or authority on that. But we had the same controversy inside China because of the dam building and also biodiversity conservation issue had been a major issue inside China, especially, in the conservation world. I'm not directly involved but I'm very sympathetic to that fight basically.

We have that similar issue in China, too. We're trying to protect the waterway, try to prevent -- protect the biodiversity in the water environment. And I'm very sympathetic to that issue. I think Chinese government is open to debate, and to discussion, and to international collaboration. But I'm not really authority to directly answer your question.

The second is that from economic perspective, I think the shifting out of polluting industries seem to be pollution haven issue. And 20 years ago, we have very similar cry for that with U.S., with other developed countries, because seemingly, you are cleaning up your environment. We're accepting all these polluting industries. And now, it seems to be Vietnam, Vietnam is having that same issue.

And I don't have a clever idea about that, but I think eventually we all have to have a much stronger environmental policy, both in China and in Vietnam, Cambodia, in order to mitigate that issue. And maybe carbon, universal carbon tax will help to mitigate the pollution haven phenomenon.

MR. DOLLAR: Okay. Wang Xun, you have to be very brief on, what are some of the supply side assumptions?

MR. XUN: Okay. Actually I see we can divide this question into two points, such as the short term and the long term. Actually for doing a long-term projection, actually we do not take into account in the short-term fluctuations and other exogenous shocks.

Actually according to our projections, you know, the most prominent risk in the short-term equity is, you know, the downside risk, and also including, you know, financial risk, but actually we do not take this kind of factors into account in our projections.

And for me, the supply side issues actually are institutional issues, and I think there are at least three. One is that we should, for the opening operate -- we should further operate the domestic market, as I said, especially, you know, in the financial system, and SOE sectors.

And number two is that we should eliminate, you know, the distortions in the economy. For example, the productive factor -- the price of productive factors, and (inaudible) is that at least we should, you know, enhance the transparency over domestic economic policy, and also, you know, the protection of not just the intellectual property rights, but also, you know, the domestic private property rights.

MR. DOLLAR: Professor Lei wanted one last sentence.

MS. XIAOYAN: Okay. I just want to add, for the economic growth I may just emphasize the shortage of the working-age population, the labor shortage. However, I just forgot to mention the positive side, actually in the other chapter of our book, we actually emphasize the technology change, and AI that may solve part of the problem we face in the future about the labor shortage, and the other side is the consumption and urbanization parts.

So, actually, looking only at the demographic change, we may be very pessimistic, but if we look at the urbanization, and the technology change, yeah, it looks more positive actually.

MR. DOLLAR: So, we've had an interesting discussion of some of the important domestic challenges, we've discussed a lot of policy issues like strengthening education and health aspects, pension reform, Hukou reform, opening up the economy, environmental taxes and pricing.

So, let's give this group a big round of applause. (Applause)

And don't move. No, you move. (Laughter) Audience, don't move. We are going to go seamlessly into the next panel. Okay. So, will the colleagues, please come forward.

(Recess)

MS. SOLIS: Okay. I think we’re ready to go. Good morning, everyone. My name is Mireya Solis. I’m the Director of the Center for East Asia Policy Studies, here, at Brookings, and it’s my great pleasure to be moderating the second session, that looks at the external environment and China's international economic challenges, or, more broadly, all sorts of international challenges.

So, we have a very distinguished group of speakers today, and I'm going to introduce them very briefly, and then mention the topics that they'll be covering. After their opening statements, I'm going to ask them a few questions, and then I'm going to open it up, so we can have a back and forth with all of you. So, we are going to start with Huang Yiping, who is a Professor and Deputy Dean at Peking University, and who will discuss financial reform in China. Then, we'll move to Peter Petri, who is a Nonresident Senior Fellow, here, at the John Thornton China Center, and then Eswar Prasad, who is a Senior Fellow at the Global Economy and Development Program, here at Brookings.

So, there is a lot of -- to cover, and I will not initiate a very lengthy introduction. I want to give the speakers a chance to go ahead and jump in. Professor Huang (overtalking)

MR. YIPING: Okay. So, you just heard a relatively cautiously optimistic outlook from my colleague, as in the previous session, and the one issue touched upon is how the finance works in supporting that kind of a rise of the Chinese economy. This is particularly a bigger issue, at the moment. For whoever is -- follows the development of policies in China, you would know we have a bigger problem, at the moment.

There are two problems. Number one, finance is not supporting the real economy. We're having problems that SMEs financing is not sufficiently provided, and even the households had difficulties in finding enough ways of investing their money. So, this is one big issue. How do we channel the money from the financial institutions to the real economy to support the growth? That's one issue we're facing.

The other issue we're facing is it looks like financial risk is becoming more prominent. So, even the government officials repeatedly say we should -- they're trying to control the financial risks and avert any potential financial crisis. So, this, I think, is one big assumption we have to make, and look at the challenge we have to look into, in order for the somewhat are more upbeat scenarios my colleague has painted for you, that really played out.

For the financial sector, itself, we had a 40-year self-financial reform, but the starting point was just one financial institution, the People's Bank of China, which accounted for 93 percent of the total financial assets in the country, in 1978. Forty years later, you look at the financial system. It's, number one, gigantic, number two, very weak regulation, and then, number three, the government still does a lot in intervening in the financial system, interest rate, exchange rate, the credit allocation, cross border capital flows, and so on. So, these are just the key features of the financial system we have today.

As an economist, when I look at it, and my first reaction is, well, this is not good because we're moving to a free market. Let's do lots of government interventions, but the other thing you immediately will think of about it is, well, this system might be problematic but it didn't stop the Chinese economy from growing by almost, well, more than nine percent a year, for four decades, and we didn't experience any major financial crisis. So, let me ask you, if you don't like this financial system, what else do you like, or you prefer better?

So, that's one thing, and we had an analysis in the book, saying, well, number one, some of the policy distortions are actually transitional phenomenon's because we are moving from essential planned system to a free market. It's a gradual approach. So, there are some policy restrictions and distortions that remain for quite a while, over time, but, gradually, they have to phase out, to be phased out. The second thing, actually, is because you -- we have a phenomenon, what we call market failure.

The free market is the best, only if the free market mechanism works best, and then my colleague, Professor Xu Jintao, described about the environmental policy, climate change, and so on. That's one particular area, where free market, itself, will not be sufficient to solve all the problems. That's why you need the government to take actions, to overcome the market failure. In the financial industry, it's the same. If you just liberalize, you think the market would work perfectly, and, normally, it doesn't. That's why many developing countries liberalize the capital account, and they immediately suffer from financial crisis.

In the case of China, my take was, during the last 40 years, it worked, mainly because, well, yes, we had some -- suffered some efficiency losses because of the government intervention, but it worked because, if the market mechanism is not well developed, it still was very effective, and I can assure you converting saving into investment couldn't be done overnight. With some efficiency losses, it was very effective in supporting growth. That, I think, was the key reason why we didn't really like the way the financial system was operating, but it was very effective.

However, we're having a bigger problem today. The main reason why we're having a bigger problem today is because we're entering into a new phase of development. The job for finance becomes different. In the past, what you did was basically channeling saving into investment, and supporting extensive growth of low-end manufacturing. So, the key driving force was low cost of -- in the economy. Now, the cost is rising. The World Bank used to describe it as the Middle-Income Trap. We needed to innovate.

Most of the innovation is done by the private enterprises, and they're small. That's why when the banks face these private -- small private enterprises, well, who are the driving force of innovation? The banks didn't know what to do because the banks, usually, would have to rely on historical data, fixed assets, or even government, in place of the guarantee, in order to make a landing decision. The SMEs don't have any of these, and that's why, when the banks -- their banks find it very difficult to deal with them.

So, this is why we are having a lot of changes in the Chinese economy. I'm not going to get into it, but there are two things that is happening at the moment. One is market-oriented reform. We need to treat the SMEs, the private enterprises, as equally as the SOEs and many other companies, but we also need to be innovative, in terms of risk assessment. So, for instance, the new fintech companies, in China, they're doing brilliant jobs, the MYbank, of Ant Financial, the WeBank, of Tencent, and there's an -- another XW

Bank in (inaudible).

All three online banks are extending more than 10 million SME, or individual loans, every year. That never happened. The -- I could not even imagine, like, for any of the bigger banks, that would be able to do this, and they do it, based on big data analysis, based on machine learning approach. They don't even see the people, but they're extending all these loans, and they control the risk -- the risks pretty well. The average NPL ratio is around one percent. So, I think they found something that is unique, but effective, and, now, what is happening now is, as you can imagine, all the banks, actually, trying to emulate what the fintech company is doing at the moment.

So, that's one very important part of the story. The other part of the story is push ahead with the further -- further with market-oriented reform, interest rate liberalization, liberalization of the banks, and so on. There, one very important part of story, which I want to share with you, and then that will conclude my opening remark, but that would also bridge what Peter and Eswar will discuss, financial opening.

Financial opening would be a very important step, moving ahead, not just improving the investment efficiency, but also help to improve the quality of domestic financial institutions, and so that we can do better jobs. Importing capital is probably only a secondary consideration, and, more or less, now, you look at the Chinese, actually, investing more overseas than the money is coming, but in terms of opening up, there are two areas we're looking at. The last couple of years, this is actually accelerating. The first area is opening of the financial service industry. The policymakers take a relatively more aggressive approach because that would have less implications of all financial stability, inviting foreign financial institutions to come to China to operate. It's a little bit like direct investment into the Chinese financial industry.

So, you probably heard we already have a lot of foreign banks in China, but, recently, the Nomura and the JP Morgan are getting their securities licenses. PayPal is getting into China in the payment industry. Even American Express is also trying to get something in China. So, that is one area the government is accelerating opening up. There will be a lot more foreign institutions into China. I think that is very good because foreign institutions coming into China, number one, increase competition, therefore, would be -- would add a pressure on the domestic institutions. Number one, they would also bring some more advanced models and technologies, in terms of business, and that would also be beneficial for the domestic financial services.

One thing domestic people often worry is, well, when foreign institutions come, will that hurt our financial stability? My own sense is not because, whether or not you will maintain financial stability, it's up to the quality of a financial -- your financial regulation. It's a little bit like the story we'd heard about Vietnam pollution. I think we should work together to improve the quality of the environment, but, at the end of the day, whether or not you have (inaudible) power generators, depending on what policies, environmental standards, you maintain. So, that's something we needed to look at very closely.

The second thing is about opening of the financial market, and we also seen lots of changes there. So, for instance, the Chinese debt market is already into the indexes of Bloomberg Barclays Global Index, JP Morgan EM Index. Standard Poll is also in China, doing the ratings also. So, I think these opening would be very useful and help improve the quality of the Chinese financial institution, but, at the same time, obviously, we need to be careful about the potential implications for financial risks. I will stop here.

MS. SOLIS: Thank you very much, Professor Huang. Next, we are going to hear from Professor Petri, who will discuss technology cooperation and competition between the United States and China.

MR. PETRI: Yes, I -- thank you. I want to make clear that our book really has two chapters on technology. One chapter, which is looking at the domestic policy framework, with which technology development can be stimulated, and, the other, which is the one that I will talk about, which is the international context.

In this international context, obviously, technology is a critical kind of core economic issue, and it's not going away. In that sense, I think it's very good that we have a very long time horizon, this 2/2049 time horizon, because it allows us to look more carefully at the fundamental issues about technology and about the relationship between the two countries, that present very challenging problems. It's not going away because the two countries are emerging as the dominant leaders of technology, at least for the foreseeable future. United States is ahead now. It probably will be generally ahead for much of this period, but China is developing its capacity very, very fast, and, in some areas, it already has global leadership.

So, this is, obviously, going to be an ever-tighter competition, and there are large consequences to it, large consequences, obviously, from the viewpoint of National Security, also from the viewpoint of rents that you earn in new, large global industries, and, finally, from the viewpoint of growth, itself, because the other drivers of growth are diminishing beside innovation. So, we both -- both countries emphasize innovation as critical drivers of growth, and, so, technological competition is inevitable, but so is, at some level, technological cooperation. It's fundamental to how scientists and engineers work. It's fundamental to how industries develop, and it's going to be part of this long picture, if you look at how technology develops, and, so, I really find this decoupling story to be a very poor metaphor for thinking about what is going to have to happen in the next 30 years. It's not just competition, or just cooperation. It's not just defensive or collaborative approaches to technology. It's the mix in almost all industries. It varies a lot by sector, and it varies a lot over time, and I hope it will vary a lot, over time, because we are at kind of a low point, in thinking about technology today.

The second point that I want to make is technological interdependence is very, very hard to manage, and we're learning a lot about that, just over the last couple of years, about efforts to try to separate some parts of the technology sector between the two countries. Companies are very good at working around technologies that they are prohibited from getting, or markets that they are prohibited from serving. In addition, the world is a very complicated, large place, and they have access to companies that have technology that can fill in for those that are denied to them, and they have ways of entering markets that might be under pressure to not be open to them. So, companies are very good at both getting the technology, deciding the technology, and getting access.

Third, standards, in a world which is very large and served by many different producers, standards, in that kind of world, are inevitably international, and Chinese companies have been very good so far at making their impact on global standards. Congress just passed, actually, requirements for the United States to become more active in part to respond to China's work on global standards.

Controls are very hard to implement. We know that from the U.S. efforts to develop a new set of export controls. They have -- they are now about a year late, and it looks like, from the latest news, there'll be another year and a half before they are implemented, and in that process, they're narrowing back to the format, as best as we can tell from the discussion that is going on, narrowing back to the format of really kind of focusing on critical areas of technology that have to be defended.

The last point is, in this area, is that decoupling is also likely to be very, very expensive, if taken to its extreme. I just read this in The Economist. I don't know how true it is, but they put a price tag of two trillion dollars on trying to separate the hardware interdependence between the United States and China today. So, the third point, and that's my last point, is, given the importance of the issue, given the difficulty of managing it, I see the key policy issue, from the viewpoint of China, as well as the United States, really, over this next decade or two, managing this mix, complicated mix, of competition and cooperation in technology. What does that mean? Well, well, part of is building some of the frameworks that help management to work. What do I mean by that?

First, it means having a risk management mindset to dealing with technology issues. It means not having kind of absolutist viewpoints of what we can or cannot transfer, but, really, trying to understand what it costs to put barriers in place, and what are the most effective barriers that can be put in place.

The second is to build a set of international guardrails that can be used and are clear, that are understood, and that countries can enforce in implementing their technology policies. These might be rules about intellectual property, about cybertheft, about export and investment controls, the set of controls we now have, but which we have, more or less, abandoned in at least this kind of initial contentious space of the technology, discovery of technology competition, and which we need to rebuild, so that they are clear, and they are practically manageable by both governments.

The last point is, and this is the hardest point, is that we need to kind of go back to the fundamentals, which make such a regime work well. That is -- ultimately, there is no other way to put it. I understand that it's a bit -- sounds a bit mushy, but it's rebuilding a trust. That means creating greater transparency about the policies that countries use to implement technology, developing new institutions, collaborative checking of sensitive technologies, and so on. Maybe in China, and this is kind of a big question, maybe in China drawing a kind of wider, clearer distinction between military and state technologies and private commercial technologies, that may make it easier for American and international partners before them. So, I'll stop there.

MS. SOLIS: Thank you very much, and now we'll hear from Eswar Prasad, who will discuss the internationalization of the RMB.

MR. PRASAD: And more. What impact will China have on global finance? There are two aspects to that. One is what Mireya referred to, what role the renminbi play in global financial markets, and the second is what China's capital, both the capital coming in and coming out, will play, in terms of what happens with China's role in international financial markets.

Let's start with the renminbi. Over the last 10 years, the renminbi has followed a very interesting arc. 2010 is where China seemed more committed to greater opening up of the capital account and into this notion of creating a currency that would match China's stature on the international stage. For five years, the project worked remarkably well. The renminbi started gaining traction in international finance, as a payments currency, even as a reserve currency, and then, in 2015, things changed. The renminbi's progress as an international currency stalled. China's renminbi has continued making progress in some respects, but the shine seems to have come off. So, what happens in the horizon we are looking at, till 2049?

As with most good questions in economics, the answer is it depends. It's going to depend, to a very large extent, on what China does, starting with what Professor Huang talked about, whether it gets finance right. If you think about what really makes a difference to a currency's prominence in international finance, it's about the ability of its domestic financial markets to support that currency's role. So, if you think about the renminbi's role as an international payments currency, certainly, China's sheer size, China's dominance in international trading, it's going to mean that the renminbi could, if the government wanted it to do so, play a greater role in international payments, and China's government does seem to be taking steps in that direction.

You do have an electronic payment system that is now much more effective, in terms of getting plugged into international payment systems, the CPIS, the China Payment International System. You have other measures being taken, within China, itself, to improve the stability of the payment system. China, now, has currency pacts with many other countries that allow bilateral trading between their currencies. There are such pacts with Russia, with Korea, with Japan, and a host of other countries, which make it easier for trades between these two countries to be settled in their own currencies, rather than going through a vaguer currency, such as the dollar.

Interestingly, China does not meet many of the prerequisites of the traditional prerequisites of a reserve currency economy. China does not have a fully open capital account. China does not have a fully op -- market determined exchange rate. In fact, it seems like the world wants China to have a market determined exchange rate every time the markets want to push the renminbi up, that is for an appreciation, and every time China's renminbi starts depreciating, everybody says forget the whole thing. Let's have China intervene in markets, and not let the renminbi depreciate too much. You heard the same message from Washington, and, in fact, Beijing also seems much more comfortable with managing the renminbi on the way up, rather than on the way down.

To have a reserve currency that is a prominent one, you need a number of prerequisites, in addition to the ones that I mentioned. What is striking, of course, is that the renminbi has already become, both in de jure terms and de facto terms, an important international reserve currency. Right now, according to the latest IMF figures, the renminbi accounts for about two percent of global effects reserves. Now, accounting for two percent of global foreign exchange reserves might not seem like a great deal. Accounting for two percent of global payments might not same like a great deal, but one must remember that China started from basically zero, just a few years ago, and China, still, is a developing economy, which is competing on a world stage, against other major currencies.

So, I think, what is likely to happen, if China plays its cards right, in terms of improving its financial markets, in terms of opening up its capital account, and creating a more market determined exchange rate, is that the Chinese renminbi will become a more important international payments currency. It is likely to become a somewhat more important reserve currency. Although, is it really going to challenge the dollar or the other dominant reserve currencies out there? There, I have a reservation, and, in fact, it's a reservation where my Chinese colleagues and I have a slight difference of points of view, which always makes things a little interesting.

Their view, which is a legitimate one, and this is an empirical one that is going to be tested by 2049, is that the rule of law is very important, but how you define the rule of law is where the difference comes. The Chinese notion of the rule of law is that you have the rule of law, such that market rights and contractual and property rights are dealt with very effectively. This is what is needed for a market economy to work well. This is what the Chinese government recognizes, and the legal reforms are working towards that.

My view is different, certainly different, but in one very important way, which is that I think what is necessary is for foreign investors to trust that the rule of law will be such that even the government has to be subservient to the rule of law. This is not what the Chinese government has in mind. This is what I have in mind, and I think it makes a difference. If you look at reserve currency economies around the world, not only do they have strong policies, open markets, flexible exchange rates, but, in addition, they have what I would consider the rule of law, where even the governments are subject to the same set of rules that everybody else is to play by.

Certainly, those rules can be changed by the government, but not in an ad hoc manner, and this, I think, is really important, in terms of maintaining the trust of international foreign investors, and I think this is what is going to prevent the renminbi from becoming a safe haven currency. So, at some level, what trajectory the renminbi has, through 2049, is going to depend, to a very large extent, on policies that, ultimately, are going to be very important for China, itself.

So, whether or not the renminbi becomes a dominant currency, China needs to do the right thing, and, in fact, this is the very notion that, I think, pushed many reformers in the Chinese government to take the position that it might be good to think about the renminbi playing a major in international finance because, in order to do that, you need to do a lot of things domestically, which, ultimately, would be good for China, irrespective of what happened with the RMB. This, again, goes back to where Professor Huang started on domestic financial market reform, but, in addition, institutional reform, as well, including better cooperated governance, a more effective -- even a circumscribed rule of law, and so on. So, I think the renminbi's on its way to becoming an important payments currency, a more important reserve currency than it is right now, but, on its present trajectory, highly unlikely to be a safe haven currency.

What about China's broadened impact on financial markets? As Professor

Huang has pointed out, money can now go into China much more easily, into equity markets and to bond markets. So, China is going to have an impact, in terms of where money can go, but what I think is going to be far more important, and this is where I'll conclude, is the impact that China could have, in terms of international financial markets, through money going out of China. One very important change that we've already started seeing is that the major source of capital outflow is no longer foreign exchange reserve accumulation by the Central Bank, which one can think about as official flows. Over the last decade, what China's government has been trying, actively, to do is to make it easier to take money out of China, as well.

Now, you've heard a lot about capital flight associated with the anti-corruption drive. You've heard about capital flight associated with fears that the renminbi is on the way down, but I think this all happened, unfortunately, at a time when China was doing the right thing with the right intentions, which is giving domestic investors the ability to invest abroad, in order to get better returns, in order to get portfolio diversification, and to provide competition for the domestic financial system, in order to get it to kick up its own gear by a few notches. The amount of money locked into China, especially if you think about the banking system, is enormous. Banking deposits in China account for about 165-170 percent of GDP, about half of which is household deposits. So, that adds up to about $10 trillion. If you think about 10 percent of that coming out for the right reasons, for diversification reasons, that's about a trillion, trillion and a half, dollars' worth of money coming out, and I think this is where China's really going to have an import impact.

So, it's not just the debt accumulation of other countries to the Belt and Road Initiative, which is politically a sensitive issue, and what you hear about, but I think the retail investor presence, both household and corporate, and what effect it has on global equity and fixed income markets is, I think, going to be the really interesting thing to watch, and, here again, the way it plays out is going, to a large extent, depend on how China, itself, plays its cards, in terms of domestic financial market development, and what sort of channels it creates for money to flow in and out of China. So, the only thing I can say about what's going to happen through 2049, with any certainty, is that it's going to be a heck of an interesting ride. Thank you.

MS. SOLIS: Thank you very much to all of you. Really insightful presentations, and I would like to take the opportunity to ask each one of you a question, and I want to start with this notion, as to whether China can get finance right or not, and I'm coming here from a comparison that I'm making with Japan, even though, of course, economic models between Japan and China are very different, you can make the case that, once upon a time, Japan was a fast-growing economy that almost looked unstoppable, and, after the bubble collapsed, Japan was saddled with a decade-long nonbanking -- nonperforming loan crisis, in the banking sector, and that been -- meant that Japan transitioned to a slow growth deflation, and was largely eclipsed from its previous trajectory. Is something like that in the cards for China, from here to 2049? What are the chance of that -- what can China do differently?

MR. YIPING: Well, my first observation is that I will feel very happy if we can, once, reach Japan's development level, relying on our current financial system. I think it'll be brilliant if we can be a very advanced economy. So, Japan might look like a bad story for you, but it's not so bad for us, if we can rise in that way, but I do agree. There are things that we should -- trying to avoid, and the one thing that is very similar -- this is why, for ex -- give you an example. We're all talking about very high leverage in China, and the people are so worried the high leverage ratios in China could immediately lead to the so-called imminent Meenakshi moment, which means the collapse of the debt market.

I actually think otherwise because you look at the high leverages. They actually concentrate in two areas. One is the SOE, and then, the other, the local government investment of vehicles. Both of them are related, one or the other, to the Central Bank -- central government, the fiscal budget, which really means that imminent collapse is very unlikely, but the worst-case scenario is like what happened in Japan. When the debt continued to accumulate, the efficiency declined. Eventually, we might drive the investment and returns to zero, which means, at the end of the day, we might see a period of stagnation. That's something we're trying to avoid. So, restructuring of the financial sector, the government is even talking about the SOE reform, and so on. I think that that is a fundamental.

The most important challenge facing us, I think, is the SOE reform. So, for instance, we're all worried about the misallocation of credit in China, and we blame the big banks. They like -- they love the SOEs. They don't like the private sector, but I've been focusing on researching this area, and, after a while, I realized, actually, the bank managers are doing a good job in managing their risks. If you're a bank manager, you're allocating credit. Whom should you allocate most of your credit to? The SOEs.

Even as an economist, if I'm appointed to a job in a bank, I will do the same. The reason is not because I prefer SOE over private sector, but because the SOE's risks are just lower. If I extend the money, if it fails, they still have ways of work out, and the money will still come back. If I extend the money to the private sector, if it fails, the money disappears. So, another example, as I just told you earlier, Standard Poll now is also in China, rating the Chinese debt. I actually observe that their ratings are in very similar pattern. They favor SOEs.

So, we thought, well, we introduce a foreign international standard, rating agencies that will help improve the quality of our debt market, but that their rating patterns are very same -- almost the same as our big comp -- bigger banks, the credit allocation, which really tells us the root problem is not in the financial industry, but in the so-called we need it to achieve so-called a competitive neutrality, really treated these two kinds of enterprises the same, and then we will see the deleveraging in the SOEs and the larger part of the economy credit can be allocated more efficiently. So, if there is a -- once -- there must be lots of things that we needed to do to avoid the Japan scenario, but the mostly important challenge we're facing now is the -- how to reform the SOEs.

MS. SOLIS: Thank you very much. Professor Petri, I agree with you, that decoupling, wholescale decoupling, will be extremely expensive, and I actually don't think that there is a political appetite in this country to really go forward with it. So, if it's really going to be a more nuanced pattern of collaboration and competition in the technology sector, I wonder if you could give us some examples of where you think that the zero sum dynamics would dominate where you think it will be more positive a sum, and then you also eluded to international safeguards and the need for rules, say an intellectual property, but, being a trade expert, I can only then think about the very worrisome condition of the World Trade Organization, and the difficulty in generating such rules, and even though we have not yet seen the text of the phase one U.S.-China trade deal --

MR. PETRI: True.

MS. SOLIS: -- it seems we will not deliver a lot on the structural issues and intellectual properties. So, what is the hope, really, from here to 2049, that we can actually get those international safeguards in place?

MR. PETRI: Well, first of all, between here and 2049 is a long time, and I think that's, to some extent, working in our advantage because we're caught up, now, in the middle of a period when we're discovering the problem, but don't yet have solutions for it. In terms of, you know, first looking at the issue of where there is a possibility of kind of leaning more on the cooperation side, rather than on the defensive protection of technology side, I sort of think of areas, like biotechnology, of an environment related engineering areas, and even of communications, with appropriate safeguards for national security.

So, all of those are areas where there isn't a kind of direct link to the very contentious national security issues, that there might be in some other areas, and I would think that one can design a set of controls that make guardrails, as I like to think of them, that sort of keep competition and cooperation within reasonable areas.

Now, the question of how you get there is troubling because many of these issues are of concerns, not just to the United States or China, but also, obviously, to Europe and everybody who uses modern technology, and we don't have a mechanism for dealing with them, and the (inaudible) is struggling at kind of a much lower level, before getting to these really hard issues about technology. So, I think the question is how do you get there? You know, here, given some time, I think the China-Europe-United States triangle is, to me, a very promising, you know, a very promising avenue, for moving. You know, how that happens, when it happens, I'm not sure, but I think we all have a large interest in making it happen.

MS. SOLIS: Thank you very much, and my last question, to Eswar, you mentioned, in passing, the Belt and Road Initiative, and I wonder if you could expand on it a little bit, in the sense that one of the goals, I imagine, of this initiative, is to increase the economic interconnection between China and other recipient countries, and, therefore, you could think that this could also be seen as a good strategy to encourage the use of the RMB. What do you think this will add to?

MR. PRASAD: The Belt and Road Initiative is a complex matter. It's complex, both economically and geopolitically, both from the perspective of China and the other countries involved. At some level, one might argue that the motives behind BRI are very good ones, that it's creating better connections through infrastructure, through transfer of resources across countries, but it's not quite played out that way.

First of all, the amount of resources that China has put behind the project, we saw large numbers to begin with, but those have gotten scaled back over time. The ambitions of the BRI seem to have been scaled back somewhat, and I think there has been some concern, both among the countries involved and the countries on the (inaudible) including India, who chose not to get involved, that this may be more about China's geopolitical ambitions, rather than really creating economic connections.

So, there's been some degree of reappraisal of the BRI, but to answer your specific question about whether the BRI might have a role, or was it seen as having a role, in terms of promoting the RMB? There were some discussions about that earlier on, but I think they still have proceeded on separate tracks. My sense is that China has not tried to act with a heavy hand, in terms of trying to use money that is given to countries for BRI projects, to use the RMB in any way. There have been a couple of instances, where the two have been linked, but I don't think there is any concerted effort to link the two.

MS. SOLIS: Great. So, let's open it to the public. If you can please raise your hand, there will be a mic coming, and if you can please identify yourself, and ask a very concise question. We will start here, with Mr. Burkestein. Just wait, please, for the mic.

MR. Burkestein: Hi. Fred Bergsten, again. A question for Eswar. You advocated, and it sounds like you expect, over this period, that China will substantially liberalize the controls on capital outflows. Do you expect that to lead to a big depreciation of the exchange rate of the RMB? As you well know, that's what happened when Japan did it, in 1980. At that time, it coexisted with Reaganomics and U.S. fiscal monetary mix that pushed the dollar up also, but the result was a massive exchange rate disequilibrium between yen and dollar. Could the same thing happen, if China moves in that direction, and, parenthetically, what did you all -- going back to the first panel, what did you all assume about the exchange rate in 2049, when you were calculating your GDP numbers for China?

MR. PRASAD: So, Fred, it depends, but, actually, before I start, I should say that Fred was very generous in talking about a book. Fred has an excellent book coming out on the China-U.S. relationship, and what -- how it might play out on the world stage. So, when it comes out, whenever it does, I urge you to look at that.

What we, economists, know about exchange rates is very limited. The one thing we can say with reasonable certainty, as you well know, Fred, is that over the long term, by which I mean horizons of about 10 years or longer, and the 2049 horizon fits well into this, is that, ultimately, these productivity differentials that matter for real exchange rates, that is exchange rates adjusting for price differences across countries, China has generated remarkable productivity growth in the last two or three decades. That is slowing very fast. So, a lot of what my colleagues and fellow authors spoke about is really going to be important for this, for the answer to your question.

If China gets finance right, if it gets demographic and other policies right, and can generate good productivity growth, then over the long term, China's currency is going to appreciate relative to the U.S., which has been registering relatively low productivity growth, but for horizons that matter to us, to financial markets, and so on, in the short term, one could very well see, if China were to move forward with opening up the capital account, without doing things on the domestic front, you could see an exchange rate depreciation. It's going to depend on how China opens up its capital account, and whether China does the right things from the domestic front, both in finance, but also on the real side of the economy, the supply side issues, and also the SOEs, in particular, and on the institution side.

Right now, China's doors are open to foreign capital, but you don't see money gushing in because there isn't the confidence that the institutional framework is in place. So, investing in a Chinese firm is still a bit of a wild gamble because the corporate governance, the auditing and accounting procedures, are not in place. So, if China got all of these things right, in tandem with capital account opening, I don't think it's obvious that there will be a currency depreciation, but still just the notion that a relatively closed capital account with an inefficient financial system that generates low real returns, if you open it up right now, just the diversification reason alone could give you some outflows, which will generate depreciation pressures in the very short term.

MS. SOLIS: Thank you. No other comments? This gentleman, here in the center, a little further. Yes.

MR. FREEMAN: Thank you very much. A very interesting discussion. My name is Lawrence Freeman. I work in economic policy for Africa, for the last 30 years, and I just wanted to follow up on the moderator's question on the Belt and Road Initiative. I mean, you answered the question, in terms of the financial side and renminbi, but, from my standpoint, this is the best thing that's happened to Africa, in building infrastructure and energy and ports, which the west has refused to do, and much of the I would not say propaganda, but much of the pushback that comes from Washington has been somewhat disproven by a fellow agency, down the road. John Hopkins Carey Institute puts out excellent figures on debt and trade.

So, my question is, okay, you answered one part, but isn't this going to -- if the Belt and Road continues to expand, and they're talking -- 120 countries have contracts, one trillion dollars. Isn't this going to have a major impact on the physical economy of China, in terms of export and trade? Has this been worked into the figures of this book, of which you're expecting, on convergence and other matters that were discussed in the morning? It would seem to me it's going to have a big effect, and I don't see it, maybe a slowdown, but I don't see it stopping by reading the speeches of Xi Jinping. This is his trademark from 2013, and his last book of speeches indicates this is the direction they're going. So, I see this as a big impact, as we go into 2049.

MS. SOLIS: Thank you.

MR. PRASAD: So, our esteemed moderator, actually, has done a lot of work on the Belt and Road Initiative. So, maybe we should ask her to answer this.

MS. SOLIS: Sure. I think, first of all, your first observation that China is doing what many other countries in the west are not doing, and, actually, I'm, right now, writing a comparison of Japan-China because Japan, as much as I said that Japan did not get finance right and it costly -- dearly, Japan has been very active for decades on infrastructure finance, and, in Africa, of course, it's very active, but in Southeast Asia, in particular, and I have struggled with finding really solid figures, but, putting together different sources, you can see that Japan is not a legacy power.

It's not just writing on its past glory, but, actually, it's putting investments, as of today, and you can see that -- you can describe this as more of competition, but a constructive competition, in the sense that having China making these Belt and Road push, then compelled Japan to up its game, and offer something called qualitative infrastructure, with more resources, greater tolerance to risk, and some reforms to the way in which it's created this burst in agencies' operate.

So, I think that it's still very much at play, and it's the kind of competition that we should be encouraging. As to how it will affect China's domestic economy, that I'll leave to the panelists here.

MR. YIPING: Well, I certainly think it's a very important part of the story, going forward. I don't remember that we explicitly measured the particular amount of benefit from this Belt and Road Initiative, but I think you look at it, this, from two perspectives. Number one, the reason why China started this Belt and Road Initiative, apart from the internal purpose of helping the Africans, and so on. There was also a big story about how it's going to -- is China going to sustain growth going forward, especially external economic cooperation.

If you look at the last 40 years, China -- you could say China was one of the main beneficiaries of globalization, trade, and investment, the direct investment. Mainly, it was they developed the world. We exported to develop the market, and the developed countries invest a lot into the Chinese economy. That was one bigger part of the globalization story, but we, certainly, do see some kind of change in the structure of the global economy, and a comparative advantage of the Chinese economy are opening and developing new areas for international cooperation. It would also be a very important part of the Chinese story, so, working with the Middle East, Africa, South Asia, and so on.

There are lots of new opportunities coming out, not just in, like, a trade cooperation, but also investment. So, I thought that was a very important part of the story, and, in terms of the modeling work, that was imbedded in the assumption that continuous opening would be key, and the Belt and Road Initiative would be an -- one of the important factors.

MS. SOLIS: All right. Other questions? Here, let's go to the back. There's a lady in the back.

QUESTIONER: Dr. Huang, I just wanted to ask you what you thought might be the structural challenges that foreign investment firms might face, as they enter China, such as, like, culture, or volatility in risk, in the markets?

MR. YIPING: What do you mean by structure effect risk (overtalking)

QUESTIONER: Sorry. I think structural is just, like, a random adjective I chose, but, just in general, the challenges that they might face (overtalking)

MR. YIPING: Okay. Well, certainly, we -- I mean, as I said, FDI into China was one of the very important factors that contributed to the Chinese economic success, during the past decades. You probably heard of some stories about the complaints by foreign companies, at the moment they're in China, and I think that these -- some of these issues, we needed to look at very closely, protection of intellectual property rights and the opening of the domestic market, and so on. Whether or not we can really provide national treatment, I think that's one big story, but I also want to alert you, or bring your attention to some of the changing environment in the domestic economy, that might make the foreign companies' feelings different.

Number one, for instance, the costs are really rising very quickly. So, some of the foreign companies in China did pretty well before, and are now under pressure, competition pressure, and, like the Chinese companies, a lot of companies closing their shop and going somewhere. That's one thing, I think, foreign companies also fear.

Number two, at the very beginning of the reform, the government provided lots of preferential policy treatment. That, I think, is gradually going away because national treatment under the WTO means, really means, equal treatment, not means of preferential policies, always, for the foreign companies. In fact, we had so much complaints from domestic companies, why the government -- they are offering, oh, these are provincial policies for foreign companies, not us. That -- at the beginning, it's understandable because we want to provide a confidence incentive for them to come, but after a while, that doesn't make sense.

The third thing, I think, is related to intellectual property rights, which is very important. We need it to protect better, but one of the reasons why this is becoming a bigger issue today -- I mean, I would say protection of intellectual property rights, 30 years ago, is probably worse than it is today, but why people didn't complain then, and now people are complaining. One of the key reasons is because of the technological gap between domestic and foreign companies narrowing so quickly.

So, for instance, the Volkswagen, when they first moved to China to produce, they transferred their technology to the local partners. They didn't have any concern at all. The reason was that the model, Santana, which was -- used to be very popular, and it probably accounted for 80 percent of the Chinese auto market because that model they transferred into China, they already stopped producing anywhere in the world. So, that is already phased out, the model, and they took it to China, and it made a fortune. So, they didn't have (inaudible) but now the market is so upgraded, and the local company is really very competitive. That becomes an issue.

So, I do agree that we needed to protect the intellectual property rights better, but, for foreign investors, you also need to realize, nowadays, you get into China, it's not like -- just like a country that it was 40 years ago. It's a high middle-income country. We actually have a lot of companies that could actually be at the fore -- cutting edge front of the technology. So, there are lots of things you need, in trying to accommodate the environment or the change, but I'm not going to get into cultural issue, the policy issue. These are the issues that you always have to pay attention to.

MS. SOLIS: Good. I would like to go to the front of the room, this gentleman, please.

MR. LARDY: Nick Lardy, Peterson. I want to ask Yiping, what are the constraints on fintech and the new -- the MYbank, WeBank? What are the constraints on them playing an even greater role in the provision of credit to private companies because you mentioned they're playing a big role, but --?

MR. YIPING: Yes.

MR. LARDY: -- there's still a lot of problems for the private sector getting credit?

MR. YIPING: Well, specifically, for these new online banks, they guarded the licenses. Their main constraint -- at the moment, there is -- our regulators still do not allow remote opening of the bank account, so, which really means you can't take deposits because, all these online banks, they don't have branches around the country. They only have one office. The MYbank only -- is based in Hangzhou, in one office, have a little bit over 1,000 staff, and they're extending more than 10 million loans every year. So, that's a big job, but they just don't have the facility to have a face to face signing of the signature and open a bank account. This is why the funding cost for them is much higher than the other banks. I think (inaudible) for this allowance of the opening of the bank accounts, just online, but it looks like there are some security concerns, and I don't feel that the regulators is going to open up. So, that's one very big area of concern.

For the fintech, as a whole, I think we are seeing very significant progress. In many areas, they are leading the world, but the regulations really need to catch up. So, in some area -- I mean, we used to say one of the reasons why the fintech industry is doing so well in China is what we call tolerant regulatory attitude, which means the regulators just look around, and to see, well, what you're doing, and maybe it looks like -- interesting, and they'll let you do it. So, on the positive side, it was good. Alibaba can play around with Alipay and play around with many of the new financial products, and we're all benefitting from it.

The negative side is, sometimes, you allow very weird things to come out, and a peer to peer landing is one interesting story, and now it's collapsing. I think the regulators didn't really do a good job. If you already know these models would not work, you should go out early and to stop some of the businesses, but that's not happening. So, I think innovation, spontaneous innovation, is happening and it's a very, very exciting area.

Actually, I was talking to Debbie, then. I -- we hope the next project, the joint project, will be on the fintech revolution in China, but the regulation needs to -- really needs to keep pace with the development.

MS. SOLIS: Thank you. So, I would like to take two more questions, and, after that, together, and then I'll also leave some minutes aside, in case the panelists would like to make some final comments before we wrap up. So, this gentleman and this lady, please.

MR. ORLEK: Thanks very much. I'm still Tom Orlek, and I'm still from Bloomberg. So, I have a question for Professor Huang and perhaps Professor Prasad will also have views on it. So, over the holidays, we had the People's Bank of China making an announcement that they were transitioning from the benchmark loan rate to the loan prime rate, as the kind of the anchor for monetary policy. So, I have two questions.

Firstly, how should we interpret the significance of this? Is this the kind of the completion of the PBOC's long transition to a market-based interest rate system? Does it give them significantly more control, more flexibility, or is there still a lot to do, and then, the second, more immediate question, is this immediately going to trigger a drop in the cost of credit for China's corporate sector, or do you expect loans to be repriced, based on the prime rate, but with an unchanged interest rate? Thank you.

MS. SOLIS: So, let me take one more question before I ask the panelists to respond.

MS. YUN: Thank you. Su Yun, reporter from Voice America. I know we are talking about long term trends here, but I have a question about what is happening now. So, China and the U.S. is going to sign the phase one trade deal. So, my question is whether that will help end the trade war, or end what Mr. Petri mentioned, the decoupling of the two economies. Thank you.

MS. SOLIS: Thank you very much. So, let me go to the panelists. Who would like to take -- answer those questions?

MR. PETRI: Let me say it's wonderful to have a phase one trade agreement. It doesn't solve all the problems. I mean, it is a way of, I think, putting behind us what was a very kind of frighteningly escalating relationship between the two countries. So, I think -- let's hope that from here on more cool relationships take hold, but many of the problems from that are pretty fundamental, and they will not go away very quickly. I just wanted to end, at the same time, on the note that we are beginning to realize the limits, particularly to ideology, but also to kind of quick impulsive reactions to problems that may be very real.

I mean, for example, I think there are real issues in technological competition, but the initial set of reactions has been -- has not been constructive, and I just wanted to mention one, which is I've sort of looked at how the company Huawei has fared in 5G markets around the world, and you can actually find something like 30 countries having had made their positions clear already, in one way or another, of what they would do, and of those 30, about two thirds have basically said that they will continue to work with Huawei, in some cases in a more limited way than they did before.

At the same time, the United States has begun to build, and that's the remaining one third group of countries that will want to exclude Huawei from -- but, you know, it gives you a sense of how complicated this world is, and my guess is that the initial policymakers, as they entered into this, probably didn't anticipate that. So, I think we're kind of maturing into this second, more complicated phase of the relationship, where we have to take into account how markets react, and what is, ultimately, in the long run, to the advantage of both countries.

MR. YIPING: Well, I very much agree to what Peter just said. I would regard this signing of the phase one agreement as the end of the beginning. I think we are in for a very long ride, about the disagreement. So, that's why I think it's way, way too early to make a concluding assessment on the decoupling thesis. I think that this will go on for a very long term -- long time, but I am very happy about the signing of the phase one agreement. I think of the greats of the contribution that this agreement might make, is to cap the rising policy uncertainty between the two countries. There also will still be more discussions, but my own assessment is the policy uncertainties are much, much more damaging than tariffs on economic activities. These talks and agreement would certainly be reassuring to the market and the investors, I hope, in the short term.

On the interest rate, I feel that liberalization of the interest rate, I mean, we're probably still quite a way from the end of this process. PBOC, certainly, is pushing quite heavily on liberalization of the interest rate. One of the critical issues we're still facing, at the moment, in addition to the setting of the LPRs, the prime rate, and so on, is how, or whether or not the banks could actually pricing the credit and the money, according to the market risks. That's some. Do we still have some gaps seeing it, and that's what we call the transmission mechanism. It still needs to be improved. So, I think it will take a bit longer before we see the end of this process.

In the very near term, and I agree with you, probably, this would lead to, somewhat, a downward movement of the cost of capital. That's been one of the policy goals promoted by the State Counsel, the PBOC, and so on, particularly, because the economy is facing, still, some downward pressure. So, I think some what we call the countercyclical monetary policy adjustment is understandable and expected. I just don't expect PBOC to very aggressively to ease the monetary policy in the coming year.

MS. SOLIS: Thank you, and I would like to ask the panelists, going in the opposite direction from where we started, if you have anything that you would like to add before we close. So, Eswar, the -- or Professor Petri, and then Professor Huang.

MR. PRASAD: So, tying into Mr. Orlek's, you know, slightly wonky question, I think the important thing to recognize is that China is sort of stumbling its way towards getting finance right. Now, the difficulty in China is that, even if the financial regulators know what needs to be done and want to improve the system, the fact that you don't have, as Professor Huang correctly eluded to earlier, the reforms in the real side of the economy and the institutional aspects creates enormous risks in the reform process, itself. So, I think, over the next two or three decades, we're going to see this very herkie jerky sort of approach, where there is reform, and there has been very modest, but at least some, reform, on the financial sector, on the capital account, capital market issues, more broadly, but many of these have created negative repercussions. The August 11, 2015 move ostensibly towards a more flexible exchange rate regime was done without the right institutional context. So, it sort of blew up in the PBOC's face.

So, I think we will continue seeing these accidents, but the intentions of the authorities, I think, are what are interesting to observe. They seem very committed, at least to one aspect of reform. Whether they will balance this out with the reforms on the other side is the real issue. If that happens, I think China can look to a more prosperous future. If not, China might still have a prosperous future, but it's going to involve a lot more accidents along the way and could make the path to 2049 a lot more interesting.

On the minor point about the phase one deal, let me remind everyone that there are still five days left. That's about 120 hours' worth of tweets that could still change things, but the important thing to realize is what Professor Huang, again, suggested, that, even if we do get a de-escalation, the fundamental economic and trade tensions between the two countries have, I think, crossed a certain threshold, where it's going to be very difficult to pull them back. So, if you think about the negative effects on the two countries, especially in terms of investment and private investment in China, as Nick Lardy has shown, is not doing very well. In the U.S., investment is contracting, and that fundamental source of uncertainty, I think, is here with us to stay for a while.

MS. SOLIS: Thank you very much. Professor Petri?

MR. PETRI: I've little to add. I -- the words that I'm thinking about is misunderstanding and transparency. I think there is -- that we have a chance, now, I think, for a period in which some of these fundamental misunderstandings can be eased.

MS. SOLIS: Yeah. Professor Huang?

MR. YIPING: I will say a few words about the report as a whole. The report, itself, looks at the next three decades, and one key takeaway, if you like, is that it'll be different from the last four decades. So, there will be a lot of new challenges, higher income, which means higher cost for -- a need for innovation, demographical change, and also very different external environment. Our forecast, however, as you can see, shows that growth, GDP growth rate, probably would moderate it to between 2.7 percent to 4.4 percent, by 2049.

Some people feel that that's very pessimistic because we are talking about, this year, whether or not we can maintain six percent, but I can tell you, by 2049, these numbers are actually results of more optimistic a forecast because, by then, we will be a relatively advanced economy. Our GDP per capita will be much, much higher than it is today, but there are a lot of challenges we needed to overcome, and I'm not going to get into the detail, just to summarize one message, and I think China was successful during the last 40 years.

There were many factors that contributed to it, but the two most important factors, number one, reform domestically, number two, opening externally. I think if we continue to do these two, we will be there by 2049, to the numbers that we predicted in the book. Thank you.

MS. SOLIS: Thank you very much. Please join me in thanking the panelists.

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