The Crisis of China’s Investment Environment with Lily Wu
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Ezra Vogel: Welcome to Harvard University Fairbank Center for Chinese Studies program on critical issues concerning China. Today is the second in our series, every Wednesday noon at 12:30, and our speaker for today is Lily Wu. When Lily Wu was a young finance officer in Hong Kong, she worked for a guy named Bill Overholt, and so Bill Overholt was one of our pillars of our weekly series, is going to introduce her, she's going to speak, and then I will manage her questions at the end. Nick, you wanna come on and explain how the questions work?

Nick Drake: Here?

Ezra Vogel: Yeah, now you're on.

Nick Drake: Good, okay, my apologies. So those of you who have attended these before will know the drill. But there is a Q and A tab on your control screen for Zoom usually at the bottom. If you have questions that occurred to you throughout the talk or during the Q and A session, please submit them to that tab. I believe there is an option to submit them anonymously, and this is being recorded and will be posted on our YouTube page. So please do be conscious of that when asking a question, if you would like to submit a question anonymously, we will read it as anonymous. If not, please put your name and your affiliation so that we know who's asking the question. We probably won't be able to get to everybody's questions because there's always a lot, but we will try to do as many as possible. So thank you all and we'll get started now.

Ezra Vogel: And now over to Bill.

William Overholt: It's a pleasure to introduce Lily Wu. Lily has a civil engineering degree from Caltech and did post-graduate work in history at Peking University. I met Lily exactly a quarter century ago on a Saturday afternoon in a head hunters office. And I was a research manager in Hong Kong looking for a new analyst. Lily was moving from a job at a British Investment Bank and was planning to start in Nomura on Monday. And somehow the head hunter brought us together, Lily put her a hand on her hips, looked at me a little bit belligerently and said, why should I be talking to you? An hour later, we decided she'd go to for me on Monday instead of Nomura. Very quickly, she became a leader in our convertible bond business. She was a very young woman at the time, but she would take these wealthy CEOs of Taiwan tech companies and turn them into her pupils. She would teach them about finance and teach them how to give a speech, teach them how to position their firms, and made us leader in that business in Asia.

William Overholt: Pretty soon she was too big for us. She went to Solomon Brothers and during the dot com boom, she was the number one tech analyst in Asia. That was a very big deal. And she was so successful that Solomon asked her to move to Silicon Valley and become their overall head of tech research. When she got off the plane, they explained to her that in a surprise move, they had hired a whole tech team from another firm, and instead of what they
had offered her they would like her to fit in with the group they had just imported. Being Lily, she told them to do something unmentionable to themselves and quit on the spot, and called me up and asked for help in getting into Stanford Law School to become a public interest lawyer. She didn't need any help from me getting into Stanford Law School. But on her way to becoming a lawyer, she got enticed to be a CFO of a rising tech firm. She's now the Chief Investment Officer of China Prosper Group, a Taiwan private equity firm. She's gonna tell us about the investment environment in China. There is nobody in the world more qualified to do that than Lily. So Lily, over to you.

Lily Wu: Thank you very much, Bill, and thank you more than I can express for your valuable support and mentorship through the years. And thank you also to the Fairbank Center. It is an honor to speak to such a distinguished audience today. My topic is investment in China. And before I start, I'd like to mention that I will be making some use of the common language of investment, which is financial analysis. CEOs and economic leaders can sometimes spin words and opinions, but financial results of companies, their profits and losses are where truths are revealed about both companies and their markets. So with that, I will begin.

Lily Wu: Over the past 30, 40 years, China's incredible economic growth has been heavily driven by investment. This is unlike most world economies, either emerging or mature. Consumption is usually the pillar of GDP, but not in China. Not a decade ago and not now. Investment is China's key GDP foundation and driver. So what drives investment? A smaller portion of an investment comes from public, what the government invests. And this is typically driven by things like infrastructure needs, housing needs, job creation. It's even driven by corruption and this is true everywhere in the world. A key source of politicians and bureaucrats skimming is via investment projects. A more significant source of investment is private. And that comes from companies, funds, and citizens, both domestic and foreign. Project parties investing is proven really only by one factor, and that is the prospect of making a profit. So along those lines, let's look at profits in China.

Lily Wu: We know you could sell a billion pairs of chopsticks in China, but can you make money doing it? What's the profit situation? I start here looking at two new economy leaders, Baidu, which is China's search engine leader and Tencent, the owner of WeChat or Weisheng. They enjoy near monopoly situations in China because their international competitors are basically banned. Yet despite having 1.4 billion consumers to themselves, they lag their US comparables both in absolute profit dollar terms and also in profit margins. In the Baidu case, it's not even close. And similarly in other sectors. The pharmaceutical sector. Sinopharm is China's largest state-owned pharmaceutical company. Hengrui is the largest private pharmaceutical company. And you could see here in absolute profit dollar terms and also in profit margins, they are dwarfed by US pharma companies. In the fast food sector, a less lofty sector, Yum China is the owner of Kentucky Fried Chicken, Pizza Hut, and a number of other local nationwide chains in China. And again, you can see Yum China's profit dollars, but most importantly its profit margins are very pale compared to a global standard, say McDonald's. Shanghai Automotive, SAIC is the largest automaker in the world's largest car market. And yet here too, as we compare it with General Motors, you can see that its profit dollars and profit margins are again inferior. The Industrial Commercial Bank of China is the world's largest bank by assets, but only 1% return on those assets. If we take even a single company's China profits
versus worldwide profits, we find that in General Motors' case, yes, they sell more cars in China than anywhere else. Last year, they sold 3 million cars in China compared to 4 million cars in all other markets combined. Yet in China, they earned only 366 operating profit dollars per car compared to over $1,000 per car worldwide.

Lily Wu: We know this situation happens in a number of industries. For example, Microsoft and Adobe. Their software is very popular and commonly used in China, but they also face significant unlicensed use of their software so that their average revenue and profit per consumer in China is actually quite low. So yes, China is a very large market. In some cases it's the largest market, but it's not necessarily the most profitable. Not only is the profit less, as an investment analysts, I like to see what the trend is. Low profit is okay if the trend is upward, but here we find that the trend is surprisingly often not favorable. Let's look at the national star Alibaba. Despite a stellar amazing 42 times 42-fold increase in revenue over the last 10 years, we see that its gross profit margins has steadily declined from 70% down to last year's 45%. Its operating profit margin initially improved with the increased scale of revenue, but that peaked in 2014 and the operating margin has been downhill ever since.

Lily Wu: As an investor, this scenario is very disappointing, in fact, it's unusual. What we expect to see is the Amazon picture. Typically when a company greatly expands in revenue and comes to dominate its market, as both Alibaba and Amazon do, they obtain a profit advantage and economies of operating scale so that its profit margins steadily increase, and we see that in Amazon, as it has grown over 10 years from 48 billion to 280 billion in revenue. 280 billion in revenue. It's gross margins have doubled. Its operating profit margin has increased steadily from 1% to 5%. And we also see that in absolute terms, Amazon's revenue is much larger than Alibaba's, even though Alibaba actually processes more transactions per year than Amazon. Of course Alibaba faces competition in online sales. But even for example, the Baidu case, which has no search engine competition in China, we see that it has steadily declining profit margins despite also a very impressive increase in operating scale. And international companies are not exempt.

Lily Wu: Back to the General Motors case. We know that even though its operating profit car is lower in China than in other markets, it too is on a downhill trend. The reason for this is primarily intense competition. China is the largest car market in the world, and the largest market in the world for many products, but it's also highly competitive. For example, in the car market, there are 42 passenger car makers in China. Only four in the US. And so what we see is that basically in these financial results and numbers, for many companies in China, the profits have actually turned out to be not that great, and the profit margins as the years go on fall in a downward slope. For local businesses, China is their home market. So they are not going anywhere. But for the international businesses, they have a choice and they have gone through what I've referred to as an eight step program, where 40 years ago, they started out with “Wow, China, the last large untapped market.”

Lily Wu: And then you have the China department telling headquarters, don't worry, upfront costs will be justified in the longterm. And before you know it they're telling headquarters, we need to invest to show market commitment and goodwill. And ever after a steady stream, a steady drum beat of increasing requirements, meet local content, meet local partner
requirements, meet localization requirements. And in recent years even profit reliability and predictability has been challenged due to the politicization of the business environment, and also steadily rising costs. So in the end, the profits for many companies turned out not to be quite the windfall that they had expected, and if anything, increasingly pressured. So what we've had is a large body of corporate business champions, increasingly these days becoming policy challengers. There's no magic to politicization. It's not a political, it's not sentiment, it's not an attitude change. It's really just business. It's weak profits that have gotten weaker over the years. And more than just being policy challengers, we even have examples of, say McDonald's, which we've referenced earlier. They got out altogether in 2017. In that year, McDonald's sold the whole McDonald's China company to CITIC and Carlyle who now operate McDonald's China and license the use of the brand name.

Lily Wu: So, that's the private investment picture, what about public investment? Well, public investment, the situation is a bit different. If anything, here we see that China is almost a victim of its own success. Many of the key drivers to public investment actually don't apply anymore. For example, for infrastructure, China has amazing infrastructure, among the best in the world. This requirement is basically no longer necessary. In fact, they have been so successful that one of the reasons for belt and road campaign was to invent more projects for China's infrastructure companies to undertake. Housing is no longer a pressing need as the rate of population growth has slowed considerably in recent years. Even corruption has tamped down considerably with the recent six, seven years of anti-corruption campaigns. And also, significantly restricted funds flowing to regional governments and greater currency controls has really put a cap on a lot of corruption. So in the public investment area, the only two significant drivers remaining are the support and fostering of strategic industries and also defense and security.

Lily Wu: In these two areas, I have two case studies I'd like to share with you. Firstly, we all know, perhaps, that a major strategic industry focus for China now is semiconductors. There is some 700 billion Yuan in public investment dollars available at all levels of government, central, provincial, and municipal to support and foster semiconductor businesses. So how is China semiconductor industry? Have these public investments been effective? Well, let's look at financial results. Semiconductor Manufacturing Corporation, SMIC in China is their largest and most events IC producer by far. It was founded with public funds and to this day, over 30% is government owned. Through 20 years since founding, it has grown steadily with ready access to capital from multiple listings in New York, in Hong Kong and in Shanghai. Here, I'd like to compare it with SMIC's direct global competitor and industry leader, TSMC of Taiwan. These two companies have identical business models. Yes, TSMC was founded 13 years earlier, but SMIC has had 20 years to develop. If we look at a snapshot of last year's results, we see that the companies are not even close. TSMC's revenue is 10X that of SMIC. TSMC's operating and gross profit margins are outstandingly higher than SMICs. TSMC spends five X on research and development than SMIC. And perhaps most importantly, leading edge state of the art technology chips accounted for less than 4% of SMICs output last year, compared to half of TSMC's output.

Lily Wu: Now going forward, will all the government investments close or narrow this gap? Well, I can't say, and I don't know about the future, but as I look back 10 years, I see that actually the gap between the two companies is wider today than it was 10 years ago. 10 years
ago, in 2009, SMIC had 39% of its output at the then state of the art leading edge technology. And over the years, it's state of the art leading edge technology output has only diminished in percentage. The challenge for China's semiconductor industry and a number of other industries is that they're chasing a moving target. Yes, there is a lot of investment from China, but so too is there globally.

Lily Wu: What we see is that while there are public funds available in China of $100 billion for investment, in last year alone, US semiconductor companies spent $72 billion in research and development and capital equipment. And that does not even include what semiconductor companies in Taiwan, in Korea, in Japan, in Europe have spent. And so while China moves forward, so does the rest of the world. And this gap in spending, we see in a number of industries. SMICs research and development outlay compared to Samsung's, compared to Intel's, or in the search engine field, Google's research and development spend is 10X that of Baidu's. We see this gap in social media, in mobile phones, in automotive, and in pharmaceutical. The research and development spend dwarfs what is spent in China. These financial figures help us really to quantify what the gap is between China companies and their international competitors in select industries. Here, too we see the result of the weaker profits that we mentioned earlier. If you make less money, you have less money to spend.

Lily Wu: And so this becomes a bit of a negative cycle, which is hard to break. You make less money, so you have less to spend. You spend less and then you make less and so on and so forth. Looking at a different case interestingly, here we have a public investment focus in defense and security. Five companies who are in the artificial intelligence, AI industry, in particular, they are in visual character and pattern recognition markets. Here we find a different sector. These China companies are world leaders in their segments. They have dominant market shares, sizeable annual revenues, and they have high and stable profit margins which befits their status as global market leading companies. This sector also benefited from public support, but in a different way from the semiconductor industry. They were not seeded by public funds. All five of these companies were private entrepreneur founded. In fact, two of these companies, DJI, and SenseTime had gotten their start in Hong Kong. Then for expansion, they attracted venture capital and project equity funds who invested solely on the prospect of making big IPO gains in the China stock market, which they pretty much all got. And so this is a case where the public support came, but in the way of having a very rewarding stock market infrastructure.

Lily Wu: As an aside, I do wanna say that here we have two cases. One, a lagging industry, and another, a leading industry. You may wonder why one way or another. In my almost 30 years of investing in China, I have noted that China companies successes tended to come in three areas. One area is in new industries where basically everybody around the world is starting from square one. So the China companies have as much chance as anyone else of success. And we see this in areas like FinTech. They're aggressive and leading edge use of mobile payments. Also in areas like consumer apps with TikTok, which is in the headlines these days. Another area of common success is in mature industries, where basically industry standards are long fixed and global industries are moved on or moved away or complacent. And we've seen this in areas such as light industry manufacturing or railway cars for high-speed.
Lily Wu: Finally another area where they have fared well, or where China is relatively less regulated than in other regions, and this has seen success in areas like petrochemicals, mining, metallurgy. The areas where the China companies tend to be most challenged are ones where, one, they're late to the game and two, a rapid pace of development still exists. And this is where we see lagging performance in sectors like semiconductors, pharmaceuticals, enterprise software, just to name a few. So that is an aside about lagging and leading situations. But getting back to China's investment driver for economic growth. So what we have seen now is that with private investments, the key driver has transitioned away from companies looking for profits, to investors, entrepreneurs, and funds looking for stock market gains. If we come back to the SMIC case, we see that despite being the least profitable and least advance of these three chip companies, it's SMIC's share price performance that has outperformed the whole group. And actually as of two months ago, SMICs one year share price performance was up 300%, but in the last month, it quote unquote fell back to earth being up only 98% because the US is threatening to cut off SMIC's access to US equipment and supplies. The price earnings ratio is a common stock market metric for measuring stock market value. So SMICs 112 times means that for $1 of SMIC profit, it can enjoy $112 of stock market value. Poor Intel, $1 of profit, it only gets $9 of stock market value.

Lily Wu: So you have a situation where Intel is making 450 times more profit than SMIC, but its market value is only 12 times greater. And we see the share price performance situation. So this is the magic and the draw of the China stock market. And to keep public investor funds flowing, the government has been making major regulations this year. China stock market used to be one of the hardest to IPO in. For example, companies had to be already profitable to even apply for an IPO in China. However, in just the last couple of months, we see that the first batch of pre profit companies made their IPO debut in the Shanghai Stock Market. In fact, two of the four stock markets in China are transitioning from IPO applications to IPO registration. What that means is that before, you had to apply for permission to do an IPO in China. Now you just registered the fact that you're gonna IPO.

Ezra Vogel: Can you explain to your audience and non-specialists what IPO is?

Lily Wu: Yes, I'm sorry. I apologize. IPO is an initial public offering. What that means is that a private company doing an IPO means that if it goes public on the stock market. It has a initial public offering. Airbnb has been a private company up to now and they are getting ready to do an IPO. That means Airbnb will make a public offering on the NASDAQ stock exchange and become a public listed company, and everybody could buy shares. This is when a company can really pop in value. And in the US and in global markets, IPO registration is the standard. Companies fulfill basic requirements, and then they register that they will IPO. In China they have always made that very restricted. You have to apply for permission. The regulators get to say yes or no. And this was a very time consuming process. So IPO's took well over a year to process the application before. And now this year with the registration, we're seeing that these companies were able to register in less than two months. International funds are also welcome in China to join this. And for the first time ever regulations, or deregulation, I should say, occurred allowing international fund companies to for the first time, majority own their businesses in China. And also they will be able to sell select financial products to the domestic market. The IPO, really to summarize, that's when big riches get minted. That's when $1
becomes $112, that's where your big investment gains come in. So the regulations regarding IPO is a major linchpin to attracting funds.

**Lily Wu:** And this number of listings, this is the number of companies publicly listed, we see that even in the COVID year, the China exchanges are sailing away, business as usual, a ready clip of IPO's, companies going public. At this rate, the Shanghai, Shenzhen exchanges may soon outstrip the US exchanges in the total number of companies listed. And public investments are now increasingly used in tandem with private in kind of a public private fashion. A few reasons for this is one, as we discussed earlier, there aren't too many big public projects anymore, like in infrastructure. A second major reason is because, as we discussed, a key driver now for public investment is industry development. And the state recognizes in China that private entrepreneurs and investors tend to have a better track record when it comes to industry development. But finally, we have the carrot situation. The public funds are being used to steer project money into areas of strategic policy alignment. When private investment is going into approved sectors and approved companies, they can get matching public funds and other subsidies. In fact, the state banks can offer them favorable terms on loans. The stick on the flip side is that the regulations are being used to limit non-approved projects in non-approved sectors.

**Lily Wu:** So for example, companies in property, in luxury consumption, in low value added industries, they basically aren't even allowed to go public in China anymore. Also international investments, moving from China abroad is now highly restricted. Basically the doors are shut for China money making offshore investments. So no more buying real estate in California or luxury hotels in New York City. In summary, we find that throughout the period of Gaige Kaifang 40 years of spectacular economic development investments has been and still is the pillar in GDP and GDP growth. However, the nature of investments has changed. Early on we had foreign companies seeking profits, but who now face headwinds. Public investment drivers, as we see are less needed now, less pressing. Domestic private companies have had some of the best success stories over these 30, 40 years. But in recent years, they face a resurging role of both state regulations and of state companies. And so now we have venture capital and private equity funds and the stock market stepping up to be the new key investment driver for both GDP growth and the country's desired industrial advancement. Will this be a sustainable driver? Is this a good strategy? Well, we shall see. Thank you everyone for your attention and interest.

**Ezra Vogel:** Thank you very much for educating us and for giving us such a clear picture of so many issues that we know so little about. Now, if I were a czar in China, and a czar in the United States, if I were the a czar in China, I might say, okay, we have lower profit rates, but we are growing a lot. And so for the overall size of the economy, that's not such a bad thing. America is for a bunch of capitalists making a lot of money and very high profit rates, but we are promoting what's really good for our country's growth. What would you say to a Chinese leader who made that argument?

**Lily Wu:** Well, the Chinese situation though, and again unfortunately wearing my only hat that I know, the investor hat, is that yes, it seems more distributed than in the US. In the US we're definitely battling with a concentration of profits. They are the competitive markets and competitive environments, say what we were looking at the auto industry, the profits are more
distributed and every company is smaller, but actually that too is destructive. Four car companies may be too few, but 42 is too many. So we end up in both cases, say the US or the China model, honestly, neither is ideal. And even within the semiconductor industry, which I discussed earlier, we have the situation where as you saw on the map, every province is now making their own semiconductor champion. Every city has their semiconductor champion. There too similar to the car market, they run the risk of having too many semiconductor companies, and mutually destructive. Nobody has the economic scale to front the R&D needed to fight Samsung, Intel, TSMC to catch up and close the gap. So I see what you say about the concentration in the US and the distribution in China, but actually both are a little bit extreme.

**Ezra Vogel:** Here is a question from Tim Tuni Sun. He says with the challenges faced by SMIC and Huawei being locked out of their global chip market suppliers, how can China solve its chip dependency issue?

**Lily Wu:** That is a major challenge. Right now their big focus is first to eliminate US ties. So there will be a increased reliance on say Korean, Japanese, European, Southeast Asian, and even Taiwan semiconductors. And at the same time, there is an aggressive push for semiconductor companies in China to develop because while they are moving away from the US and into buying from other markets, they are also preparing for what if Europe cuts us off? What if Japan cuts us off? So they feel they're racing against time. This year, this is probably going too much in the weeds, but this year, a lot of the China companies like Huawei have been double booking, banking inventory, buying two, three years worth of chips supply to get ready for the winter, if you will. And then when that runs out, they're just hoping that they can, the second line of defense is to rely on non US chips from say Japan and Europe. And then the final line of defense is that hopefully by then their own industry has grown up. But as you see in the case study that I gave you, it's not that simple. SMIC has had 20 years, a lot of capital, and actually their gap isn't really narrowing in many key metrics. We measure it just, as I mentioned, with the numbers. It's in the black and white. It's not an opinion. So can they do this moving forward? That really remains to be seen.

**Ezra Vogel:** Here's a question from Dan Murphy, and I wanna tack on my question at the end of his, but here's first his problem. Foreign companies are seeing diminishing profits in China. The same companies have often served as a ballast to buy out a relation between China and the home country. What are the political implications of falling profits? How much has this ballast lightened the US-China relationship or other bilateral relationship? That's his question. But my question comes from a slightly different understanding. My understanding is that a lot of the managers of US companies, very good companies in China, are still seeing relatively high profit rates and wanna stay there. It's their home office that has a more negative attitudes towards China. But the people out of the field and the major US companies in China are still quite pleased with the air, and despite all, the recent Shanghai chamber of commerce survey shows that the companies out there don't wanna leave. So what is your take on both of those related questions, different viewpoint?

**Lily Wu:** Yes, well it's all in the degrees. Nothing is extreme. They're not all in or all out. They're not all losers or all winners. And so definitely the whole gamut of interest to stay and to push relations exists. But definitely within that... And even in the GM case, $366 of profit per
car, it's not as much as global, but it's better than a poke in the eye. I mean it's still $366 on 3 million cars. So for sure they wanna be there. There's no doubt about it. But it is in the degrees. What used to be a very uniformly cheerleading group of corporate America, now has fractured. That core is not so uniform in terms of cheerleading. It's not to say they don't exist anymore. It's not to say they don't like, or don't want China anymore. But a few things, I think. The declining profit issue that has been, and certainly as an investor, I've been seeing it for years actually. What's been a bit of a deal breaker or a game changer recently, is the politicization of the commercial environment. This has added unpredictability. As a business manager, as an investor, if I know my margins are gonna creep down a point a year, I can plan for that. I can do cost cutting. I can do outsourcing. There are things I can do about it. But when politicization occurs and unpredictable things happen, that's a different ballpark, and that makes it hard to plan, it makes it hard to stay. It's a different ballpark.

**Lily Wu:** The other issue is also many of the things which we all knew went all through the years, like for example, IP protection, IP violations, I should say, and also the other creep that I mentioned, local content was okay. Local partner was also okay. The localization for many has been a deal breaker. The localization means that for some companies, you have to divulge your software. You have to hand over your software locally. You have to keep all of your data centers in China physically. You have to handle all of your algorithms in country. This localization requirement goes above and beyond what any other country requires. US for example, Europe, nobody asks that, oh, Apple, if you sell a phone here, you have to give us all your software and all your chips and all your designs and all your IP, and you have to make it here. That doesn't happen anywhere. That last few steps were just steps too many for a certain number of companies. And as I said, many companies they're happy to stay. Some companies, McDonald's, they sold out and left. So the whole gamut exists, but I would say 30, 40 years ago when opening started, the draw of the market was incredible. Everyone was on board. Everyone was a cheerleader. And now everybody is calculating their own situation. So it's in the degrees. It's not that nobody is there. And in that regard to ballast this definitely lighter. Companies which used to be wholly supportive and urging the US government to make nice on all points are saying, oh yeah, IP protection. Don't forget that. That kind of thing. So it's all in the degrees. It's not a black and white picture for sure.

**Ezra Vogel:** When I was following Japan's situation pretty closely, I noticed that some companies are not doing well. One of the politicians in Washington in complained. But companies that were doing very well were quite quiet. I wonder if some of the division among Americans businesses in China is giving a rather unbalanced picture into Washington politicians. Would you say that the companies that are not doing well are going to Washington and therefore they get a rather bad impression, but there are a lot of companies that are doing rather well that are keeping quiet. So the politicization does not really represent a fair overall balance of the profit. Would that be true or not?

**Lily Wu:** It's hard for me to say, but some of the recent issues, or not so recent issues, they're real issues. Like for example one of the most common IP violation or demands for localization, demands for turning over source code, of course that doesn't impact everyone. A Caterpillar doesn't need to care about that kind of problem. But is that a problem? Yes, it is definitely a problem. Whether that impacts only five companies or 50 companies, that's a problem. So it's
hard to say how representative the squeaky wheels are, but I would posit that the issues being brought up really are issues. And it is also a market equality issue because say other global markets do not have similar requests. The US, or for example Europe does not require source code divulging.

**Ezra Vogel:** Here's another question related to that by Mara Akin. He says, do you see evidence that either de jure or de facto localization requirements have gotten better, gotten worse or stayed the same over the last couple of decades? And also on the question of IPR, I mean intellectual property, I've heard some people say that if you compare years ago, the Chinese had tech and steps to protect intellectual property. What do you see as a trend in those ways in which they dealing with foreign companies?

**Lily Wu:** I apologize, Ezra. I didn't quite catch the beginning. I know what you mentioned about the IPR, has that improved, but what was the first portion of the question?

**Ezra Vogel:** Okay, the first part is if the de jure, it's basically a more general statement on some of the same things. Do you see evidence if de jure or de facto, that localization requirements have gotten better or worse? So what are the trends in the way the Chinese government is treating foreign businesses? Is it some ways getting more to follow international rules or is it increasingly nationalistic? Or is it just the fact that Chinese companies are doing better and the competition is worse?

**Lily Wu:** Yeah, the localization requirements, this actually doesn't have to do with how the Chinese companies are doing. The localization requirements were, in my reading of it, always born out of security concerns, defense concerns. It wasn't a commercial competitive thing. Oh, I want you to localize so my China companies can have an advantage. Many of the localization issues, I believe were born more out of defense and security considerations. And those are as ever still there. If anything, I would guess, and this is not my area of study, that those concerns are getting heightened, not diminished. So that's what's behind a lot of the localization issues. The initial things about like local content and local partners, those were very commercial in my reading of it. Localization was actually more a defense and security issue. Politicization of business issues, also it just moves out of the commercial realm.

**Lily Wu:** That's why, in my opinion, these last two were deal killers kind of, for some people in ways that the first two weren't. And in terms of the IPR, is it getting better? It's hard to say in the continuum of time. One thing I will say about China is that it's intellectual property rules and laws are amongst the best and most complete in the world. The issue has always been enforcement. And so the legal system is not transparent there. So the laws are all there about IP infringement and their laws are very complete and correct. But then once you have a violation and you sue somebody, the court does or does not take it seriously. And even as a foreign player, if you win, you may be shocked to find the penalty for the violator is 500 Yuan. It's a nothing fine. And then so the opposing factor closes up and goes away. The IPR falling down often has been, the government does great policies, great laws, but the enforcement is not great, and the legal system is not transparent. It's not consistent. The penalties are not punitive enough to deter. I personally have not noted a significant change in that environment better or worse, but that has always been the issue. You can enforce it, the laws are there and they can always
point to the laws, but enforcement is tough and it's not punitive. And it's also a bit of a black box.

**Ezra Vogel:** Bill Overholt has been very patient and you let me handle the questions, but Bill would you like to come in either to comment on some of these issues or to raise a question either now or in a few minutes?

**William Overholt:** Yeah, I have a question. In the 1980s, Americans were terrified of Japanese industrial policy. And studies some colleagues of mine did show that Japan's industrial policy, which was at least as sophisticated as China's today, had some very expensive successes and a lot more, very expensive failures. Today Washington is as fearful of Chinese industrial policy made in China in 2025 as it was of Japan then. The SMIC case that you gave us reminds me of the greatest Japanese industrial policy, which is the fifth-generation computer artificial intelligence. They made a huge investment and it was complete waste of money. Does the SMIC example indicate as with Japan, our fears of Chinese industrial policy are overblown. Likely they're gonna have some very expensive successes and a lot more, very expensive failures. And then maybe from a competitive point of view, we should welcome the fact that they're emphasizing this way forward.

**Lily Wu:** Oh, well, that is a great analogy and question, especially the China and the Japan situations have so much of similarity and also differences and a lot to learn from. And definitely Japan had a policy similar to what we see in China now. But I want to point out the market differences, which makes the China case perhaps today that much harder to deal with. Japan flood as it may be, Japan is a democracy, it's a rules-based society. In many regards, a lot of the infrastructure of Japan is similar to the US. There's not the unpredictability factor. Actually the unpredictability factor of China is so often the deal breaker recently for both ex-pats in China and also foreign companies in China. China is governed by one party, one government, and recently one man, and it's what he wants, it's what they want. And it's hard to predict. We don't know how they will be. And so this is the thing that makes it scary, it's what makes it difficult from a business perspective.

**Lily Wu:** But also therein possibly lies the potential of success or failure, as you mentioned. I watched the semiconductor industry and I do know for example, they use the public funds as a carrot to steer the private money into semiconductors. But I also know that the public money, so often is used to buy land, used to buy plant, all non-critical issues. It's not for R&D. Actually this is a detail I don't want to go into, but for a variety of reasons, public investment funds in China don't like to invest in intangible assets. R&D, design teams, that kind of thing. But it's the intangible assets which will be the key to their success. You can't make it buying land. You can't make it building a beautiful 10,000 square meter clean room and yeah, that's where a lot of the money goes. So it's that one party monolith that's non-transparent which starkly differs between China today and Japan then in both its success and its failure, because if it's monolithic, if it needs to move fast, it can move things and very single-mindedly. But sometimes if that single mind is wrong, then the whole thing is wrong. So that is a key difference that I see between the two, which again, is both possibly a big success and at the same time, a big failure variable. It's a double-edged sword, but it's a market difference between the two, which requires US policy makers to be able to handle and digest that difference well.
Ezra Vogel: Another thing I think that is a difference between Japan and China is that China says it's a huge market. So when you have 120 million people, as opposed to 1.4 billion, for a lot of consumer items it makes China much more scary.

Lily Wu: It does absolutely. The stakes are higher. There's no other way to put it. The stakes are higher. They were high with Japan, but there's no question it's higher with China.

Ezra Vogel: Right, here's a question about the cell phone industry. It says, talking about the scale of the cell phone industry, do you think the speed of development and the amount of inventories available on the market, do you think this model will sustain in global aspect? Do we need more new phone models or would it be a good idea to take advantage of quality ban to slow down the speed of manufacturing? Recent situation of WeChat ban and 5G ban, and also delayed the releasing of iPhone 12.

Lily Wu: Ezra, are you asking this as a consumer or are you tired of paying for new phones?

Ezra Vogel: I'm asking that because somebody in the audience asked that question.

Lily Wu: Okay.

Ezra Vogel: Question from the audience.

Lily Wu: That's the tech market. The speed of development, and that pace was set with very notably Intel's Moore's law, where a new generation of chips would come to market every 18 months. It set a pace in the tech industry and it's not so much a need. definitely I'll agree. Nobody needs it. You could use your iPhone 5 and have a great life, but it's a want issue. And there's so much industry and there's so much profit tied into these wants, not needs. So I would just generally put it there. Definitely the tech industry early on set a toric pace of new product cycles and new technology cycles, and we trace that back to Intel and their Moore's law. But now when it comes to consumer devices like cell phones, like 5G, the streaming services, that is very much a want factor, not a need factor in my opinion. But there's too much profit and revenues at stake. Alibaba's declining revenues is because they want to maintain, not just declining revenues, declining profit margins, is because to maintain their toric pace of growth, they keep dipping into lower and lower margin businesses, because their high margin business initially was B2B sales. But that's quite small market. So they went into B2C, which is much lower margin, and they keep going into more markets, more markets. They don't wanna stop growing. That's a capitalism flaw, I guess. Big companies never satisfied with how big they are, so they gotta make more wants, more needs, more products.

Ezra Vogel: It sounds like from what you say in the American side they're all searching for more profits, higher profits.

Lily Wu: Oh, for sure, everyone is.

Ezra Vogel: And in a lot of the Chinese cases, they just want scale.
Lily Wu: Yeah, they want scale and yet in so many cases--

Ezra Vogel: The next question is from--

Lily Wu: Please go on.

Ezra Vogel: Well, this is a different subject, so if you wanna have another--

Lily Wu: No, no, please that is all right,

Ezra Vogel: Okay, the next is a question from my friend, Tom Claflin. He says will TSMC, this is a specific question, but it's a critical one. Will TSMC be able to continue to supply Huawei with state-of-the-art semiconductors?

Lily Wu: I don't believe so. I believe the way the government policies, and again there are so many things which are being floated and so many things being decided. Sometimes I lose track of what is being floated versus what has been strictly said, and TSMCs own corporate planning is that, starting from actually this month, they should no longer take new orders from Huawei. and the orders that they have on hand, they've been working them through in the last three quarters and not taking new orders. But I didn't quite catch whether that is only for advanced process wafers or for all wafers. But definitely the advanced process wafers, TSMC is no longer taking orders from Huawei. They made that statement in their investor call for the second quarter.

Ezra Vogel: Here's an anonymous question about the recent policy toward giving government money to private corporations as a way of sort of guiding their development. When did that begin and how did it begin? And then as a related, but a little bit different question that same person asked, what's the role of the Hong Kong stock market now? If the United States stock market becomes unreliable, will Hong Kong stock market, given all the political changes and so forth, be able to play a role or will it switch to the Shanghai and Shinjin stock markets? Can Shanghai and Shinjin draw international capital the same way that Hong Kong does more reliable international law seem to do so? So those two questions about the government aid to the stock market, the second question, same person. The first question had to do with the use of government aid and steering capital in a certain country.

Lily Wu: The public private has been, it's hard for me to pinpoint exactly when they started, but I would within the last six, seven, seven, eight years. The public private actually first started out with the government inviting private investors to participate in public projects, and private investors to take a stake in state owned enterprises. That's how the public private first started out. Privates were invited to join SOEs and public projects. And the reason then was that about seven, eight years ago, they felt that the state owned enterprises, these SOEs, were becoming too much like dinosaurs. They weren't limber enough and competitive enough. And so they forced SOEs to take some private investors to inject some market element into their management, into their decision-making.
**Lily Wu:** Well, to be honest, I can't think of a single success story, because what happened was the private investors would go in and they will be told to sit in a corner during board meetings, and were basically always ignored. Now actually in more recent years, the public private is a different format. It's a private product. And if it's an improved project and improved sector, they can get matching funds from a government fund, like for example, the big semiconductor fund of the government. They will match investment equity investment. If you put in 500 million Yuan, then they will put in 400 million Yuan to support you. Plus they'll arrange low cost loans for you. So the public-private, that's been around for, I would say seven, eight years. And it first got started as inviting privates into public. And now it's used as a sweetener. If you do the right thing as a private investor, I'll match your funds. So that's been a pretty important element, I would say. The Hong Kong stock exchange, that exchange has becoming more and more red steadily over 20, 30 years. Even when Bill and I were in Hong Kong--

**Ezra Vogel:** Explain to us what does red mean?

**Lily Wu:** The Hong Kong stock exchange being more and more red means the proportion of companies listed on the Hong Kong exchange, which were actually China companies, not Hong Kong companies, they were China companies, but they went and listed in Hong Kong. When we were in Hong Kong then, what we call red chips, they were at that point easily, I would say 15, 20, maybe even 1/4 of the Hong Kong stock exchange. Today it's 3/4 of the stock exchange. 75% of the weighting of the Hong Kong market is actually China companies. Hong Kong companies, traditional Hong Kong companies are only about 1/4. It's completely turned around since the 1990s.

**Ezra Vogel:** Companies in order to attract international capital go to Hong Kong, because international capital feels the Hong Kong market is more reliable and legal. Will that continue now with the new increased political control over Hong Kong? Is that right?

**Lily Wu:** Yeah. International capital goes to Hong Kong, not necessarily because it's more reliable, because actually the Shanghai and Shenzhen exchanges are reliable. The problem is China exchanges are denominated in renminbi. Renminbi is not a open currency. So you get a huge barrel of renminbi and you can't go to Thomas Cook at the airport and exchange it easily, generally speaking. Hong Kong dollars is an open exchangeable currency. That's why Hong Kong has always been an important window. The Hong Kong dollar is not only an open exchangeable fluid currency, but it's pegged to the US dollar. So again, we come back to the predictability of it. The renminbi is a completely closed currency. And so that's why for international funds, the China markets have always been a little bit a separate basket, not because they're unreliable, but because the renminbi is not convertible. The Hong Kong market, I personally believe actually will surge in importance. It's importance will actually increase ironically. One because China companies now feel less welcome in the US markets. So for example, Ant Holdings, China's largest FinTech company, was considering coming to the US to list. Now they've made the decision they're listening in Hong Kong. So the US closing its market has been a benefit to Hong Kong.

**Lily Wu:** And secondly, now that Hong Kong has the more stringent political environment and laws, ironically, China will use the Hong Kong market even more. So for both reasons, the
political changes and also the US lack of welcoming towards the China markets, Hong Kong stock market, I actually expect will continue to grow quite well, and will be a strong fifth market in China. And as an aside, I just want to say, I didn't mean that the US market is unwelcoming to China. Actually, the US SEC has stated very clearly China companies are welcome, but they make their accounting and auditing records open. So when there are shareholder suits or shareholder issues, they must be able to track their audit records as they do with any listed company in the US. And on this point, the China SEC says, no, our audit records are our audit records. They made that into a sovereignty issue. And so as a result there's a stalemate. So these are fine issues and complications. It's not a matter of welcoming or unwelcoming. It's again, politicization of what should be a commercial issue. You come here, your audit records should be available. They made it into a political sovereign issue.

**Ezra Vogel**: I'm afraid our time is up, but Lily, thank you for the broad education you've given us about the different company's profits and I'm afraid the questions we've thrown at you have come from all kinds of different directions, all kinds of different topics. And thanks in trying to answer all these many very different questions on a very rapidly changing subject. So I'm afraid this topic is going to remain at the forefront of a lot of issues now, and we may be coming back to you for continued lessons on this topic, and we thank Bill Overholt for bringing you here. So thanks Lily for coming and--

**Lily Wu**: Thank you, Ezra and thank you very much, Bill.

**Ezra Vogel**: And thanks Bill for getting her.

**William Overholt**: Thanks Lily.

**Ezra Vogel**: Bye bye.