

Critical Issues Confronting China Lecture Series Featuring Scott Rozelle – Early Childhood Development in Rural China: The Biggest (or Smallest?) Challenge That China Faces That No One Knows About, November 17, 2021

– Good afternoon. Welcome to the Critical Issues of Contemporary China Seminar Series at the Fairbank Center for Chinese Studies at Harvard University. As all of you know, this series was started by Professor Ezra Vogel, and unfortunately, he passed away at the end of last year, but the series continues with the spirit that Ezra has started. Today, I am very, I'm Winnie Yip, and last year I was the Acting Director, and I'm very glad to be back here today to welcome Professor Scott Rozelle. Scott is a development economist, whom I admire and aspired to become when I was in graduate school. And I also have had the opportunity to work with Scott briefly about 10 years ago. I would say that Scott has devoted his life to improving rural conditions in China, through his very rigorous research in agriculture policy, in education, in poverty, in equality, health, and nutrition. Over the last several decades, he has built a big team of researchers in China. Not only is his research impactful, but he has also made such a big difference in building up the whole field of development economics in China. And if you visit him, especially in China, seeing the work and the group of people who work with and are inspired by him, it is very heartwarming. And I would say that Scott also has a special, special relationship to the poor regions in China, especially places like Gansu, like Guizhou, and that. And so today, we're very delighted to have Scott to come and talk about his research, which is embodied in his book, "Invisible China". So over to you, Scott.

– Thank you, Winnie. And it's very nice to be able to come to the Fairbank Center again. I wish I was actually there, as we all do, but this is my pleasure to come here. And yeah, really, in the past, I haven't changed the title of my PowerPoint since when we started talking about this. It was a book talk but it's really become sort of a statement on, how would we say this, on common prosperity, right? The new big policy of the Chinese government and party to this. And what I try to say in my response to what do you think about common prosperity is, I think number one, number one, you have to keep prospering, right? China, may have the second largest economy in the world, right? But it's 70th in per capita income. It is clearly in the middle income area. So, it has a long way to go before they're at a level that the whole economy is prospering. Of course, then once they prosper they need to prosper commonly. And then that's the other part of this is, will people be able to join into this high income, high skill, high technology economy that the Chinese government wants that, I mean, basically that I want, I hope, happens. And so that's really what's behind it. And I'll talk a little more about that later. And just along those lines, this isn't a China bashing book. Like Winnie said, I have lots of friends in rural China, been working there for almost 40 years. And what's good for China, if China's economy grows,

our economy benefits, the world economy benefits. And if China's economy doesn't thrive, there's some problems I think that might happen. And we can talk a little about those, but those issues are a little beyond that of a development economist that squats in villages and does interviews. But, so that's sort of the background of the book. And I don't need to say this to the Fairbank Center people, right? Rural China is, "Invisible China" is rural China, right? 840 million rural people have rural Hukou, that's one ninth, one 10th of the world's population. And you know who they are, they're the workers, they're the self-employed, gig economy workers, okay? I'm gonna come back to these guys. They're becoming more important than these factory workers and construction site workers. We're gonna talk about that and what that means, and why perhaps. And of course, rural China is the elderly and the left behind children, and the families that are crowded into the migrant communities, in the alleyways of the big cities. Also, probably most people here don't need to know, when I first started working in China, 85% of Chinese lived in rural communities. Almost everyone had a family there. And so people were going back and forth, college students, professionals, government officials, came from these farming communities. When you went across the country, you stopped in small village guest houses and ate in village farm restaurants. And so it wasn't invisible. I mean, people knew what was going on then. But now, we fly over the top, right? I'm a very bad photographer, but I love to take photos and sort of remind myself and share, my WeChat moments, and everything like that. But you can't even take a picture of a village going 350 kilometers an hour. It just blurs. So they've lost that connection. And through the media and through where people live, we think China, we know this China, right? We know that China very, very well. But we don't know this one. And so that's sort of the reason, and I try to take a development economist view and say, what's happening there and why might that hurt China's rise? So that's kind of where we're going. Here we go. Let me go over this really quickly. The book is based on lots and lots of field work. I've visited more than 650 counties, and I was adding them up. Somebody asked me for a podcast last year. I've probably done more than a million surveys, right? Over the last 30 years. Of course, this is me doing the surveys. I just go into the village and manage the team. That was me in 1988, I'm doing my PhD dissertation then, right? And here's me today, I'm still going. And same kids, different setting, right? But of course, I don't, I do zero of the interviews actually, as we basically collaborate with local college professors, university professors, sometimes they're my students, oftentimes they're visiting scholars, colleagues I've worked with for 10, 20 years. And their students are the ones that do the surveys, implement the projects, and then do the evaluation surveys. And the great thing about Chinese colleges is it's, the bad thing is it's really, really hard to get in, but once you're in, you can't fail. So we can give these guys a two-week vacation sitting in villages and doing interviews. So that's sort of where my work comes from. Just thought I'd really share that real quick. So, how does "Invisible China"

threaten China's rise, okay? This is a very important graph. And just go quickly over it. Here's income today, and here's income 60, 70 years ago. Okay? 60 years ago. And then, these countries down here, right? Myanmar, Congo, right? Their poor, poor, okay? They've been poor this whole time. The countries up here, of course, are the OECD countries. The rich countries. The U.S., Norway, Switzerland, Australia, okay? They've been rich 60 years ago and they're rich today. I'm interested in two sets of countries. First of all, the graduates, okay? These are the countries that over the past 60 years went from middle income to high income, and I want you to notice two things, okay? First, there's not very many of them. I wanna say on the side is you notice Eastern European countries aren't in there. That's because they used to be high income, then they joined the Soviet Union, became middle income. And then, now they're back, once they joined the EU, they're back to high income. So, they're not included on this graph. But you can see there's only 15 countries in the last 60 years that have moved to high income from middle income. Israel, Ireland, right, South Korea. Countries and territories, Taiwan, Hong Kong, okay? And it's a very, very small group. And no country has graduated in the past 20 years. South Korea's the last one to graduate. Here's Brazil. It almost got there and then about five years ago, came right back down. Of course, most of the countries in the world are in the middle income trap, okay? They were middle income 60 years ago, they grow, grow like that, right? And when they go like that, they aren't in this equilibrium like where everybody's happy. We're happy at middle income. I mean, there's lots of people get hurt and lots of people are, it's a tough life for many in those economies, in those time periods when stagnation or collapse happens. We don't even feel them in the U.S., 'cause so many of the countries are so small, but it's a big deal. So, of course, what I'm interested in is, why could some countries do that while most of the countries stay down there? Why can't they go up there, right? And one of the big differences, there are others, but at the time of middle income, so we're talking about these countries at the time of middle income, the entire level of their human capital is already high, okay? So, and when I say their levels of education, I'm using an OECD metric. That OECD, the rich man's club, right, from Paris, they define a healthy labor force as having a high level of the labor force have been to high school or above. And the reason they say that is because if you've been to high school, you've learned math, and science, and computers, and critical thinking, and et cetera, right? And you have language skills. And so, also gives you, it's a level that you can start to learn how to learn as your jobs change. You can adapt, okay? And so, and you can see here, OECD countries, about seven or eight, seven or eight out of 10 people in the labor force have been to high school or above, okay? We do need a small segment of our labor force that's less educated. They can do the landscaping, the nannies, work in the very low level service sector. But most people need to have a high income, have a high level of education. Look at the middle income grads. So this is the South Korea's, the Ireland's, the Taiwan's. It's at

the time they were still middle income, remember \$2 a day. And the South Korean women are still, they're still sewing in textile sweat shops, as we used to call them, right? But at that time already, seven out of 10 of the people in their economy, in their labor force, 18 to 64, okay, 70% of them had already been to high school. Okay? And there was a great video done by a Korean documentary maker in a conference I went to, and she said, "I'm gonna show you two video documentaries. The worst one I ever made, which won the Pulitzer Prize of China", I mean that was Korea, okay? "And two, one I just made recently." And she said the worst one, "I took a camera and I snuck inside a factory, a sweat shop, and the women in there, I have these segments and I have this narration that says, 'Look at these poor women. They work 12 hours a day, seven days a week. And after dinner time, after 6:00 p.m., then their bosses make them go to high school at night. Isn't that terrible?'" So she's criticizing these cabal bosses for making, getting, forcing their workers to go to high school. Then she says, "That was 1978." So, then she says, "I went and followed up 25 years later and found these same young women who had been working on the factory floor, they were in white collar jobs as bookkeepers, accountants, hotel managers." They had transferred to this high income, high skill economy. That really made an impact on me, when I saw that. That's when I started sort of looking, well, what happened to all those other middle income countries? Well, look at them. The Turkeys, the Brazils, the Argentinas, Mexico, South Africa. Look at that, three or four out of 10 have a high school degree. Six, I mean, six or seven that have never been to one day of high school, right? And guess what? In the United States, in the United States, if you haven't been to high school, there's a five times higher probability that you are in jail, on drugs, on welfare, unemployed, then having a middle income life, okay? You don't wanna be a high school, and this isn't even high school dropouts, this is not going to high school for one day. And this is a big part as these countries try to rise. Because when a country moves from middle income to higher income, wages rise fast. Well, that sounds like China from 2000s to the 2015, right? And work starts to change from low skill to high skill. And if a large share of the labor force can't participate in that new economy, you start to get a polarization, right? High unemployment, rise of informality, then crime and unrest starts. And once you have crime and unrest, nobody wants to invest in poor investment climate, there's not enough qualified workers, there's sort of a stagnation, and then a polarization that happens, okay? So, this is sort of what I'm thinking about, right, as China is at this sort of middle income. So what happens when a large share of your labor force sinks into the informal economy? Look at all these informal economies across these middle income countries, from Argentina, Brazil, Indonesia. I mean, it's all 50% or 60% of their economies are these gig economy workers. Workers that don't have benefits, don't have set jobs, aren't covered by labor laws. And they're on the streets. They're making a living, living from hand to mouth. And these slums and there's crime, et cetera, et cetera, et cetera. Santiago Levy, who used to, he was at

Harvard for a while. He's now at the Inter-American Development Bank. He talks about Mexico, and he's got a great talk on the Mexican paradox where he explains that, "Hey, Mexico had solid economic performance, export success, lots of physical capital." Does that sound like China, right? But very little growth. Once they hit upper middle income. He says, "Why?" Well, productivity stagnated. And he says, in a big part, "It's because their informal sector is too large." That it's just persistent informality, that actually pulls down the formal sector and causes social problems, has resources diverted towards it, and leads to this stagnation. Remember, Mexico? Mexico has only three out of 10 people have ever been to high school, three or four out of 10. When there are so many people today that listen to this book and say "Why are you talking about this, Scott?" "China's made, they've escaped the middle income track." Xi Jinping already says the middle, "You can't use the word middle-income trap inside China", because they say, well, Xi's already said, "We're out of the middle-income trap." So... But when I was in grad school in the late 1980s, Mexico was known as "The next Taiwan". They'd grown, listen, they'd grown for two, maybe more than two decades at eight to 10% a year. Well, it sounds like China, right? And then, all of a sudden, they hit this peak as they're trying to move up to high income, and guess what? The low wage, low jobs move out. 20% of their economy, of their labor force becomes unemployed, about 10 million workers, and Mexico has this stagnation, and they haven't grown since then. And there's been a rise of crime and et cetera, et cetera. You guys know the point. So that's kind of what I'm thinking about, is could this happen to China, okay? So let's look at China now, okay, in this context. Right here, clearly middle income. Upper middle income, right? But you remember on a per capita basis, this is per capita basis, there's 70 countries that are higher than them today, okay? But they're moving, we're moving up, right? And they've gone a long ways in the past 60 years. They were almost poor in 1960, and now, they're hopefully gonna move into this high-income category. So, what am I thinking about, right? Just to sort of repeat the argument above, while all kids don't need to go to college, not children, I mean, the entire, the labor force has to be highly educated, because China's gonna move up and these jobs are gonna go away, and they need to have six or 700 million workers in this high skill, high wage economy, okay? , right? Common prosperity. Because it's at this critical stage of development when workers and the children get the skills they need. So where's China in this, okay? Not just children, the entire labor force, okay? China actually has the lowest level of human capital in, it's actually the upper middle-income world, but the middle income world, they're number one. Number one low. Okay? And that's not my data, remember I collect a lot of data, but this is this little census that, they did a little survey of 1.4 billion people, right? And so look at the 50-years-old, they ask them "How much education you had?" None had been to primary school, not even graduated, but low, this is junior high. And here's high school, and above. Okay? So if we extract this part of the graph out, it's 30% in 2015. Yeah, it's a little bit

higher now. It's probably 32% in this new census. Okay? But 30%, and compare that to the rest of the world, right, China has, according to the OECD metric, has a poorer educated country than South Africa, right? Oh, the Chinese just shudder at that, then Mexico, Turkey, et cetera. Right? It's, very, very low. And what this means, of course, is that 70% of those in labor are high school dropouts. It's actually, they've never been to high school. Right? They got junior high education, which means they're literate and numerate. Right? And of course, in a Chinese system, they're disciplined. They're great workers on the factory floor. Okay? So, this part's not in my book, 'cause once I started giving this, say, especially on the China side they say, "Come on, give me some evidence that this is gonna be affecting." China's kind of, "We don't see it", right? Especially when they're growing at 12% a year in 2013, 10% 2015, uh-oh, 8% in 2017, uh-oh, 16%, 6% in 2019, right? But they're saying, "Where do we see the effect of this problem here?" So I like to look at two key indicators. This is also government statistics, okay? Look at employment and wages. Okay? And what you see here is 2004. So, right after Zhu Rongji left office, Wen Jiabo and Hu Jintao are in power then, almost seven out of 10 of people in the formal labor force, formal employment labor force, so formal employment is, has a done way. In employment here is manufacturing, construction, and service sector, okay? So, it looks even different with the agriculture, but today, who's in the agriculture sector, right? Old men. Right? They're the ones farming now. Right? And middle-aged women who are taking care of their kids. But, so this is of all the people in the secondary and tertiary sectors, okay, who have a formal employment share. Formal means I'm part of a , I'm part of a unit. I'm protected by labor laws. I'm well protected by labor laws. I have social services, I have unemployment insurance, I have, you know, I'm part of this unit, healthcare, et cetera. And it was about almost seven out of 10. But look what's happened over the next 15 years. By 2019, I just saw the updated data, it's almost reversed. And now, it's six out of 10 people are in the informal economy. And look at these informal jobs. They're right, it's going up at a rate. Formal jobs are actually falling now. Okay? And informal jobs, you mean it's those guys in the service sector, right? The DD drivers, the Meituan delivery men and women, et cetera. The "What Li Keqiang calls", right, the , the farmer's market economy. Those guys who go out and sell their own goods, that do their little repair shops and that kind of thing. And these jobs have risen at a much faster rate than these jobs, which are declining. And gosh, remember that graph we saw of all those middle income trap countries, where the informal sector is there. And so let's look at the different types of jobs. Well, it's because what's happening is here, down goes manufacturing, construction jobs topped off in 2013. They're actually falling since then. Okay? And now, hey, good news is, professors jobs, and doctors, and lawyers, and investment bankers, those jobs are rising. Silicon Valley and Boston is doing well. And New York City is doing well. That those jobs are going up. But look at what's rising faster than anything. These are the informal labor intensive service

sector jobs. Okay? And why are they raising so fast? Well, people that get laid off of here, go up here. People that get laid, can't find a job here, go up there. All the new entrants get dumped into here. And it's going up at a higher and higher rate. So that's employment. In Mexico it's the , right? It's the farmer's market economy, as Lee Kee Chong said. There's 600 million people are living at 1,000 yuan per capita per month. And there, and look what's happening, look what's happening with wages, these are, that was the graph, is wages of the informal labor intensive sector are falling those growth rates. Good news is, right, is we gotta pay our Harvard Stanford grads more and more every year when they go out into this professional sector. But the informal sector is, you see really start to see the start of this polarization. Exactly what happened in Mexico, in the late '80s, early '90s, and then , right? And when it stagnated it, the country hasn't grown since. So why are wages falling in that sector, while we have this rising supply of informal workers, right? Employment in the other sectors, right? Manufacturing, construction, agriculture, it's all falling. Okay? These laid off workers and new entrants, only have one skill, the informal, low-skill service sector. So the supply of workers into those sectors is greater than demand, right? The dual circulation economy is the one who's demanding those services, but that's still pretty low, given China's economy. And so if the supply is greater than demand, those wages start to fall okay? So what's driving these trends and getting, it's automation, right? Wow! China is automating at an incredibly fast rate. Globalization, right? If I was with you, I would step out from behind the podium and give you a spin of my jeans, right? My Levis. My Levis, five years ago, were made in China. Today, Levis are made in Bangladesh, I mean, sorry, in Ethiopia, Samsung, this is still made in China, but it's not gonna be made in China for long. But Samsung already has stopped assembling in China and et cetera, et cetera. So globalization is happening. China's trying to keep their firms here by giving support for automation, right? We're gonna automate, not let our firms move. But both of them have the same impact on demand for labor. Of course, the global recession and COVID-19 has hurt it. Will that be a short or long-term move? "Should we expect more in the future?" Well, you guys know, "China 2025", you can't say "China 2025" anymore in China anymore, 'cause it's not a policy, right, but it is. You go look at the "14th Five-Year Plan". Tremendous investment into automation by the government. Hongbin Li, my co-director of our center SCCEI, Stanford Center on China's Economy and Institutions, okay? He wrote this paper and he basically shows that China has adopted more robots in the past five years than Germany, South Korea, Japan, North America combined. I mean, it's rabid there. So we should probably expect more. And of course, global supply chains are gonna shift. It's hard, but there is shifting going on. So should we expect more of this fall for the demand for labor intent, for manufacturing construction, a real supply shift over to these low skill, informal economy jobs? Probably, right? I would think that that could happen, right? Of course, there's offsetting forces, unskilled laborers fall, slow automation. Unless

the government is investing in automation, not the firms. Right? So, it's at this point in time that people ask me, and I'm gonna do this real quick, I think probably most of the people here know, but, "Does China know anything about this?" "Does Scott see this secret, but does Xi Jinping not?" Right? And what I often say is, I think China is fully aware of it. There's been this huge rise of investment into high school, right? And there's been an investment into healthcare. There's been an investment, and whether they work or not is another, is part of the book. I mean, their investment in high school has gone into vocational schools, and they don't work very well. But at least, they're trying and they know that they need to have a better educated overall workforce. So, I think that they do know that. Now they get to the key questions, I'm gonna show you that in a second, China's pushing all these new policies, right? Dual-circulation economy. They're trying to raise demand, right? If demand is high for services, hey, people can go into the gig economy and get higher and higher wages. , right? But if demand is low, right? And exports fall or top off, and demand is low if there's lots of uncertainty in China, there's not very well, good social security, people aren't gonna consume services, they're gonna save, right? Urbanization of fourth and fifth tier cities. Right? They're trying to promote, trying to create growth. Yeah, but when poor people, it's gonna be, there's no poor people in China, right? Can't say poverty. But there's lots of low income people. And if you read Terry Sicular, Li Shi, Gustafsson's new book on middle income, they talk about the rise of the middle income. Well, it's all the way to 400 million people on already. Hey, there's 50 million high income people. But remember that leaves 950 million low income people. And low income people, they're the ones that are gonna be urbanizing in these tier four and five cities. They aren't gonna consume services. Their income's too low. Right? Li Shi says, Li Keqiang said, 600 million people have 1,000 yuan per capita less a day per, per month. Li Shi says that, "Hey, the number is, it's 900 million live on 2,000 yuan per capita per month." Okay, so when you make 2,000 yuan per capita per month for your family, you aren't gonna be ordering Meituan delivery every night. Right? So... Yeah, and so you can see here, I'm not gonna go through this, but you can see there's this rapid rise of school attainment. These are 15 to 17-year-olds, so in 2005, only 50% went. By 2015, it was already at almost 90%. 10 million new students were put into high school. Wow! Yes. China sort of woke up and said, "All right, we need to send them to there." But it's a problem of Rural Hukou, right? The participation rate of urban China is about 93%. That's higher than Germany. Okay? So of course, rural Hukou people, there's 70% of kids have a rural Hukou. So, 70% of 70, it's still half of, there's a lot of people that aren't in high school and that. So if they're going on to universalize high school, you gotta get the rural kids in there. Right? And it's a poor world, when I say poor rural area, this isn't Gansu and Guizhou. Well, it is Gansu and Guizhou, but it's Hunan, Hunan, Anhui, Jiangxi, right? This is central and Western China. They look almost exactly like when you look at schooling outcomes, okay? So, here's China today. Okay.

And here's South Korea and Taiwan in the 70s and 80s, okay? Where everybody had been to high school, okay. And here's Mexico in the late 1980s, early 1990s. Who does China look like? China, Mexico, China, Mexico. I mean, that's pretty, pretty stark, right? The comparison there. And of course, it's these people in Mexico that some went to the US, right? But they went into the informal economies, right? Flipping tortillas and polishing shoes. You saw them there. And they went into organized crime. And they... Mexico was one of the safest countries of the world in the early 1980s. And now, it's one of the most violent countries. And it had a lot to do, you know, with this. So, the challenge of the government today in China is to get students and pull, and into high school, and to provide training for laid off workers. Okay? So, you know, okay, can we send those 30 years olds that just got laid off their, just got their job taken by a robot? Can we send him or her back to high school? We need to do adult training. I'm not gonna talk about that today. I can answer any questions, but it's really, really hard to train someone a laid off worker in their 30s when they have a family and they've never been to high school. They just don't have the skills to learn how to learn. But even if we start adult training programs and have put them all into high school, like China's doing, we have to make sure that they're ready to learn how to learn when they enter high school. Okay? And this is precisely the problem. I just, I got a couple more minutes. I'll be done a couple minutes. I added these because Winnie, Winnie is my, one of my, she is my favorite public health academic that works on China. And I didn't know if she had seen our new work on babies. And so I got these next four or five slides here. And so the thing is just remember, what we wanna do is make sure that students are ready to learn when they enter high school. Okay? Why aren't they learning to learn in the books? It's poor teachers. They're living in boarding schools. They're left behind kids. There's bullying. There's anxiety and depression. There's anemia, and intestinal worms, and myopia without glasses. Okay? But even if you do that and we've done all these, we do these big randomized trials. Like, you know, your J-pal people. I mean, I love the J-pal people. Right? Two years ago, they got the Nobel prize. And, but you know, they haven't done much of this in China. We've done this in China, big randomized trial. And it always increases learning of these kids a little bit. Okay. But you do 'em all together, and there's still this huge gap. Because what we're finally discovering, you know, it's like, it's taken economist a long time to learn that early childhood development might be real. ECD development problems might be a big problem. So the last five or six years, we started in 2014 was our first randomized trial with babies. We worked on this, actually other groups are working on it in China. Now, we did a systematic review. That was, it says, "Forthcoming" here was just published. Okay. So published in "BMJ Global Health". And we do three things in this. We look at development outcomes, 12 papers measure the cognitive development, the language skills, the social emotional skills of children in rural China. And the whole thing, this rural China, not urban China, urban Chinese kids are perfectly normal, like

San Francisco, or Sydney, or Paris. Then they look at the sources of delays. And then, we look at the solutions. And so these are the delays we look at. There's 12 studies, 10 provinces, 18,000 observations. I mean, so here's where these 12 studies come from. All of them are after 2014, except for one. So this is very, very new. And we look any study that has Bayley, Denver, or ASQ. And look at these. So these and these, 10 provinces. So, and it's not just Western China, Winnie. This is across rural China with Central China, heavily representative. 45% of these children have cognitive delays. It's minus one standard deviation or below. So this is what... So they're functional. They can work in factories, okay? But they don't have the skills to really do the high school math, language delay, social, emotional delay. 60% of kids have at least one delay, okay, in these studies. And the source of them, you know, it's not genetics. Okay? The source of these is 80% of families have never read one book to their young children. 80% don't tell stories or interact with psycho stimulation. 60% of 'em don't sing. Half of 'em have no interaction, sort of purposeful psycho stimulating interaction with their families. Right? So... This high level of poor cognitive delay, you know, is we think, and as you're gonna see, a second is related to this very poor psycho stimulation. And it's not that rural families don't love their kids. In our surveys, we ask them, "What's your educational aspiration for your baby?" Right? And 95% of the families say, "I want my baby to go to college." Okay. Remember, 70% of 'em drop out before they went to high school. Right? But they want their baby to go, only 30% of kids in China, 35% of kids in China go to college, but everybody wants, my favorite number is 17%. Do you know what 17% of mom said, these are rural moms said when they have their baby, "I want my baby to get a PhD." I just thought that's, and I tell 'em, "Ma'am, no. Don't get a PhD." Right? "MBA, okay. Not a PhD. You'll be poor, like us." But so, is it a problem? Well, the really remarkable thing is just in the last... Here's 2020, 2020. These are papers that are all just published in the last two years, except for this one. Like I said, there's one paper that was done earlier, is there's been nine randomized control trials. They use different curriculum. They use sometimes in-home visiting. Sometimes it's in a center, but it's all curriculum-based, one-on-one training with the parents in teaching them how to stimulate their kids, to read to their kids, to tell stories, to interactively play, to sing to their kids. And I call this graph, "All Roads Lead to Rome." I mean, look at this. There's been these 10 randomized control trials, and every one of 'em has an impact. They've all raised the level of development of the kids in these programs. These are all zero to three kids. So parental training is needed. And the reason is a subset of them. See this, it's why did they raise? So the mechanism analysis is because the parents are investing more in their kids. Time and money, and their beliefs, and knowledge about how to raise a kid. So it's really a fact that these rural parents have a huge aspiration for their kids, but they just don't know how to do it. Right? And so, that's what we sort of find. And the last thing I wanna show is, is this a really a problem in

schools? So here the kids already in school, okay? There's no parental training, but we found, gave 'em a Ravens test, 41% of these 32,000 students that we looked at had development levels, minus one standard deviation or below. And look at this. So here's our cognition scores and here's their math scores. So they we're in elementary schools, third and fourth grade, and kids that have low level of cognitive development, don't learn math. Okay? And in junior high, we went to Shaanxi and Gansu, and this is Han area of Gansu. So these are all Han students, a 100 rural junior highs. We measure with WISC or Ravens. And you can see that, IQ or cognitive dilemma is less than 90. 66% in Gansu, 46% in Shaanxi, half when you use Ravens, just like in elementary school. Okay. And again, the same thing, it's clear to me that it's not that these kids don't wanna learn, or their families don't want them to go, it's that they can't learn. Right? And look at their math scores and look at their, it's huge, this correlation between there. So I'm gonna finish up here. "What can be done?" "Start now!" Right? Common prosperity, yes! But common prosperity, there's four policies with common prosperity, and it's tax, the big companies, and have the rich people give philanthropy. So they're gonna take all the money away from the rich, but for the poor people, it's don't , work harder! Right? That's one of the policies. And the other policies, no welfare. So I just don't get where common prosperity policies are going. Right? I want them to take this money here and invest it into human capital, zero to 18, adult or training. There's gonna be some adults that are gonna be able to learn. Okay? And I think we need to take advantage of that, but it's not letting them get online and take an online course. Right? And it's not just having them go on Sunday afternoon and learning, it's giving them one or two years of pay. Okay? Subsidize their training, have them go full time, and learn on whole new set of skills that will give them sort of the ability to learn,. how to learn a new job. But certainly, it should start with zero to three, four to six, K to 18. Right? So, you know, I think common prosperity, is it really gonna be taken seriously by the government? Is this urbanization component really gonna matter? Are they really gonna move 400 million people into 2,000 county seats? I mean, that's 2,000 counties, times 200,000 people each, is that how we're gonna try to run this economy? So I'm gonna stop right there, Winnie. And it's just, yeah, just about 45 minutes. I won a couple minutes over. Sorry, but.

- That's okay. Perfect.

- [Scott] I'm looking forward.

- Thank you so much. Thank you so much, Scott, for synthesizing all the work that you have been doing in many years, but also some of the new work that is emerging. It would seem to me that you are, you identify two major problem. One is getting rural students to go to school, is one of them. And the second one is, if they go to school, they're able to learn, which you identify as an earlier problem in

cognitive development. On the first one, why do you think that, why do you think that rural kids are not going to high school? Because I mean, this policy of having children go to high school in a rural area, it's not new. It has been for a while. What do you see as some of the more fundamental problems? Do you think this will continue to increase enrollment? Or is there something more foundational that it will sort of stay at this 70% plateau and not going any further? And on your second one, which is being able to learn, which I find fascinating and is also seems to be grounded in a much more fundamental social issues. It could be structured. I mean, before we start, we talk about even in the urban areas and there are many more children now living with single family, before in the rural area, you have left behind children. Now, parents are also separating. And so, can you just elaborate a little bit more on what could China be? What could China be doing from a policy perspective for those both problems and from a research perspective, what would be more helpful to get really down to the deeper issues that can unpack it?

- [Scott] Yeah. Okay. Is that my next book assignment, Winnie?

- [Winnie] Aspiration.

- [Scott] Yeah, I know. I don't know. Economists don't write many books and I can understand why. Thank goodness I had Natalie. So Natalie's my co-author. It's really well written, everyone, because she did the writing. So about high school is, I mean, high school enrollment is going up and they're pushing people into high school. And I mean, as you saw, right? I mean, families want their kids to go to high school. So why don't they go to high school? Right? Well, there's two reasons. One is, I think families figure out that their kids don't know how to learn or can't learn. Right? I mean, oftentimes they get scolded. You know, "You're so lazy. You get such bad math scores." I mean, and you know, then they finally, the families throw up their arms and say, "Okay, go to work." "You don't do well in school", et cetera, et cetera, cetera. So when they get to that level, and one of the reasons is the way junior highs and elementary schools, junior highs work is, since the early 2000s, they don't allow tracking, fast track, slow track. They don't allow. Now, cities have figured out ways around this, but in rural areas, usually there's only one or two classes inside a rural junior high. So, you know, there's 70 kids in one class and 70 kids, they basically randomly assign them. Again, sometimes in the city, in the county seat, high schools or junior highs, they'll have sort of fast track. But because of that, right, they teach to the top of the track, right? And it goes really fast, 'cause you remember the rural kids in rural junior highs when they take the high school entrance exam, they're taking the exact same exam as everybody in the cities. And so, you know, this is a really fast competitive system. So if you're slow, you just can't keep up. Right? And then, the teacher then ignores those guys. And so, "Why should I go to school?" Okay. Now, what China did is I said, "Okay, we

need to get kids in high school", as you saw. That big gain, the 10 million new slots, almost all have come in vocational high school. Okay? And so, this is a supply side problem. So you say, "Why don't families send their..." Because people see that the quality of those vocational ed schools are really, really poor. Now, I don't think there's anything wrong with vocational school. And the Chinese say, "Oh, but look at Germany does it." And you know, "Germany's doing better than the United States." But Germany, what they don't get is that German vocational high schools are 80% math, science, language, cognitive, sorry, cognitive skills, essay writing, et cetera, et cetera, et cetera. And 20% learning carpentry, or fixing computers or whatever. Okay? And China is exactly opposite. There's about this much math and science, and this much internships in factories, and taking apart motors and putting back. Nobody has internal combustion engines anymore. Right? You need computers to fix the new car. And they just don't get the skills, and parents know that. Okay. So it's a supply problem. So I think that China needs to really improve on vocational education very, very much. And, but I think, I don't mind them going that way, as long as they improve it and put mostly. So number two is the babies. So I often say, we go and train mom in how to read and interact with her kid. And she's starting to read and interact with her kid, but there's so much financial pressure on family. She then gives the baby to grandma and she goes back to work, and grandma can't read and can't write. Right? And so, this problem is a big problem. And of course, moms, even educated, junior high educated moms don't know that they should do this. So I think if you go look at the rest of the sort of middle income world, international, this Inter American development bank, about a third of their new loans are all on zero to three parental training. In Brazil, in Peru, and Columbia, and Ecuador, Mexico, South Africa, and Turkey have put these. China doesn't have one yet. Now, I wanna say one of your colleagues in Shanghai, Jiaotong School of Medicine, Dr. Jiang Fan, you probably know, she's the director of the whole school. She's been very, very sort of involved in trying to get the national health commission, the ministry of health and the planning commission to sort of raise this up. And they've just come out with new guidelines and new policies that say push. And our collaborators in China, CDC, basically say that finally, there's this big discussion. And so they're telling them, "Hey, can you guys devise some programs that we can push out to these rural areas?" So, it's starting, but I think we gotta learn from Brazil. You know, who's gone through this so many times. Brazil actually pays their mom to go to these programs. And so, they don't pay them 3,000 yuan a month, right? They pay 'em a 1,000 yuan a month, but they can stay home and raise their baby, and learn psycho stimulating activities and really develop their babies. And it's a very popular act program inside Brazil now for the poorest 35% of the country.

- [Scott] So, we got a lot of work to do in China.

- [Winnie] Yeah. So, we have a question, which is, you already answered one of the question, which is why vocational schools fail, why they are not working well. There's another question is how do you think of China's current, the double reduction policy? Do you think that this policy would help promote the rural education or vocational education?

- So this is to eliminate... This is to eliminate cram schools?

- Yeah.

- [Scott] Yes. Oh. So, in our new center, we have six flagship initiatives and one's in education in health, and Sean Sylvia, who you know, at University of North Carolina, he and I, he does a lot of the health and I do the education, home being lead, does firms and productivity. We also have a new brand new program on demography. And of course, you see the news out now, they're counting the number of babies that are born in 2021. And it looks like there's only nine, what 9.5 million babies born this year, and there's gonna be 10 million people die. So China's overall demo... It looks like it's gonna start falling this year. Right? It was always 2020, 2028 when it was going to. So there's some people working with us that are really interested in. One of the issues work on is how much it costs to raise a baby, to raise a child, all the way up to the time that they graduate and they're on their own? In the United States, it's somewhere around three years of income. You know, we've got free public schools and et cetera, et cetera, et cetera. You know, there's a big variation, but it's about three to four years. In China, it's nine years. You need nine years of family income to raise one kid, right? So if you have two kids, it takes, I don't know if there's economies of scale, but it takes 18 years that you have to work the whole time just to raise your kids. And I mean, this is a big, big commitment. That's why people are having one. So double reduction, let's get rid of cram schools and that will make it more easier for parents to raise their kids because the cost will go down. It's 3% of the cost of raising kids. So, cram schools are, I mean, that's a big amount, but it's not gonna change the calculus families have. What we see, and we're just basically doing phone interviews of our families that we were following before COVID, during COVID. And we were asking a whole bunch of questions about how they were dealing with things during COVID, but now it's post-COVID. And we're asking about, we knew if they were going to cram school over here before COVID and none of the rural people are getting any, any tutoring now. And the urban kids, they're all bringing the tutor into their house, having one-on-one sessions, parents sometimes organize a little online session for their kids. So urban parents are figuring out a way around this, but the rural parents, they don't have the resources. They don't have the know-how. So I think the cram schools had just got out to these fourth and fifth tier cities, and they were cheaper, you know, 500 yuan a month, and a session on Wednesday night and Saturday morning, that

kind of thing. And, you know, as families are willing to pay, but now it's gone, they're gone. So I don't think this double reduction is... That's not the problem. The problem is the competitiveness of this system. And then, the inability of kids to participate in this system.

- Just curious, do you wanna comment a little bit on the quality of teaching and teacher as well?

- Yeah. Yeah. So, I'm not a big, as you can tell, I'm not a big fan of this urbanization into the county seats problem. It's like I say, we want 2,000 cities of two. Yeah, 2,000 cities or 2,000 county seats, of 200,000 people. Cincinnati is about 200,000 people. So, it's like the policy is to set up 2,000 Cincinnati's across China. That's how we're gonna urbanize. And if you know anything about Cincinnati today, they're struggling, right? Yeah, there's some people working here. There's a big unemployment and there's lots of people struggling in the middle, right? Because there's just no manufacturing, there's no construction and services, demand is low, because people don't have money. Well, and that's kind of what they're setting up there. But, okay, the one thing that might, this drawing families into these county seats, really could help with teaching. Okay? At least in the short run. So in the short run, and of course, it's gonna help with provision of health services too, right? Now they're relying on the village doctors, as you know, from Sean's work, you don't want to go to a village doctor for tuberculosis, or for angina, or for childhood diarrhea. You know, 'cause the probability of being hurt is higher than the probability of being helped by these poor doctors. But you know, they come into the... If they're living in the county seat, and then you just go to the county hospital, right? And it's much, much higher quality service there. That's gonna be the same thing with schooling. Okay. Because people will be willing to be a teacher living in the county seat. And maybe, commuting out to the suburbs of this new county, but you know, coming back, it's not gonna be that far. Right? That's the big problem today, is you can't get good teachers to go out to these schools. I mean, it's a fundamental problem. And, if you, you know, China knows it's a problem and they can't even get, there's not enough teachers. And then, the teachers that are out there. So they started this, you probably know this normal education policy, where if you come to a school of education in each province, every year there's, oh, I mean, tens of thousands of kids that get free tuition, not only free tuition, you get a stipend to go to school. Zeros, college, it's not as expensive in the US, but college isn't cheap in China, but it's zero if you, but you promise to go and teach for eight years in rural schools. That's the cost, right? Guess what? Nine and a half outta 10 students never go one year out to teach. They just say, pay the loan back, or they just break their contract. And it hasn't been enforced, because no one wants to go out and live in a village and teach out there in the schools. I mean, you just can't get good teachers. And so then, of course, the policy is, well, "Let's spend money on re-training our teachers." And my

colleague here in the school of education, Present Loyalca, ran two big randomized trials in Henan, with the Henan provincial government, where we brought in a thousand teachers and put them into the national training program and we left a thousand teachers out there, all identical to start with. And we measured kids learning before and after. And then, a year later, and basically these national training programs have zero, zero impact on teacher teaching styles, or what kids learn. And the fact is they probably, they aren't motivated to learn and they maybe can't learn. Their levels of teaching is really low. So, teaching is a huge problem. So that's why I'm saying, if we bring these kids into the urban areas, maybe that'll help.

- [Scott] So, there's other problems doing that. But in the meantime, it might be, it's better than leaving them out in the rural areas. Right?

- So just to say, this is related to a question that my colleague, Nara Dylan ask, but maybe at a broader perspective. First of all, she wanna thank you for a very interesting talk, but she also ask, can you say a bit more about the urbanization policies, how it would interact with the rural problems that you have identified? Will urbanization of in the fourth and fifth tier cities lead to better education, which you use somewhat alluded to just now, and would there be additional interventions that are necessary, and what might be your thoughts on what kind of additional interventions?

- Yeah. Yeah. So I think most of what I said I think was covered there. I mean, I think that if we bring families into these fourth and fifth tier cities and give them really good social services, right, you get better teachers, so you get better education, you get better health. Start these zero to three parental training programs. And it's gonna be much easier to do them in the county seats than to do them village by village, by village, right? So, I think there are a lot of, there are some good things. I would rather, you know, what I was in a whole bunch of... I guess it was a series of workshops through the early 2000s, and Verne Henderson from Brown, is an economist from Brown, that works on urbanization. That's his real thing. He had some Chinese students and they did a whole bunch of very interesting, you know. What really should have happened is, you know, Beijing should be 90 million people, and Shanghai should be a 100 million people, you know, it should be like Tokyo, to Kyoto, to Osaka, to Hiroshima, should be from Shenyang, to Hangzhou. Right? I mean, and it should be, and that's what should have happened, 'cause you got such huge economies that come. China's not gonna do that. Okay? We know that. That's what I'd like to see. 'Cause what I'm worried about is, the good news is we can give better health, education, early childhood development, unemployment insurance, adult retraining if families are in even small urban areas. Okay. So that's good. But the thing is in the longer run, what are people gonna do? Right? Poor people, rich people are gonna move out into the cities, right? And the poor people

are gonna stay there and we're gonna get this sort of public housing crisis in 2000. So I think in the longer run, it's hard to say, but I think it's, we might as well take advantage of it if they're gonna do it, I think let's do it right. So...

- Great. I think a couple of question is sort of along the line of, they're not quite convinced that a comparison of China to Mexico is the right comparison. If you look at their growth trend, China has more sustained growth trend. And do you think that's a fair comparison just by looking at the informal sector and the... And also the education of the high school, or are there others that would make the two different?

- Well, I mean, I got it. I mean, I understand completely. I mean, that China isn't Mexico, right? I mean, and the 2020s, isn't the 1980s. Right? And so, the world changed a lot. Right? And Mexico didn't have to deal with automation. Right? So, maybe China, maybe this isn't a fair comparison. Maybe the problem is gonna be much worse for China. Right? And, but, so I often, you know I get that. Okay? What I'm trying to do is to say, there's a potential big problem that your economy is facing. People, I mean, that's sort of ignoring it. Right? And I mean, that's what I'm saying. Common prosperity, doesn't have big investment into education, rural education, rural health, early childhood development. Right? Rural vitalization, rural revitalization, whatever it's called in English. It doesn't have, it's the ministry of agriculture. Let's go... So this is what I tell people, okay? So, maybe you don't think that this problem of an undereducated workforce really is going to be, you know, a problem that pulls, it holds China from a developing. Okay? "I don't believe what Scott says. Maybe." Okay. So I always ask you, what's the probability that I'm right? Okay. And you can be, you know, a big skeptic. "I think you only have a 5% probability being right." "Or 10% probability of being right." Right? Then, you know, I think it's a little higher than that. Okay? But, and I think there's other problems out there in the economy that's gonna hurt, like, you know, their move to state on enterprises and planning and trying to fourth and fifth tier cities. Okay. I don't think those are drivers of economic growth. Okay? But this problem of human capital is what, you know, should we give it that much attention? And I say, "Okay, Winnie, do you drive?" "Do you drive, Winnie?" "Yes." "Do you have a car?" "Yes." "Do you buy insurance?" "Yes." "What's the probability of you having an accident", right? "Oh, you know, it's less than 10%." "But so why did, it's so low? Why do you buy insurance?" Right? "It's because it might happen." Well, that's what I say with this, is this might be a big problem, so let's buy insurance. Okay? And I don't know about you, Winnie, but me, I hate paying my insurance policy. Right? 'Cause I'm giving it to some big company, right? That who knows what they do with that money. Right? And I've been giving it to him for 40 years. I've never had an accident, knock on wood. Right? But I keep buying it. Well, to buy insurance for this problem, we have to invest in zero to three early

childhood development, and get our preschools better, and get our vocational ed schools higher quality. Right? And pay our teachers more, and da, da, da, da, da, over and over. Okay? And guess what? Even if it didn't keep China from growing, okay, hey, you're gonna give, you're gonna let them commonly prosper. Right? So, I think that's the answer, you know, to that. And be careful about sustainable growth in China. Right? Look at since 2013, that's a, you know, very remarkable year, right? And it's 13%, 12%, 10%, 8%, 7%, 6%, you know, it's now down to 5%. Right? And so, you know, it's countries not, China's not gonna grow at 5% a year for the next 15 years. It's not gonna grow that fast. It's gonna get down to two or 3% if they're successful. And what are all, and you see the polarization happening. So, okay, I'll put it there.

- [Winnie] Right.

- I totally agree with people, but I want you to start thinking about that. That's why I use these analogies.

- Right. I have a last question. Is the graduates, the graduates that move from the middle to the higher income.

- [Scott] Oh, yes.

- Besides the quantitative number that when they were in the middle income, they have a high percentage of people who have high school education. What else can China learn from that to become graduates?

- They're all market economies. They're all integrated into the world economy. You know, China has been in the past. Do they wanna separate themselves from the rest of the... Can China... If China has an argument with the whole world, can they keep growing? But I think it's mainly, yeah. It's really, you know, can a planned economy with huge state intervention, can it continue to grow over time? And that's the real problem. Remember, going from poor to middle income, lots of countries have done that. You know why? Because as you know, if you take your development economics class, when you're poor, there's four sources of growth, right? And that's mobilizing inputs, right? Bringing those farmers from the rural areas to urban areas, bringing in foreign direct investment funding, right? New inputs, marketizing, getting rid of inefficiencies, right? So household responsibility system, privatizing small enterprises, right? Those are everything that China grew on, right? And productivity growth, right? So productivity grows from investing in new technologies and from getting rid of bad firms. And so, if your growth is minus 2% a year, let 'em go bankrupt. If the growth is 5% a year, let all the money come to that. So there's so much investment in it that it goes down to 2%. And guess what? Modern economies, like ours, 92 different industries have to grow at 2% a year, 2%, 2%, 2% for a hundred years. And it's from new technology and productivity growth. Can a state owned state

controlled government planning system go through 92 different industries and get 2% a year? Okay. That's gonna be China. And guess what? No other country has ever done it. Okay? So no other country has done this with such a weak educated and labor force, and no country has ever done that when they're planned. Okay? And so it's a double, double whammy. And that's why I think that, I don't know anything about technological investment, but I know a little about rural babies and that's why I work on them.

- Great. Wonderful. So, what you have left as the wisdom, what you just said would be great agenda for the seminar, for the next term, to look for a presentation and discussion on can a planned economy continue to transition from the middle to the high income, and the work that you continue to use it sustained. And so, thank you very much. And all of us at this high education institution appreciate the importance of human capital, but we hope that it is actually available and equal for everyone, those living in rural areas, coming from a more disadvantaged background. And if it is not for a country's growth, for humanity reasons, all those are very important. So thank you very much, Scott, for sharing your four decades of work. And I will say passion in this subject matter with us. Thank you.

- Thank you. Thank you, Winnie. It's always, I really wish I was back at the Fairbank Center, but.

- [Winnie] Yes.

- We'll do it soon.

- You will invite you back, and I hope that we can interact in person.

- Well, you can come out and see us, too. And your daughter.

- [Winnie] Yes, likewise. Thank you for-

- I would say hi to Michael. So, I see your director. I actually saw, we were both in person at University of Pin about three weeks ago. So some places are having... We aren't bringing speakers in and you aren't, but let's do it soon, okay?

- We'll do it soon. Okay. Bye-bye. Thank you.

- [Scott] Thank you, everyone.

- [Winnie] Thank you, Scott.

- And great question. Great question.

- [Winnie] Thank you so much. So Scott, really wonderful. Thank you.

- Oh, Whitney. It's great to... I know you've been interacting with Sean on and off.

- Yes, we're trying.

- [Scott] Thank you for doing that. He's just ready to go up for 10 years soon, you know?

- Yes, yes. No, I mean, he has done such wonderful...