Q & A

Matteo Maggiori on Who Really Owns Listed Chinese Companies

The finance professor talks about the rise of China in the offshore world, and why its 'mind-boggling' that international investors have accepted China's VIE structures.

BY DAVID BARBOZA — DECEMBER 12, 2021

Matteo Maggiori is a professor of finance at the Stanford Graduate School of Business and an authority on global capital flows. His work examining the "complex and opaque patterns of capital flows" helped him, this year, win the prestigious Fischer Black Prize, which recognizes work of a scholar under the age of 40,[1] and the Carlo Alberto Medal. He is the cofounder and director of the Global Capital Allocation Project, and has worked studying capital flows with longtime collaborators Brent Neiman and Jesse Schreger. Maggiori has a Ph.D. from Berkeley and previously taught at New York University and Harvard University.

Matteo Maggiori.
Illustration by Lauren Crow

Q: Much of your work is focused on cross border capital flows and offshore tax havens. How and why does the rise of China fit into your research?

A: China has been one of the major global developments over the past 20 years, and it's gone from being shut off from the global financial markets to being much more integrated. Whenever you see something that is that big, undergoing drastic change, it's exciting for economists; it gives us something important to think about and try to help formulate economic policy for. I also became interested in China because of its role in the international monetary system. China is a very large holder of U.S. Treasuries, and this is key to global imbalances. In that area, the question was: Why is that happening? Is that something we should worry about? Is that close to optimal?

Then I got interested in the rise of China in the offshore world. Actually, I sort of stumbled into it. My colleagues and I started looking at what was going on in the offshore world across all countries, particularly in terms of securities — equity and bonds — being issued by shell companies in the offshore jurisdictions. Very quickly, we realized that Chinese companies were showing up in extremely large numbers. It was a prominent feature of the data. We asked ourselves: Why is that the case? That's how we got to look at the Chinese VIE structures.

This VIE, or variable interest entity, has been in the news lately, with the U.S. Securities and Exchange Commission warning about the risks of investing in Chinese firms that use the VIE structure, and reports that China could soon ban them. But what is it exactly? How do you describe how Chinese companies use the VIE structure?

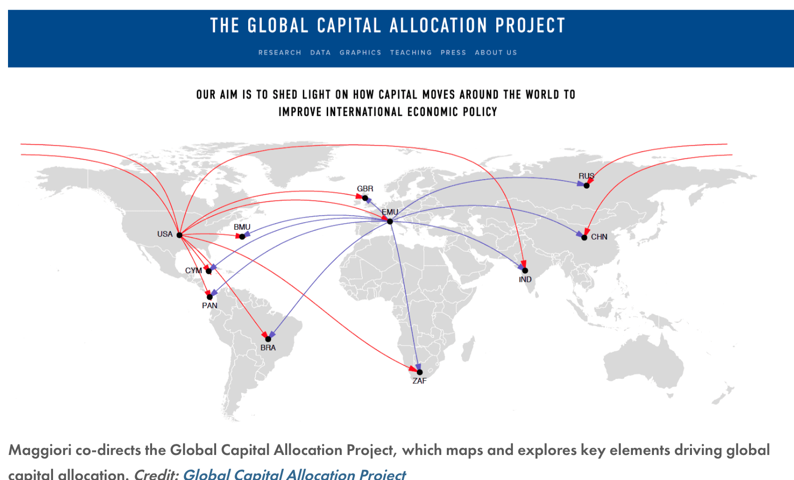
The so-called VIE structures were designed to bypass Chinese regulation that bans foreign equity investors from companies that operate in strategically important sectors, like technology. The workaround works approximately like this: A shell company is created in the Cayman Islands and its equity is listed in an international exchange, like the NYSE [New York Stock Exchange]. This listed company owns a number of subsidiaries within China that operate in non-strategically important sectors, like consulting. These companies then sign contracts, which are not equity, with the operating company in China and its Chinese equity holders that engineer two crucial features of equity: control and the right to residual profits.

The listed company takes a "matter of fact" view of this structure and represents to its foreign equity holders that when they buy a share in the listed company they are buying a share into the entire group, including the operating company. At the same time, the operating company takes a literal view of this structure and attests to Chinese regulators that it has no foreign equity shareholders. Overall the structure is a workaround regulation that takes two very different views of the same reality.

Are you surprised that a large number of China's most valuable technology companies use the VIE structure and that they have made it onto American stock exchanges and into the portfolios of global investors?

Yes, it's mind-boggling that these structures were so easily accepted [by international investors]. And they have grown to have a combined valuation, at one point, of more than $2 trillion. These are large exposures [for global investors] and they are based on structures that are not common [outside of China]. They're poorly understood by retail investors or people who hold them through mutual funds. They were initially floated by corporate lawyers as a way to bypass Chinese regulations [on foreign investment into areas the Chinese government deemed sensitive, like the internet]. And yet they came to be acceptable under international standards and exploded in value. It's only recently that policy makers have begun to take a closer look. You saw the SEC chairman talk about it [in a video] last summer, trying to crack down on this. Recently, the U.S. Congress had an annual report with a section about VIEs and their risks. Also, Chinese regulators have clearly stepped up the pressure to limit the use of these structures.

It reminds me of the situation we had before the global financial crisis with AIG. At some level, everybody knew AIG was big. But there wasn't a collective understanding of how troublesome an issue this could be. You might see a lot of little pieces but you're not putting the bigger picture together. This is something that is in the hands, very often, of unsophisticated investors. I doubt retail investors understand that when they buy shares of Alibaba that they are entering into an extremely complex structure rather than buying the straightforward equity in a [listed] company.



Maggiori co-directs the Global Capital Allocation Project, which maps and explores key elements driving global capital allocation. *Credit: Global Capital Allocation Project*

Are you saying the VIE structure should be better scrutinized, by regulators and investors?

That structure has important implications for global investing. Let me give you some numbers: somewhere between 14 and 17 percent of all foreign portfolio assets of the U.S. are in the Cayman Islands alone. A substantial portion of that is investment in Chinese companies that use the VIE structure. So it's a big feature of the global markets and is masking exposure to China risks. It creates a web that is difficult for us to disentangle and may lead foreign governments to draw up policies that are not based on the true underlying relationships. These structures directly, or policy misperceptions indirectly, could create financial instability.

And what is it that you find most troublesome about these VIE structures?

They have a somewhat dubious relationship between the listed company in the Caymans and the operating company in China. In disclosures, they say that if the Chinese government were to take the view that VIEs violate China's domestic legislation, which allows for no foreign equity in strategically important sectors, they could be subject to penalties or have to relinquish their claim on the Chinese operating company. In other words, the value of the company in the Caymans [many of them listed on American stock exchanges] is entirely supported by its own complex claims of ownership of some part of the Chinese entity. Other than that, the company wouldn't be that valuable. It's a somewhat empty shell in the Caymans. These structures have proliferated with the (implicit) consent of both U.S. and Chinese regulators.

Another concern is the perception that there might be public guarantees. Suppose that these structures were to collapse. Would there be pressure on the U.S. government to use fiscal resources to protect U.S. retail investors from losses? In that sense, I view favorably the recent policy interventions in the U.S. trying to make investors focus on the risks that they take in investing in these structures.

Your work also suggests that the emergence of the VIE structure out of China has made understanding cross border flows or tracking investment portfolios more challenging; that it has distorted some of the global figures that regulators or policymakers rely on to understand where money is flowing. For instance, you and your co-authors have found that the developed world has a much larger exposure to China than previously thought, for the US by some $550 billion. Is that right?

BIO AT A GLANCE

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Yes. One issue is that most countries' statistics count investments in the VIEs as being made in the Cayman Islands and not China. This shapes our view of bilateral exposures among countries. In our work [also with Antonio Coppola at Harvard] we go further and show that VIEs have influenced our understanding of how much of a creditor nation China is to the rest of the world. China is officially one of the largest creditors to the rest of the world, the third largest after Japan and Germany. A lot of academic and policy time has focused on this large creditor position and the need to adjust it, i.e. shrink it back toward zero. We show that because of these offshore structures China is only half as much of a creditor to the rest of the world as the official statistics say it is. Intuitively, China has sold a number of its largest tech companies to foreigners and over time they became extremely valuable, but these valuation gains have not been fully reflected in the official liabilities of China because of these complex offshore structures. Also, China owns more than $1 trillion worth of Treasuries, making it an importance presence in the US government debt market. But until recently, there was little or no attention to the fact that U.S. residents hold about $700 billion

of Chinese equity. A closer look at the data has led to a re-evaluation of the US-China financial relationship. For the last few years, these positions have paid off handsomely for the US: Treasuries have not returned to Chinese investors nearly as much as the returns American investors have earned on Chinese tech stocks. This is, of course, no guarantee of what will happen going forward, but it highlights the view of the US as a world banker that sells safe assets and invests in risky ones.

Let's talk about how you see Alibaba. As you said, it's a firm founded in China and one major part of it is registered in the Cayman Islands and listed on the New York Stock Exchange. How do you characterize such a company? Where does it fit in your schema?

For companies like Alibaba, when considering their listed equity, most statistics that policy makers use would classify it as being a Cayman Islands-based company. This occurs because the listed equity is issued by an affiliate company registered in the Caymans. However, the underlying exposure, both in terms of nationality and sales, is really to China. So our work reallocates investments made in Alibaba Caymans to China. It makes a very significant difference because, for example, American investors buying equities directly from China is relatively small; but Americans buying Chinese companies through the Cayman Islands is quite large.

Why does it matter that we have better data on who owns a public traded company in a particular country?

Before the global financial crisis, there was an erroneous sense that a lot of questions about who owns the assets or who is exposed to whom were of second order importance. But the global financial crisis showed how incredibly wrong this view was; and how expensive it was as a policy mistake. Figuring out that AIG, for example, was highly exposed to particular [financial] products, and then other firms were very exposed to AIG was a crucial element in what became a systemic crisis. This was a shock for a lot of policy makers and academics. And if you think of that as a leading example, then it becomes very obvious that we want to know how exposed these companies are to each other. Where is the money? What kind of [financial] products are they in? Do we have to worry about systemic risk? The problems are magnified when going across borders and multiple jurisdictions. If anything were to happen, disentangling a default or designing a policy intervention is more complex than in a purely domestic case. That's really where data collection stepped up. It was a realization that these sorts of issues can lead to financial crises, some of the worst economic events we've seen in the last few decades.

“**The problems are magnified when going across borders and multiple jurisdictions. If anything were to happen, disentangling a default or designing a policy intervention is more complex than in a purely domestic case. That's really where data collection stepped up.**”

Generally, how good is the global data on who owns publicly traded stocks and bonds?

For a long time, this type of data was scarce. But during the global financial crisis [2008-2009], both the public sector and the private sector realized that they needed to know this and they started collecting data. Regulators started to collect balance sheet data on firms, banks and other financial institutions. And in the private sector, since companies want to understand financial risks, they began to collect it too, hoping to figure out what risks they were exposed to. Realizing this wave of data was coming, we started an academic project focused on global capital allocations with Brent Neiman at the University of Chicago and Jesse Schreger at Columbia University.

And in looking at this data, you discovered that so-called offshore tax havens had ties to a growing number of Chinese listed companies, because of the VIE structure. We are talking about offshore havens as a way to get around local rules but not that Chinese firms are hiding assets overseas, right?

Let me make a distinction. In the offshore world, there are illegal situations in which people show up with bags of cash. We normally can't get detailed data on that. There's another part that is legal, in the narrow sense of the word. There's a corporation doing this; it mentions some of its offshore ties in its annual report. And while the company may be trying to skirt some rules, they are at least doing it within the confines of existing laws.

I drew this distinction because the data work is quite different. For instance, I can read in Alibaba's annual report that it has a Cayman Islands company. Same with Tencent. But what we were interested in is who really owns these Chinese companies. Does the company have Chinese or American or European investors? And how do you include that in national statistics? This may sound insignificant, but when you aggregate the data, it affects a nation's stock holdings and its relationship with other nations. One government might ask: How exposed are we collectively to companies from another nation? In many cases, the answer depends importantly on considering the offshore world.

MISCELLANEA	
BOOK REC	In economics: *A Tract on Monetary Reform* by John Maynard Keynes, more readable than the General Theory and lays crucial foundations of international economic policy and science. In literature: *Il Gattopardo* by Giuseppe Tomasi di Lampedusa
FAVORITE MUSIC	Classical music, I have long been astonished by Rachmaninoff's 3rd concerto
FAVORITE FILM	*La Dolce Vita* by Federico Fellini, it's the Italian growth miracle.

Does this type of offshore ownership data have other uses?

Yes. Let's talk about international policy. The Washington consensus for many years viewed capital flows as usually benign. It was a simple idea — capital flows to where the returns are highest. And in some sense, that's efficient. Now, the current economic consensus has shifted. There are many other forces that make capital flows problematic. Foreign investors might become overconfident in some countries; or they might fail to understand the political risks; or they may have incentives that lead to distortions in the local economy. For example, an investor might not consider that first everyone gets into China because the perceived returns are high, but ultimately everyone might get out at the same time causing prices to collapse. That's a common problem. What's going to happen to the Chinese market? The Chinese regulators probably manage capital flows with this in mind and they want to know which investors have crossed their borders and how they might behave in future crises.

So one thing your work is doing is to categorize a company and understand who its investors are so as to determine who is exposed to the rise and fall of a company, and who benefits and who loses, tracking firms by nationality. But how do you get this right when so many companies are global in nature, and may even register in multiple jurisdictions?

There are several ways you can look at it. Where does the company generate most of its revenue? Where is the registration of its ultimate parent? For the vast majority of companies, this isn't very difficult. I have no doubt Petrobras is a Brazilian company, though some global pharmaceutical firms are split among countries.

In the main part of our work, we look at
control — who controls this company? We're interested in who calls the shots and how they use this capital. We're looking at ownership chains where Company A is majority owned by Company B and so on until we get to what is called the ultimate parent, which is controlling the whole structure.

However, we also look at other concepts about the countries associated with a multinational. For example, we look at final sales at the group level. Maybe a company makes 60 percent of its revenue in the U.S., 30 percent in China and 10 percent in Europe. So when you're buying equity, you're buying exposure to these markets. With China, you might ask: How exposed are investors from the U.S., Canada and Europe to China? What is interesting is that a large component of revenue for multinationals that are listed in western countries and held by western shareholders is, of course, in China.

Is China the exception in this analysis of data from offshore havens, or do other countries also follow a similar pattern?

There are two prominent features of the data. One is that emerging markets like Brazil have become large users of offshore havens. In Brazil, it's mostly through the bond market. For example, companies like Petrobras have subsidiaries in the Caymans and in the Netherlands, and almost all of the Petrobras bond debt that foreigners based in the large developed countries hold is through these subsidiaries, almost none of it is directly into Petrobras in Brazil. So this is a much more general phenomenon of emerging markets, of which China is just an incredibly large component but not the only one.

The second feature involves companies from major developed countries. They often employ complex schemes to move their headquarters or issue bonds via offshore subsidiaries. One example is Medtronic, which I believe is one of the largest American tax inversions to date. It's a U.S. company that existed for a while and is listed on the New York Stock Exchange. Just before the tax inversion, the U.S. residents' holdings of this equity were counted as domestic U.S. investment. But after the tax inversion into Ireland, they are counted as American investments into an Irish company. As a result of this type of structure, you find in the data extremely large American holdings of reputedly Irish equities.

Europe also has dynamics offshore linked to financial regulation. The European Union has extended what is called the market abuse regulation, which is essentially a regulation about disclosure of inside information. What we found in the data is that some newly regulated firms switched to offshore jurisdictions, just off the coast of western Europe. Companies have chosen the Channel Islands with the idea that you could issue bonds there that wouldn't be subject to the new regulation but largely attract the same base of investors.

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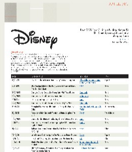
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