

# Financial Decoupling: What Are We Really Talking About?

In the context of US-China tensions, recent media reports have flagged the possibility of new regulatory or legislative interventions into bilateral financial flows. White House policy discussions are at a more primitive stage than concerns suggest, and the probability of action in this area remains low for the moment. The political discussion – such as it is — inside and outside the Administration has evolved without careful attention to the actual nature and magnitude of the flows underlying the bilateral financial relationship. In this note we inventory the stock of this activity, map political trends that could affect each channel, and consider the price tag and potential implications of government intervention to disrupt financial markets. Our findings are:

Bilateral flows are already sizable in both directions, and the commercial costs of reducing them would be significant, primarily for US financial institutions that seek to manage assets resulting from future diversification of China's household and corporate savings. An inclusive estimate of assets currently deployed in the bilateral financial relationship points to as much as \$3.9 trillion.

Most Chinese firms seeking financing within US markets have other options as well. Restrictions are unlikely to be a meaningful constraint on Chinese firms' access to finance, particularly for larger state-owned firms.

However, the mere discussion of interrupting bilateral flows may reduce foreign portfolio inflows into China's equity and fixed income markets, by raising the perceived political costs of these investments. The run-on effect of this could include China's exchange rate weakening and increased imbalances in bilateral trade flows, outcomes that will worsen should policy discussion of bilateral financial restrictions intensify.

Markets were abuzz after media reports revealed US officials were looking at options to reduce US portfolio inflows into China and potentially delist Chinese firms from US exchanges, in a new escalation of tension in US-China economic relations. The threat of "financial decoupling" – previously a fringe idea – has become a real contingency. These ideas have been promoted – by policy opportunists outside the White House and executive branch -- without a serious accounting of current bilateral financial flows, nor consideration of the second-order effects, particularly for trade and the exchange rate.

Given that these policy discussions appear to be at an early stage and the sizable interests involved, we assess the probability of enactment of any meaningful restrictions as low. But this does not mean the policy discussion is unimportant—the discussion itself can change the political context that will

Daniel Rosen dhrosen@rhg.com

Bart Carfagno bcarfagno@rhg.com

Logan Wright lwright@rhg.com

**Tel:** +1.212.532.1157 **Fax:** +1.212.532.1162 **Web:** www.rhg.com

**New York** 

5 Columbus Circle New York, NY 10019

California

312 Clay Street Oakland, CA 94617

**Hong Kong** 

135 Bonham Strand Sheung Wan, HK

Paris

33 Avenue du Maine 75015 Paris

impact actual financial flows, by raising the political costs of economic engagement with China for US and global investors. These discussions of US restrictions on capital flows to China are occurring just as China is opening its own equity and bond markets more widely to portfolio inflows, with inclusion of Chinese securities within global indices tracked by passive investors gaining steam. On September 9, China's State Administration of Foreign Exchange (SAFE) announced plans to lift individual quotas and regional restrictions to the Qualified Foreign Institutional Investor (QFII/RQFII) rules. In July 2019, Premier Li Keqiang pledged to open the financial sector to overseas firms by loosening foreign ownership restrictions in the futures, securities, and life insurance sectors by 2020, a year ahead of the previous schedule. Foreign firms are now allowed majority ownership in their securities investment, fund management companies, and futures joint ventures.

Any consideration of changes in the bilateral financial relationship should be based on a considered accounting of the size and structure of current two-way financial flows. Within the tables and charts below, we tally publicly traded equities, bonds, loans, venture capital, and bilateral holdings of long-term securities and treasury bills. We find that compared to mature financial partners, the US and China are at an early stage of mutual exposure, but that the financial relationship is already valuable to both sides. The unlikely scenario of complete financial decoupling would place a stock of approximately \$3.9 trillion in bilateral financial investment at risk, not including China's central bank holdings of US Treasuries, which have largely been a byproduct of China's past intervention to manage the exchange rate.

Given that overall size, paring down current and future flows will be costly. But the structure of these flows—in the present and the future—is also meaningful for any policy discussion, particularly because the highest-valued assets at risk *at present* are Chinese state-owned firms listed on US exchanges. These firms have several other options to obtain financing, primarily at home in Chinese markets: any US restrictions would primarily impact US investors seeking some degree of diversification, without much of an impact on China's companies.

At the same time, any policy restrictions would also have significant implications for *future* flows, stemming from diversification of China's household savings. China's policy choices have limited its financial integration with the world, including the US, and have kept the bulk of China's savings at home, in a single emerging market with mounting structural challenges. Absent restrictions, outbound portfolio flows will increase sharply in the coming years as China's household and corporates diversify savings into foreign assets, and US firms are currently positioned for engagement in intermediating those flows.

# **China's Access to US Equity Markets**

It is too early to predict what financial channels might be implicated by escalating political tensions, but recent legislative proposals and statements from policymakers indicate that some links are at greater risk than others. The financial channel at greatest risk from stricter US regulation is also the largest: stocks issued by Chinese firms on US exchanges. The main way firms headquartered in China access US stock markets is a technical instrument called American depositary receipts (or ADRs). ADRs are not stocks themselves but rather certificates that represent a claim on a foreign stock held by a US depositary bank overseas. This system allows foreign companies convenient access to US capital markets without the expense or legal complexity of officially listing themselves, and it allows US and international investors to diversify their holdings with otherwise inaccessible foreign stocks.

Figure 1 below charts the current outstanding value of shares and ADRs issued by firms based in China or are subsidiaries to parent companies based in China. The total value of these shares was \$1.93 trillion as of early September 2019, with a fairly even split among industries outside of financials. However, there are some important caveats to this estimate. First, not all of these shares trade on US markets, and the shares that do are not necessarily the property of Americans. Non-US investors work

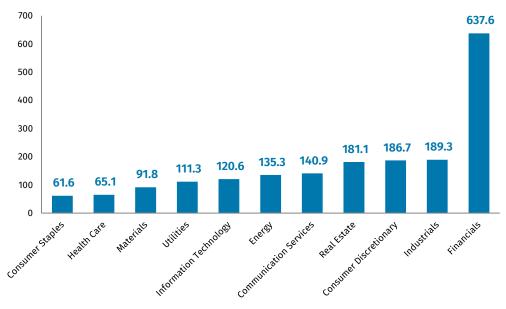
through US markets too. Third, firms with US listings under ADRs are not necessarily raising new capital: the risk of losing access to financing channels under a decoupling scenario may not bother them. Although firms like Alibaba have listed new shares on US markets, US listings can also be backed by existing shares issued in Hong Kong or elsewhere. The point is that if these firms were excluded from US capital markets, they would not suddenly be cut off from \$1.93 trillion in equity financing: the amount at stake would only be a small fraction of that total.

The state-owned sector makes up a huge proportion of the Chinese companies listed on US equity markets. The US share value of companies reported as majority-owned by either the central, provincial, or municipal governments (likely a conservative measure of China's state presence on these exchanges) is about \$931.7 billion, close to half of the total shares by value.

The largest sector category is financials, with shares valued at \$637.9 billion. The actual size of the financial sector is larger than this breakdown suggests, as Bloomberg categorizes China's huge financial conglomerates like CITIC and Fosun as industrials. Most of the value in this sector comes from China's Big Four state-owned banks, whose shares alone totaled \$441.5 billion.

CNOOC, Sinopec, and PetroChina dominate the energy sector, while the state-owned giant carriers China Unicom and China Mobile are among the top equity issuers in communications services. Private firms are concentrated in the real estate, information technology, and consumer sectors. Examples of the latter are Lenovo Group and Alibaba whose US-listed shares alone are worth \$12.0 billion and \$20.8 billion, respectively.

FIGURE 1
Outstanding Value of Shares Issued by China-Based\* Firms Listed on US Exchanges, Sep 9, 2019
USD Billion



Source: Bloomberg. \*Data was gathered on the basis of the country of risk of the ultimate parent company of the issuer.

The growing political tension surrounding this financing channel concerns US regulators' desire to conduct greater oversight of Chinese firms. In December 2018, the Securities and Exchange Commission (SEC) and the Public Company Accounting Oversight Board (PCAOB) issued a joint warning to investors about the challenges US regulators face in attempting to perform oversight of US-listed companies whose operations are based in China and Hong Kong. The PCAOB regularly inspects audits of domestically listed firms at home and abroad, but Chinese officials consistently

challenge these efforts. Chinese law requires that records remain in China, and the Communist Party categorically restricts access to typical accounting information, citing national security and state secrecy laws.

In response, a bipartisan group of four senators has sponsored a new piece of legislation, The Ensuring Quality Information and Transparency for Abroad-Based Listings on our Exchanges, or EQUITABLE, Act, which would increase oversight of Chinese and other foreign companies listed on American exchanges and delist firms that are out of compliance with US regulators for a period of three years. If the bill becomes law, China will either have to stop blocking U.S. regulators from viewing full audit reports from China and Hong Kong-headquartered firms, or see them delisted.

There seems to be little chance of regulatory disruption of Chinese listings on US exchanges in the short term. According to analysis by Skopos Labs on govtrack.us, the EQUITABLE bill has a 3% probability of passing.¹ Lawmakers may be hesitant to draw a red line that would threaten close to \$2 trillion worth of equities, or about 5.8% of the total value of US exchanges, at a time when there is growing concern about the pace of both domestic and global economic growth. Passing this bill would also escalate tension with China, by challenging explicit national security regulations. Regardless of the fate of this specific piece of legislation, US demands for more transparency into Chinese companies are unlikely to disappear.

#### Other Portfolio Investment Flows

Washington is also thinking beyond the water's edge, about portfolio investment into Chinese securities abroad. Though flows through this channel are smaller than US-listed equity financing, portfolio flows have the most room for growth as China relaxes its restrictions on foreign capital inflows, invites greater participation in financial and credit ratings services domestically, and gradually liberalizes its exchange rate regime.

Investments in stocks and bonds issued by Chinese companies on the mainland and in Hong Kong intermediated by US firms totaled about \$1.5 trillion as of mid-August. According to Bloomberg, there were about 2,216 institutional investors based in the United States which had combined equity positions worth \$880.7 billion as of mid-August (Figure 2). It is important to note that a portion of this volume represents capital from foreign investors that is channeled into China by US-based entities, so the actual exposure of US residents is likely much smaller than this total.

The majority of US-intermediated investment into Chinese stocks was through investment advisors such as Blackrock, JP Morgan Chase, and Vanguard. The second largest investment vehicle is funds, with a total position of \$318.9 billion. Index funds have guided more capital into Chinese equities after MSCI, a global provider of equity, fixed income, and stock market indices, announced it will include 253 large-cap and 168 mid-cap China A-shares, representing a weight of 3.3 percent in its MSCI Emerging Markets Index by the end of 2019.<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Govtrack.us, "S. 1731: EQUITABLE Act," https://www.govtrack.us/congress/bills/116/s1731.

<sup>&</sup>lt;sup>2</sup> MSCI Inc. "MSCI Will Increase the Weight of China A Shares In MSCI Indexes, February 28, 2019. https://www.msci.com/documents/10199/43f3ee8b-5182-68d4-a758-2968b4206e54.

600 491.7 500 400 318.9 300 200 100 33.8 23.5 7.7 5.1 0 Hedge Fund Venture Capital Insurance Other Fund Investment Company Manager Advisor

US-Based Holdings of Chinese Stocks by Investor Type,\* August 19, 2019
USD Billion

Source: Bloomberg. \*Bloomberg data is based on US domiciled institutional investors' holdings of equities domiciled in China. Additional details about the methodologies used for these estimates are available upon request.

In early September, US-based investors held \$603.5 billion worth of outstanding bonds issued by Chinese firms (Figure 3). Due to inbound investment restrictions and the uncertainty of currency convertibility, most of this (\$524.6 billion) was offshore and denominated in US dollars. Similar to equities, a portion of this bond investment captures non-US residents routing their investments through the US.

Most investment was channeled toward China's financial sector. While the Big Four banks were the largest borrowers in this sector, a significant portion of financials' issuance was from joint-stock commercial banks such as China Everbright and Ping An, as well as from China's larger, private real estate developers (their holding companies are categorized as financial companies) such as Country Garden and China Evergrande.

Two of China's larger asset management companies founded in the late 1990s to clean up bad debt from China's state-owned sector, China Huarong and China Cinda, owe US-based institutional investors \$31.8 billion in bond principal. The energy sector has outstanding bond debt of close to \$100 billion; the issuers are mainly state-owned fossil fuel companies. The technology, consumer, and communications sector bonds were primarily issued by private firms such as Alibaba, Tencent, Baidu, and Lenovo.

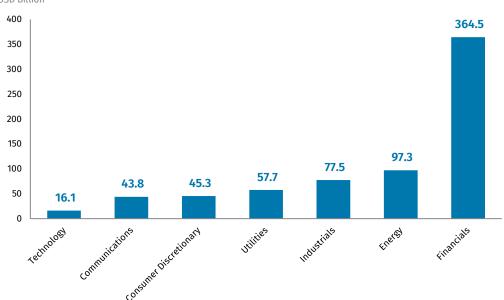


FIGURE 3
Outstanding Principal of US-Based Holdings of Bonds Issued by Chinese Companies\*, Sep 11, 2019
USD Billion

Source: Bloomberg. \*Data was gathered on the basis of the country of risk of the ultimate parent company of the issuer. Additional details about the methodologies used for these estimates are available upon request.

This discussion of portfolio investment restrictions could also impact Chinese holdings of US stocks and bonds. There is limited data on overall Chinese holdings of US portfolio securities, but the US Department of the Treasury estimates that Chinese residents' holdings of long-term US corporate bonds and stocks (a very conservative measurement) totaled \$199.4 billion as of March 2019, primarily in equities (Figure 4). Most of these holdings likely reside at the central bank itself as the result of managing China's foreign exchange reserves; private Chinese inflows into US markets are probably larger but may not be picked up given the custodial bias of the Treasury data. Bloomberg data indicate that there are only four bonds issued by US companies that are held by private investors based in China with a combined principal of about \$6.2 billion. This figure fails to capture almost all Chinese outbound flows into bonds because it does not include holdings via private wealth managers and private bank accounts, as well as omitting the flows from China's central bank into US fixed income markets.

Reported US holdings of Chinese securities totaled \$198.5 billion in March, much less than the \$1.5 trillion captured by the data above. Bloomberg data include all US-based institutional investment into securities both on and off-shore issued by Chinese companies (for bonds this extends to all companies with a Chinese parent). As mentioned, this includes non-US resident capital that has been intermediated by US firms into both short and long-term securities issued by Chinese domiciled firms. The Treasury data only captures US resident investment into securities with maturities over a year, a smaller subset of what is captured in the Bloomberg data.

250
200
191.2
183.6
150
100
50
Corporate Bonds Corporate Stocks
US Residents' Holdings of Long-Term Chinese Securities
Corporate Bonds Corporate Stocks China Residents' Holdings of Long-Term US Securities

FIGURE 4

Bilateral Security Positions on a Residence Basis, Mar 2019

USD Billion, Current Market Value

Source: US Department of the Treasury.

To date there has been no legislation comparable to the EQUITABLE Act that applies to cross-border portfolio investments by US entities in China, so this channel faces less immediate regulatory risk. Yet the ostensible goal of protecting US investors from questionable accounting practices among firms listing domestically could be just as easily extended to overseas assets, especially for funds which channel government employees' and retail investors' savings into Chinese securities. Moreover, political opportunists in the US are already looking beyond the narrow goal of investor protection and questioning the effects of these flows on national security and US competitiveness.

A bipartisan group of 24 Senators and 19 Representatives recently sent a letter to the Departments of Treasury and State calling for greater scrutiny of public fund investment in Chinese firms. Senator Marco Rubio earlier this year wrote a letter to the CEO of MSCI, asking why certain Chinese companies that are linked to "China's efforts to steal American innovation, undermine fair competition, increase threats to U.S. national security and economic security" are included in its emerging market stock index. In August, Senators Rubio and Jeanne Shaheen wrote a letter to the Federal Retirement Thrift Investment Board, urging the agency to reverse a decision to use the MSCI All Country World ex-U.S. Index as the benchmark for a public pension fund, which would result in \$50 billion in federal retirement fund assets being invested in Chinese stocks.<sup>3</sup>

Some China hawks have argued for a more comprehensive decoupling. Steve Bannon, President Donald Trump's former chief strategist, emphasized the need to "cut off all the IPOs, unwind all the pension funds and insurance companies in the US that provide capital to the Chinese Communist Party." These voices are, for now, in the minority and there seems to be little momentum for action to impede US outflows into Chinese assets. But these arguments are now a part of the public debate,

<sup>&</sup>lt;sup>3</sup> Jessica Bursztynksy, "Sen. Marco Rubio Wants to Make Sure Federal Worker Retirement Dollars Are Not Invested in China," *CNBC*, September 11, 2019. <a href="https://www.cnbc.com/2019/09/11/sen-marco-rubio-federal-retirement-dollars-should-not-support-china.html">https://www.cnbc.com/2019/09/11/sen-marco-rubio-federal-retirement-dollars-should-not-support-china.html</a>.

<sup>&</sup>lt;sup>4</sup> Louise Moon, "Nasdaq Executive Dismisses 'Discredited' Steve Bannon's Call to Bar Chinese Companies from US Capital Markets," *South China Morning Post*, May 23, 2019.

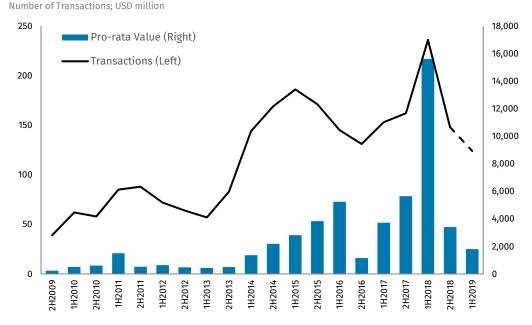
 $<sup>\</sup>label{lem:https://www.scmp.com/business/companies/article/3011549/nasdaq-executive-dismisses-discredited-steve-bannons-callbar.$ 

and they are unlikely to disappear any time soon. That may independently start to influence the volume of future US flows into Chinese equity and fixed income markets.

#### **Venture Capital**

One specific type of portfolio investment that has already been severely impacted by regulatory changes and US-China tensions is venture capital financing. US investors have been major players in China's early stage technology financing market, putting more than \$54 billion to work between 2000 and 1H 2019 (Figure 5). Since 2H 2018 these flows have slowed substantially. This is partly due to market dynamics, but it is also due to increasing scrutiny on US investors' role in building up Chinese technology companies involved in China's military industrial complex as well as broader concerns about the sustainability of US-China technological cooperation.

FIGURE 5 US Venture Capital Investment in China, 2H 2009 – 1H 2019



Source: Pitchbook, RHG Estimates. \* For each deal with an unknown value attributable to Chinese investors, we divide the total fundraising round proportionally by number of Chinese participants to arrive at a pro-rata estimate.

Flows in the other direction were small for most of the past two decades but have increased meaningfully since 2014, with Chinese VC investors putting more than \$15.2 billion to work from 2000 to 1H 2019 (Figure 6). That pace of expansion has also already meaningfully slowed, in part due to greater regulatory scrutiny (the expansion of US investment screening to include venture financing) and uncertainty of US-China technology decoupling.

Chinese Venture Capital Investment in the US, 1H 2009 – 1H 2019
Number of Rounds; USD million



Source: Pitchbook, RHG Estimates.

# **Cross-Border Lending**

China's regulatory restrictions have severely constrained the ability of US banks to lend into and within China, but there are still reasonably large volumes of transactions occurring between Chinese and US banks. However, bank loans to China are small compared to other flows as well as to the size of China's economy and banking sector. US bank claims on Chinese counterparties on an ultimate risk basis<sup>5</sup> were \$103.7 billion as of Q1 2019, according to data from the Bank for International Settlements. For reference, US claims on counterparties residing in the UK and Japan were over four times as large, at \$418.7 billion and \$454.8 billion, respectively. US banks also report their liabilities from counterparties located in China as totaling \$114.1 billion in Q1 2019. This figure is not on an ultimate risk basis, so a portion of this total likely represents lending by foreign banks located in China to US banks and not lending from banks of Chinese nationality.

<sup>&</sup>lt;sup>5</sup> The BIS reports loans on an ultimate risk basis, a measurement that subtracts out loans to entities that are physically located in a specific country but who are owned by residents or are themselves residents of a different country. This measure isolates the lending to borrowers that actually reside and operate in the target country, and therefore gives a more accurate picture of the lending country's bank exposure to the borrowing country.

FIGURE 7 US Banks' Claims on Counterparties in China, Q1 2010 – Q1 2019

Source: Bank for International Settlements.

Unlike other channels, direct bank-to-bank lending or the expansion of US banking activities in China have not been specifically criticized by major political figures in the US so far.

# **China's Holdings of US Government Debt**

No discussion of financial flows would be complete without addressing China's holdings of US Treasuries, which are mostly concentrated at China's central bank. China's central bank accrued a massive store of US Treasuries throughout the 2000s as a result of its trade surplus and its desire to control the appreciation of the yuan's exchange rate, which required the central bank to buy dollars and then channel that foreign exchange into US fixed income markets.

In recent years it has pared down those holdings. The US Treasury reported that Chinese residents held about \$1.1 trillion in treasuries and \$213.7 billion in other bonds issued by government entities (Figure 8). China's holdings of US government bonds will not likely be affected by an escalation of bilateral trade tensions. Selling Treasuries in retaliation would likely alarm markets and impact valuations of China's own assets. In any case, weaker global cyclical momentum in recent months has also supported global demand for Treasuries. China has been intervening less in the foreign exchange market and has reduced holdings of US dollar assets in recent years in order to sell foreign currency and support the value of the yuan. The central bank's allocation of foreign exchange reserves into global markets will continue to be a byproduct of China's intervention in managing the exchange rate of the yuan. Where dramatic changes have occurred in China's reserve allocation in the past, these have typically been in response to significant global currency fluctuations and rebalancing of portfolios, rather than politically motivated decisions.

USD Billion 1400 **US Treasuries** Government Agency Bonds 1200 1103.6 1000 800 600 400 213.7 200 O Nov-15 Feb-15 May-15 Aug-15 Feb-16 Nov-16

#### FIGURE 8 China Residents' Holdings of US Government Bonds, May 2012 – May 2019

Source: US Department of the Treasury.

### Second-Order Effects: Future Portfolio Flows, and the Exchange Rate

In the short-term, financial ties between the United States and China will continue to grow. Beijing has clearly signaled that it wants to open its doors to greater foreign participation in the financial sector, while there has been little identifiable legislative momentum in the US that would affect Chinese firms' access to US capital. Longer-term growth of the relationship will also depend upon institutional and regulatory changes in China, which have been the primary obstacle to faster financial integration so far. There is ample latent demand from the US and the rest of the world for portfolio holdings of Chinese assets, but catalyzing these inflows will be difficult. Beijing has to enact legal reforms while demonstrating political tolerance for greater volatility in financial asset prices, interest rates, and currency values.

Longer-term growth of bilateral flows also depends on the perception of the bilateral relationship among US policymakers. The subject of decoupling has entered the US policy debate and several contingencies could exacerbate existing concerns about the growing financial connection with China. Such events include, but are not limited to, forceful intervention in Hong Kong, developments in Xinjiang, sanctions violations (as in the cases of Lenovo, Huawei, or Shanghai Pudong Development Bank), or an unexpected surge in defaults among Chinese securities in which US funds are invested.

The broader policy discussion of the potential political costs attached to US financial engagement with China may also independently have an impact on future flows. Investors themselves, including larger asset managers, may become wary of the potential political controversy surrounding China and choose to reduce exposure to Chinese securities, either actively, or by reducing passive investments tracking indices that include Chinese equity or fixed income assets.

A slowdown in portfolio inflows into China may have significant implications for the broader US-China economic relationship as well, primarily via trade flows and the exchange rate. Without significant volumes of portfolio inflows from the rest of the world in the future, China's exchange rate is likely to remain under depreciation pressure from capital outflows resulting from the diversification

of household and corporate savings, which have accelerated in recent months. Political debates surrounding the potential costs of those inflows into China's fixed income and equity markets could keep the balance tilted toward a softening exchange rate, meaning that the US-China trade imbalance would probably widen over time.

Even though the outstanding values estimated in the tables and charts above are not large in global terms, they are significant, and political or regulatory disruption to these current flows could have meaningful implications for relevant markets. On top of the approximately \$3.9 trillion in assets that it would put at risk, financial decoupling would also inflict large opportunity costs. The current home bias of Chinese investors is enormous, but it is changing quickly. Even a modest shift in the foreign portfolio asset holdings by Chinese residents from 2 percent, their current level, to around to 10 percent (compared to global averages of 37 percent for equities and 25 percent for bonds, according to Coeurdacier and Ray), 6 would translate to \$2 trillion in portfolio outflows. The US stands to be a major destination for those outflows, but that outcome is not inevitable.

The debate over "financial decoupling" is still at an early stage in policy circles, and it should remain tethered to data-driven foundations about the size and structure of these flows. Restrictions on portfolio flows would probably exert only limited leverage upon Chinese firms accessing US markets, but declining portfolio flows into China could create a number of second-order effects for the exchange rate, the US trade deficit, and US commercial interests.

#### **Disclosure Appendix**

This material was produced by Rhodium Group LLC solely for the recipient. No part of the content may be copied, photocopied or duplicated in any form by any means without the prior written consent of Rhodium Group. Redistribution, forwarding, translation, or republication of this material in any form by you to anyone else is prohibited. Rhodium Group LLC is not an investment advisor. Any information contained herein not intended to be relied on as investment advice and this information is not purported to be tailored advice to the individual needs, objectives or financial situation of a recipient of this information. This report is intended for informational purposes only and does not constitute a recommendation, or an offer, to buy or sell any securities or related financial instruments. The information contained herein accurately reflects the opinion of Rhodium Group at the time the report was released. The opinions of Rhodium Group are subject to change at any time without notice and without obligation of notification. Rhodium Group does not receive any compensation from companies that may be mentioned in this report. No warranty is made as to the accuracy of the information contained herein.

© 2019 Rhodium Group LLC, 5 Columbus Circle, New York, NY 10019. All rights reserved.

FOR MORE INFORMATION REGARDING OUR RESEARCH AND ANALYSIS, PLEASE EMAIL CLIENTSERVICE@RHG.COM

<sup>&</sup>lt;sup>6</sup> Nicolas Coeurdacier and Helene Ray, "Home Bias in Open Economy Financial Macroeconomics," National Bureau of Economic Research, Working Paper no. 17691, December 2011. <a href="http://www.nber.org/papers/w17691.pdf">http://www.nber.org/papers/w17691.pdf</a>.