Explaining Foreign Interest in China's Global Economic Leadership:

Bilateral Currency Swap Agreements

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ABSTRACT: Global leadership, by definition, requires followers. In contrast to claims that China uses its vast economic resources to pull foreign nations into its orbit, we argue that grievances with the current U.S.-led international order have also *pushed* foreign political elites closer to China. We evaluate this argument by analyzing foreign participation in China's network of bilateral currency swap agreements – the largest network of its kind and an important component of the global financial architecture. While China's main interest in the swap agreement initiative is to foster the internationalization of the renminbi (RMB), we focus on the incentives of the counterparties. We find that grievances about global financial instability are particularly important push factors. Specifically, we find that countries that have experienced more financial crises, more International Monetary Fund (IMF) programs, and more IMF conditions since 1990 are more likely to sign a bilateral currency swap agreement with China than nations that have been less exposed to these financial problems. We find no evidence that grievances about IMF governance motivate interest in China's swap line program.

1. Introduction

The existing global economic order largely reflects the interests and leadership of the United States, but a distinct Chinese version of world order is taking shape. In this paper, we identify the nations that have taken formal steps to support this Chinese-led order and then develop political economy arguments to account for this foreign support. Our main argument is that foreign participation in China's global initiatives stems, in part, from dissatisfaction with the status quo. While we find some evidence that nations are being pulled into China's orbit by the economic benefits of closer relations, as in Liao and McDowell (2015), we also find that grievances with the U.S.-led international economic order are *pushing* other nations toward China. According to our evidence, international financial instability is the most potent push factor helping to generate foreign interest in China's global initiatives. Specifically, we find that political elites of nations that have experienced more financial crises, more IMF programs, and more IMF conditions are more likely to sign a bilateral currency swap agreement with China.[1]

While currency swap agreements first appeared in the 1960s, they rose to prominence during the Global Financial Crisis of 2008 when the Federal Reserve (Fed) used them to quell global financial markets in the aftermath of the Lehman Brothers bankruptcy. Since then, swap agreements have become an important part of the global financial architecture (di Mauro and Zettelmeyer 2017, Henning 2016, Truman 2013). While the advanced-country swap agreements that arose during the crisis were limited to the world's leading central banks, the People's Bank of China (PBoC) has established a larger and more heterogeneous swap network. Since 2008, the PBoC has signed swap agreements with 37 central banks and monetary authorities across six continents. It has partnered with central banks from advanced economies like Australia, Canada, the European Union, and Switzerland, as well as central banks in emerging market economies such as Argentina, Brazil, Indonesia, Turkey, and South

[1] We use the term "political elites" to encompass chief executives and central bank governors. While swap agreements are negotiated and signed by central bankers, they are always approved in China by the State Council. We assume that political authorities in China's partners must also approve participation in a swap agreement with China.

Africa. Its bilateral swap network is arguably one of China's most important global initiatives, along with the Asian Infrastructure Investment Bank (AIIB) and the Belt and Road Initiative (BRI) (Destais 2016).

Table 1 lists China's swap partnerships to date. The fourth column indicates the maximum amount in renminbi (RMB) that can be drawn by a central bank on its swap line with China. Note that the PBoC does not allow swap partners access to its huge store of U.S. dollar (USD) reserves; it only provides RMB via its swap lines. This is because China primarily sees swap agreements as a way to promote the internationalization of the RMB without liberalizing its capital account (Garcia-Herrero and Xia 2015).[2] As Liao and McDowell (2015) illustrate, swap agreements allow for the settlement of trade and investment between China and its partners in RMB instead of USD. The economic benefit is lower transaction costs and reduced foreign exchange risk for China and its trading partners (since they no longer need to exchange their currencies for USD when they do business with each other). This is not the normal path to internationalize a currency, which usually begins with steps toward full convertibility. But China's restrictions on capital account transactions led it to embrace swap lines as an alternative path to promote the RMB as an international currency.

Although the economic benefits emphasized by Liao and McDowell (2015) and Garcia-Herrero and Xia (2015) are clearly part of the story of China's expanding swap network, we argue that they are not the only factors explaining why nations have partnered with China in this way. Our claim – which we are investigating in a series of papers on swaps, the BRI, and the AIIB – is that grievances with the existing world order have encouraged foreign political elites to embrace China's global initiatives.[3] Our argument is that *dissatisfaction* with the international status quo plays an

[2] PBoC press releases announcing swap lines usually stress the goal of fostering bilateral trade and investment in local-currency terms but sometimes also indicate that safeguarding financial stability is a goal. The emphasis on financial stability tends to be stronger in swap agreements with developing-country and emerging-market central banks. For example, see PBoC press releases announcing swaps with the ECB, Nigeria, and Indonesia:
ECB: http://www.pbc.gov.cn/english/130721/2870439/index.html
Nigeria: http://www.pbc.gov.cn/english/130721/3532678/index.html
Indonesia: http://www.pbc.gov.cn/english/130721/2870439/index.html

[3] We find that foreign support for the BRI is higher for nations that have experienced more financial instability and more trade disputes with the U.S. under the current international order (Broz, Zhang, and Wang 2018).

important role in generating foreign interest in China's swap network.

We posit that foreign political elites have solid reasons to be aggrieved with the U.S.-led international financial order. Beginning in the late-1980s, the U.S. Treasury and the IMF pushed for capital-market liberalization around the world, generating opposition and resentment from many developing countries. The removal of restrictions on short-term capital movements led to a series of global boom-and-bust cycles that ended in financial crises for many countries. We measure each nation's cumulative experience with capital flows and financial crises since the 1990s to get a sense of how aggrieved the leadership of nations might be with the current international order. Our priors are that some nations are angry about the volatility of short-term capital flows – which is often triggered by changes in U.S. monetary policies – and are looking to China for a new model of how to regulate global finance.[4]

We also assess the extent to which foreign participation in China's currency swap network relates to negative experiences with the IMF. The IMF serves as the current order's international lender-of-last-resort.[5] When a nation suffers an external crisis and cannot access capital markets to fund its deficits, the IMF is available to provide emergency loans and technical advice. However, IMF loans come with strings – policy "conditions" that must be followed before loans are disbursed. IMF programs have been a source of deep resentment, not only because conditions require politically-unpopular austerity measures, such as fiscal retrenchment, privatization, and trade liberalization, but also because financial crises are contagious and affect countries even when they have sound macroeconomic fundamentals. We measure nation's experience with the IMF in two ways: the cumulative count of IMF programs since 1990, and the cumulative count of hard IMF conditions, where "hard" indicates conditions that must be followed to continue in a program.

The governance structure of the IMF has generated another grievance with the

[4] An example of a global shock originating in the U.S. is the "Taper Tantrum" of 2013, in which emerging markets experienced large capital outflows and asset-market selloffs following news that the Federal Reserve was winding down its Quantitative Easing programs (Eichengreen and Gupta 2015).

[5] Since 2008, however, the IMF's dominant role as system stabilizer has been challenged by the rise of advanced-country central bank swap networks and reserve pooling arrangements (see below).

current international order. The IMF wields enormous power in the world but the political elites of emerging market economies and developing countries argue that they have too little influence over IMF decisions. Adding insult to injury, the United States itself has hindered governance reform. After the IMF achieved a major governance reform in 2010, the U.S. Congress refused to pass implementing legislation for over five years, due to opposition from conservative Republicans. We examine whether political elites from nations that are under-represented at the IMF are more likely to support China's global swap network.

Our findings suggest that grievances about international financial instability are an important reason of why nations are looking to China for global leadership. Specifically, we find that political elites from nations that suffered more financial crises, more IMF programs, and more IMF conditions since 1990 are more likely to conclude a bilateral swap agreement with China than elites from nations less affected by financial instability.[6] From the perspective of foreign elites – central bankers and their political principals – this makes sense since financial instability has large negative effects on government survival via the channel of economic voting.[7] But we find no evidence that grievance about IMF governance correlates with interest in Chinese leadership in the area of central bank swap lines. Overall, this body of evidence is consistent with the idea that political elites have strong personal incentives to care more about global financial instability than other types of grievances. Financial instability topples governments while grievances about global governance are relatively narrow, esoteric issues.

The rest of the paper is organized as follows. In the next section, we develop our theory linking grievances to foreign interest in China's initiatives and provide information on the mechanics of swap agreements. In Section 3, we present our data, models and results. Section 4 concludes with implications for future research.

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[6] These findings echo those that drive foreign interest in China's Belt and Road Initiative (Broz, Zhang, and Wang 2018).

[7] The literature on economic voting shows that incumbents in office during periods of national economic prosperity are rewarded at the polls, while incumbents in office during hard times are punished. See Lewis-Beck and Stegmaier (2000) for a review.

2. Theoretical discussion

Our general argument is that dissatisfaction with the existing world order has encouraged foreign elites to embrace China's global initiatives. In existing analytical accounts, *dissatisfaction* with the status quo is the motor that drives international change. For example, Morse and Keohane's (2014, 385) argue that challenges to existing global orders "…occur when coalitions dissatisfied with existing institutions combine threats of exit, voice, and the creation of alternative institutions to pursue policies and practices different from those of existing institutions." Similarly, Lipscy (2017, 2015) analyzes the tactics of disgruntled states, upset with the institutional status quo, as they push for changes in global institutions that would better serve their interests. While these studies focus on the efforts of dissatisfied nations to change global institutions, we are interested in identifying the grievances that give rise to such efforts in the first place.

The existing literature offers little guidance on this topic. However, research on international capital flows, global financial cycles, and the governance of the IMF provide a sense of the divisive issues in international finance.

2a Capital Account Openness and Financial Crises

The increase in global financial instability that began in the 1980s is linked to pressure from the U.S. and the IMF to reduce restrictions on short-term capital flows. According to Stiglitz (2004, p. 57), whose critical views have been echoed by developing-country elites, there is a close connection between the rush to liberalize restrictions on the capital account and crises:

> In the 1980s and 1990s, the IMF and the US Treasury tried to push capital-market liberalization around the world, encountering enormous opposition, not only from developing countries, but from economists who were less enamored of the doctrines of free and unfettered markets, of market fundamentalism, that were at that time being preached by the international economic institutions. The economic crises of the late 1990s and early years of the new millennium, which were partly, or even largely, attributable to capital-market liberalization, reinforced those reservations.

While the relationship between capital flows and crises depends on domestic institutions and policies, such as deep and well-supervised financial markets, it is clear that capital account liberalization carries a higher risk of crises (Kose, et al 2009).[8] Financial crises in Mexico, East Asia, Russia, Ecuador, Turkey, Argentina Uruguay – as well as the Global Financial Crisis and the Eurozone Crisis – are all cases of boom-bust capital flows that ended in crisis (Chinn and Frieden 2011). In some cases, appropriate regulations were not in place when liberalization began, resulting in capital inflow surges that destabilized local economies. In other cases, governments let macroeconomic conditions deteriorate, resulting in speculative attacks (capital-flow reversals) from both domestic and foreign investors. The broader point is that capital account openness intensifies a country's vulnerability to crises. Moreover, international market imperfections, such as herding, panics, and global financial cycles can lead to crises and contagion even in countries with good economic fundamentals.

We argue that grievances about international finance stem, in part, from the series of financial crises that have occurred under the U.S.-led order. Financial crises have hit many emerging markets and developed economies in recent years, and the common feature across all cases was the embrace of financial globalization (Copelovitch et. al. 2016, Chinn and Frieden 2011). We think that an important consequence of financial crises is that they generate dissatisfaction with the status quo among political elites in the affected nations.

Financial crises bring sharp political costs to incumbent politicians and governing coalitions. Nations that experience financial crises suffer longer and deeper recessions than nations that don't, and the recoveries that follow a crisis take longer than normal (Reinhart and Rogoff 2014). Given the strong connection between domestic economic conditions and election outcomes found in the economic voting literature, it is not surprising that political leaders pay the price for presiding over a financial crisis.

[8] Recently, the IMF adopted a "new institutional view" acknowledging that the risks of capital flows depend on domestic institutions in each country. The relevant institutions include the exchange rate regime, the degree of dollarization, the credibility of the central bank, and the independence and quality of financial regulation (International Monetary Fund 2012).

Bartels (2013) finds that leaders of every political stripe were punished in the elections that followed the Global Financial Crisis (GFC). Broader evidence suggests that, after a financial crisis, government majorities shrink, parliaments become more polarized, and policymaking becomes gridlocked (Mian et al 2014). In addition, right-wing extremist parties gain seats and there are more strikes, violent riots, and anti-government demonstrations after a crisis (Funke et al 2016). In short, financial crises generate substantial domestic political and social turmoil that directly threatens the survival of governments.

We argue that the political costs of financial crises give political elites a personal motivation to both question the U.S.-led financial order and to seek out information about what China is planning with respect to its global initiatives. China's brand of leadership might be particularly interesting to political elites from nations that have been racked by financial instability. Regulating capital flows has been a cornerstone of China's policy for decades and has helped China avoid financial crises. Most observers credit the policy for insulating China from the East Asian Crisis and the GFC despite domestic conditions that would otherwise give rise to contagion (Chen and Kang 2018, Lardy and Douglas 2011, Borst and Lardy 2015, Lardy 1998).

China's restrictive capital account policies also help its planners maintain exchange-rate stability and domestic monetary policy autonomy, in line with the constraints of the open-economy "Trilemma." The Trilemma represents a binding trade-off between three policy objectives: a country cannot simultaneously target the exchange rate, conduct an independent monetary policy, and have full financial integration at the same time. China is unique among large economies for giving priority to exchange-rate stability and monetary autonomy over capital account openness. Indeed, capital account openness does not seem to be given any importance by China's policymakers, according to evidence in Aizenman and Sengupta (2013). Furthermore, empirical studies measuring capital account restrictions find that China's controls are highly restrictive, even in comparison with

other emerging markets such as Brazil and Russia (Chinn and Ito 2007).[9] In short, China's brand of global leadership is likely to be distinguished by reticence to liberalize the capital account.

China reinforces the argument that it has a better financial model to offer its followers. During the GFC, Premier Wen Jiabao gave a speech at the 2009 World Economic Forum in Davos condemning the West for its "unsustainable model of development characterized by…excessive expansion of financial institutions in a blind pursuit of profit; …and the failure of financial supervision and regulation to keep up with financial innovation…"[10] Experts like economist John Williamson also think the GFC helped to fortify the "Beijing Consensus" at the expense of the U.S.-led order (Williamson 2012, Naughton 2012). Our argument is similar in that we expect financial instability under the current order to motivate foreign elites to seek out China's global initiatives.

2b U.S. Monetary Policy and Global Financial Cycles

A related problem in the current order is that U.S. monetary policies spill over to the rest of the world causing "global financial cycles" in capital flows, credit growth, leverage, and asset prices (Rey 2015, 2016). Observers point to the *Taper Tantrum* in 2013 as illustrating how monetary tightening by the Fed can have sharp negative effects on global financial stability (Eichengreen and Gupta 2015). Anticipation that the Fed was about to unwind its Quantitative Easing (QE) programs caused large capital outflows and market volatility in emerging markets, and led to complaints about U.S. monetary policy (Bernanke 2016). The broader concern is about the external effects of U.S. policies and applies to any significant U.S. monetary policy change, including easing as well as tightening.[11]

Emerging markets in particular are affected by the global financial cycle. They

[9] The updated Chinn-Ito index measuring a country's degree of capital account openness shows that China's score of -1.19 – which is the lowest of all major economies and the polar opposite of the U.S. – did not change between 1993 and 2015. Data from http://web.pdx.edu/~ito/Chinn-Ito_website.htm (accessed 12 July 2018).
[10] The full text of the speech is available at http://www.china-un.org/eng/gdxw/t534434.htm
[11] On the easing front, leaders of EMEs, such as Brazil's Finance Minister, Guido Mantega, accused the Fed of engaging in "currency wars" when it began its QE program. *Financial Times*, 27 September 2010 https://www.ft.com/content/33ff9624-ca48-11df-a860-00144feab49a

experience large capital inflows during *risk-on* periods, when market volatility and risk premiums are low, and sharp capital outflows during *risk-off* periods. Moreover, global financial cycles are correlated with monetary policy in the U.S. (Rey 2015, Miranda-Agrippino and Rey 2015, Bruno and Shin 2015). Specifically, monetary easing by the Fed tends to be followed by lower volatility and reduced risk-aversion worldwide, while Fed interest-rate hikes are associated with higher global market volatility and increased risk-aversion. This tendency for U.S. policy to spill over and affect monetary policy in other countries – even those with floating exchange rates – has led Rey (2015, 21) to conclude that the Trilemma of classical economic theory has morphed into a dilemma or "Irreconcilable Duo" where "independent monetary policies are possible if and only if the capital account is managed, directly or indirectly, regardless of the exchange-rate regime."

As discussed above, China uses capital and exchange controls to manage the trilemma-qua-dilemma, which sets it apart from the leadership of the current order. This distinguishing feature of China's globalization strategy may be attractive to nations that removed capital controls under the U.S.-led order only to be buffeted by external financial shocks. Furthermore, emerging-market political elites may find it particularly egregious that the Fed is under no obligation to give consideration to how its policies affect other nations. Officials from these nations complain that Fed's gradual tightening since the GFC is leading to large depreciations in their currencies and in their stock and bond prices. But Fed policymakers do not seem particularly worried about the spillovers of its policies. In a widely-reported speech, current Fed Chairman Jerome Powell sanguinely predicted that "the normalization of monetary policies in the advanced countries should prove to be manageable for the emerging markets."[12] Powell also indicated that foreign spillovers will have no impact on Fed decision-making, but that Fed officials will "communicate our policy strategy as clearly and transparently as possible to help align expectations and avoid market

[12] "Monetary Policy Influences on Global Financial Conditions and International Capital Flows." Panel remarks by Jerome H. Powell Chairman Board of Governors of the Federal Reserve System at the "Challenges for Monetary Policy and the GFSN in an Evolving Global Economy" Conference. Zurich, Switzerland 8 May 2018.

disruptions."[13] This promise of transparency is unlikely to provide much comfort to foreign political elites whose economies are subject to U.S. shocks.

We proxy for financial grievances and U.S. policy spillovers with three alternative (correlated) measures of financial instability. The first is a nation's history of major financial crises since 1990. We think that negative experiences with global finance accumulate over time and grow into "grievances" toward the status quo. Our prediction is that political elites from countries that have suffered more financial crises since the onset of financial globalization (in about 1990) will be more likely to sign a swap agreement with the PBoC. A strength of this measure is that we have data for most countries. A weakness is that financial crises have partly domestic origins, such as lax bank regulation creating a moral hazard.

Since crises can be home grown as well as imported, we also gather data on the variability of nations' capital account policies. This new, policy-based measure of capital flow volatility directly reveals problems a nation's policymakers have had with global finance. Unlike nations that have pursued essentially the same policy for decades – either a fully open or a highly restricted capital account – some countries frequently change their policies in reaction to capital-flow shocks. To illustrate, consider **Figure 1**, which plots the Chinn-Ito index of capital account openness for three countries: Argentina, Canada, and India. In contrast to Canada, which has maintained capital account openness since 1990, and India, which has placed heavy restrictions on capital flows throughout the period, Argentina's policy has fluctuated wildly. Having liberalized capital flows by 1997, Argentina then experienced the full capital flow cycle – a surge in inflows followed by a surge in outflows – and re-imposed strict controls in 2001. The infamous "Corralito" (little bullpen) that limited bank withdrawals and restricted dollar transfers and loans is an example of this policy reversal. After 2001, Argentine authorities moved cautiously toward liberalization, but retrenched again in the face of another surge in outflows and, since 2012, Argentina has been one of the most financially-closed economies in the world.

[13] Ibid.

A highly variable capital account policy, as with Argentina, suggests that a nation has had major problems with global finance. By the same token, policy stability, as in the case of both Canada and India, indicates a more benign relationship with capital flows. A strength of this measure is that it can reveal external financial pressures that fall short of producing a crisis. Overall, we think that capital account policy variability is a good proxy for financial grievances because it accurately reveals policy reactions to capital flows booms and busts.

2c Grievances with the IMF

We also posit that nations' experience with the IMF is related to their propensity to look to China for leadership. Elites from nations that have experienced financial shocks may harbor specific resentment about the IMF interventions that follow the onset of a crisis. When a crisis prevents a nation from borrowing to fund its external deficits, the IMF stands ready to provide emergency loans. However, the IMF imposes policy conditions on the borrowing nation before it disburses its loans, and this *conditionality* has been a frequent source of conflict with borrowers. Some conditions, like balancing the budget, opening the domestic market, or privatizing state-owned enterprises, are called "hard" conditions because their implementation is required by the IMF, which suggest they are politically controversial in the recipient country (Kentikelenis, Stubbs, and King 2016). Indeed, IMF conditions can cause nations to reject an IMF program, as Malaysia did in 1998, or to embrace alternatives to the IMF. In the East Asian Crisis, for example, dissatisfaction with the IMF's role was so intense that it spurred efforts to create alternatives, such as reserve hoarding and regional reserve-pooling arrangements (Ito 2007, 2012; Henning 2002). Our intuition is similar in that we think China's current global initiatives may be attractive to foreign elites because they see them as ways to avoid (or delay) going to the IMF.

As with capital flows, we think that negative experiences with the IMF accumulate over time and grow into "grievances" with the current status quo. Hence, we examine whether the cumulative number of IMF programs, or the cumulative number of hard IMF conditions, is associated with foreign interest in China's

initiatives.

Foreign elites may also have grievances about IMF governance, because they feel underrepresented in IMF decision-making. The IMF's governance structure is based on a rule that links financial contributions from member governments to voting power. Unlike organizations with "one-member, one-vote" constitutions, voting power in the IMF is tied to contributions which are, in turn, based upon a member's relative economic size: larger and richer countries provide more resources and have more influence than smaller, poorer members.

This voting rule creates a cleavage between industrial country *creditors* and developing country *borrowers* in the IFIs. Large creditors, like the United States, provide the bulk of IFI financial resources but rarely make use of their lending facilities – they are net creditors. By contrast, developing countries draw upon the IFIs for financial assistance yet provide only a small share of their resources – they are net borrowers – which makes them subject to IMF conditionality. This creates tensions around governance because rich-country creditors have different interests than developing-country borrowers, particularly around conditionality. To simplify, developing countries favor less conditionality since they are more dependent on the IFIs for payments financing and development assistance. Creditors generally favor increased conditionality and surveillance since they fund IMF lending and have access to private credit markets to finance their own deficits. Developing countries make up about 85 percent of the total IMF membership and believe they have an inappropriately small voice within these organizations.

The conflict of interests plays out in challenges to IMF governance (Lipscy 2015). Developing countries argue that there is "democratic deficit" that undermines the legitimacy of the IMF because the interests of debtors are not adequately represented in policymaking (Buria 2006). They also complain that the vote shares of emerging market countries have not kept pace with these nations' rapidly rising share of global output and trade.

Critics are right to complain about the failure of IMF vote shares to keep pace with changes in the distribution of global output and trade. In principal, each

country's vote share is supposed to reflect the relative size of its economy, based on formulas that weigh various measures of output and trade. These formulas, however, were "spurious" from the outset and deviations reflecting political considerations are common (Bird and Rowlands 2006, 155).[14] However, the process of redistributing votes requires broad support among IMF members because a supermajority of 85 percent of the votes is required to approve these changes. With 17 percent of the total votes, the U.S. is the pivotal actor on this issue. But U.S. executive officials cannot act independently of the U.S. Congress. By virtue of the 1944 law enabling U.S. participation in the IMF, the Congress must formally ratify changes in U.S. contributions to the IMF (Nelson and Weiss 2015). Since any redistribution of vote shares requires changes in member contributions, the Congress effectively holds veto power over IMF governance reform (Broz 2006, 2008, 2011). No matter how intensely other members feel about the need for redistributing vote shares, opposition by the U.S. Congress alone can block any adjustment.

Opposition to the IMF has grown steadily in Congress since 1944, particularly in the House of Representatives (Broz 2008). The most recent manifestation of this opposition occurred in 2010, when right-wing representatives refused to consider legislation implementing the IMF's 2010 Quota and Governance Reforms (Truman 2014). These reforms were the result of negotiations between IMF members to give more voting power to emerging market economies. President Barak Obama, the Secretary of the Treasury, and the U.S. Executive Director to the IMF all supported the reforms. But Republican representatives, long opposed to the IMF on the grounds that its loans encourage moral hazard (Lavelle 2011), would not take up the implementing legislation because they were unwilling to accept any decrease in the relative influence of the U.S. As a result, the IMF's 2010 governance reforms languished for over five years, a delay that "cost the U.S. dearly in terms of its credibility and global leadership."[15] When Congress finally approved the legislation

[14] To see the geopolitics in the allocation of IMF vote shares, one need look no further than the cases of France and the United Kingdom, whose vote shares have been exactly since 1992.

[15] Former Assistant Secretary of the US Treasury for International Affairs Edwin Truman, quoted in Ian Tangly. 2016. "How Congress Finally Passed IMF Governance Overhauls, Five Years After the Deal Was Signed." *Wall*

in December 2015, it did so as part of a complicated log-roll hidden within a large omnibus spending bill.[16]

Some analysts draw a connection between China's global initiatives and the obstinacy of the U.S. Congress to allow IMF governance reform. For example, Ben Bernanke, former Chair of the Federal Reserve System, said that Beijing was pushed into launching the AIIB by U.S. legislators' refusal to give China greater clout in existing multilateral institutions.[17] Our argument is that the delay sent a signal that the U.S. was not serious about governance reform. The U.S. was the final holdout preventing approval of the 2010 IMF reform until December 2015 and this delay caused resentment in nations aggrieved about their lack of voice.[18]

We expect that resentment about IMF governance will increase the likelihood that a nation shows interest in China's global initiatives. Specifically, we think that elites from nations with vote shares in the IFIs that are lower than their economies' shares of the global economy will be more likely to support China's initiatives than leaders of nations without such deficits. In other words, we think governance grievances are fundamentally about the highly political ("spurious") process that prevents emerging market nations from having a level of influence in the IMF that is commensurate with their global economic position.

Over all, we have identified a set of financial grievances that may make China's global initiatives more appealing to political elites from other nations. We next provide background on bilateral swap agreements to illustrate how our arguments apply specifically to this initiative.

Bilateral Central Bank Currency Swap Agreements

Today's international financial architecture bears little resemblance to the one that existed before the GFC, when the IMF stood as most important actor. The big

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Street Journal (January 4). Available at https://blogs.wsj.com/economics/2016/01/04/how-congress-finally-passed-imf-governance-overhauls-five-years-after-the-deal-was-signed/

16 Ibid.

17 "US Congress pushed China into launching AIIB, says Bernanke." *The Financial Times.* June 2, 2015. Available at https://www.ft.com/content/cb28200c-0904-11e5-b643-00144feabdc0

18 See fn 20

players today are regional reserve pooling arrangements and central bank swap agreements (di Mauro and Zettlemeyer 2017). Our focus is on swap agreements, which took on outsized importance during the GFC when European banks that had become reliant on U.S. money markets for funding needed liquidity assistance from the Federal Reserve. Since the U.S. dollar was the dominant reserve and funding currency, it fell to the Fed – not the IMF – to act as the global lender of last resort (Prasad 2014). The Fed and the European Central Bank (ECB) first negotiated a $20 billion swap agreement, and within a year, 13 other central banks joined the Fed's swap network. These agreements were heavily used in 2008 and 2009, with the amount drawn from the Fed peaking at nearly $600 billion. When the Eurozone crisis began in 2010, the Fed reintroduced its swap agreements with the European Central Bank (ECB), the Bank of Canada, the Bank of England, the Bank of Japan and the Swiss National Bank. This set of six unlimited mutual swap lines between the leading financial-center central banks was converted into a "standing agreement" in 2013 and now stands as "as a permanent – and powerful – new layer of the global financial safety net" (di Mauro and Zettkemeyer 2017, 8).

The Fed is not the only key currency central bank at the hub of a swap network. The Swiss National Bank established swap lines with the Polish and Hungarian central banks due to liquidity problems arising from the large number of Swiss franc mortgages issued by Swiss banks in these nations. The ECB followed suit, establishing swap lines with Poland and Hungary, as well as with Sweden and Denmark, whose banks had issued euro-denominated mortgages in eastern and central Europe. The Bank of Japan also entered into a swap with South Korea (Destais 2014).

The point is that these advanced-economy swap agreements are now an important part of the global financial safety.[19] However, not all nations have access to them. During the crisis, the Fed was selective about forming these partnerships and let just four emerging market countries have a swap line. The "fortunate four" were Brazil, Mexico, Singapore, and South Korea and their swaps expired at the end of the crisis.

[19] As Truman (2013) puts it: "Only central banks have the balance sheet leverage to respond to volatile capital flows on the necessary scale."

Henning (2016, 128) indicates that a number of countries – Chile, Peru, Iceland, Indonesia, India "and likely others" – approached the Fed for a swap line during the crisis but were denied.

We think this selectivity generated resentment because the Fed protected some nations with dollar liquidity but denied it to others (Aizenman and Pasricha 2010). Selectivity also means that a majority of countries might not have access to swap facilities during the next crisis, implying that they are essentially on their own in defending themselves against external volatility. In short, the small network of permanent swap lines that exist between six of the world's leading central banks is viewed as discriminatory and incomplete by excluded countries.[20]

It is in this polarized context that China began to offer an alternative central bank swap network of its own. Today, China's swap network involves 37 other central banks and monetary authorities, and a formal limit that exceeds $1 trillion (see **Table 1**). Unlike advanced-economy swap lines, whose main purpose is to provide liquidity in key currencies during crises, China uses swap agreements mainly to promote the international use of the RMB (Garcia-Herrero and Xia 2015).[21] Chinese officials have been working on the strategy to internationalize the RMB since 2009. Unlike other international currency issuers, China has stringent capital account restrictions (see above) which prevent the RMB from being fully convertible for international financial transactions. Furthermore, capital controls strictly limit foreign access to the Chinese debt market, so the accumulation of official foreign exchange reserves in RMB is difficult.[22] Given China's preference for capital controls, its leaders devised an alternative strategy to promote the RMB that relies heavily on PBoC swap agreements. Since the RMB cannot become a reserve currency without the full removal of capital controls and wider access to the mainland interbank market, swaps

[20] In 2017, the governor of the Reserve Bank of India called on major central banks to extend their network of currency swap lines to emerging market economies, saying that a "virtual apartheid" in the provision of foreign currencies hampers efforts to combat financial instability. https://www.wsj.com/articles/reserve-bank-of-india-governor-calls-for-better-access-to-swap-lines-1508085779.

[21] However, swap agreements between China and emerging market nations also aim to foster bilateral financial cooperation and stability. See footnote 2.

[22] However, in 2011, China began the Renminbi Qualified Foreign Institutional Investor (RQFII) program, which represents a gradual loosening of capital controls. RQFII lets certain financial institutions (excluding hedge funds) outside China invest in China's stock and bond markets.

can at least facilitate the use of the RMB to invoice and settle trade and investment contracts between swap partners (Liao and McDowell 2015). China's currency swap agreement with Pakistan, for example, specified that the use of agreement should be based on either bilateral trade or direct investment transactions.[23]

From the perspective of China's swap partners, however, it is not clear whether the gains of concluding a swap agreement with the PBoC are limited to reduce the risks and costs of settling bilateral trade and investment with China in RMB instead of USD. Nations with grievances toward the current world order may see China's swap lines as alternatives to major central bank swap networks, which they cannot access. The advanced-country swap network is an exclusive club. Furthermore, since swaps do not include policy conditionality or surveillance, as in the case of IMF facilities, they may also be seen as a less onerous alternative to the IMF (Destais 2015, 2261).

China's swap agreements have, in fact, been activated as a source of liquidity for reasons not directly linked to trade or investment - which may relate to why emerging markets signed them in the first place.[24] In 2013, Pakistan tapped an equivalent of $600 million under its swap agreement with China to shore up its foreign reserves and avert a currency crisis at prior to elections. Although Pakistan later had to turn to the IMF, the head of its central bank said that "China helped us weather the storm" (Leader 2013). In a similar move, Argentina drew upon its swap line with China in 2014 to combat a shortage of reserves that threatened a currency crisis during election season (Parks 2014). In both instances, PBoC swap lines were used as a palliative by nations that were excluded from advanced-economy swap networks, or in Argentina's case, most of the international banking system.

Recall that China does not directly provide USD to its swap partners. However, both Pakistan and Argentina were able to convert RMB to dollars in the offshore RMB market. In other words, what these countries did by activating their RMB swap lines was to free up their actual dollar reserves for imminent needs, such as imports and FOREX market intervention, and signal to the markets "that billions more can be

[23] The agreement is available at http://www.sbp.org.pk/press/2011/China-Currency-Swap-29-Dec-11.pdf

[24] As noted above, in announcing swap agreements with emerging markets, the PBoC tends to emphasize financial cooperation for the purposes of enhancing financial stability.

accessed in a pinch" (Steil and Walker 2015).

In summary, China's ambitious plan to use swap lines to internationalize the RMB arose during a period in which the global financial safety net was in flux. Since 2008, a patchwork of advanced-country bilateral swap lines and regional reserve pooling arrangements have been added to the IMF, creating uncertainty about who is responsible for lender-of-last-resort services. Emerging market countries may view China's swap lines as an additional source of liquidity support during times of stress. But we argue that the underlying factor that has *pushed* foreign elites to seek a swap agreement with China is financial instability under the current U.S. order. Negative experiences with volatile capital flows, the IMF, and being locked out of the Fed's swap network has generated deep grievances. Zhou Xiaochuan, the governor of the PBoC from 2002 to early 2018, confirmed this point in a recent speech when he noted that, "after the financial crisis took place, China signed some currency swaps with other countries. The U.S. dollar system had not worked well. [The Fed] signed several currency swaps with selected countries, but it had no interest in looking after the emerging market countries; even South Korea, Brazil and Argentina were not on the list. So these countries came to us."[25]

In the next section, we describe our research design and empirical models, and present more systematic evidence for our financial grievances argument.

3. Data, Empirical Models, and Results

To test our arguments, we need to devise a measure of *foreign interest in China's leadership initiatives*. We use an observable behavioral indicator: signing a bilateral currency swap agreement with China. Since December 2008, 37 central banks and monetary authorities have signed swap agreements with the PBoC. We drop three of these cases from our sample: Hong Kong, the ECB, and Nigeria.[26] We use a binary

[25] Speech to the China Finance 40 Forum on 11 August 2018. Available at: http://finance.sina.com.cn/china/gncj/2018-08-11/doc-ihhqtaww8100099.shtml. The governor was speaking off-the-cuff and misspoke when he said that South Korea and Brazil were not of the list of Fed swap partners. Or perhaps he meant that Korea and Brazil are not on the Fed's list of permanent swap partners.

[26] We drop Hong Kong because it is part of China and, therefore, has no meaningful choice. We exclude the ECB for the time being while we figure out how to attribute decision-making authority to the Eurozone's 19 member

indicator variable, SWAP, for whether a nation signed a swap agreement with China or not. To fit our dependent variable, we employ a probit model.

Our objective is to see whether financial grievances with the current U.S.-led order correlate with SWAP. We assume that financial problems build up over time in the minds of political elites and grow into long-run "grievances" with the international system. That is why we use a cross-sectional research design rather than a panel approach. Grievances accumulate and grow stronger with every new financial crisis or IMF intervention; they don't rise and fall with every new period. In this sense, we prefer to analyze China's swap line partners under the framework of cross-section analysis, where our grievance variables are measured cumulative counts of grievance events over time. We specify the form of our models as follows:

$$\text{SWAPS}_i = \alpha + Grievances_i'\beta_1 + Controls_i'\beta_2 + \varepsilon_i \qquad (1)$$

where SWAPS is the dependent variable; the subscript letter i is cross-section id, i=1, 2, …,192; α is the constant; β_1 is a vector of parameters to be estimated for *Grievances*, our key independent variables; while β_2 is a vector of coefficients to be estimated for a set of control variables; and ε_i is the error term which we assume to follow a normal distribution.

Our central argument is that foreign elites are pushed toward China because of problems – which we call *grievances* – with the current global financial regime. Our grievances variables are grouped broadly according to whether they involve problems with volatile capital flows or global governance issues.

We use three proxies to measure grievances with volatile international capital flows. The first is FINANCIAL CRISES, which is the cumulative count of major financial crises between 1990 and 2017. The data on financial crises for 1990-2011 are from Laeven and Valencia (2012), which we extend to 2017 by Google search.[27] We include all types of financial crisis – banking crisis, currency crisis, or debt crisis

states. We drop Nigeria because its swap with China was signed in April 2018 and we have no data for 2018.

[27] Financial crises are important events that attract significant media attention. When we found a report of financial crisis in a given country by Google search, we confirmed it through more than one news source.

– as long as they occurred from 1990 through 2017. The start date of 1990 was chosen because this is about when the U.S. and the IMF began to intensify pressure on nations to liberalize their capital accounts. We expect the sign of the estimated coefficient on this variable to be positive.

Our second proxy for financial grievances is IMF PROGRAMS, which is the cumulative count of IMF programs in a given country between 1990 and 2017. Implementing the IMF programs implies that the authorities of crisis-hit nations have accepted the IMF policy packages made by IMF staff, which could be politically costly at home. Our expectation is that the more IMF programs elites have accepted, the more aggrieved they will be about the international financial system and, therefore, the more likely they will be to sign a swap with China.

Our third measure of financial grievances is IMF CONDITIONALITY, which is a cumulative count of hard IMF conditions between 1990 and 2014. When a country can no longer obtain private finance to cover its current account deficit, it must turn to the IMF for an emergency loan. But the IMF attaches a package of policy reforms – conditions – designed to ensure that the recipient country achieves the financial stability and economic recovery to repay its IMF loan. Some measures, like opening the domestic market or privatizing state-owned enterprises, are called *hard* conditions because their implementation is required by the IMF, which suggests they are controversial in the recipient country (Kentikelenis, Stubbs, and King 2016, 12).[28] We draw the data from Kentikelenis, Stubbs, and King (2016), and measure IMF CONDITIONALITY as the cumulative count of hard conditions over the period of 1990-2014. We expect that more hard IMF conditions – the conditions that the IMF requires to be implemented before disbursing its loans – will give nations more reason to be dissatisfied with the current international order and, therefore, more incentive to be interested in China's global leadership.

Our final measure of external financial volatility is VARIABILITY OF CAPITAL ACCOUNT POLICY, which is the standard deviation of the normalized Chinn-Ito

[28] Malaysia reportedly refused to accept an IMF bailout program in 1998 because its government was unwilling to accept IMF conditionality.

index of financial openness between 1990 and 2015. The Chinn-Ito index offers excellent coverage and allows us to compute values for 174 countries. This measure picks up actual policy responses to global financial instability and reveals, in the case of countries with high standard deviations, numerous capital-flow shocks over time.

Grievances about international governance comprise our other category of *push* factors that motivate foreign interest in China's global initiatives. The IMF's distribution of voting power has provoked enormous controversy, and nations have adopted strategies to pressure it to give more voice to emerging market and developing nations (Lipscy 2015). However, the U.S. has been a roadblock to such efforts, thwarting the reform movement by way of its separation of powers system (Truman 2014). Since any change in the governance structures of the IMF must be approved by Congress, the median legislator in the U.S. is the pivotal actor on global governance reform (Broz 2008). We think that foreign elites of underrepresented nations resent the U.S. for blocking IMF governance reform.

To measure this grievance, we construct the variable GOVERNANCE DEFICIT as the difference between a nation's vote share in the IMF and its GDP share of world GDP. Negative (positive) values indicate that the country is underrepresented (overrepresented) at the IMF. We take values in 2015 before the IMF governance reform of 2010 went into effect because we think the delay caused by the U.S. Congress left a lingering grievance.[29] Our data on IMF vote shares and GDP are taken from the IMF's International Financial Statistics (IFS) and the World Bank's World Development Indicators (WDI).

We begin by constructing a baseline model, drawn from Liao and McDowell (2015), to illustrate the role that "pull" factors – or economic benefits – play in PBoC swap partnerships. As discussed above, PBoC press releases generally state that currency swaps aim to "promote the use of RMB by enterprises and financial institutions in cross-border transactions, and promote facilitation of bilateral trade and investment."[30] Our baseline model thus incorporates variables that proxy for RMB

[29] Our results are not sensitive to whether we use values in 2017, after the IMF reform was implemented.
[30] http://www.pbc.gov.cn/english/130721/2809334/index.html.

internationalization, trade and investment benefits. To capture the gains associated with fostering the use of renmimbi, we use RMB CLEARING CENTER, indicating whether a nation has a RMB clearing bank, which takes the value of 1 if yes, and 0 otherwise. Although this variable does not measure *actual* RMB internationalization (for which data are very limited), it does indicate that both China and the nation with an RMB clearing bank are mutually committed to expanding the use of the RMB in bilateral transactions. Since the PBoC views swap lines as a tool to advance the same goal, we think it is good proxy for this motivation.

The baseline model also includes FTA (indicating whether a nation has a Free Trade Agreement with China or not), and BIT (indicating whether a nation has a Bilateral Investment Treaty with China or not). These variables control for the expected bilateral trade and direct foreign investment benefits that swap lines might bring. They also control for prior "experience" concluding bilateral deals with China, which may spillover from trade and investment agreements to swaps.

We presents initial results before addressing omitted variables bias concerns. **Table 2** displays our probit regression results, and Model 1 reports our baseline estimates. The coefficient of RMB CLEARING CENTER is positive and highly significant. This suggests that the probability of signing a swap agreement with China is higher for nations that expect to realize economic gains from settling bilateral trade and investment contracts in RMB. As for FTA and BIT, their estimation coefficients are also positive and significant at the 1% level. This implies that if a given country has a FTA and/or a BIT with China, it is more likely to have a swap agreement with the PBoC as well. These results strongly support the findings of Liao and McDowell (2015), which they interpret as the economic *benefits* of China's swap line program.

Model 2 jointly introduces our grievances variables: FINANCIAL CRISES, IMF PROGRAMS, IMF CONDITIONALITY, VARIABILITY OF CAPITAL ACCOUNT POLICY and GOVERNANCE DEFICIT. The estimation results show that only FINANCIAL CRISES is statistically significant, but this is due to high correlations between our grievances variables. **Table 3**, displaying the correlation matrix for our grievance variables, indicates severe multi-collinearity problems. We therefore enter

our grievances variables individually.

Model 3 presents the results when introducing FINANCIAL CRISES into the baseline model. The estimate is positive and highly significant, suggesting that elites from nations that had more financial crises between 1990 and 2017 are more likely to conclude a swap partnership with China. This is consistent with our theoretical claim that, because financial crises bear heavily on the tenure of political elites, leaders from crises-prone nations have a higher probability of showing interest in China's leadership (which they express by approving a swap agreement with China).

Model 4 enters IMF PROGRAMS to the regression. The estimation results show that having more IMF programs enters positively and significant, implying that a nation having more IMF programs is more likely to sign a local currency swap agreement with China. This might be interpreted as foreign elites looking for an alternative to the IMF. However, a different interpretation is that elites from countries that have accumulated many IMF programs are looking for another line of insurance to deal with volatile capital markets. We have no way of knowing from these results whether elites view a swap line with China as a substitute or a complement to the IMF.

In Model 5, we enter IMF CONDITIONS into the model. As expected, the estimation coefficient is positive and significant at the conventional level. This implies that the number of IMF conditions that a nation experienced between 1990 and 2014 increases the likelihood of signing a swap with China. As before, it is not clear whether foreign elites view a PBoC swap line as a substitute or a complement to the IMF. Hence, the most conservative interpretation we can provide is that a long and accumulated history of hard IMF conditions helps to push nations closer to China.

Model 6 reports estimation results with grievance in variable capital account policy. Against our expectations, the estimate of VARIABILITY OF CAPITAL ACCOUNT POLICY is negative but insignificant. Apparently, our revealed policy measure of problems with capital flows is not associated with the propensity to look

to China for leadership, at least with respect to swaps.[31] Model 7 introduces GOVERNANCE DEFICIT, our proxy for dissatisfaction with global governance. The estimated coefficient is also unexpectedly negative, but insignificant. This implies that being under-represented at the IMF does not increase the predicted probability that a nation swaps with China.

One major issue in our study comes from omitted variable bias: if the factors in the error term correlate with the dependent variable or at least one independent variable, then our findings could be biased and inconsistent, resulting in misleading conclusions. In Models 8-12, we introduce controls for factors that may correlate with the dependent variable or independent variables. Since we use FTA and BIT to construct the baseline model, while partner's FDI inflows from China are closely associated with its FTA and BIT relationship with China. Thus, we introduce FDI DEPENDENCE ON CHINA to control for this factor. Due to the formal and informal power of the U.S. in IMF decision-making, the U.S. can influence whether or not and under which conditions the IMF makes the loans to crisis nations. Research suggests that the U.S. uses this influence for geopolitical purposes, rewarding nations with similar foreign policy preference. Therefore, foreign policy preferences and geopolitical interests are associated with IMF PROGRAMS and IMF CONDITIONS. To control for this, we use a measure that is derived from voting patterns in the United Nations General Assembly – IDEAL POINT DISTANCE WITH U.S. – which we obtain from Bailey, Strezhnev, and Voeten (2015). A roughly similar logic leads us to also control for REGIME TYPE, since leaders of countries with domestic political institutions that are similar to China's may be more likely to embrace China's global economic leadership. We draw upon the Polity IV data set for this control. We also control for a nation's economic size with GDP relative to the world aggregate GDP. This is because GDP enters into the construction of our GOVERNANCE DEFICIT variable in both the minuend (share of votes in the IMF) and the subtrahend (share of world GDP). Additionally, we control for geographic distance from China with

[31] In our companion paper on the BRI, we find that capital account policy variability is very strongly and positively associated with foreign support for the BRI. See Broz, Zhang, and Wang (2018).

LOG DISTANCE, because distance is closely associated with trade and investment between China and partner countries. Our results survive virtually intact when controlling for these possible confounders.

Turning to the substantive interpretation of our estimates, **Figure 2** displays the average marginal effects of the probit results from Model 8 of **Table 2**. Here, we simulated the predicted probability of swapping with China and then examined how the predicted probabilities change when our variables increase one standard deviation from their means (or from 0 to 1 for dichotomous variables), holding other variables at their mean values. The impact of RMB CLEARING CENTER status is large, increasing the likelihood of getting a PBoC swap line by 37.2 percentage points (95% CI [25.2, 49.2]). FTA and BIT also have significant and large impacts, but are less precisely estimates. FTA increases the probability of a swap agreement by 20.3 percentage points (95% CI [4.2, 36.6]) while BIT raises the probability by 14.6 points (95% CI 1.7, 27.4]). These estimates strongly support Liao and McDowell (2015), as they suggest that China's swap partners are *pulled* into these agreements by the prospect of greater trade and investment with China, as well as the reduction in foreign exchange costs by settling these transactions in their own currencies. But, in addition to such economic gains, it appears that ongoing grievances associated with financial volatility have also helped push nations into PBoC swap agreements. The impact of FINANCAL CRISES is also substantively large and precisely estimated, increasing the probability of a swap line with China by 6.3 percentage points (95% CI [2.8, 9.9]). As we obtain smaller but still significant effects for our other financial grievance variables, IMF PROGRAMS and IMF CONDITIONALITY (not reported), these results support our inference that grievances with the current U.S.-led international order contribute to foreign support for China's global leadership.

To sum up, our financial grievance variables perform as expected, with the exception our policy-based measure, VARIABILITY OF CAPITAL ACCOUNT POLICY, and our measure of global governance grievances, IMF GOVERNANCE DEFICIT. We innovated both of these measures, so there is a chance they don't adequately capture our concepts. But there may also be theoretical reasons why we

should find a strong association between swap agreements and financial crises, IMF programs and IMF conditions, but no evidence that swaps correlates with being underrepresented at the IMF. We think it has to do with the personal incentives of political elites. Financial crises – and the IMF programs and conditions that accompany them – negatively affect aggregate economic performance, which can threaten the tenures of both political leaders and central bankers. The recessions that follow financial crises are deeper and longer than regular recessions and, through the channel of economic voting, directly impinge on the ability of elites to stay in office. Furthermore, research shows that political elites are punished for bad economic conditions even when they have no control over those conditions (Campello and Zucco 2015). This suggests that grievances about international financial instability will be front and center in minds of individual leaders. By contrast, we can think of no plausible scenario where grievances about the governance of the IMF could ever cause a leader or central banker to be removed from office. However, it remains to be explored why the variability of capital account policy is not a significant determinant of the China's currency swap partners.

4. Conclusions

In the aftermath of the Global Financial Crisis, China's policymakers moved to take on a leadership position in the global economy. In this paper, we approached China's rise from the perspective of potential followers. The research question we asked is: why are some foreign elites more interested in China's economic leadership than others? To our knowledge, this question has not yet been addressed before.

While the common wisdom is that China uses its vast economic resources to pull foreign nations into its orbit, we argue that dissatisfaction with the current U.S.-led international order is also *pushing* nations closer to China. Since the focus of this paper is understanding the motivations of China's swap agreement partners, we identify specific grievances associated with international finance: volatile capital flows, IMF programs and conditionality, and global governance. We base all our predictions on the incentives of the relevant foreign political elites –chief executives

and central bankers – thereby avoiding arguments about the *national interest*. This helps us to interpret our results. We found that grievances about international financial instability – specifically, financial crises and crises interventions by the IMF – correlate consistently with a greater likelihood of signing a swap agreement with the PBoC. This is understandable because financial crises directly threaten elites with removal from office. Elected leaders and central bankers from nations that suffer more financial instability thus have a personal stake in being interested in China's new world order, which seems to offer relief from the instability that has plagued world finance since the 1980s. By contrast, we found little evidence that grievances about IMF governance correlate with foreign participation in China's swap network. This non-result may indicate that political elites understand that the governance issue is unlikely to affect the ballot-box choices of voters.

To recap, we found evidence that financial crises, IMF programs, and IMF conditionality all correlate with greater foreign support for China's swap initiative, even after controlling for the economic gains associated with PBoC swap agreements. Our results complement the evidence in Liao and McDowell (2015) by illustrating that benefits – while important – are only part of the story behind foreign support for China's leadership. Grievances matter too.

The current global financial order continues to generate major grievances. Emerging market and developing nations suffer the spillovers of advanced-country monetary policy but are locked out of advanced-country swap networks that insure the select few. When pressure mounts, excluded nations must turn to the IMF, where they have little influence. We conclude that foreign elites are seeking swaps with China as additional shelter from global financial shocks. Furthermore, elites are dissatisfied with the United States for not doing more to help them cope with the *risk-on* and *risk-off* waves of the global financial cycle that emanate from changes in Federal Reserve policy. The Fed is aware of this criticism but is unwilling to let spillovers influence its policies. Nor will it extend its swap network beyond five core central banks. The PBoC has stepped into this leadership vacuum and granted the protection of currency swaps to dozens of other central banks. We think this has helped China

win the support of foreign elites that have seen their economies buffeted by the global financial cycle.

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Table 1: China's Bilateral Currency Swap Partners (as of July 2018)

Number	Countries/ Regions	Signature Date	Amount (bn RMB)	Maturity
1	Republic of Korea	12 December 2008 20 April 2009 26 October 2011 (Renewal) 11 October 2014 (Renewal) 11 October 2017 (Renewal)	180 180 360 (Renewal) 360 (Renewal) 360 (Renewal)	3 Years
2	Hong Kong	20 January 2009 22 November 2011 (Renewal) 22 November 2014 (Renewal) 27 November 2017 (Renewal)	200 400 (Renewal) 400 (Renewal) 400 (Renewal)	3 Years
3	Malaysia	8 February 2009 8 February 2012 (Renewal) 17 April 2015 (Renewal)	80 180 (Renewal) 180 (Renewal)	3 Years
4	Belarus	11 March 2009 10 May 2015 (Renewal)	20 7 (Renewal)	3 Years
5	Indonesia	23 March 2009 1 October 2013 (Renewal) (Expired)	100 100 (Renewal)	3 Years
6	Argentina	2 April 2009 18 July 2014 (Renewal) 18 July 2017 (Renewal)	70 70 (Renewal) 70 (Renewal)	3 Years
7	Iceland	9 June 2010 11 September 2013 (Renewal) 21 December 2016 (Renewal)	3.5 3.5 (Renewal) 3.5 (Renewal)	3 Years
8	Singapore	23 July 2010 7 March 2013 (Renewal) 7 March 2016 (Renewal)	150 300 (Renewal) 300 (Renewal)	3 Years
9	New Zealand	18 April 2011 25 April 2014 (Renewal) 19 May 2017 (Renewal)	25 25 (Renewal) 25 (Renewal)	3 Years
10	Uzbekistan	19 April 2011 (Expired)	0.7	3 Years
11	Mongolia	6 May 2011 20 March 2012 (Expansion) 21 August 2014 (Renewal) 6 July 2017 (Renewal)	5 10 (Expansion) 15 (Renewal) 15 (Renewal)	3 Years
12	Kazakhstan	13 June 2011 14 December 2014 (Renewal)	7 7 (Renewal)	3 Years
13	Thailand	22 December 2011 22 December 2014 (Renewal)	70 70 (Renewal)	3 Years
14	Pakistan	23 December 2011 23 December 2014 (Renewal) 24 May 2018 (Renewal)	10 10 (Renewal) 20 (Renewal)	3 Years

15	United Arab Emirates	17 January 2012 14 December 2015 (Renewal)	35 35 (Renewal)	3 Years
16	Turkey	21 February 2012 26 September 2015 (Renewal)	10 12 (Renewal)	3 Years
17	Australia	22 March 2012 30 March 2015 (Renewal) 30 March 2018 (Renewal)	200 200 (Renewal) 200 (Renewal)	3 Years
18	Ukraine	26 June 2012 15 May 2015 (Renewal)	15 15 (Renewal)	3 Years
19	Brazil	26 March 2013 (Expired)	190	3 Years
20	United Kingdom	22 June 2013 20 October 2015 (Renewal)	200 350 (Renewal)	3 Years
21	Hungary	9 September 2013 12 September 2016	10 10 (Renewal)	3 Years
22	Albania	12 September 2013 (Expired) 3 April 2018 (Renewal)	2 2 (Renewal)	3 Years
23	European Central Bank	8 October 2013 27 September 2016 (Renewal)	350 350 (Renewal)	3 Years
24	Switzerland	21 July 2014 21 July 2017 (Renewal)	150 150 (Renewal)	3 Years
25	Sri Lanka	16 September 2014	10	3 Years
26	Russian Federation	13 October 2014	150	3 Years
27	Qatar	3 November 2014	35	3 Years
28	Canada	8 November 2014	200	3 Years
29	Suriname	18 March 2015	1	3 Years
30	Armenia	25 March 2015	1	3 Years
31	South Africa	10 April 2015	30	3 Years
32	Chile	25 May 2015	22	3 Years
33	Tajikistan	3 September 2015	3	3 Years
34	Morocco	11 May 2016	10	3 Years
35	Serbia	17 June 2016	1.5	3 Years
36	Egypt	6 December 2016	18	3 Years
37	Nigeria	27 April 2018	15	3 Years

Sources: Data before July 2017 are taken from PBoC's official website:

http://www.pbc.gov.cn/huobizhengceersi/214481/214511/214541/3353326/index.html

After July 2017, data are updated to 14 August 2018 according to PBoC's Press Releases at

http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/index.html

Table 2: Financial Grievances and PBoC Bilateral Swap Agreements

DV: SWAP	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
RMB CLEARING CENTER	1.336***	1.889***	1.505***	1.514***	1.485***	1.438***	1.521***	1.845***	1.731***	1.721***	1.676***	1.689***
	(5.07)	(5.88)	(5.43)	(5.64)	(5.53)	(5.21)	(5.24)	(5.05)	(4.71)	(4.80)	(4.43)	(4.71)
FTA	0.868***	0.852**	0.948***	0.876***	0.846***	0.881***	0.705**	1.032**	0.798**	0.789**	0.714**	0.638*
	(3.18)	(2.47)	(3.25)	(3.12)	(3.01)	(3.11)	(2.32)	(2.41)	(2.21)	(2.21)	(2.02)	(1.77)
BIT	1.170***	1.014**	1.130***	1.135***	1.083***	1.026**	1.146***	0.996**	1.008**	1.006**	0.859*	0.960**
	(2.94)	(2.39)	(2.82)	(2.77)	(2.71)	(2.51)	(2.94)	(2.12)	(2.02)	(1.98)	(1.87)	(2.11)
FINANCIAL CRISES		0.938**	0.977***					1.256***				
		(2.44)	(2.91)					(3.48)				
IMF PROGRAMS		0.339		0.690**					0.755*			
		(0.57)		(2.29)					(1.96)			
IMF CONDITIONS		0.022			0.599**					0.687*		
		(0.04)			(1.96)					(1.84)		
VARIABILITY OF CAPITAL ACCOUNT POLICY		-0.475				-0.166					-0.157	
		(-1.17)				(-0.51)					(-0.45)	
IMF GOVERNANCE DEFICIT		-0.442					-0.497					-0.639
		(-1.01)					(-1.17)					(-1.41)
FDI DEPENDENCE ON CHINA								-0.204	-0.132	-0.218	-0.015	-0.001
								(-0.53)	(-0.36)	(-0.57)	(-0.04)	(-0.00)
IDEAL POINT DISTANCE WITH THE U.S.								-0.450	-0.104	-0.087	-0.175	-0.498
								(-0.88)	(-0.21)	(-0.18)	(-0.39)	(-1.09)

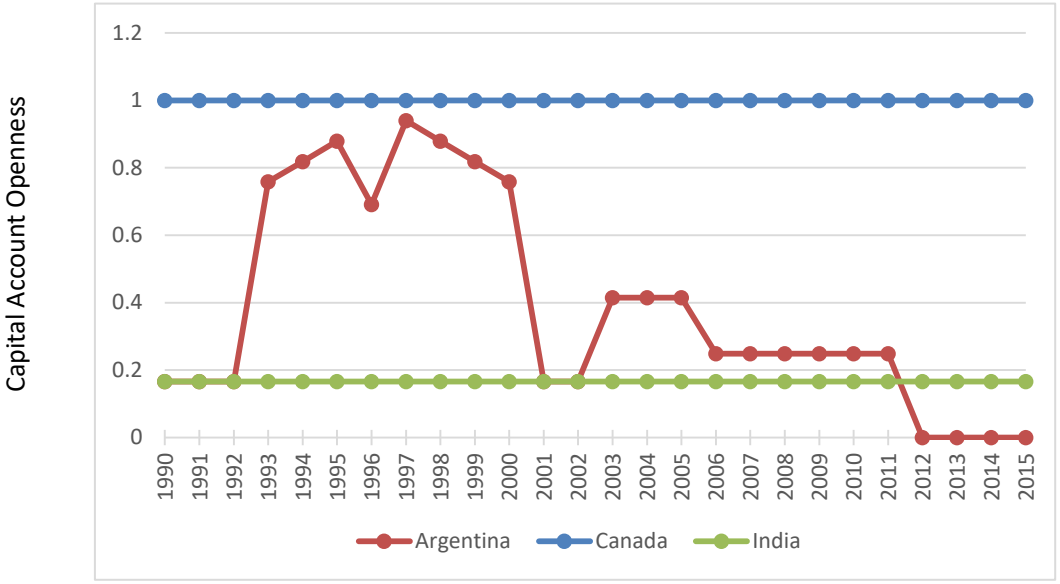
REGIME TYPE								-0.869**	-0.667	-0.567	-0.415	-0.640
								(-1.98)	(-1.47)	(-1.30)	(-1.03)	(-1.54)
LEADER'S IDEOLOGY								-0.723*	-0.528	-0.613	-0.569	-0.631
								(-1.67)	(-1.25)	(-1.49)	(-1.36)	(-1.50)
ECONOMIC SIZE								-0.479	-0.209	-0.254	-0.545	-0.373
								(-1.17)	(-0.65)	(-0.77)	(-0.97)	(-1.07)
LOG DISTANCE								-0.086	-0.043	0.001	-0.121	0.016
								(-0.20)	(-0.11)	(0.00)	(-0.31)	(0.04)
Observations	192	174	192	192	191	174	187	145	145	145	139	144
Pseudo R^2	0.332	0.419	0.381	0.355	0.349	0.343	0.347	0.417	0.361	0.360	0.345	0.362

Notes: The dependent variable equals 1 if a nation has a central bank bilateral swap agreement with China, 0 otherwise. Probit model, standardized beta coefficients, *t* statistics in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Constants not reported.

Table 3: Correlation Matrix of Financial Grievances Variables

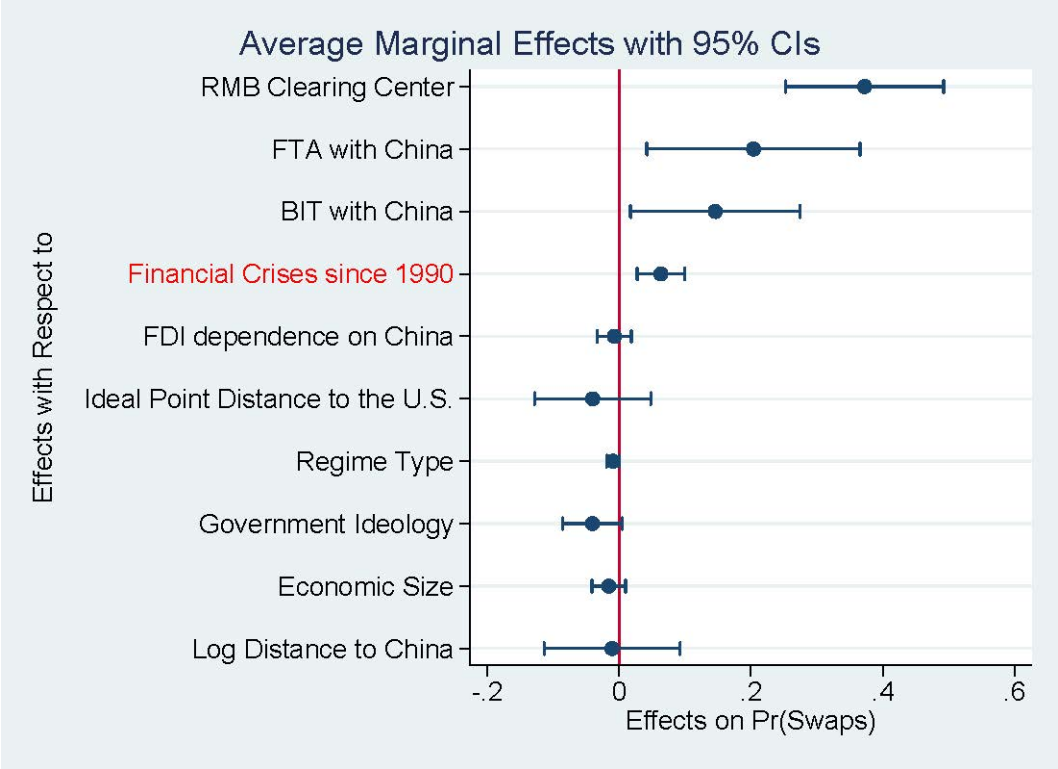
	FINANCIAL CRISES	IMF PROGRAMS	VARIABILITY OF CAPITAL ACCOUNT POLICY	IMF CONDITIONALITY	IMF GOVERNNACE DEFICIT
FINANCIAL CRISES	1				
IMF PROGRAMS	0.437***	1			
VARIABILITY OF CAPITAL ACCOUNT POLICY	0.219***	0.190**	1		
IMF CONDITIONALITY	0.453***	0.854***	0.175**	1	
IMF GOVERNANCE DEFICIT	-0.146**	-0.202***	-0.0930	-0.183**	1

Figure 1: Variability of Capital Account Policy: Argentina, Canada, and India



Note: The figure plots the normalized Chinn-Ito index of capital account openness, which ranges from 0 (most restrictive) to 1 (least restrictive).

Figure 2: Average Marginal Effects on SWAP



Note: Average marginal effects estimated from Model 8 of **Table 2**.