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Drawing the line: the politics of federal currency swaps in the global financial crisis

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ABSTRACT

Injecting over two trillion dollars into the international economy, the Federal Reserve effectively operated as an international lender of last resort during the 2008 financial crisis. Over half a trillion dollars went to foreign central banks through bilateral arrangements known as Central Bank Liquidity Swaps. While studies show that a key determinant of a country's chances of receiving Fed liquidity was the exposure of US banks to the foreign economy, the literature overlooks the ambiguous and politicized nature of the Fed's decision-making that explains the selection of emerging market swap recipients. Through a consideration of all economies that officially requested a swap line, including those rejected, this article analyses the bilateral politics of Fed swaps. By evaluating transcripts of the Fed's deliberations, it identifies strategic motivations underlying the Fed's decision-making and argues the Fed was more likely to grant a swap to economies that shared its policy preferences for greater capital account openness. Further, the article argues that the influence of shared policy preferences was mediated by political and diplomatic considerations. The article concludes that the Fed strategically chose its emerging economy partners to reinforce economic alliances, particularly with those who experienced increased influence in economic governance post-2008.

KEYWORDS

Currency swap lines; 2008 global financial crises; Federal Reserve; emerging markets; international lender of last resort; central banking

1. Introduction

During the 2007–2010 global financial crisis, the United States Federal Reserve (the Fed) operated as an international lender of last resort (LLR), injecting over two trillion dollars into the international economy.¹ Of this, over half a trillion dollars went to foreign central banks through bilateral 'Central Bank Liquidity Swap Lines'. These facilities proved crucial to easing global liquidity shortages. Allen and Moessner, (2010, p. 75) suggest that '... had the Fed not acted as it did, global financial stability would have been much more serious, and the recession would consequently have been deeper'.

Access to the Fed's dollar funds has typically been available only to a select group of advanced economies (Chey, 2012, Bordo, Humpage, & Schwartz, 2015).

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What was particularly unprecedented in 2008 was the extension of swaps to four emerging market economies (EMEs): Mexico, Brazil, South Korea (hereafter Korea) and Singapore² (hereafter the EME-4). The Fed provided these economies swaps of up to 30 billion dollars, a step that it had not previously taken, with the exception of Mexico (FOMC, 2008). Existing studies suggest that countries where US banks were most exposed were more likely to receive a swap during the crisis (Aizenman & Pasricha, 2010; Broz, 2015; McDowell, 2012). This article adds nuance to the present discussion by highlighting that the extension of these lines by the Fed to EMEs was, rather, a more selective process, emphasizing that economic factors were not determinative in the Fed's selection of the EME-4 (Best, 2005; Kirshner, 2003). The article illustrates the economic ambiguities over where the Fed could draw the line around which emerging economies to assist and argues that these ambiguities were resolved by political considerations.

This article adds to our understanding of the Fed's practices during the crisis, showing not only *that* politics mattered, but *how*. I consider the bilateral interactions between the Fed and its swap recipients by assessing the Fed's internal deliberations prior to extending these swap lines. The analysis includes economies whose requests were granted and those denied. By evaluating transcripts of the Fed's discussions in 2008, I highlight its strategic motivations in selecting the EME-4. I argue, first, that there was a systematic logic underlying the Fed's choices in favor of economies that shared its policy preference for greater financial openness. Second, considering EMEs specifically, economic factors were more ambiguous and less deterministic than suggested in the existing literature, and were mediated by political considerations. The Fed strategically chose the EME-4 to reinforce alliances in the global economy, as they had gained an increased voice in the global economic governance (GEG) framework³ and were aligned with the US within the existing governance framework, and with US preferences for non-reform.

Scholars have argued that the sensitivity and vulnerability of the US economy has implications for its ability to use monetary statecraft vis-à-vis financial actors' growing international influence. Hardie and Maxfield (2016, p. 601) suggest that evidence of monetary statecraft lies in demonstrating 'discrimination amongst the recipients of liquidity' or the preferential treatment of favored countries and that there is no significant indication of this. The Fed's international LLR efforts could only serve US interests by supporting the global economy. These actions were defensively motivated to address threats to the US economy resulting from financial globalization (Helleiner, 2014; McDowell, 2012). This policy response by the Fed 'demonstrates the centrality of the US dollar to the global financial system but does not demonstrate the US's active monetary power' (Hardie & Maxfield, 2016, p. 602).

This article illustrates the US's use of financial statecraft through bilateral liquidity assistance to a select few countries. This follows on the conceptualization of financial statecraft which suggests that it may be targeted at not only individual, but *groups* of states; it may also be defensive, to induce or persuade target states to act in the interest of the initiator (Armijo & Katada, 2014; Katada, Roberts, & Armijo, 2017).

While this concept has been considered in the context of EMEs, it is manifest in the Fed's practices in 2008. The analysis shows that extending swaps to its newly influential EME allies gave the US a tool to serve its own interests while taking

‘actions to help out its friends’ (Cohen, 2015, p. 183); contra Hardie and Maxfield (2016), the US *did* discriminate among liquidity recipients in selecting swap partners. Alan Greenspan once asserted that the US has long believed that ‘market capitalism [...] especially in the United States, is the superior model’ (in Kirshner, 2006, p. 160). Promoting financial liberalization overseas has long served US geopolitical interests (Kirshner, 2006, p. 16) and at times it has done so through the IMF (Chwieroth, 2008). The IMF has been a tool through which the US has pursued this policy preference abroad (Woods, 2006). The selectivity of the Fed’s swap recipients presents another instance of US monetary power being used to strategically promote its interests in 2008. The Fed implicitly favored, if not openly supported financial deregulation by extending dollar swaps to four EMEs who shared this policy preference, had an increased voice in GEG and were not assertive against the US-centric governance system.

I build this argument in the following steps. In Section 2, I provide background on the Fed’s currency swap arrangements and alternative explanations for the Fed’s decisions. Section 3 sets out the argument: policy signaling and preference for financial openness, and the politics of GEG in shaping the Fed’s choices. In Section 4, I illustrate the arguments with case analyses of the EME-4 swap recipients – and two negative cases – India and Chile, whose requests were denied. Section 5 presents a statistical analysis of Fed swaps, showing more general evidence of the argument. I conclude with a discussion of the implications of these findings for crisis management.

2. Central bank swap lines

Created in 1962 to protect central banks from unfavorable dollar positions, currency swaps are not new to the Fed’s toolkit. Nonetheless, they made a dramatic comeback in 2008. As the only central bank capable of providing an unlimited supply of dollars, the Fed became the world’s *de facto* LLR (Bordo et al., 2015; Broz, 2015; Helleiner, 2014). With interbank funding frozen during the crisis, the Fed needed to ease dollar liquidity pressures in financial institutions abroad, as many had extensive linkages to the US. Swap lines were established with fourteen central banks⁴ (United States Government Accountability Office, 2011) in ‘one of the most notable examples of central bank cooperation in history’ (Obstfeld, 2009). This decision coincided with the International Monetary Fund’s (IMF) decision to launch short-term financing to help EMEs (IMF Press Release, 2008; Chey, 2012), soon followed by an emergent overlapping network of bilateral swaps between central banks globally (McDowell, 2017b).

The Fed’s main policy making body, the Federal Open Markets Committee (FOMC), had substantial discretion over which central banks received a swap. Considerations began once a central bank requested a swap line from the Fed. Notably, the FOMC was concerned about how this policy would be justified to the public and to Congress (FOMC, 2008, p. 32). It later faced severe criticism for overstepping its domestic mandate by acting as an international LLR and for its lack of transparency around these practices (Prasad, 2014, p. 205). It also faced domestic pushback for ‘bailing out European banks and putting US taxpayers’ money at risk’ (Prasad, 2014, p. 206).

Given the FOMC's discretion, the selectivity and opaqueness of the Fed's practices is telling. An audit conducted by the GAO in 2011 reveal the criteria set by the FOMC to evaluate swap requests. The Fed is typically exempt from GAO audits, but a one-time audit was required by the Dodd-Frank Act, to examine the Fed's crisis programs during between 2007 and 2010 (United States Government Accountability Office, 2011). The audit found that, covering a range of economic conditions, swaps were granted based on a country's economic and financial 'mass', its record of sound economic management, its importance as a US trading partner, dollar funding needs, levels of foreign currency reserves, the exposure of US banks to the foreign economy, and whether or not an economy was a global financial center (United States Government Accountability Office, 2011, p. 118).

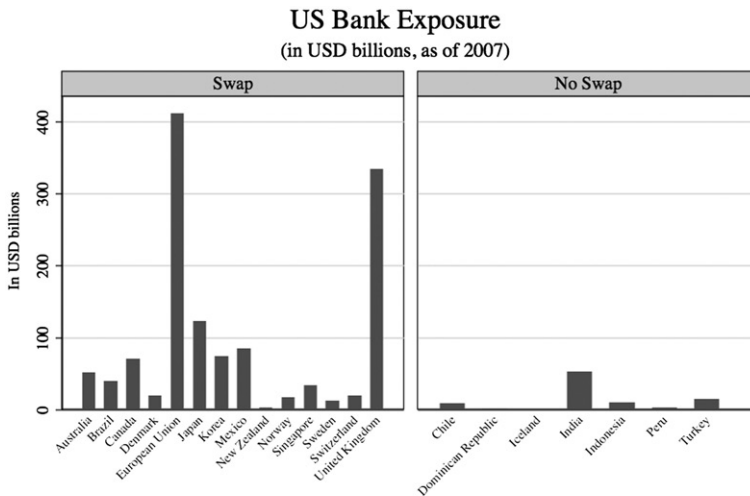
Most international LLR lending is defensively motivated (McDowell, 2012, 2017a). Given its centrality in the global economy, US officials have long been motivated to assume leadership in crisis management to protect the vulnerability of US markets and financial institutions (Helleiner, 2014). As American banks were heavily exposed to dollar shortages abroad, US bank exposure in foreign economies influenced the Fed's selection process. This result holds in Aizenman and Pasricha's (2010) test of EMEs as well as in a broader sample of emerging, advanced and developing economies (Broz, 2015). McDowell's (2012) qualitative assessment of the Fed's LLR actions also illustrates its defensive motivations against the threat of spill-over and defaults of internationally exposed US banks.

In 2008, the risks to US financial institutions 'were not just troubling; they were also systemic and existential' (McDowell, 2017a, p. 148). Foreign demand for short-term dollar funding was concentrated in Europe and geared to investing in US securities markets. With the caveat that the Fed likely needed to present its practices to Congress and the public as defending US economic interests, William Dudley of the New York Fed, responded to accusations of bailing out European banks:

I would like to clarify the purpose of the dollar-swap program recently undertaken by the Federal Reserve, which is to help insulate US market from the pressures in Europe and support the availability of credit to US households and businesses. (Dudley, 2012)

The motivations that influenced the Fed's decisions have crucial implications for future crisis management, and a large part of this picture is yet to be painted. Intriguing questions arise when considering those economies whose requests the Fed denied. To the best of our knowledge, the FOMC rejected seven central banks' requests (Prasad, 2014, pp. 207–209):⁵ Chile, the Dominican Republic, Iceland, India, Indonesia, Peru and Turkey. Figure 1 illustrates the variation in levels of US bank exposure in the economies that we know requested a swap.

US bank exposure to the Scandinavian economies, Switzerland and New Zealand is considerably lower than in the other selected countries. Barring records of good economic management, they are unlikely candidates for FOMC swaps on most fronts (see Appendix, Figures A4 and A5). This cross-country comparison hints at another suitable candidate for a swap – India. Along with Brazil and Mexico, India had also become more networked in GEG institutions; it had a GDP of over 1 trillion dollars, and American banks were more exposed in India than in Brazil (Helleiner, 2014; IMF, 2014; Kahler, 2013, see also Figure 1). Yet, while the Fed extended a swap line to Brazil, which held a roughly comparable amount of



Consolidated claims of US banks in a foreign economy over global consolidated claims of US banks

Figure 1. US bank exposure amount (in billions, 2007).

US debt, India's request was denied. Similar discrepancies between the Fed's selection criteria and the economies with whom swaps were established further emphasize that the FOMC's stated selection criteria do not adequately explain its choices (see Appendix [Figures A1–A7](#)).

The exposure of US banks in a foreign economy remains essential for understanding the Fed's motivations for extending crisis finance. However, an analysis of the US's broader strategic goals and policy preferences, and how swap agreements were used to promote these goals, explains more of the variation in swap agreements than does a narrow focus on US bank exposure.

The FOMC statement suggested that the recipient country's importance to the US as a trading partner mattered. President Fisher of the Dallas Fed, previously a senior trade negotiator for EMEs, urged the FOMC to consider the strategic importance of their EME allies whilst selecting swap recipients. Aizenman and Pasricha (2010) and Broz (2015), however, find a negative and statistically insignificant correlation between US trade links and swaps. These results contradict the claims of FOMC officials and provide little evidence that Fed swap decisions were based on US trade relations. Explanations focusing on trade links with the US cannot explain the Fed's selection of the EME-4.

The Fed also considered central banks' records of economic management and reserves. As LLR lending is defensive, it is important that the borrowing country can credibly repay the amount. Neither of these criteria generate conclusive findings over the extent to which central banks' competence shaped its chances of getting a swap. Regarding inflation, studies are consistent with the Fed's claim that it considered central banks as competent subcontractors to channel liquidity into their jurisdiction (Broz, 2015; Obstfeld, 2009). Those that experienced high levels of inflation in the 2000s were less likely to receive a swap line than those that demonstrated sound economic management. Comparing the data on inflation between those that did and did not receive a swap obscures this result. Brazil, Mexico and

Korea each experienced higher inflation than a handful of countries whose requests were denied (see Appendix, [Figure A2](#)).

The argument that reserve levels determined swap agreements is similarly unclear. William Poole expressed concern that central banks with large international reserves should not be granted a swap. This makes sense, given that the primary function of swap lines was to ease liquidity pressures faced by the receiving country, and those with large international reserves did not need them. But FOMC discussions contradict this position, particularly regarding EMEs. While swap lines came with no strings attached, the EME-4 required substantial collateral in the form of assets in the Fed or in dollar reserves (FOMC, 2008). One might expect that countries that pursued self-insurance strategies would be perceived as more reliable swap partners. Considerations of sound economic management do not unambiguously explain the Fed's selection of swap partners.

Looking beyond the Fed's stated criteria, Chey (2012) looks to the *politics* of swap lines, to argue that the Fed's decisions reflected the US's need to strengthen its ties with important emerging economies in the GEG system. This article advances this position in three ways. First, it identifies the importance of economic policies as signaling to the Fed a central banks' ability to manage its funds. Second, it introduces into the analysis not only the changing face of the GEG system that still remains rooted in the US-centric order, but the influence of competing institutions that emerged in an effort to pushback against the status quo. Third, and most importantly, the article frames the role of alignment with the US within the status quo governance framework as an additional, albeit hidden, condition for EMEs seeking Fed assistance, evaluating both those economies that received a Fed swap, and those denied. EMEs that the Fed turned down had either not acquired an increased voice in GEG or were vocally opposed to the status quo governance framework as the crisis escalated. Consequently, the US had an incentive to favor the EME-4, who were influential in and aligned with the US-led governance framework.

3. Policy signaling and economic governance

During the crisis, financial contagion through credit markets, and terms of trade shocks could magnify liquidity shocks. As the primary purpose of swaps was to prevent costly liquidation overseas, the Fed would naturally gravitate towards economies more deeply integrated in global finance. I argue that there was a systematic logic underlying the Fed's actions in 2008: economies with higher levels of capital account openness were more likely to receive a currency swap. I neither predict that all liberalized economies were guaranteed a swap nor that economies that were not fully open would not. Rather, accounting for financial openness explains more of the variation in the Fed's choices. In the context of emerging markets, this logic is further conditioned by political factors. For EMEs, a higher level of capital account openness was not a *sufficient* condition for receiving a swap. Rather, it seemed necessary that they *also* experienced an increased voice in GEG and were in favor of the US-led governance system. The rationale underlying these arguments is sketched out below.

Given imperfect information over governments' future intentions, economic actors attempt to infer their future policies from current policies. Liberalization

represents ‘ingredients of broad reforms’ (Bartolini & Drazen, 1997, p. 7), characterized as ‘collateral benefits’ of liberalization (Kose, Prasad, Rogoff, & Wei, 2006). As several scholars observe (Grabel & Gallagher, 2015; Kose, Prasad, & Terrones, 2009; Kirshner, 2003), the jury is still out on whether there is an upside to financial liberalization. Some argue that increasing financial liberalization and deregulation has significantly impeded global financial stability (Kirshner, 2003; Rodrik, 1998; Stiglitz, 2000). Others claim that capital account liberalization has been crucial for countries to graduate from lower- to middle-income economies (Fischer, 1998; Summers, 2000). By providing greater flexibility for the allocation of capital, financial openness may signal that imposing capital controls in the future is less likely to occur (Bartolini & Drazen, 1997).

These collateral benefits of financial liberalization may be accrued through domestic reforms, developing financial markets, knowledge transfers or increased access to credit. In questions of influence in international capital markets, what matters is the ‘ability to commit credibly to market access and compliance with agreed market opening measures’ (Kahler, 2013, p. 720). The Fed’s favoring of economies with greater capital account openness could be an implicit condition to receive a Fed swap. In turn, I argue that economies with relatively higher levels of capital account openness were more likely to receive a swap line from the Fed.

Financial liberalization has been disproportionately demanding on EMEs, increasing their vulnerability to sudden stops of capital flows. Locking-in financial liberalization policies could mitigate doubts around an economy’s ability to carry out dollar liquidity operations on behalf of the US. Since the late 1980s, some EMEs have undertaken extensive self-insurance strategies and policy and institutional reforms required by the IMF. Following crises, these governments adopted reforms responding to crises in the external sector, which may serve as a commitment mechanism. Although Fed swaps were not conditional on specific structural reforms, liberalization in EMEs could serve ‘as a signaling device for governments to establish their reliability within global capital markets’ (Joyce & Noy, 2008, p. 415).

A key theme underlying the claims advanced in this article is that the economic variables factoring in the Fed’s decision-making were ambiguous, and that politics played a determinative role in the Fed’s selection of its EME swap recipients. Following the outbreak of the crisis in 2008, governance institutions, including the Group of Twenty (G-20) and the Financial Stability Board (FSB) (re-)emerged to facilitate coordinated crisis management among systemically important economies (Helleiner, 2014). These arrangements sought to address global financial and trade pressures following the crisis. They were created to reflect the changing balance of power in the global economy to represent systemically important EMEs, in line with the existing US-led governance framework.

Hosts of the G20 state leaders’ summits along with the former and subsequent chairs made up the G-20 ‘Troika’.⁶ G20 finance ministers and central bank governors also convened at annual ministerial meetings. The ‘troika’ could select items for negotiations and were afforded substantial agenda-setting influence in the G20 summits. Similarly, the Financial Stability Forum (FSF) was transformed into the FSB as a ‘fourth pillar’ of GEG (Helleiner, 2014, p. 2, 128). These institutions, coupled with the Bretton Woods institutions, made up the bulk of the governance framework that focused on crisis management, regulatory reforms and trade

facilitation (Bradford, Linn, & Martin, 2008). Crucial in shaping the actions of these institutions was the structural power and policy choices of the US (Helleiner, 2014). Any attempted reforms of the global governance system and its implications for the international economy were influenced by US interests and its diplomatic relations with member states. It unsurprisingly suited the US to protect itself against those that could impinge on its interests through the existing governance arrangements.

The crisis highlighted the ‘outdated, biased and dysfunctional’ practices of the existing governance framework, disenchantment towards the dollar’s privileged status and a need for new thinking and international coordination (Grabel, 2018, p. 3). As such, the crisis ‘catalyzed the decentralization of the developing world’s financial governance architecture’ (Grabel, 2015, p. 388) and ‘calls for a “new global financial architecture”’ (Grabel, 2018, p. 30). The value of swap arrangements in the Chiang Mai Initiative doubled after the crisis, and the first BRICS Leaders meeting was held right before the 2008 Group of Eight (G8) Summit. Katada et al. (2017) illustrate the efforts made by these economies to push reforms within the existing institutional architecture, and also look to create new institutions to reflect the changing balance of power in the global economy. Several emerging and developing economies sought to increase their influence and autonomy in GEG through alternative institutions.

Within the G20, several members pushed for governance reforms early on in the crisis (Kahler, 2013). The US came under increasing pressure from France and Great Britain, who voiced criticism over the unique centrality of the dollar in the global economy (Parker, 2008; Quaglia, 2014a, 2014b; Roberts, Armijo, & Katada, 2017). At the 2008 G20 Summit, Sarkozy stressed, ‘this is a global crisis and we have to remember where it started’ (Parker, 2008). As the crisis originated in the US, its policy-makers faced the possibility of declining influence in the international governance community.

The US also faced pushback from key EMEs. China and India demanded a radical reform of the governance system (Chey, 2012; Kahler, 2013; Woods, 2010). China pushed for monetary reform in the G20 and took steps towards the internationalization of the renminbi with the aim of creating an alternative to the dollar (Kirshner, 2014). India shared China’s belief in their ‘entitlement to a more influential role in world affairs’ (Narlikar, 2013, p. 562). These economies’ policy preferences have been one of capital controls and maximum policy discretion to manage globalization (Narlikar, 2013; Kahler, 2013). Both powers have indicated their preferences for greater agenda-setting influence in international organizations (Narlikar, 2013; Prasad, 2016). Their calls grew louder around the same time as the Fed began to extend swaps to advanced economies.

Taken together, the US was incentivized to strengthen its relationship with EMEs that were more favorably disposed to it, particularly those that experienced an increased influence in GEG. I argue that the Fed favored relatively financialized EMEs that experienced an increased influence in GEG during the crisis and were aligned with US preferences regarding GEG reforms and within the existing institutional framework, which suited the US’s strategic and diplomatic interests.

These arguments highlight important, albeit less observable implications of policy choices for access to liquidity by focusing on the blurred boundary line that the Fed drew in selecting swap recipients. It points to the economic signals that

financial openness sends about an economy's health, capacity to manage funds and future policy trajectory, the political influence of economic partners' shared policy preferences (Chwieroth, 2008; Nelson, 2017) and central bankers' networks (Woods, 2006) on the likelihood of receiving a swap. The politicized nature of this tool also sheds light on the heightened uncertainty around EMEs' future access to liquidity from the Fed.

I test these arguments through case studies of EME swap selection. I discuss the Fed's justification for its choices, and highlight the political factors such as diplomatic concerns, political alliances, institutional ties and central banks' relations, that influenced the Fed's decision-making. I then run a larger statistical test to show more general evidence of the influence of financial openness on the likelihood of receiving a Fed swap.

4. Selecting swap partners

As financial pressures grew in 2008, several EMEs requested temporary assistance from the Fed; only four were successful. Mexico, Brazil and Korea are three of the 25 'biggest, most interlinked economies' (IMF, 2014), and have a GDP of around or over 1 trillion dollars; Singapore is a small but important global financial center. Although the EME-4 'set the bar quite high' (FOMC, 2008, p. 11), they did not meet several of the Fed's stated criteria for receiving a swap. FOMC discussions over each candidate illustrates the ambiguity in their decision-making.

It is important to note the Fed's concern about the EME-4s' reliability as swap recipients. The decision to assist them was contentious in the FOMC. EME swaps had 'several safeguards' to insure against economic and political risks (FOMC, 2008). These central banks could not draw on these lines without further authorization and each withdrawal was capped at 5 billion dollars. FOMC deliberations indicate that political considerations were salient.

I first consider the EME-4 to illustrate the argument advanced in this article. Next, in order to alleviate concerns of selecting cases on the dependent variable, I evaluate two 'non-events' – India and Chile – whose requests were denied. Based on the Fed's criteria, India looked 'most similar' to Brazil. Chile has for a long time been the 'poster child' of Latin America and is closely tied to the US financially. These countries were considered to be next in line for a swap. These paired comparisons give me leverage to illustrate the argument that countries with less influence in GEG were indeed less likely to receive swaps.

4.1. Mexico

Mexico was the only EME to have received Fed assistance prior to 2008. In 1994, the US made its swap line with Mexico (and Canada) permanent in the North Atlantic Framework Agreement (NAFA). Any Mexican drawings required FOMC approval, and drawings over \$1 billion required additional collateral (Bordo et al., 2015). Nonetheless, throughout the 2000s, Mexico had had high inflation and American banks were not heavily exposed in Mexico. What led the Fed to extend a swap to Mexico was that Mexico was a relatively financialized, long-term US ally and that political and economic pressures could have spill-over effects on the US.

The establishment of a US-Mexico swap was deeply political. The politics of this swap was echoed and emphasized in the FOMC, stressing economic *and* political considerations such as institutional links and geopolitical concerns. After the 1994 Tequila crisis, Mexico undertook extensive capital account liberalization policies, associated with IMF assistance. By 2008, Mexico was highly exposed to cross-border capital flows.⁷ Although Mexico did not experience the dramatic increase in its influence in GEG institutions, it was an 'obvious' choice (FOMC, 2008, p. 17). Mexico's diplomatic relations with the US have been important for the US, particularly through NAFTA and NAFA (Villarreal, 2010b). In fact, Mexican financial institutions had long been net-suppliers of dollars to the US, rather than the other way around.

Nathan Sheets emphasized that, as a long-term US ally and a member of NAFTA, US-Mexico interdependencies were 'particularly pronounced' (FOMC, 2008, p. 10). As the crisis spread, global trade facilitation was on the G20 agenda in 2008 (Bradford et al., 2008). Cross border trade and investment through NAFTA and NAFA are critical to several US industries. Consequently, US-Mexico relations are important to policymakers in both countries (Villarreal, 2010a, 2010b). Moreover, as an enmeshed bordering country, the US had increased assistance to Mexico early in 2008, to bolster border security, and fight organized crime and drug trafficking, emphasizing both countries' '*shared responsibility*' through the Mérida Initiative (Seelke & Finklea, 2016, p. 6). Fisher even argued that not assisting Mexico would pose a '*national security risk*' (FOMC, 2008, p. 17, emphasis added), indicating a reluctance in creating any bad blood between Banco de Mexico (Banxico) and the Fed in this 'special arrangement': 'I don't see any reason why we should differentiate between them and Canada, for example. It would stigmatize them in a way, and it would be an insult to these people' (FOMC, 2008, p. 23).

Others hesitated and argued for stringent conditionality and safeguards in the agreement. Most large Mexican banks, barring Banamex (belonging to Citi), were European-owned, and could access ECB dollar funding. Mexico also had a standing swap with the US through NAFA. The 'home-host' balance over who was responsible for increasing pressures on these financial institutions was delicate, as pressures could be sourced to the US. Nonetheless, the FOMC preferred that partnered institutions had 'lendable collateral' with 'substantial market value relative to their needs' (FOMC, 2008, p. 31). Its decision to allow Banxico to draw on the line depended on where it lay on the 'liquidity-solvency spectrum' (FOMC, 2008, p. 32).

It favored Mexico that the central bank's governor was sympathetic towards the concerns and policy-preferences of his interlocutors in the Fed which has been found to facilitate cooperation between monetary authorities (Woods, 2006). Fisher argued that 'they have a sophisticated central bank and have a very good central bank governor' (FOMC, 2008, p. 17). Guillermo Ortiz was a strong proponent of inflation-targeting and maintaining high levels of financial integration (Ortiz, 2008, 2002). Ortiz emphasized that they would not draw on swaps until funding pressures emerged, and that Mexico's dollar reserves would be used 'as their first, second and third lines of defense' (FOMC, 2008, p. 40).

Even though Mexico did not meet several criteria that the Fed considered, political and diplomatic considerations were given substantial weight by the Fed.

Ultimately, Mexico's institutionalized ties with the US through NAFTA and NAFA, combined with national security concerns, policy preferences for financial openness, and their central banks' ties swayed the FOMC to arrange a US-Mexico swap in October 2008.

4.2. Brazil

The case of Brazil is most puzzling for existing accounts. It faced high inflation and political and economic instability running up to 2008. After the 1990s crisis, the 2002 presidential election was followed by further devaluation. Brazil is a less systemically important trading partner to the US, and political ties with the US have been tenuous. Fisher described it as 'the dodgiest of the lot' (FOMC, 2008, p. 17). As Brazil did not meet several of the FOMC's criteria, it is surprising that it still received a swap from the Fed. I expect that Brazil's political clout in the G20 and reforms towards financial liberalization tipped it over the boundary line – despite the Fed's concerns that it was a risky candidate.

The Fed's deliberations over Brazil reveal its reluctance to extend EME swaps. FOMC officials voiced several concerns about extending a swap to Brazil, such as the risk of currency depreciation, or the likelihood of defaulting on these lines. Stringent safeguards and collateral were necessitated. The New York Fed had set-off rights under which the swap could not be drawn on without approval from the Foreign Currency Subcommittee. If Brazil did not make good on the swap, the Fed could take hold of Banco Central do Brasil's assets in New York to 'extinguish the obligations from the swap' (FOMC, 2008, p. 19).

Fed officials used ambiguous language and political reasoning to justify their decision. Despite its 'unique negotiating history' with the Fed, FOMC members argued that it was a 'critical part of [the Western] hemisphere' (FOMC, 2008). Fisher noted that Brazil had made 'significant progress since Cardoso was president, and it is a robust economy, relatively speaking' (FOMC, 2008, p. 17). Following the 1999 currency crisis, Brazil began to liberalize its capital account under IMF-encouraged reforms, while retaining the option of reinstating capital controls if necessary (Gallagher, 2015). Brazilian banks were more financialized than the government, enabling them to insulate themselves in international capital markets in the early 2000s (Hardie, 2011). The Brazilian economy was large and substantially more open than several emerging economies.⁸ Although American banks were less exposed there, Brazil's policy structure aligned with US preferences.

Several G20 economies had begun to push for reforms in the pre-crisis governance framework, as the crisis unfolded (Kahler, 2013). Calls grew louder as the Fed's swap network with advanced economies emerged. Brazil was scheduled to take the rotating summit chair in the 2008 ministerial meetings (Chey, 2012), enhancing its agenda-setting power in the G20 at a crucial moment during the crisis. Although frequently clubbed together with India and China,⁹ Brazil had been less vocal in pushing governance reforms. Even Lula's isolationist ideas were 'fundamentally predicated on maintenance of the existing global governance structures' (Narlikar, 2013, p. 570). Brazilian diplomats frequently 'drift from the [BRICS] coalition script', presenting itself as a bridge between the global North and South (Burges, 2013, p. 585). Notably, the Fed's stance on assisting these EMEs

through swap lines only became positive after October 2008 when it was established that the G20 summit would take place (Chey, 2012). Until then, the Fed was not swayed by the possibility of a reverse spill-over from increasing instability in emerging markets that could hit advanced economies (MSFK, 2008).

When economic indicators were evidently unfavorable for extending a swap to Brazil, politics mattered. The crisis was a unique moment for the US, challenging its ability to maintain its stronghold in GEG. One way to do this was by strengthening alliances with EMEs that supported the US-led status quo GEG framework. A US–Brazil swap provided the Fed an opportunity to assist a liberalizing economy with enhanced agenda-setting influence in the G20. The dynamics playing into the Fed's decision to extend a swap to Brazil illustrate that when economic considerations were ambiguous, political considerations played an influential role.

4.3. Korea

Korea was a more suitable candidate for a swap on economic grounds. US banks were highly exposed to the Korean economy. Nevertheless, throughout September 2008, Korea's early swap requests were turned down. As the Korean won was not an international currency and had a sub-AAA credit rating, the Fed feared a pile-on effect of more EME requests (Chey, 2012).

Did political and diplomatic factors create incentives for the Fed to establish a US-Korea swap? Korea had been loosening capital controls since 1987 and continued to do so since 2008. More importantly, in 2008, Korea experienced an increased influence in agenda-setting in the G20, when it was scheduled to take the presidency in 2010.

Fisher described Korea as an 'underrepresented country in terms of discussions about developments in that part of the globe, and yet it is inordinately successful' (FOMC, 2008, p. 17). Korea's abundant foreign exchange reserves and relatively sound fundamentals signaled its capacity to manage contagion effects. The Korean Finance Minister Kang Man-soo also commented that it had no plan to apply for an IMF facility, due to the Koreans' (hostile) sentiment towards the Fund (MSFK, 2008).

The year 2008 brought along two critical developments in US-Korean relations. First, for some time, Korea and the US had been negotiating the Korea-US (KORUS) trade agreement, which was finally concluded in 2012. This was one of the most commercially significant US free trade agreements since NAFTA (Gallagher, 2015; Office of the United States Trade Representative). In 2008, however, KORUS negotiations faced several obstacles, many of which stemmed from the crisis. With contagion and growing pressures, concluding an agreement was looking increasingly difficult. The US, eager to conclude the deal, had an added incentive to reinforce its alliance with Korea, and swaps would further strengthen economic ties between the two.

Second, was the announcement of Korea's Presidency in the G20 Summit. Chey (2012) suggests that in exchange for Korean support at the G20, the US changed its previous stance and granted Korea a swap. Additionally, Korea had not supported European and Chinese calls for a fundamental restructuring of the international order in the G20 (Gallagher, 2015). Days after the G20 announcement, the

Bank of Korea was asked to submit a swap request that was approved almost immediately (Chey, 2012; Park, 2008).

The ordering of events is not coincidental. Paulson commented that swap facilities with EMEs demonstrated strong cooperation in the G20, and President Bush requested that Korea step in to the governance realm to help manage the crisis (Chey, 2012). In Korea, the swap arrangement was viewed as a 'US request for support of its position in the forthcoming reform of the international financial system' (Park, 2008). The sequence of events illustrates that diplomatic considerations swayed the US to support Korea in exchange for Korea's support in the G20, reinforcing the argument that beyond economic concerns in 2008, the Fed's decision to extend liquidity to the EME-4 was political.

4.4. Singapore

Although a smaller economy than the rest, Singapore is a global financial center and a major economic hub in Asia. It also had abundant foreign dollar reserves and relatively low inflation, making it a more likely candidate for a swap on economic grounds. However, dollar funding pressures were not a pressing concern in 2008, and American banks' exposure to economic shocks in Singapore was comparatively low. Notably, Singapore has had a fully liberalized economy since the 1997 Asian crisis. It also enjoyed an influential position as a member of the FSF (now FSB), in October 2008. Singapore has been an important political ally of the US, and cooperation in security issues had also been increasing since 2005. I suggest that it is for these reasons that the Fed had an incentive to extend liquidity assistance to Singapore during the crisis.

Singapore and the US had strong political and economic ties prior to the crisis. It has been 'one of the most committed partners' of the US in Southeast Asia (Kuok, 2016, p. 1). In 2005, the US and Singapore drafted the Strategic Framework Agreement for a Closer Cooperation Partnership in Defense and Security (Kuok, 2016), which has since been increasingly bolstered. It has been a proponent of an increased US presence in the region's economy, stressing that '*economics is security*' (Kuok, 2016, p. 6). Singapore was the first Asian economy to sign a trade agreement with the US and holds the second-largest stock of US foreign direct investment in Asia.

During its internal deliberations in October 2008, Fed officials acknowledged that financial pressures in Singapore at the time were not significant. They also articulated political justifications for a swap line to Singapore, indicating the Fed's interest in strengthening its EME alliances. FOMC officials recognized that it would be beneath Lee Kuan Yew's dignity to go back to the IMF, and protecting this vital international link was important to the US (FOMC, 2008, p. 17).

Notably, Singapore was one of five non-Group of Seven (G7) members in the FSF in 2007. This was a central body for international standard-setting in financial regulation and supervision. A Bank for International Settlements (BIS, 2008) 2008 Press Release notes that early in 2008, the FSF was closely involved with the G7, recommending actions to manage liquidity and financial pressures. Following the FSF meeting early in 2008, the FSF became an important liaison between the G7 and the G20 and took the reins in transforming the Forum to the FSB (BIS, 2008).

Membership in this exclusive and powerful institution enhanced Singapore's ties with the G7, and subsequently, its influence in GEG during the crisis.

No doubt, Singapore seemed an intuitive choice for a swap. However, it is worth noting that, similar to Mexico, Brazil and Korea, it was also in a unique position to impinge upon the US through financial *and* institutional linkages. For these four economies, political considerations, particularly considering GEG arrangements in which the US was central, carried substantial weight. Is the opposite true for those economies who were denied a swap?

4.5. The spurned - India and Chile

To illustrate the importance of GEG for Fed swap agreements, I focus here on the 'non-events': those countries whose requests were turned down. For the most part, in the FOMC's deliberations over those central banks that were denied, country names have been redacted. The Fed did, however, discuss the possibility of extending a swap to Chile and India, and how it could determine and justify where it drew the line over which EMEs it would assist. In these discussions, the international economic *and* political concerns in the Fed become apparent.

Extending swaps to the EME-4 left the Fed 'increasingly vulnerable to a 'pile-on' effect, which might manifest itself either in a large number of additional swap requests or in political pressure' (FOMC, 2008, p. 12). FOMC officials were emphatic that they signaled a clear stance on their willingness to consider other EME requests, stressing that the high bar for EMEs implied that they would only consider requests for cases comparable to the EME-4. Ben Bernanke summed it up nicely: '... these are the right four economies and we probably shouldn't do more, both from an economic and diplomatic perspective' (FOMC, 2008, p. 16).

Concurrently, FOMC staff were concerned that conditionality or refusals could insult heads of foreign institutions, and impact market perceptions of these economies. Eric Rosengren, of the Boston Fed stated: 'I do think going to the IMF will attach a fair amount of stigma to the organization. So I am worried that the spill over benefits to other countries will be negative, not positive, because of that stigma' (FOMC, 2008, p. 25). The intensification of financial stresses was already a pressing concern, much of which stemmed from contagion effects from advanced economies. Further intensification 'could trigger unwelcome spill overs for both the US economy and the international economy more generally' (FOMC, 2008, p. 10).

Disagreement within the FOMC over where to draw the boundary line was evident in their deliberations. In economic terms, the Indian economy looked comparable to that of Brazil. On the other hand, although Chile had a Free Trade Agreement with the US, it was substantially smaller in its economic size and less systemically important to the US within the existing GEG system. The Chilean economy was however fully financialized. These countries are 'almost' cases – the next most likely candidates that could 'make a case' for a swap. Yet, there was 'about as much gap as you're going to find' between them and the EME-4 (FOMC, 2008, p. 29). Where this gap lay, is unclear. What made India and Chile distinct from the EME-4 was India's policy of capital controls and the relatively marginal role of both economies in international governance.

The discussions around this potential case speaks to the 'collateral benefits', or lack thereof, of financial liberalization. The Indian economy demonstrated low

levels of capital account openness.¹⁰ Yet, it shared many attributes that worked favorably for the EME-4. India's trade levels with the US were comparable to Brazil; inflation had decreased in the run up to 2008, and it possessed large reserves. Most importantly, US banks were more exposed to the Indian economy than they were to Brazil or Singapore. India is also classified as one of the 25 biggest, most interlinked economies by the IMF (2014). With a clear need to discern where to draw the line with EMEs, India's size and importance in the global economy gave way to pressures in the Fed to constrain the scope of these facilities. Duvvuri Subbarao, then governor of the India's central bank, reported that one reservation of the US against extending a swap line to India was that the rupee was not fully convertible¹¹ (Prasad, 2014). The FOMC also noted that India was 'not as integrated into the global financial system' (FOMC, 2008, p. 29).

Despite relatively sound economic fundamentals, India's financial markets were not very well developed. It was acknowledged that India was 'well run and had shown a lot of progress in their domestic policies and their domestic economies' (FOMC, 2008, p. 117). Sudden capital outflows and currency concerns were not necessarily triggered by poor economic fundamentals, but contagion from the US. A rapidly growing economy, India's GDP also surpassed the trillion-dollar benchmark that the Fed had identified as a sign of a systemic importance. Political considerations, however, were not used favorably in discussions over possibly granting India a swap.

Within the governance framework, India was not supportive of the status quo and sought reforms and agenda-setting influence in GEG institutions (Narlikar, 2013), which it did not have in 2008. Rather, Indian officials had been vocal in their calls for policy adjustment in the US. These geopolitical concerns distinguished India from its BRICS counterpart, Brazil. India's policy of capital controls, and vocal opposition to US influence in international institutions placed it out of the Fed's favor. The FOMC was more willing to subject the Indians to the stigma of the IMF's Short-Term Liquidity Facility (SLF), created in 2008 to quickly disburse funds to emerging markets facing temporary liquidity problems and required 'both financing and policy adjustment' (IMF Press Release, 2008).

Interestingly, the Fed gave much consideration to the prospect of assisting Chile. In 2008, Chile's macroeconomic position was not consistent with most of the economic criteria that Fed sought in its swap partners, making it an unlikely candidate. However, since the early 2000s, Chile had come to be seen as one of Latin America's success stories, with moderate inflation and strong growth (Prasad, 2014, p. 71). Fisher argued vaguely, that 'although it is tiny, its representation is important and its nature unique' (FOMC, 2008, p. 17). Unlike India, Chile was a fully open economy that did not typically intervene in foreign exchange markets (Prasad, 2014).

FOMC transcripts suggest that the Fed paid greater attention to diplomatic and geopolitical factors in assessing Chile. The Fed considered Chile's immediate impact on the US economy, its unique role in the Western hemisphere, and the unlikelihood that they 'would want to go to the IMF in the first place' (FOMC, 2008, p. 18). Few details of its uniqueness and impact of the US economy were provided, however. Notably, Chile is neither a member of the G20 nor the FSB and enjoyed little influence in governance institutions. Given its small size and relatively lower economic ties with the US, Chile's preference for capital account

convertibility could not sway the Fed's decision to extend a swap. The FOMC's approving discussion of Chile illustrates its preference for capital account openness. Domestic economic and institutional improvements may have resonated with US preference for liberalization, putting Chile in higher standing with the Fed. The Fed tried to avoid imposing the stigma of going to the IMF on Chile and discussed 'alternative way[s] to draw the line' (FOMC, 2008, p. 25). However, Chile's capacity to impinge on the US through governance arrangements was negligible, keeping it below the Fed's boundary line.

Ultimately, while the final vote was 'unanimous', some FOMC officials remained doubtful of the value of these swap lines and were reluctant to agree to the EME-4 arrangements. Others' consent was conditional on 'meaningful and real' safeguards and expressed their concern over the language of the criteria that swayed decisions, 'given how circumstances can change quickly' (FOMC, 2008, pp. 42–43). The Fed was undoubtedly concerned about the immediate economic domestic *and* international impact of the crisis. However, political factors played a determining role in where the Fed drew its boundary line in assisting EMEs.

Overall, a general pattern emerges in how the Fed negotiated its boundary line. The economic criteria set out by the Fed certainly mattered. It was important that central banks signaled sound economic management so that the FOMC could trust that these facilities would not be mismanaged. Financial openness afforded some EMEs the ability to send this signal, and it is evident that the Fed had a preference for more liberalized economies. Even so, these signals were insufficient. What set the EME-4 apart was that were aligned with US preferences over governance reform and policy. This afforded them greater influence in setting the GEG agenda over how to manage the crisis and won them the favor of the US. An important factor in determining the Fed's boundary line between the EME-4 and the rest was their influence in GEG and more favorable relationships with the US.

5. A statistical test of fed swaps

Having considered in detail the politics underlying the Fed's swap facilities with EMEs, I test for more general evidence of the influence of capital account openness in the Fed's decision-making. I expect that higher levels of financial openness are associated with a higher probability of receiving a Fed swap. Using probit regression models, I estimate the effect of the degree of financial openness on a country's chances of receiving a swap line. The dependent variable, *Swap Agreement*, measures the cross-country variation in receiving a swap in 2008, taking a value of 1 if the Fed established swaps with a foreign central bank, and 0 otherwise. I use data ranging from 1997 to 2007 for the explanatory variables to measure key economic and financial criteria that the Fed publicly stated factored into its decision-making.¹² In the absence of the full list of who requested a Fed swap, I assume that swaps were extended regardless of a prior request.¹³ This assumption is not misplaced as the Fed urged some central banks, such as the ECB or the Bank of Korea, to request a swap that it then granted (Chey, 2012).¹⁴

To measure the influence of financial openness on the Fed's choice of swap partners, my main explanatory variable is *Financial Openness*.¹⁵ This index ranges from 0 to 1, where a value of 1 indicates full openness, and a closed economy takes a value of 0. In both models, I drop individual Eurozone economies and include

only the ECB, as the swap was arranged with the ECB and not individual Eurozone economies. I draw controls from the existing literature that lists the FOMC's selection criteria to estimate the covariates that influence both *Financial Openness*, and the outcome, *Swap Agreement*. I present two models to test the influence of capital account openness on the likelihood of receiving a swap: Model 1 presents a bivariate analysis of the effect of *Financial Openness* on *Swap Agreement* alone. In Model 2, I control for the Fed's selection criteria stated previously.

A first control is *Economic Significance*, generated using the first standardized principal component of the four variables that measure a country's weight in the global economy measuring and its economic significance to the US (see Appendix, Table A1 and Figure A7). While the results hold for the *Financial Openness* variable when *Economic Significance* is disaggregated, I create this variable to mitigate a multicollinearity problem from four highly correlated variables – US Bank Exposure, Bilateral Trade, GDP Share and Liquid Liabilities – that indicate different aspects of a country's weight and systemic importance to the US and the world economy (see Table A1 in the Appendix). Given the centrality of the US economy and the US dollar in the global economy, most countries that are of economic or political significance to the US are also likely to be systemically important. The measures of an economy's importance to the US – bank exposure and trade – capture the same dynamics and relationships of interest as measures of systemic economic importance – GDP share and liquid liabilities share in the global economy. Models incorporating these variables may therefore be overdetermined and unable to capture the true effect of these factors given the concerns of multicollinearity and small sample size.

US Bank Exposure accounts for financial linkages to the US. This is measured as the value of the consolidated claims of US banks in a foreign economy as a proportion of total of the global consolidated claims of US banks as of December 2007.¹⁶ Since US banks would benefit in those countries to which the Fed provided dollar liquidity, higher levels of US bank exposure should be associated with a greater likelihood of receiving a swap. *Bilateral Trade* is calculated as US bilateral trade (imports plus exports) with an economy as a fraction of total US trade (imports plus exports) in 2007.¹⁷ Openness to trade is a key aspect of economic and financial openness and also exposure to dollar liquidity in the global economy, since most global trade is conducted in dollars. Bilateral trade provides a good measure of a country's economic significance to the US. To account for a country's weight in the global economy, I use GDP share and liquid liabilities share.¹⁸ GDP Share is measured as a country's GDP as a proportion of global GDP (in US dollar billions) as of 2007. To measure financial mass, I used Liquid Liabilities¹⁹ – an economy's liquid liabilities as a share of total liquid liabilities in the world (in US dollar billions) as of 2007.²⁰

Finally, I include *Inflation*, measured as the annual percentage change of CPI inflation averaged over the previous decade (1997–2007)²¹ as a proxy measure for a country's economic management. Higher inflation tends to be associated with financial openness and is generally more sensitive to monetary policy under a regime of financial openness. Low inflation typically signals sound economic management.

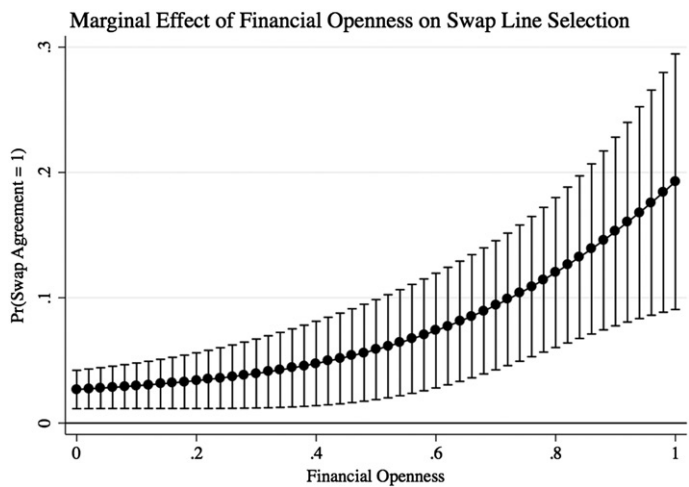


Figure 2. Marginal effects of financial openness on swap line selection. Note: Predictive margins (with 95% confidence intervals) of a central bank receiving a Fed swap using Model 2 from Table A1, holding covariates to their means while increasing Financial Openness from 0 to 1.

Table 1. The Fed’s selection of foreign central banks for currency swap lines.

	Model 1 Swap Agreement	Model 2 Swap Agreement
Financial openness	1.93** (0.58)	2.07** (0.78)
Economic significance		0.93** (0.34)
Inflation		−0.14* (0.08)
Constant	−2.68** (0.50)	−2.08** (0.73)
Observations	154	129
Pseudo R-squared	.18	0.45
p Value	.00	.00
Log likelihood	−38.26	−23.18
LR chi-squared	17.30	37.95

Standard errors in parentheses.

** $p < .01$, * $p < .05$.

Note: The outcome variable is Swap Agreement which equals 1 if Fed a swap was granted, 0 otherwise. Since the ECB received the Eurozone’s swap, I code a single observation for the Eurozone and the sum (or aggregate) covariate values for its twelve-member countries in 2007.

I expect *Financial Openness* to be positively associated with *Swap Agreement* suggesting that countries with higher levels of *Financial Openness* were more likely to receive a swap. Table 1 presents the results of Models 1 and 2. As expected, in Model 1, *Financial Openness* has a positive and significant relationship on the likelihood of receiving a swap, supporting the argument that the Fed acted favorably to economies that were more open. *Financial Openness* alone explains 18% of the variation in the data.

In Model 2, the coefficient for *Economic Significance* is positive and significant. This is unsurprising given the FOMC’s focus on the systemic importance of its swap partners, and the multiplicative effects that contagion through global financial centers could have on the international economy. Of course, this composite measure does

not allow us to distinguish among the effects of individual variables. Nonetheless, my main conclusion is that *Financial Openness* remains statistically significantly correlated with swap agreements even when accounting for these alternative explanations.

Figure 2 illustrates the marginal effect of *Financial Openness* on the likelihood of receiving a swap line from Model 2. This is negligible for economies with lower measures of *Financial Openness*. Economies with a *Financial Openness* indicator of below 0.2 would have about a 3 percent chance of receiving a swap, in comparison with an approximately 20 percent probability for fully open economies. Although modest, this estimate sheds light on the Fed's unwillingness to extend a swap to economies that are relatively closed. It thus supports the argument that the variation in selected swap partners based on vastly different ties to US banks can be explained by relatively higher levels of capital account openness. Likewise, countries whose economies were not open, were less likely to be considered for a Fed swap. In sum, the models show that *Financial Openness* helps to resolve the inconsistencies between the FOMC criteria for selecting swap partners and the final selection of these fourteen economies and address some of the unexplained variation in the Fed's selection of swap recipients in 2008.

6. Conclusion

The selectivity of Fed swaps in the 2008 crisis reflected the Fed's preference for economies that shared its policy preference for greater financial openness and suited its strategic interests in global economic governance. Understanding the political dynamics underlying the Fed's swap arrangement has far-reaching implications for GEG and crisis management. The crisis highlighted the IMF's inability to contain the crisis. Instead, major central banks collectively aided economies that came under increasing pressure. Central bank swaps provided a preferred source of liquidity for economies under strain. The US enjoyed a unique position as the only economy capable of injecting a large amount of dollars into the global economy. It was also the first time, besides with Mexico, that the Fed acted as an LLR to EMEs. Swaps afforded the US a new tool to wield its monetary power in international finance to further protect its interests in financial institutions.

The opacity of the Fed's practices in 2008 has been a source of contention, at home and abroad. Consequently, it remains an open question whether systemically important economies can rely on obtaining US assistance in the next major crisis, and which economies these might be. The future availability and reliability of Fed swaps as a source of liquidity to EMEs under pressure is uncertain. I argue that Fed swap assistance is only available to EMEs of both economic *and* strategic importance to the US, and emphasize that when the economics are ambiguous, the politics are determinative.

I have argued that an economy's policy regarding financial openness influenced its chances of receiving a swap. In general, countries whose policy preference aligned with the US's preference for financial liberalization were more likely to receive a swap from the US. Political considerations were especially effective in swaying decisions for EMEs. The Fed assisted its EME allies that in 2008 had a greater influence in the global economic governance. The divide between the US and several major players at the first G20 summits, and the origin of the crisis in the US itself, drove the Fed to strengthen ties with a select few emerging economies.

A key implication of this contingent need of the US to branch out is that we cannot know whether these EMEs can bank on the Fed's support in the future. Much has changed since the crisis, in terms of individual countries' macroeconomic policy preferences and also US relations with its swap partners. The US's strategic need to reinforce its EME partnerships may be less pressing in the future. To limit capital inflows following the crisis, Brazil imposed capital controls from 2009 to 2012 under former finance minister, Guido Mantega (Henning, 2015). It is also emerging as a 'new protagonist' in GEG institutions, with a particular interest in the global trade regime (Hopewell, 2013). It might follow that Brazil would be less likely to receive Fed swaps in the event of another global financial meltdown.

Korea's efforts to institutionalize its existing swap lines with the Fed during its tenure as the G20 chair did not materialize. The proposal sought to institutionalize this new financial safety net 'in a way that was no longer ad hoc or reliant on the goodwill of one country' (Helleiner, 2014, p. 45). The Fed, however, preferred to maintain 'constructive ambiguity' over whether they would re-extend these lifelines in the future (Henning, 2015, p. 7). In 2013, a modest incarnation of Korea's proposal to institutionalize these arrangements emerged between the US and five advanced economies (the C6), which excluded the Bank of Korea (Mehrling, 2015; Helleiner, 2014). It is worth noting that by this time, Korea was no longer part of the presiding G20 troika, and the KORUS agreement had been ratified by both parties.

Finally, emerging economies are continuing to reinforce their influence in global economic governance through alternative institutional arrangements. These factors collectively may offset the Fed's affinity to its emerging economy partners, raising questions about the future prospects of the availability of Fed swaps for EMEs. Such uncertainty around EMEs' access to global financial safety nets suggests a need to strengthen domestic measures to prevent the recurrence of systemic shocks and protect bystanders from contagion.

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Notes

1. The European Central Bank (ECB), the Bank of Japan (BoJ) and the People's Bank of China (PBoC) also extended swaps of approximately US\$300bn. Around 25% of total

swaps from the five central banks went to emerging and developing countries (EMDs). The Fed and PBoC ‘about evenly’ provided over US\$200bn to EMDs (Gallagher, 2015, p. 76). Between 2008 and 2013, the PBoC extended up to RMB2.5tn in RMB swaps to twenty-three countries (Jiang, 2014).

2. Although Korea and Singapore were not considered EMEs in 2008, they were unambiguously referred to as such in the Federal Open Markets Committee and are therefore referred to as EMEs in this article.
3. This refers to refers to mini- and multi-lateral governance agreements and international institutions created to manage the global economy.
4. These were the central banks of the United Kingdom, Denmark, Norway, Sweden, Switzerland, Canada, Japan Australia, New Zealand, Brazil, Mexico, Korea and Singapore.
5. I have only listed those requests which have been independently verified through alternative channels. This list may not be exhaustive.
6. To ensure continuity, the G20 Presidency each year is supported by a ‘troika’ made up of the current, immediate past and future host countries. It is distinct from the European troika – the European Commission, the ECB and the IMF.
7. Mexico had a capital account openness level of 0.6, as per an updated version of the Chinn-Ito index, normalized to a scale of 0 to 1 (Aizenman, Chinn, & Ito, 2013). Higher values of the index indicate that a country is more open to cross-border capital transaction.
8. The level of Financial Openness for Brazil is 0.653, as per the Aizenman, Chinn and Ito (2013) ‘Trilemma’ Index measures.
9. And sometime including Russia and South Africa, to make up the BRICS.
10. 0.164 on the ‘Trilemma Index’
11. Although currency convertibility is not synonymous to capital account openness, it has implications for openness to the extent that it can affect foreign exchange trade, the free flow of capital across borders (Johnston & Swinburne, 1999).
12. I thank J.L. Broz for sharing the data and supplemental materials used in the analysis.
13. Without an exhaustive list of countries that requested swaps, we cannot infer the influence of financial openness on whether or not a country would request a swap in the first place. It is of course possible that countries with lower levels of openness were unlikely to request Fed assistance. These results must therefore be taken with a degree of caution.
14. Note that we do not have an exhaustive list of all countries whose swap requests to the Fed were denied.
15. Measured using the Chinn-Ito KAOPEN index of capital account openness based on information regarding cross-border economic and financial restrictions in the International Monetary Fund’s *Annual Report of Exchange Arrangements and Exchange Restrictions*. The Chinn-Ito KAOPEN index is normalized to range from 0 to 1, where higher values indicate more openness. The data are sourced from the Aizenman, Chinn and Ito (2008; Aizenman et al., 2013) ‘*Trilemma Indexes*’, measuring the degree of achievement along three dimensions of the ‘trilemma’ hypothesis, updated 1 July 2016.
16. BIS, Consolidated Banking Statistics, Table 9B, Foreign claims by nationality of reporting banks, immediate borrower basis.
17. These data in Barbieri and Keshk (2012).
18. These data are available from the World Economic Outlook (WEO) Database and from Beck, Demirgüç-Kunt, and Levine (2000). For the Eurozone, the values for the twelve countries under the ECB’s jurisdiction are summed together, as of 2007 (Broz, 2015).
19. These data are available in the WEO Database and from Beck et al. (2000).
20. This variable is also highly correlated with *Bank Exposure* as the larger economies are, on average, more internationalized. Given that that the Fed considered both the exposure of US banks as well the systemic importance of foreign economies in its selection process, creating an index of these variables is not theoretically viable. As such, this analysis does face a problem of multicollinearity.

21. Inflation data are taken from the IMF's International Financial Statistics.
22. Measured as s central bank's total international reserves (excluding gold) as a share of GDP. Available in the IMF International Financial Statistics, series RAXGFX.

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Appendix: Control variables in statistical analyses (where swaps were requested)

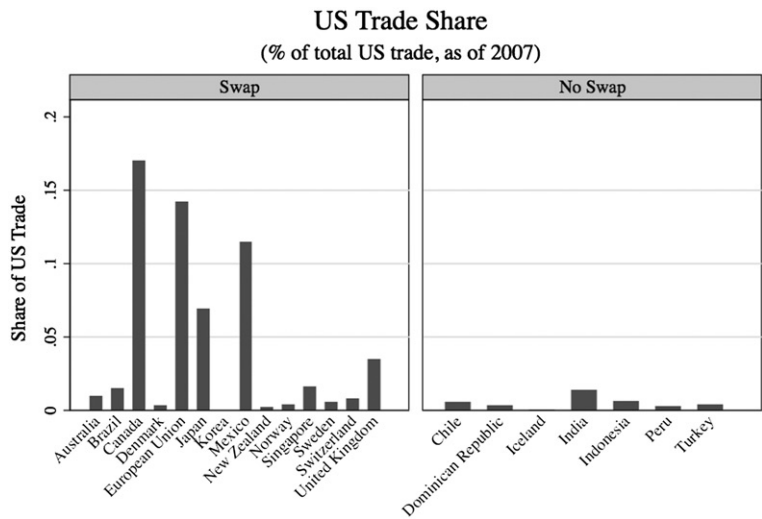


Figure A1. US trade share (2007).

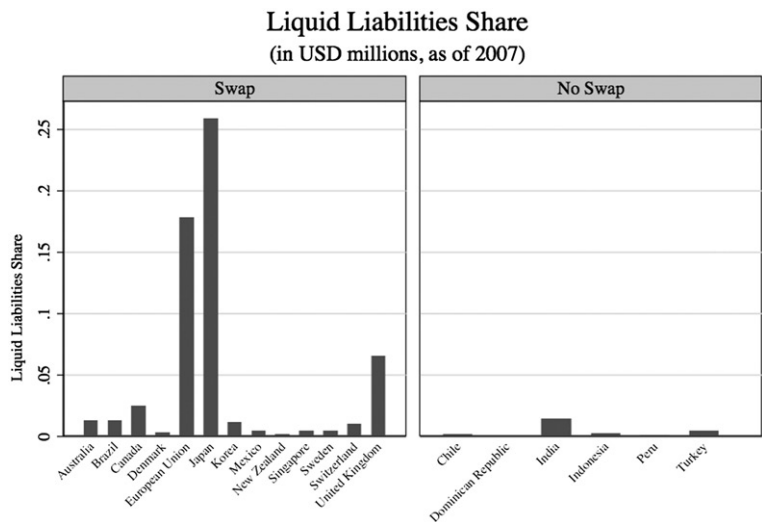


Figure A2. Liquid liabilities share.

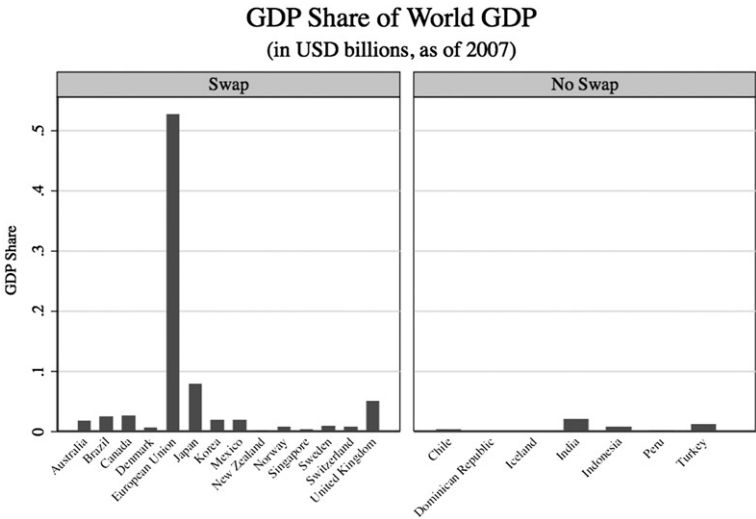


Figure A3. GDP share.

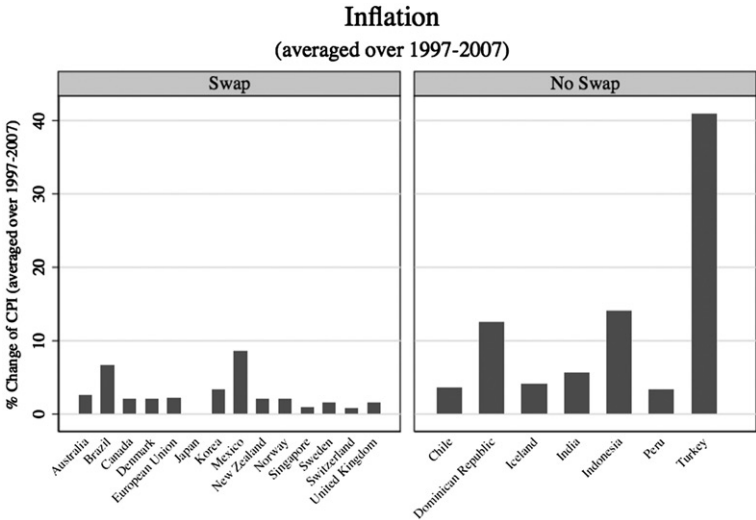


Figure A4. Inflation.

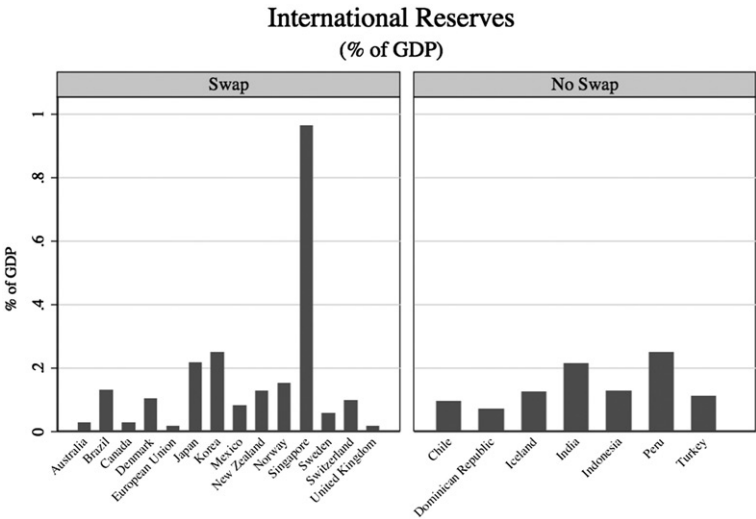


Figure A5. International reserves.

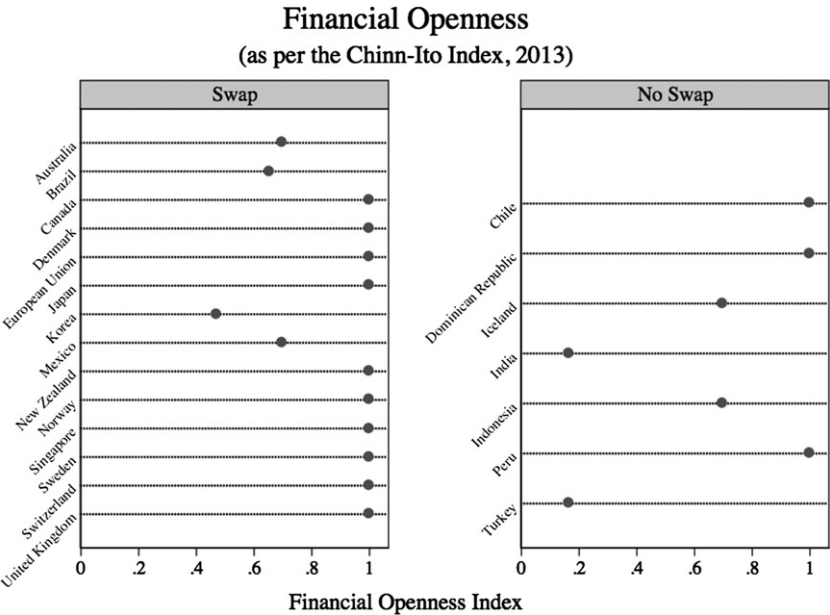


Figure A6. Financial openness (Eurozone aggregated).

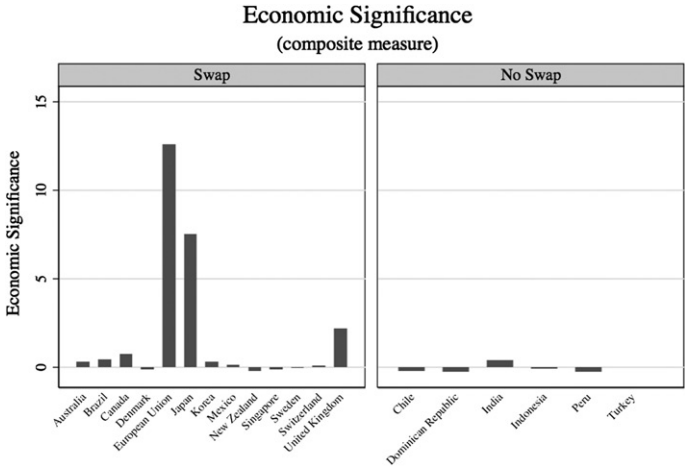


Figure A7. Economic significance.

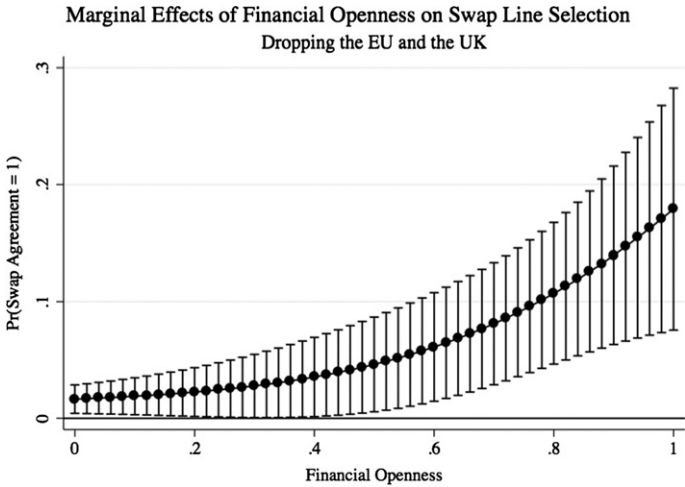


Figure A8. Marginal effects of financial openness on swap line selection dropping the EU and UK. Notes: Predictive margins (with 95% confidence intervals) of a central bank – excluding the ECB and Bank of England – receiving a Fed swap line using Model 2 from Table A1, holding covariates to their means while increasing *Financial Openness* from 0 to 1.

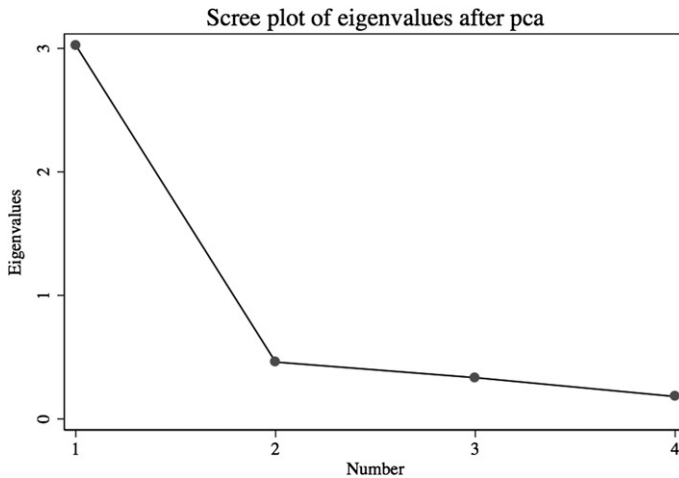


Figure A9. Scree plot of principle components making up 'economic significance'.

Table A1. The Fed's selection of foreign central banks for currency swap lines dropping the EU and UK.

	Model 1 Swap Agreement, No Europe	Model 2 Swap Agreement, No Europe
Financial openness	1.76**	2.031**
	(0.57)	(0.787)
Economic significance		0.901*
		(0.359)
Inflation		-0.141
		(0.0754)
Constant	-2.62**	-2.055**
	(0.49)	(0.725)
Observations	152	127
Pseudo R-squared	.16	0.45
p Value	.00	.00
Log likelihood	-35.14	-23.18
LR chi-squared	13.67	37.95

Standard errors in parentheses.

** $p < .01$, * $p < .05$.

Note: The outcome variable is Swap Agreement which equals 1 if the FOMC selected a foreign central bank for a dollar swap line, 0 otherwise. The analysis drops the Eurozone and United Kingdom.

Table A2. Correlation matrix for variables.

	Financial openness	Bank exposure	GDP share	Liquid liabilities	Bilateral trade	Inflation	Reserves
Financial openness	1.0000						
Bank exposure	0.1873	1.0000					
GDP share	0.1264	0.8168	1.0000				
Liquid liabilities	0.1510	0.6881	0.6762	1.0000			
Bilateral trade	0.1329	0.6114	0.5952	0.6231	1.0000		
Inflation	-0.1242	-0.0842	-0.0597	-0.0936	-0.0786	1.0000	
Reserves	0.0618	-0.1174	-0.1169	-0.0278	-0.0298	-0.0746	1.0000