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ABSTRACT

This paper provides a political economy analysis of why the US Federal Reserve unprecedentedly established temporary reciprocal swap lines with a select four emerging market economies during the global financial crisis of 2008-09, thus acting as global lender of last resort for US dollars. It argues that the swap lines reflected the great US need to reinforce its ties with major emerging market economies at that time, when a new global economic governance system had emerged—led by the Group of Twenty, which encompassed these economies among its members. Yet it also stresses the uniqueness of the international situation at that time, implying a low likelihood of the Federal Reserve providing swap lines for emerging market economies again in future systemic crises, and the need therefore to further strengthen the global financial safety net.

1. INTRODUCTION

The impact of the 2007 US subprime mortgage crisis initially seemed limited largely to the United States and some other advanced economies in Europe. After Lehman Brothers, the fourth-largest US investment bank, collapsed in mid-September 2008, however, abrupt deleveraging began in advanced economies, and the crisis evolved into the first global financial crisis of the postwar era. A number of emerging market economies (EMEs) as a result faced sudden stops and substantial capital flow reversals, fell short of US dollar liquidity, and thereby suffered detrimental financial instability—including collapses in value of their currencies, drastic hikes in the credit default swap (CDS) premiums for their sovereign bonds, stock market crashes, etc. Within just one month after the Lehman Brothers collapse, Iceland, Pakistan, Hungary, Ukraine and Belarus had all applied for bailouts from the International Monetary Fund (IMF).

As the crisis spread rapidly to EMEs, the US Federal Reserve (hereafter Fed) established temporary reciprocal swap lines with the central banks of four EMEs—Brazil, Mexico, South Korea (hereafter Korea), and Singapore—in order to provide them dollar liquidity; it thereby acted as a global lender of last resort for dollars, just as it had played its traditional role as lender of last resort in the US domestic markets. The swap lines offered each of the four EMEs access to a maximum of 30 billion dollars through 1 February 2010,[1] and contributed substantially to their financial stabilization.[2]

Why did the Fed selectively offer swap lines to these four EMEs? This question is of great significance for the world monetary system in at least two respects. Firstly, the swap lines to the four EMEs were unprecedented in the history of the Fed. The global crisis was the first time that the Fed had ever acted as a dollar lender of last resort to support EMEs. Although the Fed had operated swap lines with select advanced economies since the early 1960s, it had never offered them to any EMEs except Mexico, a next-door US neighbor, during any previous crises including the 1997 Asian currency crisis. The question is thus in itself an important issue in the history of the world monetary system. Despite its historical importance, however, there has until now been very little research on it, with a few notable exceptions such as Aizenman and Pasricha (2010), which will be discussed in detail later.

Secondly, analysis of this issue may provide significant implications for the on-going discussions on the need to strengthen the global financial safety net to enable effective provision of short-term liquidity assistance, especially for innocent crisis 'bystanders' victimized by systemic crises. Systemic crises are very virulent, since they victimize innocent economies irrespective of their domestic economic fundamentals by triggering panics and chain reactions across markets. And according to research by the IMF (Bi and Lanau, 2011), the number of crisis bystander EME victims of the global financial crisis surpassed twenty. The Group of Twenty (G20) has since its 2010 Seoul summit in fact been discussing enhancement of the global financial safety net, to prevent global crisis recurrence and preclude victimization of innocent crisis bystanders, but the progress has to date been very limited. In this regard, analysis of the Fed's main motivation in establishing the swap lines with the four EMEs is important, as the findings can provide helpful insights as to whether the Fed might again provide swap lines for crisis bystander EMEs in future systemic crises, and thus also as to the need for strengthening the global financial safety net.

This research argues that the Fed's swap lines with the four EMEs reflected a particular US need at the time to strengthen its relationships with major EMEs. In more detail, as the US crisis spread beyond its epicentre, evolving into a global crisis, the main pillar of global economic governance had begun to shift from the traditional 'club model' led by a handful of advanced economies—namely, the Group of Eight (G8)—to a more inclusive institution encompassing major EMEs—that is, the G20—in order to cope with the crisis effectively. Yet significant conflict also emerged between the United States and Europe, over how to reform the international monetary and financial systems. Under these conditions, the US appears to have had a strong incentive to reinforce its ties with major EMEs in order to preserve its influence in the new system of global economic governance, and the Fed swap lines appear to have been useful means serving this need well. The Fed in addition appears, as a second consideration, to have been concerned about the EMEs'

[1] The initial duration of the four swap lines was until 30 April 2009, but it was extended twice to 1 February 2010.

[2] According to Aizenman and Pasricha (2010), the values of the four EMEs' currencies increased by an average 4 percentage points against the dollar one day after establishment of the swap arrangements, while those of the currencies of another 23 EMEs declined by 0.15 percentage points on average. The difference between the two groups was statistically significant, suggesting that the swap lines played a significant role in stabilizing the exchange rates of the four EMEs in the short term. That study also finds, for the four EMEs, that the CDS spreads on their five-year sovereign bonds fell by an average 19.5 percentage points one day after swap line establishment, while for the other EMEs the average drop in their five-year sovereign bond CDS spread was 15.8 percentage points only; the difference between the two groups was not statistically significant, however.

potentials to negatively impact the US economy should they fall into crisis.

This study pays due attention as well to the major alternative explanations of the Fed's decision to open swap lines with the select four EMEs, including prevention of crisis contagion to systemically important EMEs with sound domestic fundamentals, protection of US banking interests, and preservation of the status of the dollar as the leading international currency. None of these explanations prove applicable to all four swap cases, however.

The findings of this study show that the situation in which the Fed offered the swap lines to the four EMEs was a quite unique moment in the history of the world economy. And it may thus not be easy to expect the Fed to reassume the role of global lender of last resort for EMEs in the future. The need for a more powerful global financial safety net is therefore implied, to prevent future systemic crisis and avoid creation of innocent bystander victim EMEs.

This paper is organized as follows. The next section highlights the unprecedented nature of the Fed's swap lines with the four EMEs, by exploring the history of its swap lines with foreign economies. The two sections following then analyse the factors that may have influenced the Fed's unprecedented decision to establish these swap lines with the four EMEs. And the final section summarizes the findings, discusses their implications with regard to the global financial safety net, and briefly deals with one major potential criticism of this study.

II. UNPRECEDENTED SWAP LINES WITH EMEs

The Fed's swap lines to the four EMEs were an event of great significance in the history of international monetary cooperation, give that it was the first time the Fed had used its power to issue dollars to provide dollar liquidity to a group of EMEs, acting as a global lender of last resort. Although the Fed has operated reciprocal swap lines with foreign central banks for about a half-century, its swap line partners have been limited to a handful of advanced economies only.

The Fed first created swap lines (also called 'reciprocal currency arrangements') in the early 1960s, in order to obtain foreign exchange to intervene in the foreign exchange markets.[3] The international monetary system at that time was the Bretton Woods system, a system of fixed exchange rates under which foreign currencies were pegged to the dollar and the dollar was convertible to gold at a fixed official price of 35 dollars per ounce. The US balance of payments deficits had increased significantly in the early 1960s, bringing about growing concerns that the United State might fail to maintain the fixed exchange rate system. In these circumstances, in order to preserve the system the Fed launched for the first time swap lines, worth a total 0.7 billion dollars, with the central banks of seven advanced economies—Belgium, Canada, France, the Netherlands, Switzerland, the United Kingdom and West Germany—and with the Bank for International Settlement (BIS).[4] In March 1973 the Fed established additional swap lines with a total value of 4.2 billion dollars with the central banks of another six advanced economies—Austria, Denmark, Italy,

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[3] In the 1920s, the Federal Reserve Bank of New York directly established swap lines with foreign central banks, aiming to make their currencies convertible. However, the Fed Board of Governors was later granted, by the Banking Act of 1933, the power to prevent the New York Fed from dealing directly with foreign banks (Hetzel, 1996).

[4] Meanwhile, the US Treasury also resumed foreign exchange market interventions from March 1961 to stabilize the dollar's exchange rates, for the first time since the mid-1930s (US Treasury, 2009).

Japan, Norway and Sweden—as well as with US neighbor Mexico, while increasing the total size of its previous swap lines with the seven economies and the BIS to 7.5 billion dollars (Abrams, 1979). Those swap lines were standing arrangements, aimed at providing short-term foreign exchange liquidity (Humpage, 1994).[5]

The swaps were used by the Fed to maintain the value of the dollar, but foreign central banks also used them actively when their currencies came under depreciation pressures (Federal Reserve, 2005). Between 1962 and 1971, for instance, when the Bretton Woods system collapsed, Austria, Belgium, Canada, Denmark, France, Italy, Japan, the Netherlands and the United Kingdom withdrew 50 million, 770 million, 520 million, 150 million, 1,160 million, 1,450 million, 80 million, 250 million and 8,680 million dollars respectively through their swap lines with the Fed (Holmes and Pardee, 1976).

After the international monetary system moved to a floating exchange rate system with the downfall of Bretton Woods, the frequency of swap activation declined even despite increases in the volumes of the swap lines between the Fed and the foreign central banks—due to factors such as doubts about the effectiveness of foreign exchange market intervention and the rise in use of foreign exchange reserves for intervention instead (Abrams, 1979; Federal Reserve, 2005). In the end, with the swap lines having not been activated for a long time, the Fed finally retracted them in 1998 through mutual consent with its swap counterparty banks, with the exceptions of those with Canada and Mexico which persisted as part of the North American Free Trade Agreement (Federal Reserve, 2005; US Treasury, 2009).[6]

Following the 9-11 terrorist attacks in 2001 the Fed opened temporary reciprocal swap lines to provide dollar liquidity for foreign economies. The central banks included in these arrangements also consisted of advanced country banks only, as in the case of the previous standing swap lines. The Fed established a swap line worth 50 billion dollars with the European Central Bank (ECB) and one worth 30 billion dollars with the United Kingdom, and temporarily increased the volume of its line with Canada from 2 to 10 billion dollars. The durations of the swap lines were thirty days, and the ECB withdrew 23.5 billion dollars through its line (Federal Reserve, 2005).

When the global financial crisis erupted in the late 2000s, the Fed reopened temporary reciprocal swap lines to provide dollar liquidity for foreign economies. And in the early stages the swap line counterparties were again limited to central banks of advanced economies. The Fed first established lines with the ECB and Switzerland on 12 December 2007, and then gradually expanded coverage as the crisis spread to the world. On 18 September 2008, right after the collapse of Lehman Brothers, it created swap lines with Canada, Japan and the United Kingdom, and six days later on 24 September with Australia, Denmark, Norway and Sweden. A month later, on 28 October, the Fed set up a swap line with New Zealand as well, bringing the total number of swap lines established with advanced economies to ten before it then offered lines to the four EMEs. The sizes of the swap lines were initially 10 billion, 10 billion, 5 billion, 5 billion and 10 billion dollars for Australia, Canada, Denmark, Norway and Sweden, respectively, but were later doubled. Meanwhile, the amounts were initially 20 billion, 60 billion, 4 billion and 40 billion dollars for the ECB, Japan, Switzerland and the United Kingdom, before the limits on the quantities of dollars that could be withdrawn through these lines were then removed in mid-October.

[5] The swap lines were typically terminated in three months, and were renewable only once (Humpage, 1994).
[6] The amounts of the swap lines were 2 billion and 3 billion dollars for Canada and Mexico, respectively (Federal Reserve, 2005; US Treasury, 2009)

The history of the Fed's swap lines over the last half-century thus powerfully illustrates its swap lines with the four EMEs during the global financial crisis to have been very exceptional. Access to the Fed's dollar pipeline has long been permitted to select groups of advanced economies only. One may argue that the Fed offered swap lines to EMEs during the global crisis simply because the crisis had spread to them. It should be stressed, however, that even though EMEs also suffered from financial instability in the wake of 9-11, the Fed also established lines with select advanced economies only at that time.[7] As will be discussed in detail later, moreover, the Fed had never previously provided swap lines to any EMEs, with the exception of Mexico, when they had been hit by financial crises and requested bailouts from the IMF. It is thus unlikely that the Fed offered swap lines to the four EMEs merely because the crisis having spread to them. Why then did it extraordinarily establish these swap lines with the four EMEs during the global crisis?

III. RISE IN US NEED TO STRENGTHEN TIES WITH EMES

A new form of global economic governance system encompassing EMEs among its main members emerged to cope with the global financial crisis. In this new environment, the United States encountered a strong need for reinforcing its relationships with major EMEs.

a. Emergence of new global economic governance system

As the global crisis deepened, a significant change occurred, that marked a turning point in the history of global economic governance. This was the rise of the G20, whose membership includes not only advanced but also major emerging market economies, as the premier forum for global economic governance, beginning with its first summit in November 2008 to discuss measures for dealing with the crisis and reforming the global monetary and financial systems. The emergence of the G20 as the new centre for world economic management meant the end of the traditional club model of global economic governance led by a small number of advanced economies—that is, the G8—with EMEs being finally allowed seats at the head table of global economic governance.[8]

The shift of the central pillar of global economic governance to a system that included EMEs reflected, albeit belatedly, the significant rise in their importance on the global economic stage. Indeed, between 1992 and 2007 the share of the G8 in world real gross domestic product (GDP) had fallen from 68.8 to 57.8 percent, while that of the G20 less the G8 had risen from 12 to 19.3 percent. This increase in the share of EMEs in world GDP had been particularly great since the 2000s, with that of the G20 less the G8 rising from 14.8 percent in 2002 to 19.3 percent in 2007. EMEs had also been the locomotive of world growth in recent years, as shown by the fact that the annual real GDP growth rate of the G20 less the G8 amounted to an average 4.9 percent between 2000 and 2007, while that of the G8 averaged only 2.7 percent during the period.

Given this considerable increase in EMEs' role in the world economy, it was not feasible to deal with the global crisis effectively and address reform of the global monetary

[7] The J.P. Morgan Emerging Markets Bond Index spread rose from 827 basis points (bps) on 31 August 2001 to 937 bps on 28 September and 1,001 bps on 31 October.

[8] Although the G20 was established in 1999 in the wake of the 1997 Asian financial crisis, it had held only Finance Ministers and Central Bank Governors' Meetings prior to the first G20 summit in November 2008, and the G8 had still played the central role in global economic governance up until the time of the summit.

and financial systems by cooperation among a few advanced economies only, without EME participation. The G8 had in fact been long criticized for its weak representativeness and legitimacy, as well as its low effectiveness. Welcoming the first G20 summit, the influential *Financial Times* indeed wrote in its editorial comment (2008):

> The Group of 20 summit marks a break with a practice that has outlived its usefulness. The notion that a club of just eight rich democracies could run the world in normal times, let alone through the current turmoil, was always implausible. It would be pointless even trying without Brazil, China and India. Only by including these countries will it be possible to find a way out of the current crisis and agree longer-term reforms of the global financial architecture.

In fact, when then White House Press Secretary Dana Perino was questioned, in a press briefing regarding the first G20 summit, as to why it was necessary to gather together the whole group of G20 economies, a 'rather unwieldy size group' in the questioner's words, she answered:

> [I]t [the G20] includes developed and developing nations. And the President thinks it's very important to include developing nations, because they have emerging markets, they're important on a variety of levels to the global economy, and their input is important.

b. US-European conflict and US incentive for closer relationships with EMEs

While the role of EMEs in global economic governance was thus growing, the United States was encountering significant conflicts with Europe over how to reform the international monetary and financial systems, despite their agreement to hold the first G20 summit. For example, the US position on strengthening of financial regulation was more lenient than that of the European Union (Giles, 2008; Ward et al., 2008). The United States was also more jealous of its national sovereignty, while the Europeans were pushing for the creation of a new global regulator for the international financial system (Rachman, 2008). Europe in addition wished for agreement on a 'new Bretton Woods', a redesign of the postwar global financial architecture, while the United States was against such an idea (Hall and Eaglesham, 2008). French President Nicolas Sarkozy was moreover harshly critical of the dollar-centred international monetary system (Parker, 2008; Thomson Financial News, 2008). There was also a likelihood that major EME G20 members such as China, Russia and India might propose radical ideas for international monetary and financial system reform. Meanwhile, given that the crisis had originated from the United States, its influence in the international community faced the possibility of decline.

Under these circumstances, the US is likely to have had a strong incentive to tighten its relations with major EMEs, in order to preserve its influence within the G20, and Brazil, Korea and Mexico to have seemed suitable partners for it in this regard. Mexico was a US neighbor that had always been an important consideration in US foreign economic policy. As indicated earlier, it was the only EME that had had swap lines with the Fed prior to the global crisis. Meanwhile, Brazil and Korea were scheduled to take rotating annual presidencies of the G20 for 2008 and 2010, respectively, thereby both being included in the 2009 G20 Troika of the former, contemporary and subsequent chairs. The two countries were thus in a position in which they could play significant roles in the coming G20 meetings.

In this situation, the provision of Fed swap lines for these four EMEs with their growing financial instability would have thus seemed likely to help the United State significantly in reinforcing its relationships with them. The EMEs could have of course sought alternative sources of external financial assistance at that time, particularly from the IMF. And on the very day when the Fed established its swap lines with the four EMEs, the IMF in fact introduced a new lending facility, the Short-Term Liquidity Facility, aimed at providing quick-disbursement financing for economies having strong policies but facing temporary liquidity problems. The facility's access limit was five times a member's quota, which would have meant 23 billion, 22 billion, 24 billion and 7 billion dollars for Brazil, Korea, Mexico and Singapore, respectively. These EMEs were very reluctant to request IMF support, however, due to their fears of the associated stigma, both political and market, and were disposed to avoid it whenever possible. For instance, then Korean Finance Minister Kang Man-soo commented that: 'Korea had no plan to apply for a lending facility of the IMF, due to Koreans' (hostile) sentiment toward it' (MSFK, 2008b). And indeed, no country ever did apply for the new IMF lending facility, leading it being eventually abolished. It is also worth noting that, although a total of fourteen countries applied for the IMF's Stand-By Arrangements over eight months after the collapse of Lehman Brothers, none of them were G20 members.[9]

The argument that the US need to strengthen its ties with the four EMEs is likely to have had a significant impact on the Fed's establishment of its swap lines with them is strongly supported by the fact that the Fed was initially opposed to offering swap lines to EMEs, but changed its position from around the time when holding of the first G20 summit was agreed on.[10] Such a change in the Fed's stance on establishing swap lines with EMEs is clearly illustrated by the case of its swap line with Korea. As the Fed expanded its swap lines to a growing number of (advanced) economies, Korea found itself facing a serious dollar liquidity shortage and began making strong requests for a Fed swap line.[11] The Fed rejected the Korean request through mid-October, however, for reasons including that the Korean won was not an international currency, that the Korean credit rating was not triple A, and that, if it were to establish a swap line with that country, requests from other EMEs for swap lines would follow.[12]

The Fed begun to change its position on a swap line with Korea from mid-October, however, the very time when US President George W. Bush decided to host the first G20 summit. On 18 October, President Bush, President Sarkozy and European Commission President José Manuel Barroso announced that the first international summit to discuss how to deal with the global financial crisis would be held. And four days later, on 22 October, President Bush announced that the United States would host the first G20 summit on 15 November 2008 (Koch, 2008; Perion, 2008; Pulizzi, 2008). Two days later, meanwhile, on 24 October, the Korean central bank was asked by the Fed to submit an official document requesting establishment of a swap line with it (Chung, 2008), and on

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[9] The IMF created another new lending instrument in March 2009, the Flexible Credit Line, which did not attach ex post conditionality, in order to provide financial assistance for EMEs with strong economic fundamentals. Similar to the case with the SLF, however, only four countries have used it as of the end of 2011.

[10] In illustrating the change in the Fed's attitude toward establishing swap lines with EMEs, this paper focuses on the Korean case only, due to availability of research materials.

[11] In mid-October 2008, the exchange rate of the Korean won against the US dollar soared beyond 1,300 won per dollar, the CDS spread on five-year sovereign bonds surpassed 300 bps, and the one-year currency swap rate became negative—all implying a serious dollar liquidity shortage.

[12] The Fed's rejection of the Korean request for a swap line has been confirmed by several Korean government officials' and central bankers' comments reported in newspapers at that time. In addition, I would like to stress that I myself was working for the Korean central bank.

that same day then Korean Assistant Deputy Finance Minister Shin Je Yoon, who was in Beijing, received a call from a US government official informing him that a Fed swap line was likely to be offered to Korea (Lee, 2008). This chronology of the Fed's swap line with Korea strongly suggests a linkage between inauguration of the first G20 summit and the Fed's swap lines with the four EMEs.

Indeed, then US Treasury Secretary Henry Paulson commented that, with the first G20 summit approaching, the Fed's swap lines with the four EMEs demonstrated strong international cooperation (Kim, 2008b). On October 21, moreover, when the negotiation over the swap line for Korea was proceeding, President Bush called Korean President Lee Myung-bak, requesting that Korea contribute to international cooperation to overcome the global crisis, and President Lee responded favorably; a Korean government official judged the phone conversation between the two leaders 'a process of actually confirming the establishment of a Fed swap line with Korea' (Kim, 2008c). Another Korean government official also commented: 'Although there are no explicit conditions attached, it [the swap line] could be understood as a US request for support of its position in the forthcoming reform of the international financial system' (Park, 2008). The outcomes of the first G20 summit were in fact largely favorable to US interests rather than European ones.[13]

One may correctly note that Singapore was not a G20 member. Yet, although this is true, Singapore was one of the exclusive members of the Financial Stability Forum (FSF). The FSF, founded in 1999 with the goal of strengthening international cooperation in order to enhance international financial market stability, was a central pillar of global financial governance, acting as a key setter of international financial standards such as the '12 Key Standards for Sound Financial Systems'. FSF membership was very exclusive, however, consisting mainly of the Group of Seven economies and a few other advanced economies; among EMEs, only Singapore and Hong Kong were members. The strengthening of its ties with Singapore—a FSF member—was thus likely to be as important to the United States as doing so with G20 members Brazil, Korea and Mexico, from the standpoint of maintaining its influence in the process of reforming the international financial system.[14]

c. Consideration of potential damage to US economy

There is one more important point to stress with regard to the Fed's swap lines with the four EMEs. This is that the Fed offered swap lines only to a select group of G20 members. It for instance rejected a request for a swap line from Indonesia, which was also a G20 member (Aglionby, 2009). This suggests that the Fed may have had some other considerations as well in deciding its swap line partners, in addition to its need to strengthen the US relationships with EMEs having growing influence in global economic governance.

One important consideration, among others, appears to have been the capacities of the EMEs concerned to negatively influence the US economy should they fall into crises.[15]

13 For example, the first G20 summit reconfirmed the US position that the financial reform should not impede financial innovation and financial transactions, while failing to agree to the European proposal to create a global financial regulator.

14 The FSF was replaced in April 2009 by the Financial Stability Board, whose membership encompassed all G20 members.

15 When Indonesia requested a Fed swap line, its sovereign ratings were Ba3 by Moody's and BB- by Standard & Poor's, both considered as non-investment grades. These ratings were lower than Brazil's, which were the lowest among the four EMEs the Fed established swap lines with. There was therefore a likelihood that the Fed rejected the Indonesian request due to its weak economic fundamentals. As will be discussed in

Such capacities of EMEs were likely to depend partly upon the volumes of US Treasuries in their foreign exchange reserves, given that if they had disposed of massive amounts of US Treasuries due to dollar liquidity shortages this could have seriously damaged the US economy. A rise in US Treasury yields would have increased the US government's fiscal burdens, impeding recovery of the US economy. Moreover, the United States was at that time setting up a plan to issue new Treasuries, in order to raise 700 billion dollars in public funds to deal with the crisis. If EMEs had sold large amounts of US Treasuries at that time, this could have thus negatively impacted the United States even more significantly.

The four EMEs with which the Fed established swap lines indeed all held large volumes of US Treasuries. In September 2008, Brazil, Korea, Mexico and Singapore were the 3rd, 11th, 13th and 14th largest foreign holders of US Treasuries, excluding Caribbean banking centres and oil-producing countries, and in aggregate accounted for about 9 percent of US Treasuries held abroad. (In contrast, meanwhile, the amount of US Treasuries held by Indonesia was trivial, and it was not even included in the US Treasury Department's list of the 30 largest foreign holders. The volume of Indonesia's foreign exchange reserves amounted to 51 billion dollars in January 2009, only half as big much as those of Mexico, which were the smallest among the four EMEs receiving Fed swap lines.) It may be uncertain whether the amounts of US Treasuries held by the four EMEs were large enough to have significantly impacted the US Treasury markets directly. Yet there was a possibility of their disposals of large amounts of US Treasuries triggering subsequent massive sales of them.

Of course, the likelihood of the four EMEs deliberately selling their US Treasuries in order to damage the US economy was not high. Most of all, with the global financial crisis on-going, falls in their foreign exchange reserve holdings could have lowered market confidence in the countries themselves.[16] Declines in the values of the dollar against their own currencies due to sales of US Treasuries could have in addition had negative effects on their own exports. The volumes of these countries' US Treasury holdings, especially those of Brazil and Korea, had however been decreasing since August 2008, suggesting possibility of their selling US Treasuries to defend their own financial stability.[17]

Yet it should be emphasized that the capacities of EMEs to negatively affect the US economy were likely to have been only a second consideration of the Fed in its decision to establish swap lines with them. Its first consideration was more likely to have been the EMEs' influences in global economic governance. Indeed, as discussed above, the Fed's stance on establishing swap lines with EMEs became positive only after mid-October 2008, when it was determined that the first G20 summit would be held. Also, on 11 October 2008 in a G20 Finance Ministers and Central Bank Governors meeting, Korean Finance Minister Kang had in fact tried to press the United States to establish a swap line with his country by pointing out the possibility of the financial instability in EMEs coming back to hit advanced economies as well, using the words 'reverse spillover' (MSFK, 2008a); nonetheless, the Fed maintained a negative stance on establishing swap lines with EMEs at the time.

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detail later, however, the soundness of the economic fundamentals of countries requesting swap lines does not appear to have been a deciding consideration for the Fed in determining its swap line partners.

[16] Aizenman (2009) points out that EMEs showed strong reluctance in using their foreign exchange reserves during the global financial crisis, due to what he called a 'fear of losing international reserves'. And during the crisis the markets showed a tendency of responding to declines in countries' reserves more sensitively than they did to their absolute reserve levels, which constrained reserve use.

[17] Between end-August 2008 and end-October 2008, the volume of US Treasuries held by Brazil dropped from 152.6 billion to 141 billion dollars and that of Korea from 42.1 billion to 36.2 billion dollars.

IV. OTHER FACTORS TO CONSIDER

There may have been some other factors as well that influenced the Fed's decision to establish the swap lines with the four EMEs. In this regard, among others three specific US objectives appear to attract most attention: prevention of crisis contagion to systemically important EMEs with sound fundamentals, protection of the interests of US banks, and preservation of the dollar's status as the leading international currency. However, the impacts of these objectives on the Fed's decision to establish the swap lines do not appear to have been significant.

a. Prevention of crisis contagion to sound and systemically important EMEs

On its announcement of establishing the swap lines with the four EMEs, the Fed officially stated that they were 'designed … to mitigate the spread of difficulties in obtaining US dollar funding in fundamentally *sound and well managed* economies (emphasis added)… in response to the heightened stress associated with the global financial turmoil, which has broadened to emerging market economies,' in cooperation 'with the central banks of these four *large and systemically important* economies (emphasized added)' (Federal Reserve, 2008), If this statement is taken at face value, it may be plausible to expect that the Fed might play the role of global lender of last resort again in future crises, at least for crisis bystander EMEs of systemic importance.

At first view, the Fed's explanation about this background to its establishment of the swap lines seems to have well reflected the situation in the world economy at that time. As the Fed indicated, the four EMEs were large and systemically important ones. In 2008, the economies of Brazil, Korea, Mexico and Singapore were the 10th, 15th, 13th and 42nd largest in the world in terms of GDP, the 21st, 12th, 16th and 19th in terms of exports, and the 26th, 12th, 15th and 19th in term of imports. Meanwhile, all except Singapore were suffering from serious financial instability at the time. Between 12 September 2008 and 22 October 2008, for example, the exchange rates to the dollar of the Brazilian real, the Korean won and the Mexican peso surged from 1.79 to 2.36 reals, from 1,109 to 1,467 won, and from 10.6 to 13.4 pesos, respectively. The CDS spreads on their five-year sovereign bonds also rose dramatically—from 154 bps on 12 September to 586 bps on 24 October for Brazil, from 136 bps on 12 September to 675 bps on 27 October for Korea, and from 165 bps on 12 September to 601 bps on 22 October for Mexico.

However, the Fed's account has notable limitations in fully explaining the background of the four swap lines. Firstly, as mentioned earlier, the Fed had never established swap lines with any EMEs previously, except for Mexico, which was a US neighbor. The crises in the EMEs to which the Fed offered swap lines during the global crisis were not exceptional. Korea had needed to request bail-out by the IMF in 1997, and Brazil in 1998, 2001 and 2002, but they were never offered swap lines by the Fed at those times. Meanwhile, the shares of the four EMEs in the world economy had not changed substantially between the previous crises and the global crisis. Those of Brazil, Korea, Mexico and Singapore had accounted for 2.8, 1.9, 1.2 and 0.3 percent of global GDP, respectively, in 1997, and 2.4, 1.9, 1.9 and 0.3 percent in 2007. Therefore, the likelihood that the Fed established swap lines with the four EMEs during the global crisis simply because of their systemic importance and financial instability was not high.

One may argue that the Fed did not establish swap lines with the four EMEs during the previous crises because their economic fundamentals and domestic policies had not been sound at those times. This argument is debatable, however, and there was indeed a fierce debate over the principal cause of the Korean crisis—and more broadly, of the 1997 Asian currency crisis as a whole: whether it was due to domestic problems or to volatile international capital flows. Moreover, Singapore was the only country that maintained triple A ratings during the global crisis. For Brazil, its Moody's rating was even Ba1, non-investment grade, and its Standard & Poor's rating was also BBB-, the lowest investment grade. Mexico's ratings also reached merely Baa1 and BBB+. And it is meanwhile also worth noting that the Fed did not establish a swap line with Hungary, which requested an IMF bailout in October 2010, even though Hungary's Moody's rating was A2, the same as Korea's, and its S&P's rating BBB+, the same as Mexico's. Hungary's GDP was also the world's 52nd largest, at 156 billion dollars, not so much smaller than Singapore's 182 billion dollars. All of these points strongly question the credibility of the Fed's official account that it had established swap lines with EMEs having sound economic fundamentals.

b. Protection of the interests of US banks

Meanwhile, Aizenman and Pasricha (2010) also analyse why the Fed provided swap lines for only a select four among EMEs, by examining US bank exposures to EMEs, US trade exposures to them, their degrees of capital account openness, and their credit histories. Their study argues that the exposures of US banks to EMEs were the most important factor explaining the swap lines' establishment, by showing that the shares of the swap counterparty EMEs in total US bank foreign claims were significantly higher than those of non-swap recipient EMEs. This finding suggests that the main objective of the Fed's swap lines with the four EMEs may have been to protect the interests of US banks.

This explanation of the swap lines with the four EMEs has some notable limitations, however, so that it cannot account for all four swap lines. Firstly, as the research acknowledges, its regression results show the probabilities of inclusion in the Fed's swap lines to have been higher than 50 percent for only two of the four EMEs. It does not indicate which EMEs these were, but the data used suggests they were Korea and Mexico, to which US bank exposures were 4.2 and 5.5 percent, respectively. The study thus has a difficulty in explaining the inclusion in the Fed swap lines of Brazil and Singapore, to which US bank exposures reached 2.8 and 2.0 percent only, respectively.

It is also ambiguous whether US bank exposure to the four EMEs was large enough to lead the Fed to unprecedentedly offer swap lines to them. When Brazil was bailed out by the IMF in September 2001, for instance, the Brazilian share in total US bank exposure to foreign economies was 4.1 percent, similar to the Korean share during the global crisis of 4.2 percent. The Fed nonetheless did not provide a swap line to Brazil in September 2001, unlike its behavior during the global crisis.

c. Preservation of dollar's status as leading reserve currency

Finally, it is worth considering the likelihood that the Fed arranged the swap lines with the four EMEs in order to help maintain the dollar's status as the leading international currency, given that this provision of dollar liquidity to them might have been expected to increase their support for the dollar's international status. This explanation of the Fed's establishment of the swap lines with the four EMEs seems to have some validity particularly for the case of Singapore, home to the second biggest dollar markets in Asia after only Japan. The Monetary Authority of Singapore also actually stated that the swap line with the Fed was a precautionary measure to provide dollar liquidity to global financial institutions operating in the Singaporean economy (MAS 2008; 2009).

Overall, however, the likelihood of this having driven the Fed's decision to supply the swaps appears quite low, given that the dollar's international status was not significantly challenged during the crisis, at least in the short term. Ironically, it was in fact the dollar that played the role of the most important safe haven currency at that time. The value of the dollar indeed rose during the second half of 2008, and its international status was thus rather reconfirmed by the crisis.[18]

V. CONCLUSIONS

This study has provided a political economy analysis of why the US Federal Reserve unprecedentedly established swap lines with four EMEs during the global financial crisis. As the US subprime crisis evolved into a global one, the centre of global economic governance shifted from a limited group of advanced economies to a more inclusive group encompassing major EMEs. Meanwhile, in the wake of the crisis the United States came into conflict with Europe over how to reform the international monetary and financial systems. Under these circumstances the US likely had a strong incentive to reinforce its relationships with major EMEs in order to maintain its influence in the new global economic governance system, and the Fed swap lines were likely expected to help it achieve that goal. The Fed additionally appears to have offered swap lines only to those EMEs with the potentials to impinge on the US economy, even among EMEs with growing influence in the new global economic governance system. Meanwhile, factors such as prevention of crisis contagion to systemically important EMEs with sound fundamentals, protection of US bank interests, and preservation of the US dollar's status as the leading international currency do not appear to have had significant impacts on the Fed's decision to establish the swap lines.

What do these findings imply for the role of the Fed as an international lender of last resort for dollars in the future? Can we expect that it will provide swap lines for EMEs again in future crises? This paper judges that be unlikely. As demonstrated here, the Fed's decision to offer the swap lines to the four EMEs was made at a very unique historical juncture. It is true that the G20 has been by and large successfully consolidating itself as the forum for global economic governance, suggesting that the improved status of EMEs in global economic governance is likely to continue to a large extent. Yet there are significant differences between the present time and that when the first G20 summit was held. As discussed above, when the first G20 summit was called there was a substantial divide between US and European interests with regard to reform of the international monetary and financial systems. In addition, the crisis at that time had originated within the United States itself, and the country was entering its most serious recession since the Great Depression of the 1930s while the European debt crisis had not yet emerged. And these factors increased the US need to obtain support from EMEs. In contrast, the divide

[18] There is, of course, a possibility that the dollar's international status may decline in the long term, especially considering the extremely loose US fiscal and monetary policies in the wake of the crisis. This possibility does not appear to be great either, however, given the lack of strong alternatives to the dollar. For a comprehensive and systematic review of the debate on the dollar's future as the leading international currency, see Chey (2012).

between the United States and Europe over reform of the international monetary and financial systems now appears to have narrowed to some extent. At the same time, the conflict between them and EMEs appears to have increased, as EMEs have endeavored to increase their influences over global economic governance. These changing circumstances may reduce the US need to obtain support from EMEs, and thereby lower the likelihood of the Fed offering swap lines to EMEs again in the future.

This prospect for the future of the Fed swap lines implies for EMEs that the global financial safety net should be further strengthened, to prevent the recurrence of systemic crises and protect innocent crisis bystanders. It would be too risky to rely on such a 'discretionary' decision of the Fed to make swap lines available during a subsequent systemic crisis. In fact, and as mentioned earlier, strengthening of the global financial safety net has been on the official agenda of the G20 since its 2010 Seoul Summit. Advanced economies have been opposed to this, however, despite strong demand from EMEs. It thus appears difficult, in the short term at least, to expect a global lender of last resort again in a future crisis.

This paper concludes with a brief discussion of one potential important criticism of it. It may be argued that the paper's political economy account of the Fed's swap lines with the four EMEs is problematic, given the fact of the Fed's independence from the US government, whose interests this paper has analyzed as having driven the Fed's decision to provide the swap lines. Yet although the Fed does maintain great independence in terms of its domestic monetary policy, it seems highly unlikely that it could adopt an important foreign economic policy, such as establishment of swap lines with foreign central banks, without consulting on this with the US government.[19] Indeed, former Secretary of the Treasury George Shultz (Shultz and Dam, 1978, p. 9) once stated: '[T]he Fed takes direction from the President, through the Treasury Department, on international monetary affairs'. And former Staff Director for Monetary and Financial Policy at the Fed Board of Governors Stephen Axilrod also noted (Burk and Cairncross, 1992, p. 41):

> [T]here is a deep distinction in the U.S. (unlike the U.K.) between international and domestic monetary policy: the Fed is totally and utterly independent when making a domestic monetary policy decision; not only is there no clearance with the Treasury—to attempt it would cause a constitutional crisis. The international arena is more complicated: here the Fed's independence is unknown and has not been fully tested, but in practice it is limited. The Treasury controls international finance.

The non-separation of the Fed from the US government for the analytic purposes of this research may thus be acceptable.

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[19] In fact, when Korea tried to establish a swap line with the Fed during the global crisis, both Bank of Korea and Ministry of Finance officials contacted their US counterparts.

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