

Borrowing Patterns in the Global Financial Safety Net: Does Governance Play a Role?

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Abstract

The global financial safety net (GFSN) has become a complex regime. Regional financial arrangements (RFAs) have emerged alongside established IMF structures. How relevant are RFAs and the IMF in moments of financial crisis? And more specifically: Do member countries resort to RFAs as complements or as substitutes to IMF lending? To answer these questions, we developed an original data-set on the GFSN use by the 61 emerging market and developing economies (EMDEs) that are members of existing RFAs between 1976 and 2018. We find that not only economic criteria such as lending volume, timeliness and conditionality drive patterns of complementarity and substitution in crisis finance, but that RFA governance structure and regional independence matters. The data show that borrower-dominated RFAs are used much more frequently than creditor-dominated RFAs. Moreover, RFAs which lack regional policy autonomy but are dependent on the IMF are not called upon – even if they have far superior volumes of potential lending capacity.

Policy Implications

- Coordination between all GFSN elements beyond exchange of information is necessary if untapped resources of the GFSN are to be utilized in a more effective way. Such coordination requires including currency swap providing central banks as relevant actors in the GFSN.
- Coordination between GFSN elements needs to take into account the regional and institutional peculiarities that each RFA entails. The status quo of the GFSN requires a pluralistic debate on the future of a decentralized short-term lending system.
- The institutional autonomy of RFAs is of particular importance if they are to be utilized as alternative sources of crisis prevention and backstop.
- If their resources are to be utilized for crisis prevention and backstop, RFAs need to design institutional governance in a way that allows including large creditor countries to gain lendable volume and at the same time balancing power to give borrowers adequate voice in decision-making processes.

Today, about US\$3.5 trillion is available in liquidity resources from various institutions and arrangements to backstop financial or economic crises. Aside from the markedly increased available financing volume, the set of institutional arrangements that provide prevention against or backstop during a financial crisis – known collectively as the global financial safety net (GFSN) – is considerably more complex today than a decade ago.

Scholarly elaboration on the GFSN is a recent and evolving field. The once-exclusive provider of emergency finance – the IMF – has been the focus of academic controversies ever since. The adequacy of its governance structure, its lending programs, and policy conditionality attached is subject to debate (Dreher, 2009; Gabel, 2011; Stiglitz, 2002). By contrast, the GFSN has not yet received the same scholarly attention. The dominant debate addresses the decentralized status of the GFSN and the question of how to coordinate its elements. Some authors see the IMF as the undisputed hub of the GFSN, due to its preferred creditor status that it

needs to maintain, as well as its global membership (see EPG, 2018; Henning, 2020). At the same time, criticism of this view has been voiced and a pluralistic debate on the future of a decentralized short-term lending system has been brought up as more adapt to the status quo of the GFSN (Gabel, 2017; Helleiner, 2016).

Helleiner (2016) systematizes three strands of literature on the legacies of the 2008/09 global financial crisis for GFSN governance: first, literature on the different dimensions of GFSN decentralization (such as McKay et al. 2011); second, literature on enhanced possibilities for coordination between the decentralized GFSN components with a view on the shock-absorbing capacity of the GFSN (such as Scheubel and Stracca, 2019); and third, literature on the design of a decentralized but coordinated GFSN.

In vein of the third and more dismissed strand of literature, according to Helleiner (2016), in acknowledging the decentralized status quo of the GFSN, we engage with the following research question: Do member countries resort to

regional financial arrangements (RFAs) as complements or substitutes to the IMF and, if so, why? By complementary use, we refer to the parallel resorting of a country to more than one source of emergency finance. By substitution, we refer to a substitution of one emergency finance source with another by giving preference to the other despite having available other borrowing options of comparable volume.

We use the institutionalist concept of regime complexity (Alter and Raustiala, 2018) as a framework for analyzing countries' strategies in dealing with the current state of the GFSN. To the best of our knowledge, regime complexity literature has not yet been applied to investigate borrowing behavior of emerging markets and developing countries under financial stress (see for a conceptual analysis DeBúrca et al., 2013; for an application to Europe Henning, 2016, 2019). We argue that the GFSN can be understood as a regime complex with a predominantly non-hierarchical and uncoordinated decision-making structure for crisis finance. Furthermore, overlapping membership coins the GFSN.

Alter and Raustiala (2018) analyze different strategies to deal with increasing complexity, including contested multilateralism. In this case, the creation of alternative institutions to challenge existing ones characterizes a regime complex (see also Morse and Keohane, 2014). Our interpretation of the status quo of the GFSN is one of contested multilateralism, particularly with emerging market and developing economies (EMDEs) searching for alternatives to the IMF to prevent or backstop financial crises.

The economic literature analyzes the GFSN crisis prevention and backstop capacity based on the indicators of lending volume, and selectively includes timeliness of liquidity provision (see, for example, Denbee et al. 2016; Scheubel and Stracca, 2019). McKay et al. (2011) provide a more differentiated view on the IMF and the RFAs that includes further variables, such as their institutional set up or lending conditionality. In earlier work, we suggested analyzing the GFSN based on the variables of lending volume, timeliness and conditionality that can be derived from the three generations of balance of payments crises models. Central to these models is the idea that there is a limited stock of any asset, which is depleted by either policy errors or investors' flight, or a combination of both. While the first generation explains attacks on a currency with a fixed exchange rate as the result of inconsistent government policies or the flight out of public bonds under the assumption of rational expectations, second-generation models do not necessarily assume a clear-cut policy failure but include the possibility of multiple equilibria for countries with economic policies that are not clearly unsustainable. This leads to the possibility of a self-fulfilling debt or fiscal crisis (Cole and Kehoe, 2000).

Third-generation models of financial crises (e.g. Corsetti et al. 1998) reveal the cumulative negative consequences of balance of payments crises for countries holding external debt. In these cases, the reinforcement of international debt and domestic financial crises is assumed to augment the crisis. All models reveal that prevention and backstop of balance of payments difficulties in a situation of temporary

illiquidity requires a quick third-party intervention with voluminous and adequately conditioned short-term lending (Krugman, 1999; Obstfeld, 1996).

In the first-generation models, any liquidity provision from outside must be conditional on an adjustment program to achieve a rebalancing of public finance and prevent moral hazard. In the second- and third-generation models, a shift in expectations can trigger a crisis. In such cases – even without a change in underlying fundamentals – it is difficult to pinpoint one specific reason for the occurrence of a crisis (Krugman, 1999). The implication in both of these models is that if a third party – such as one or more of the elements of the GFSN – can guarantee continued access to loans at sensible interest rates, expectations in a 'good' equilibrium will stabilize and a self-fulfilling crisis will not occur. The timeliness and sufficiency of the provided liquidity are the key criteria for the third party to reduce financial vulnerabilities. Assessment of both, timeliness and sufficiency, are subject to an ongoing debate (see, for example, Orszag and Stiglitz, 2002).

Nonetheless, in Mühlich and Fritz (2018) and Fritz and Mühlich (2019), by examining the explanatory contribution of these variables, we found that they only provide a partial explanation for patterns of crisis borrowing in the GFSN.

The present analysis provides a twofold enhancement of our previous research. Theoretically, to our knowledge, we provide the first combination of economic theory of crisis finance with the concept of regime complexity to the GFSN to detect further explanatory variables that influence countries' borrowing decisions in a situation of multiple and overlapping borrowing options. Empirically, we update our previous data set (Mühlich and Fritz, 2018), and include two further RFAs, whereby we cover, to our knowledge, all six existing RFAs among EMDEs². We analyze 446 cases of borrowing activities in the GFSN of 61 EMDEs that are members of one of the six RFAs between 1976 and 2018.

The case selection of all RFAs between EMDEs is based on the method of difference: we suppose that EMDEs share important commonalities in their crisis borrowing such as their inability to indebt themselves in their own currency abroad and their higher vulnerability to sudden stops compared with advanced economies so that these countries are more likely to be hit by third-generation balance of payments crises model-like crises, as outlined above (Eichengreen and Hausman, 2005). Moreover, the debate on the IMF's governance structure joins EMDEs as the group of under-represented countries in the old Bretton Woods institution, the IMF. However, the member countries strongly differ in what holds interest for our analysis: they utilize their RFAs quite distinctively in terms of frequency, complementation and substitution. We aim to scrutinize the role that the institutional setup of RFAs plays – apart from lending capacity, time to disbursement, and conditionality – as an explanatory variable for the variation in crisis borrowing from the IMF and from the RFAs. For this aim, due to the small number of RFAs, we use descriptive statistical analysis

and explore possible correlations between observable borrowing patterns as the dependent variable, and lending conditions and governance variables as independent variables.

1. Regime complexity in emergency finance

Since 1976, the GFSN had been dominated for decades by the IMF and a few small RFAs that were set up as institutionalized jointly administered regional funds, such as the Arab Monetary Fund (AMF; founded in 1976) and the Latin American Reserve Fund (FLAR, according to its Spanish acronym; 1978). With the Asian financial crisis and particularly the global financial crisis, new, more voluminous RFAs were created, such as the Chiang Mai Initiative (CMI; 2001), later the Chiang Mai Initiative Multilateralization (CMIM; 2010), the Eurasian Fund for Stabilization and Development (EFSD; 2009), the swap arrangement of the South Asian Association for Regional Cooperation (SAARC; 2012), and the BRICS Contingent Reserve Arrangement (CRA; 2014) of the New Development Bank, the latter being the first trans-regional RFA. The complexity of the GFSN additionally increased with the emergence of numerous voluminous bilateral currency swap arrangements. With the global financial crisis, all GFSN elements considerably expanded their lending capacity.

Standard economic literature offers an analytical framework for the reasoning on third-party liquidity provision to a crisis-affected country in the three generations models of balance-of-payments crises (Krugman, 1999; Obstfeld, 1996). The latter suggest that crisis lending should be voluminous, timely and adequately conditioned to prevent or backstop a liquidity shortage. Nonetheless, based on a sample of 50 EMDEs between 1976 and 2018, Fritz and Mühlich (2019) find that volume, timeliness and conditionality are not the only drivers of the borrowing patterns of crisis-affected countries in the GFSN.

The present analysis extends beyond the economic literature, whereby we suggest more closely examining elements of the political economy of crisis borrowing and lending. We analyze the proliferation of the provision of short-term finance as a regime complex in which 'more than one institution is involved in addressing a given policy issue' (Alter and Raustiala, 2018, p. 333). We characterize the GFSN as a regime complex where: (1) membership and therefore the loan portfolios of the IMF, RFAs and, additionally, the newly emerged central bank currency swaps partially overlap; (2) the GFSN elements exist in a non-hierarchical relationship; and (3) lending rules and regulations are not coordinated. The regime complexity concept is appealing for our research question as it enables focusing 'on how the overlapping and sequential nature of international commitments in itself shapes the politics of cooperation [...] and the decisions of actors operating within and around regime complexes' (Alter and Raustiala, 2018, p. 331). (1) Membership, mandate and resource overlap exist in the GFSN. While all countries in our sample are members of the IMF and an RFA, some of them are or have also been partners to a bilateral currency swap

arrangement. Accordingly, all countries have at least two and sometimes three crisis borrowing options. (2) In terms of non-hierarchical relationship, some authors argue the IMF is the hub and rule setter of the GFSN, among others due to its preferred creditor status, the long period of unique operation and expertise in crisis finance, as well as its lending capacity (see, for example, Drezner, 2013; Henning, 2020). Furthermore, the IMF and the RFAs have intensified their dialogue over their respective roles and decision-making processes in the GFSN (ESM, 2018; IMF, 2017). Yet, these efforts have so far not materialized in a coordinated GFSN lending policy. Neither does the IMF determine lending rules for all elements of the GFSN: aside from joint capacity building and technical cooperation, most RFAs independently determine their lending rules and regulations. Exceptions are the CMIM and the contingent reserve agreement (CRA), which prescribe an IMF program above a certain lending volume. Currency swap agreements are made bilaterally between national central banks without any involvement of further institutions.

The key feature is that there is no agreed-upon means to assert a hierarchy when rules or decisions backed by different institutions conflict. The absence of hierarchy also influences the strategy of different actors and introduces dynamism into the politics of cooperation. [...] decisions made in one forum can be influenced, revised or undermined by decisions and politics within a parallel or overlapping [...] forum. (Alter and Raustiala, 2018, p. 331)

(3) Borrowing countries under financial stress need to deal with institutional overlap and rule density. Lending rules partially contradict; for example, Ecuador may have access to a de facto non-conditional loan from the FLAR while it simultaneously needs to negotiate the conditionality for an IMF loan with the latter. Other EMDEs may have additionally negotiated currency swaps between the central banks without any conditionality (Denbee et al. 2016). Thus, today's GFSN complexity is not only coined by a significant overlap of supposedly rule-setting actors, but also by different modes of governance (McNamara, 2016).

The complexity of the GFSN has increased, among others, due to changes in the relative economic and financial power – particularly of emerging economies – that are not reflected in the old Bretton Woods institutions, such as the IMF.

[International institutions] are slow to change and serve to lock in temporary advantages. [...], the IMF, and the World Bank, for example, all give special roles to the US and its European allies that today poorly reflect existing power realities. Consequently, rising powers may prefer to create a new institution, where their influence may be larger, than seek to reform an existing one. (Alter and Raustiala, 2018, p. 338)

The contestation of outdated shareholder structures is also related to the search for local or regional governance solutions that may allow for a stronger voice of the participating stakeholders. We suggest reading the proliferation of institutions and agreements not solely as a competitive but rather as a pragmatic search for financial crisis solutions. Some contributions on the GFSN and in particular on RFAs highlight the importance of regional cooperation as learning ground for supra-national policy coordination (Ocampo, 2006).

The regime complexity literature recognizes the productive element of the competition and the resource increase that complexity introduces (see DeBúrca, 2013). For the case of the GFSN, Grabel (2017) applies a Hirschmanian reading of the status quo of crisis finance mechanisms and – outside a predetermined school of thought – labels the process that the regime complexity concept describes as one of ‘productive incoherence’. She assumes that the incremental changes of the GFSN over time are productive in the sense that new options for crisis prevention and backstop emerge, which are more prone to the regional needs of EMDEs than existing global institutions.

The question of how the overlap of membership, lending, enforcement and surveillance rules, and the access to different emergency finance sources in the GFSN shapes the borrowing strategies of crisis-affected countries, has not yet been examined extensively in the literature. The economic framework of currency crises models suggests that a crisis-affected country primarily chooses the GFSN mechanism that provides the largest amounts of short-term liquidity in a timely manner with no or lean reform obligations as policy conditionality (Mühlich and Fritz, 2018).

Here, we operationalize the regime complexity concept for the case of EMDE crisis borrowing in the GFSN. Based on the regime complexity concept, we assume that the borrowing decisions of crisis-affected countries are not explainable solely by economic criteria. Moreover, we assume that the search for a stronger voice and regional governance mechanisms also play a role. The regime complexity concept suggests that countries combine or substitute borrowing options in the GFSN in a way that allows as much influence as possible over the crisis prevention or resolution strategy. Therefore, issues of power asymmetries that find their expression in the different positions of lenders and borrowers in each GFSN element are important.

We draw on the concept of Humphrey and Michaelowa (2013) who introduce the idea of balance of power in the shareholder structure of a lending institution, and who distinguish between borrower- and lender-dominated arrangements.³ We add the category of shareholder structure to the previously introduced categories of voice and regionalized governance to address the potentially different effects that GFSN complexity may incur for countries with different economic size and weight within their RFA.

Regarding intra-regional power relations and asymmetries, RFAs constitute a special and ambivalent case: the more asymmetric that an RFA is in terms of its members’

economic size, the greater the economic benefits, whereby comparatively large (supposedly creditor) economies can increase the lending capacity of the fund to comparatively small (supposedly borrower) economies. At the same time, regional asymmetry entails challenges for the political economy of lending and borrowing. Lending policy, surveillance and enforcement rules need to satisfy borrower and creditor countries (see also Grabel, 2017; Henning, 2016).

According to Alter and Raustiala (2018), politically and economically powerful countries have stronger leverage in exercising their will in a complex regime. Furthermore, Drezner (2013) finds that regime complexity enhances more power-based results than coordinated and institutionalized settings of multilateral agreements with predictive decision-making rules, where inequalities in economic and political power are at least partially leveled out. While the regime complexity concept presumes that politically or economically more powerful countries have stronger leverage, we assume that that GFSN complexity gives less powerful countries a small but non-negligible leverage in terms of using and combining different GFSN elements. For example, in the case of a comparatively small country like Ecuador, easy access to a small regional fund provides a timely and non-conditional liquidity source either before negotiations about a more voluminous IMF program (ESM, 2018), or to even substitute the IMF.

2. Truly regional? Balance of power and autonomy of RFAs

In order to analyze GFSN utilization from a country perspective, we examine two sets of variables: first, we analyze the three standard economic key criteria for crisis finance, namely volume, timeliness, and conditionality; and second, we derive three different governance variables from the concept of regime complexity, namely the shareholder structure (examined as the distribution of capital shares) voice (examined as the distribution of voting shares), and the degree of policy autonomy in regional lending decisions. We employ the concept of balance of power by Humphrey and Michaelowa (2013), who examine the balance of power of multilateral development banks (MDBs) along the composition of shareholders. In the case of MDBs, the authors concentrate on the inclusion or not of (advanced economy) creditor countries. In contrast to MDBs, RFAs show a high variation of power distribution in their institutional set-up, and RFAs have no formal distinction between borrowing and lending countries as is the case in the official development assistance (ODA) based MDB system. Thus, for our classification of RFAs as borrower- or creditor-dominated, we additionally consider the distribution of voting power. We classify an RFA as borrower-dominated when the influence of a member country is not determined by its capital contribution and as creditor-dominated if the influence of member countries is determined by capital contribution.

We employ these six criteria to examine the complementary or substitutive use of the IMF and RFAs. We compile a

time series data set with 446 cases in which one of the 61 RFA member countries in our sample agreed on one or more financing programs with the IMF, its RFA or a currency swap, between the year of the RFA's foundation and 2018.⁴

2.1. The IMF: global creditor dominance

The IMF has undergone considerable changes in its economic lending terms since the end of the Bretton Woods system in 1973. First, the fund multiplied its lending capacity over time and in particular after the global financial crisis. Together with temporary borrowing arrangements and increased member country quota, the funds' lending capacity has been raised to about US\$1 trillion in 2018 (see Figure 1). Second, the IMF has established fast track loan disbursement options, and third, it has substantially overhauled its financing facilities, among others by introducing pre-qualification-based credit lines (IMF, 2014) in addition to its standard conditional lending.

Regarding its balance of power in shareholder representation, in 2016, the IMF implemented a reform of the fund's shareholder structure that had been requested for a long time: the 14th IMF quota review shaped its asymmetric shareholder structure towards EMDEs. Even though the US retains its dominant status, the share of EMDE votes increased by about 6 per cent to reflect their enlarged global economic share. Brazil, China, India, and Russia have been among the ten largest member countries of the IMF since then. Nonetheless, the IMF governance and shareholder structure as well as its lending policies and conditionality continues to be severely criticized (Dreher, 2009; Grabel, 2017; Stiglitz, 2002; Stubbs et al. 2020).

In terms of voice and voting structure, the US retained a veto power, with the largest voting share of 16.5 per cent of all votes. Out of the 24 seats in the executive board, only Japan, China, Germany, France, the UK and Saudi Arabia hold a single seat, apart from the US. Votes are combined from a small share of basic votes (5.5 per cent of all votes), and votes based on quota payments. The IMF comprises two major governing bodies: the executive board takes management decisions, while the board of governors takes strategic decisions. We classify the IMF as dominated by advanced economies as creditors. Its shareholder, voting and governance structure does not leave much say for most EMDEs as borrowers.

2.2. RFAs: Regional variation of economic characteristics and governance

2.2.1. The Latin American Reserve Fund

Regarding its economic characteristics, the FLAR has a rather small volume of about US\$3.9 billion⁵. The FLAR disburses loans quickly (Rosero, 2014). While formally a reform program needs to be presented prior to loan disbursement for all facilities, de facto the FLAR does not impose conditionality at all.

The voting rules in FLAR are strictly egalitarian: while larger members contribute higher capital shares than the

smaller ones⁶, each country has one vote in the two governing bodies (FLAR, 2020). The General Assembly of finance ministers is responsible for strategic decisions. The board of directors of central bank governors addresses lending decisions and operational questions. Decisions are taken by a three-quarter qualified majority, and thus, veto power is precluded. The FLAR has an autonomous governance mechanism with independent regional rules and regulations. At the institutional level, the FLAR seeks exchange with other institutions like the IMF, although this does not concern the credit disbursement procedure as such.

Between 1978 and 2017, the FLAR was demanded 52 times by its member countries for its programs, compared with the IMF being requested 41 times. The FLAR is predominantly in use as a single source of emergency finance in about 65 per cent of all drawings regarding the RFA. A parallel IMF program was agreed upon in about 21 per cent of all RFA drawings in the same year⁷. The FLAR has been used more often than the IMF by those countries that are of smaller economic size and hence more likely to find an adequate loan size.

We classify the FLAR as borrower dominated since all countries are formally provided with the same influence on the proceeds of the fund, independent of their capital contribution. The egalitarian governance structure and high regional policy autonomy are seen as important ingredients for the strong sense of ownership within the FLAR (Ocampo, 2006), as is also evidenced by the fact that, despite the absence of conditionality, FLAR member countries never fall into arrears. The FLAR's lending capacity alone can certainly not explain its frequent utilization, as the finance volume provided is relatively small for most member countries, compared with their IMF quota (see Figure 2). At the same time, many cases of stand-alone borrowing from the FLAR – in particular by Ecuador – can be explained by the aim to avoid subordination under the creditor dominated IMF (see also Bunte, 2019).

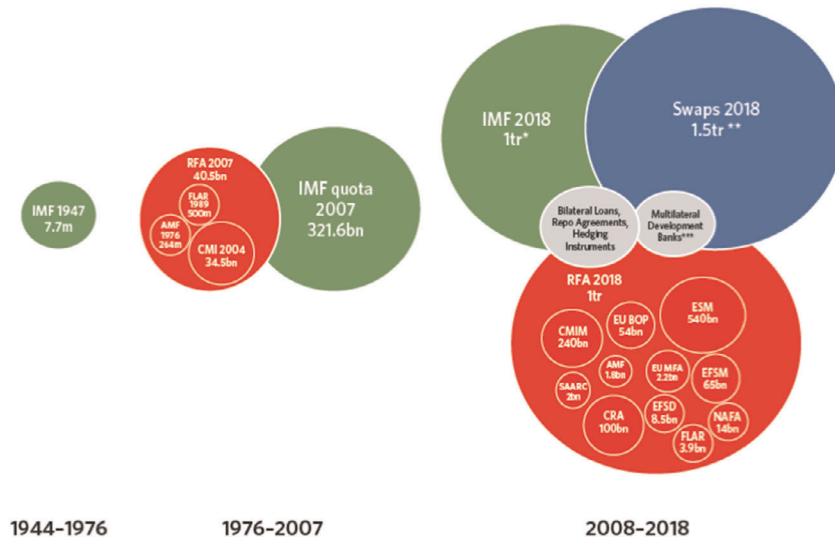
2.2.2. The Arab Monetary Fund

Created in 1976, the AMF has a subscribed capital of about US\$3.8 billion. The finance volume provided cannot be considered adequate for any of its member countries, in comparison with the IMF (see Figure 3). The AMF has a very timely disbursement policy, and the conditionality applied depends on the lending volume and maturity.

Regarding its governance structure, the largest capital shares are contributed by a few economically strong oil exporters, which together make up for about 40 per cent of total subscribed capital of the 21 member countries (see Figure 3). The AMF is managed by a board of governors and a board of executive directors. In the former, each member country holds a fixed number of votes plus one additional vote for each share held. Decisions are taken by absolute majority (AMF, 1976), so that the largest members cannot decide alone. Out of the eight seats in the executive board, three are single seats held by the largest member countries, Saudi Arabia, Algeria, and Iraq, giving no member a veto power. Further, the AMF has a regionally designed

Figure 1. Institutions and lending capacity in the global financial safety net over time (USD).

Notes: NAFA – North American Framework Agreement; ESM – European Stability Mechanism; EFSM – European Financial Stabilization Mechanism; EU BOP – EU Balance of Payments Assistance; EU MFA – EU Macro Financial Assistance. ESM, EFSM, EU BOP and EU MFA lending capacity per country is estimated by a country's relative GDP share as approximation of the maximum borrowing amount of the total volume. ** We follow Denbee et al. (2016) by assuming that the reciprocal nature of currency swaps among advanced economies requires counting each swap twice, and by assuming that the unlimited swap lines between the US Fed and the ECB, Canada, Japan, United Kingdom, and Switzerland can be estimated by the amounts drawn during the global financial crisis, which sums up to about USD 600bn. When we apply these assumptions to our estimates for 2018, the amount of total active swaps sums up to about least USD 1.5tr. *** Although the short-term lending of multilateral development banks (MDBs) is part of the GFSN, their inclusion is beyond the scope of this analysis (see Gabel, 2017, pp. 164).



Source (The data can be made available on request): IMF (1947, 1989, 2007, 2008, 2018, *n.d.a), FLAR (1989), FLAR 2018), AM (1977, 2019), AMRO (n.d), Denbee et al. (2016, updated by D. Essers and Vincent, 2017 and by the authors; Kawai and Houser, 2007; BRICS, 2014; EFSD n.d.a; ESM n.d).

autonomous decision-making structure about loan approval or denial.

AMF is the most frequently used RFA in our sample, and the majority of drawings were not complemented by other sources. Even the larger members have been or are frequent borrowers, despite its small volume and despite – for example – Morocco having access to the prequalifying facilities of the IMF. Between 1976 and 2018, the fund was requested 179 times by its member countries in any of its facilities. In 60 per cent of all AMF drawings, the AMF was the single emergency financing source. The IMF was requested 58 times over the same period. In about 15 per cent of all RFA drawings, a program with the RFA and the IMF was agreed upon in parallel. Egypt, Morocco, Qatar, Sudan, and the United Arab Emirates have been or are partner to a swap agreement, most of them with the People's Bank of China (PBOC). The UAE currency swaps aim to enhance trade. Egypt, Morocco, Qatar, and Sudan partner currency swaps with the twofold purpose to enhance trade and financial stability. The United Arab Emirates and Qatar have never requested the AMF.

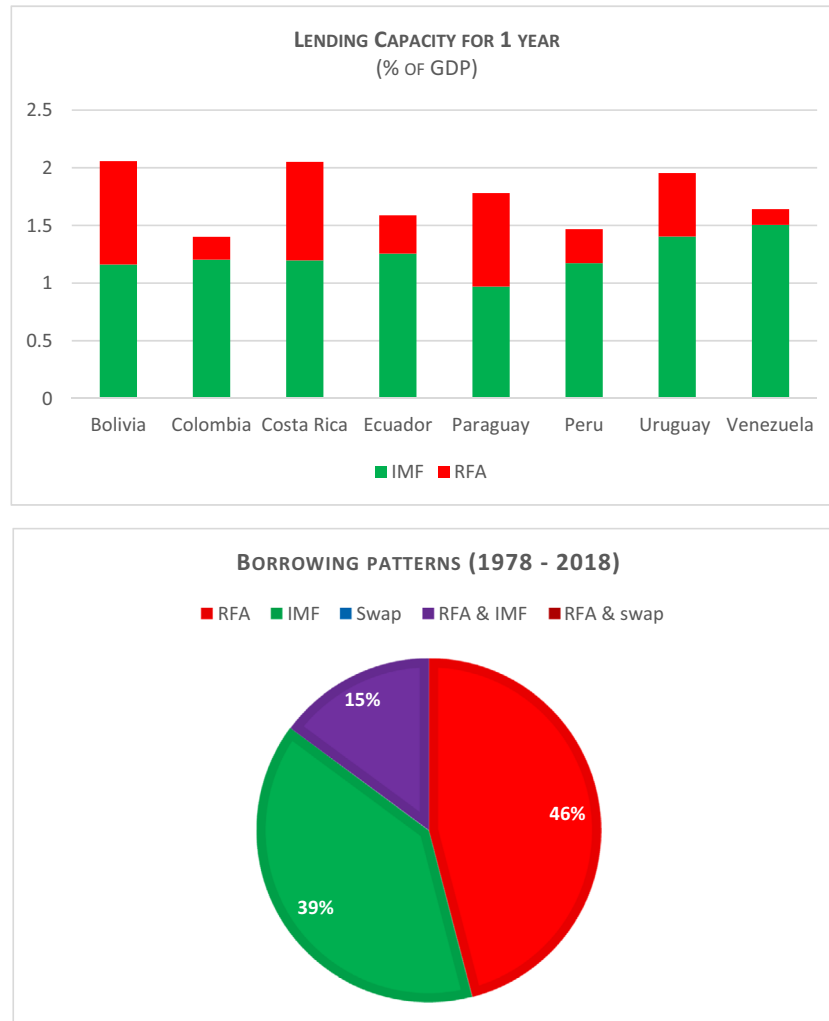
We classify the AMF as a mix of a creditor- and borrower-dominated institution. Small contributors are given a voice as basic votes contribute to an equal distribution of voice and the largest shareholders together hold less than half of

all votes in the governing bodies. Even more than in the case of the FLAR, economic theory would suggest a non-use of the AMF due to its very small lending capacity. However, with a regime complexity perspective, the AMF's institutional autonomy, and a regionally set-up governance framework with the possibility to have a stronger say than in the IMF explains the highly frequent and often stand-alone borrowing from the AMF.

2.2.3. The Eurasian fund for stabilization and development

In 2009, the EFSD was established with a funding volume of about US\$8.5 billion. Membership is strongly asymmetric, with Russia clearly dominating in terms of economic size and paid-in capital. Available documentation suggests that the EFSD disburses considerably slower than other RFAs (Fritz and Mühlich, 2019)⁷. Conditionality appears to be extensive and rigorously monitored. The EFSD provides voluminous crisis finance for three of its members.

The highest and only decision-making body is the council, which comprises the member states' finance ministers and is chaired by the Russian finance minister. Decisions are taken by a 90 per cent majority, a rule that requires Kazakhstan – as the second major creditor country – to vote with Russia to gain a majority. If one assumes that voting

Figure 2. FLAR – Lending capacity and borrowing patterns. Notes: Venezuela: GDP as of 2014.

Sources: Authors; World Development Indicators (n.d.), IMF (n.d.b) FLAR (2018), FLAR (n.d.b.).

shares depend on capital shares, Russia has a very strong decision power in the governing bodies (see Figure 4). The EFSD has a regionally designed autonomous decision-making structure, without institutionalized collaboration with the IMF (Gabel, 2017; see also ESM, 2018). In exceptional cases, the reform program has been developed under IMF advice (Gabel, 2017). Further, in some cases, emergency liquidity financing is approved as co-lending with other regional or global financial institutions (Figure 4).

Since its foundation, the EFSD has been drawn upon five times by Armenia, Belarus (twice) and Tajikistan (twice). The IMF has been requested seven times by the EFSD member countries between 2009 and 2018. Member countries have been or are partner to eight currency swaps, predominantly with the PBOC, whereby the smaller countries' currency swaps have the aim to tighten trade ties with China. Hence, other GFSN sources have been used more often than the EFSD by its member countries. Aside from two lending

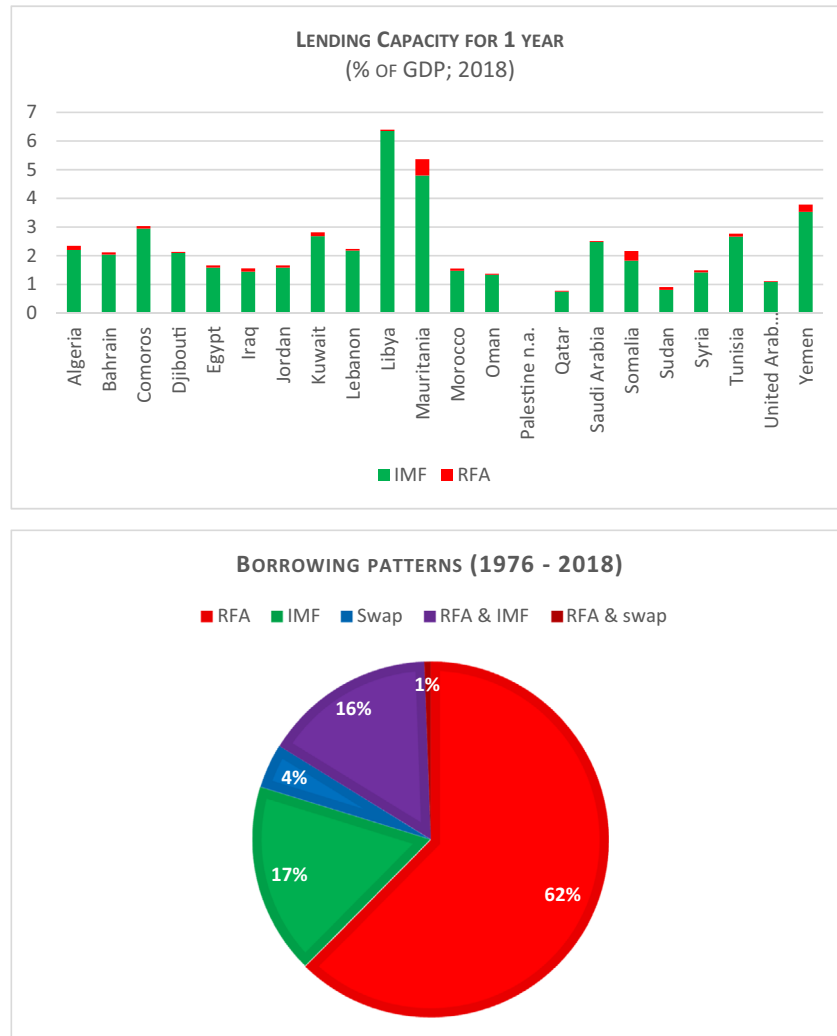
programs, the EFSD was always complemented by borrowing from other GFSN elements, or used in a sequenced manner within a short time span.

We classify the EFSD as creditor-dominated due to the strong dominance of Russia in the proceeds of the RFA. Economic considerations alone cannot explain the predominant borrowing pattern of complementation in the EFSD since the lending capacity of the EFSD is enormous for some member countries, compared with the IMF. Complementation may be motivated by the search for combining different sources with varying power balances at the global, regional and bilateral level instead of subordinating oneself under one dominant creditor.

2.2.4. The Chiang Mai Initiative Multilateralization

The CMIM was initially set up as a network of bilateral swap arrangements in 2001 in reaction to the Asian financial crisis. In 2010, in response to the global financial crisis, the

Figure 3. AMF - Lending capacity and borrowing patterns.
Notes: Syria GDP as of 2007



Sources: Authors; World Development Indicators (n.d.), IMF (n.d.b), AM (2019); see Appendix Table A2.

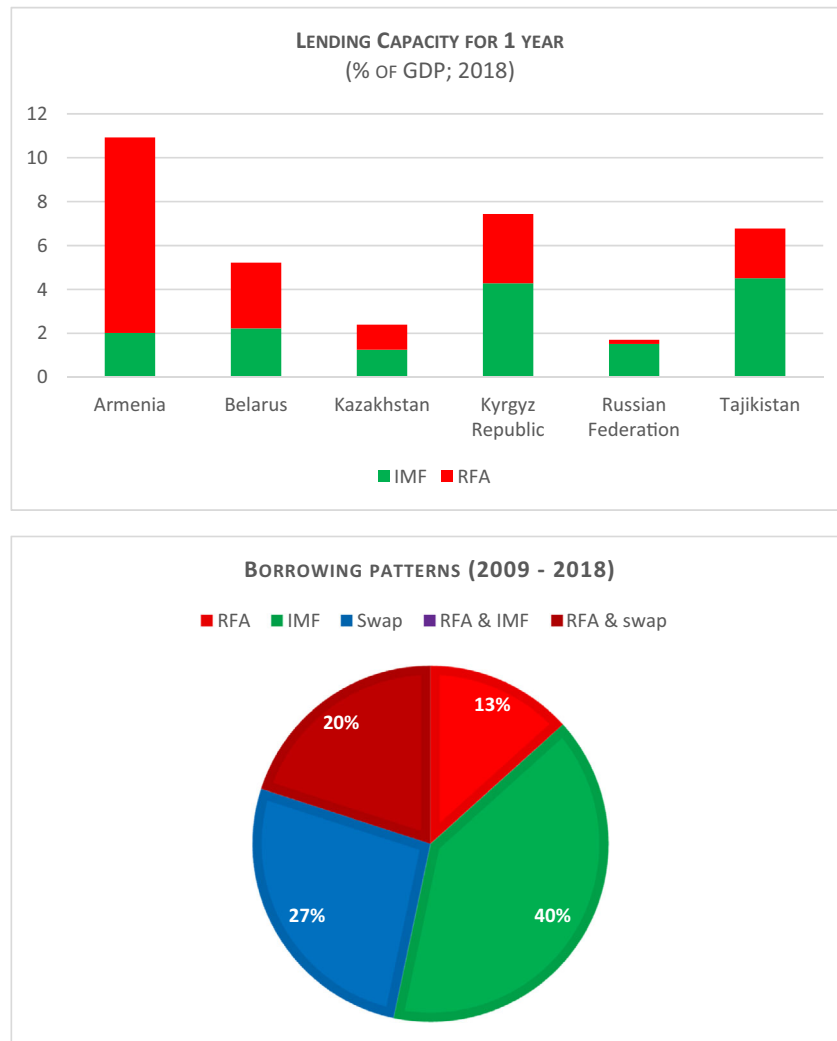
CMIM was established as a multilateral swap arrangement of about US\$240 billion (Kawai and Park, 2015). Its large lending capacity provides for crisis finance that exceeds the lending of IMF for all members except the plus-three partner countries. CMIM states a disbursement time of a maximum of two weeks. However, given that borrowing above 30 per cent of the quota requires an IMF program, delays in decision-making are likely.

The decision-making structure of the CMIM comprises a ministerial and an executive level. The former's decisions are taken in consensus, while the latter's decisions are taken by a two-thirds majority rule, so that no member holds a veto power. Each country is given basic votes, plus votes depending on its contributions. The large plus-three members China, Japan and South Korea together with Hong Kong hold more than two-thirds (71.59 per cent) of the votes. The CMIM's lending decisions depend on the IMF when it comes to borrowing requests of more than 30 per

cent of the country quota. CMIM is continuously expanding its capacities to develop regionalized lending, surveillance and enforcement rules and decision making.

The CMIM has never been requested by its members (see Figure 5). CMIM member countries hold significant foreign exchange reserve volumes, so that financial shocks are less likely to occur. At the same time however, the majority of its member countries became partner to a currency swap, most of them with the People's Bank of China (PBOC) and the Bank of Japan (BOJ) (see Table A2, Appendix). The majority of the bilateral currency swaps between CMIM member countries that have been set up in parallel to the CMIM had the purpose of temporary liquidity provision to enhance financial stability. The IMF has only been requested three times in 2000 and 2001 when the CMIM was about to be founded.

Given the huge influence that the plus three partner countries exercise on the proceeds of the arrangement, we

Figure 4. EFSD - Lending capacity and borrowing patterns.

Sources: Authors; World Development Indicators (n.d.), IMF (n.d.b), EFSD, 2019, n.d.a.; see Appendix Table A2

classify the CMIM as creditor-dominated. A solely economic perspective would suggest frequent stand-alone borrowing from the CMIM, based on the voluminous crisis finance that the RFA can provide. Nonetheless, we observe a strategy of circumventing the similarly creditor-dominated IMF. We suppose that the CMIM's unattractiveness is, among others, caused by in the creditor-dominance and the non-autonomous decision-making of the RFA and hence to the stigma that accompanies IMF borrowing since the Asian financial crisis.

2.2.5. The South Asian Association for Regional Cooperation (SAARC) swap arrangement

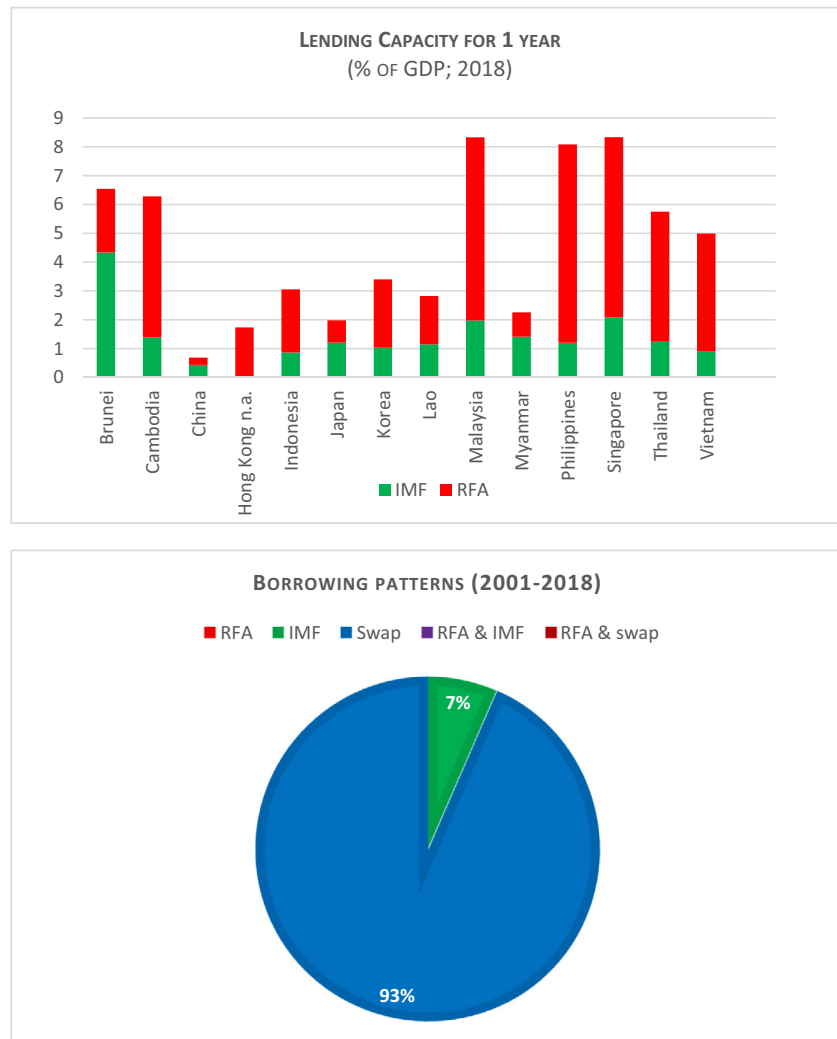
Since 2012, India has offered currency swaps to SAARC member countries in the SAARC swap arrangement as a measure 'to address short-term liquidity difficulties and to supplement international financing arrangements' (RBI, 2012). As endorsed by all member states at the SAARCFINANCE Group

Meeting in 2011, the Reserve Bank of India makes available a swap facility to all SAARC member countries to strengthen regional financial and economic cooperation. It has a total volume of US\$2 billion with a maximum swap amount of US \$400 million per country. Compared with the IMF, half of the SAARC member countries would not find sufficient crisis finance in the swap with India. At the same time, the timeliness of disbursement and probably absent policy conditionality may cause a preference over other GFSN sources available to SAARC member countries.

In contrast to the other RFAs, the SAARC swap arrangement has no institutionalized governing body but it is commanded by the Indian central bank (RBI). We classify the SAARC swap agreement as a creditor-dominated arrangement with little formalization. The SAARC is autonomous as the RBI alone defines the rules.

Between 2012 and 2018, the RFA was tapped three times, twice by Bhutan and once by Sri Lanka. The IMF was

Figure 5. CMIM - Lending capacity and borrowing patterns.



Sources: Authors; World Development Indicators (n.d.), IMF (n.d.b), AMRO (n.d.); see Appendix Table A2

requested four times by the member countries and seven bilateral currency swaps were agreed upon between SAARC member countries and the PBOC or the RBI in parallel to the SAARC agreement. While Bhutan requested the SAARC swap arrangement as the single crisis finance source, Sri Lanka drew on all three GFSN elements multiple times (including bilateral currency swaps with the PBOC to enhance trade ties and with the RBI to increase financial stability). Further, Nepal and Pakistan complemented IMF programs with currency swaps with PBOC predominantly for trade finance (not shown in Figure 6). Aside from Bhutan, SAARC member countries predominantly resort to bilateral currency swaps and complement different GFSN elements (see Figure 6).

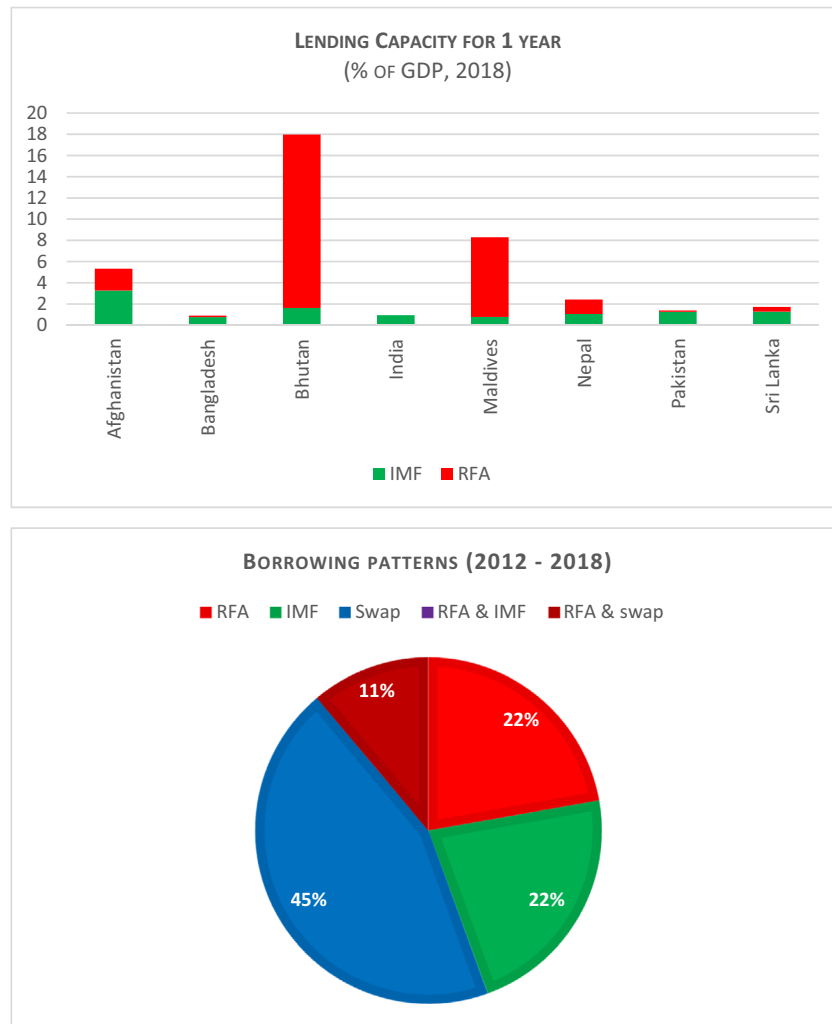
The comparatively small share of stand-alone drawing on the SAARC swap arrangement is not only motivated by the relatively small lending capacity that it provides for most borrowers. Rather, they seem to complement different GFSN elements to indebted themselves in the short-term from

different sources with different power balances and governance structures.

2.2.6. Contingent reserve agreement

The CRA was founded as the first trans-regional RFA in 2014 as part of the New Development Bank by the BRICS countries. China dominates the RFA, in economic terms and with a capital contribution of 41 per cent. The CRA – like the CMIM – is based on a multilateral swap contract with a total volume of US\$100 billion. As in CMIM, only 30 per cent of a country's committed capital can be drawn; otherwise, an IMF program is required. Thus, the CRA is not designed autonomously but binds more voluminous lending to the IMF. For at least two of the five CRA member countries, the RFA's lending capacity is comparable with the IMF (Figure 7).

The CRA is governed by a governing council that decides by consensus. It is composed of finance ministers or central bank governors. An operational standing council decides by

Figure 6. SAARC - Lending capacity and borrowing patterns.

Sources: Authors; World Development Indicators (n.d.), IMF (n.d.b), RBI website; see Appendix Table A2

simple majority. The standing council can also decide by simple majority, in which case each country receives a basic vote of five per cent of total voting power in addition to the capital share-based votes. The arrangement is designed in such a way that no member holds a veto power while the largest creditor China has a strong influence.

Since its existence, the CRA member countries have neither tapped their trans-regional fund nor requested the IMF; rather, six bilateral swaps were agreed upon between 2014 and 2018 between CRA members or with other countries. The currency swaps had predominantly the purpose of temporary liquidity provision; few of them had a twofold aim of enhancing trade and financial stability, only one swap was agreed with the single purpose of trade enhancement.

We classify the CRA as a creditor-borrower-dominated arrangement, with a strong influence of the largest capital contributor but without a veto power. Similar to the CMIM, we suppose that its substitution by bilateral swap arrangements can be explained by the absence of autonomous

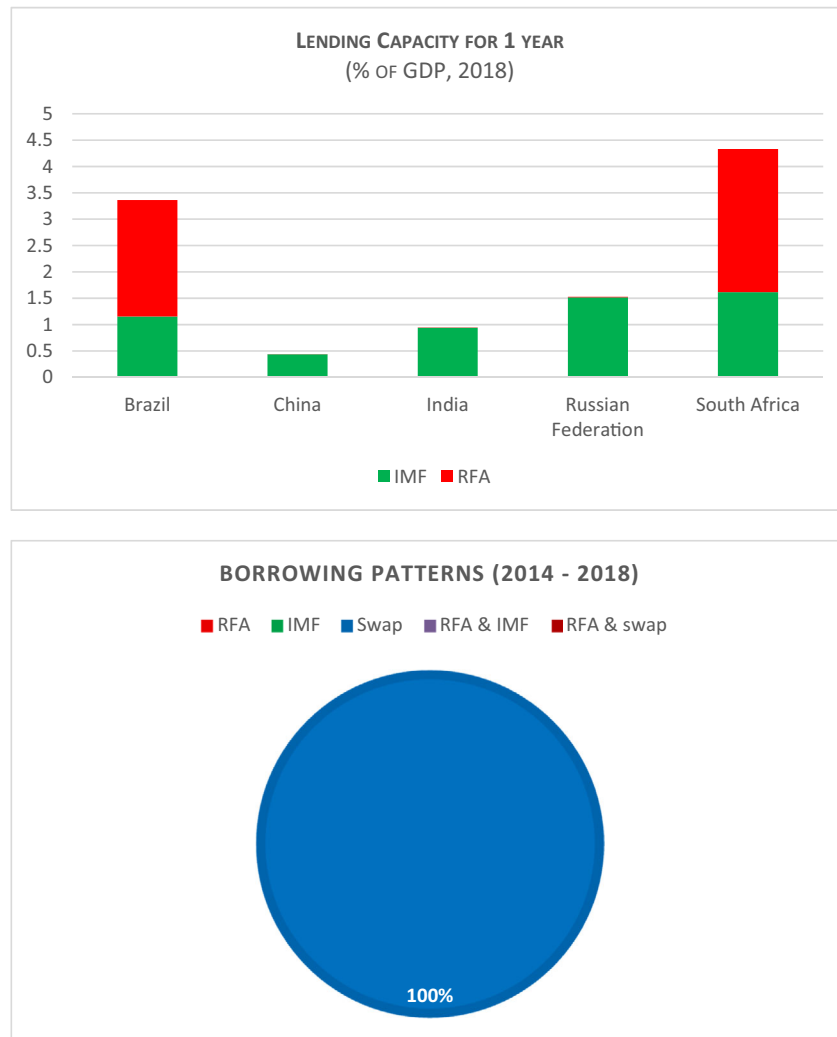
regional decision-making for more substantial borrowing amounts and the stigma associated with IMF-linked borrowing.

Table 1 summarizes the findings for all RFAs regarding their economic characteristics, governance structure and patterns of use.

3. Conclusion

Regime complexity literature offers several possible explanations for the institutional overlap between the global and regional level in the global financial safety net (GFSN), among those of the explanation of contested multilateralism. We examine the latter empirically based on the borrowing patterns of the member countries of the six regional financial arrangements (RFAs) that exist between EMDEs. We aim to understand how regime complexity drives RFA use as a substitute or complement to the often-contested IMF crisis borrowing. We find a surprising complexity: RFA utilization

Figure 7. CRA - Lending capacity and borrowing pattern.



Sources: Authors; World Development Indicators (n.d.), IMF n.d.b; BRICS, 2014; see Appendix Table A2.

considerably varies not only with economic criteria such as the lending volume but also with governance mechanisms, such as the intra-regional balance of power and the autonomy of decision-making at the regional level. Along this governance variance, we identify three patterns of borrowing.

First, RFAs that lack regional policy autonomy and instead bind themselves to the IMF – such as the CMIM and CRA – are not utilized at all. The member countries' voluminous foreign exchange reserves may explain why financial shocks are less likely to occur. Yet, at the same time, numerous currency swaps that have been agreed upon in parallel to each regional or trans-regional fund had predominantly the aim to increase financial stability and provide temporary liquidity, and that, together with the high levels of currency reserves, might serve as substitute for drawing on the CMIM, as the stigma attached to IMF borrowing spreads over to the RFA.

Second, regionally autonomous RFAs that are clearly dominated by their intra-regional creditor countries – such as the EFSD and SAARC – are utilized predominantly as

complements to other GFSN elements even though most of the borrowers find extraordinary lending capacity in their RFA. Especially the small members use extra-regional swaps as complement, mostly with the aim to ease trade finance with China, but also to increase financial stability. Borrowers of creditor-dominated RFAs face power asymmetries in all of their GFSN options at the global, regional and bilateral level, albeit each in different forms. Entering into debtor relations with the IMF dominated by advanced economies, with a regional hegemon or with another economically strong lender country creates a kind of complexity which seems to require case-specific cost-benefit analysis of borrowing each time.

Third, borrower-dominated or mildly creditor-borrower dominated RFA with autonomous regional governance – such as the FLAR and AMF – are most frequently utilized, and mostly as stand-alone finance sources. Interestingly, and against economic wisdom, countries draw on these mechanisms despite the relatively small sums provided. We do not find a strong pattern of complementation or substitution by

Table 1. RFA key economic and governance variables, and patterns of GFSN utilization

Economic indicators						
Volume sufficient for ^a	3 of 8 members	none of 22 members	3 of 6 members	9 of 14 members	2 of 8 members	2 of 5 members
Timeliness	yes	yes	no	no	yes	no
Conditionality	no	yes (regional)	yes (regional)	yes (IMF)	no	yes (IMF)
Governance						
Balance of power ^b	Borrower	Borrower/Creditor	Creditor	Creditor	Creditor	Borrower/Creditor
Policy autonomy	yes	yes	yes	no	yes	no
Patterns of GFSN utilization						
Dominant pattern	Stand-alone	Stand-alone, partly complements IMF	Complemented with swaps & IMF	Not utilized	Complemented with swaps & IMF	Not utilized

Source: Authors' compilation.

^aDefined as equal or higher lending capacity of the RFA compared with the IMF for a country. On the difficulties in assessing sufficiency of crisis lending, see for example Orzag and Stiglitz (2002); ^b Summary of the examined variables shareholder structure (capital shares) and voice (distribution of voting).

other GFSN elements. We see reasons to conclude that this behavior is related to the balanced power and regional autonomy of these mechanisms. We conclude that the borrowing patterns of creditor-dominated RFAs without attachment to the IMF, suggest that it is not only US-dominance in the IMF, but more generally the dominance of a larger country in a lending mechanism that makes this mechanism less attractive.

Based on our empirical analysis and elaboration of these patterns, we conclude that, the capacity to provide regionalized governance is vital for an RFA to serve as a truly new alternative to dissatisfying old institutions. Having a voice in an independent and autonomous regional institution is attractive for EMDEs, which we observe even in cases where lending volumes are too small to substitute the IMF. The creation of regional funds for crisis finance thus incorporates a major challenge, namely balancing the tension between the economic advantage of voluminous RFAs with economically larger countries and the quest for a voice by the smaller members.

Finally, we find that – in contrast to what the regime complexity concept would suggest – non-hierarchical complex regimes do not necessarily result in higher gains for more powerful countries; rather, it results in a complex pattern of power balances and leaves countries with difficult choices. The ability to complement or substitute one source of crisis liquidity with another at the same time depends on the available crisis finance options with adequate volume. Here, bilateral currency swaps are very attractive, being voluminous, quickly available and with no conditionality attached. However, they are offered where advanced and emerging economies such as the US and China have economic and geostrategic interests. The emergence of this dense but skewed network of bilateral swaps as non-institutionalized instruments thus brings enormous challenges to the GFSN due to their new power imbalances, opacity and unpredictability. We conclude that if their resources are

to be utilized for crisis prevention and backstop, IMF and RFAs require not only to provide voluminous, timely and adequately conditioned short-term crisis finance but also governance mechanisms that allow for autonomous decision making, and an institutional set up that allows balancing power to give borrowers adequate voice in decision-making processes.

Acknowledgments

We thank two reviewers for valuable comments, and Natalia Gaitán for excellent research assistance.

Notes

1. We thus exclude institutions such as the ESM, which covers mostly advanced economies; the only exception in our sample is Japan as one of the main lending countries in the CMIM. For an overview of the RFAs covered and their member countries, together with their capital contribution by member countries, see the annex.
2. The authors empirically examine lending of overlapping MDBs in Latin America. Empirically, they find higher lending by borrower-dominated institutions during non-crisis times and vice versa for creditor-dominated institutions.
3. We analyze all cases in which a financing program has been agreed on either with the RFA or the IMF, or in which a swap agreement with a foreign central bank has been concluded. For each case, we identify which other GFSN components were accessible and used or not used by descriptive time series analysis. Data are taken from the RFA's websites, central bank websites, media reports, and IMF Members' Financial Data by Country database. Central bank swaps between EMDEs are only counted once, on the account of the supposedly economically weaker country that is assumed to be a beneficiary of the currency swap. We include only those swaps that are agreed upon with other countries out of our sample (Mühlich and Fritz 2018).
4. For a more extensive discussion of the economic key variables of the FLAR, the AMF, the CMIM and the EFSD, see Mühlich and Fritz (2018); Fritz and Mühlich (2019).
5. For the distribution of capital shares for all RFAs analysed here, see Appendix, Figures A1–A8; for a list of all RFA member countries, see Appendix, Table A1.

6. Figures do not round up to 100 percent since the total number of drawings on the RFA includes multiple drawings on different RFA facilities in the same year.
7. The EFSD is the only RFA that offers short-term crisis finance and long-term development finance. Here, we only examine the short-term Financial Credit Line that the EFSD provides.

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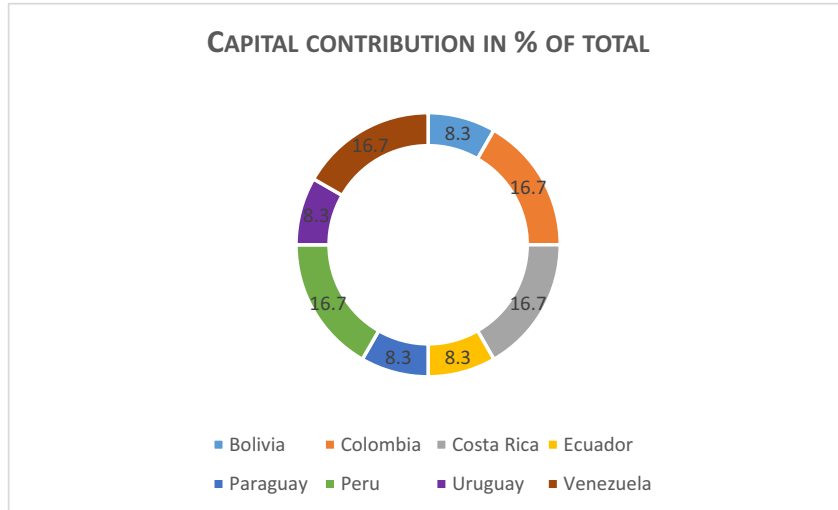
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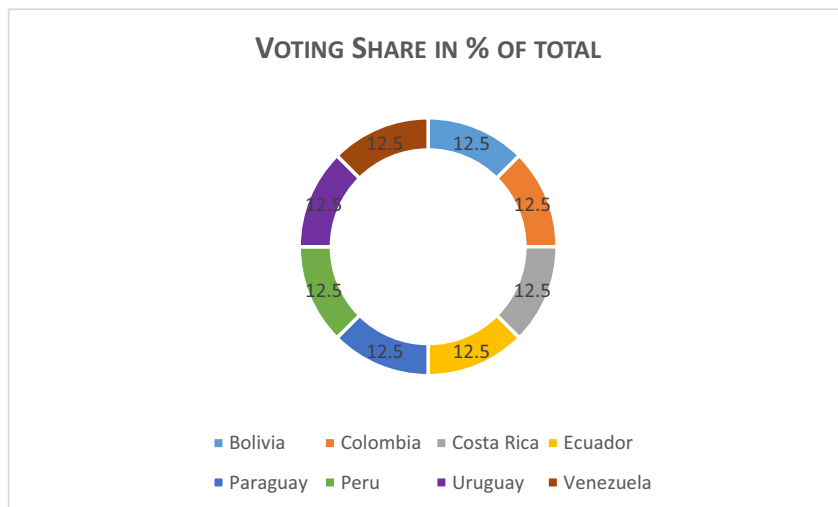
Appendix

Figure A1. FLAR Capital Contribution per member country.



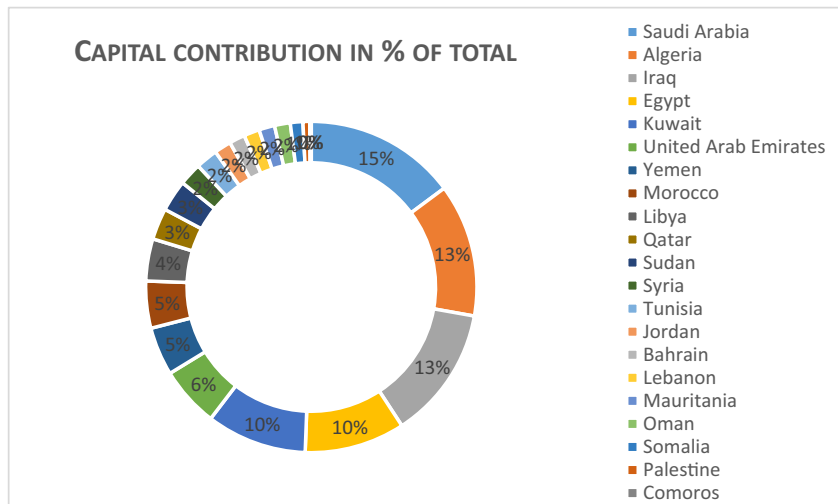
Source: FLAR (2018), FLAR (n.d.b).

Figure A2. FLAR Voting share per member country.



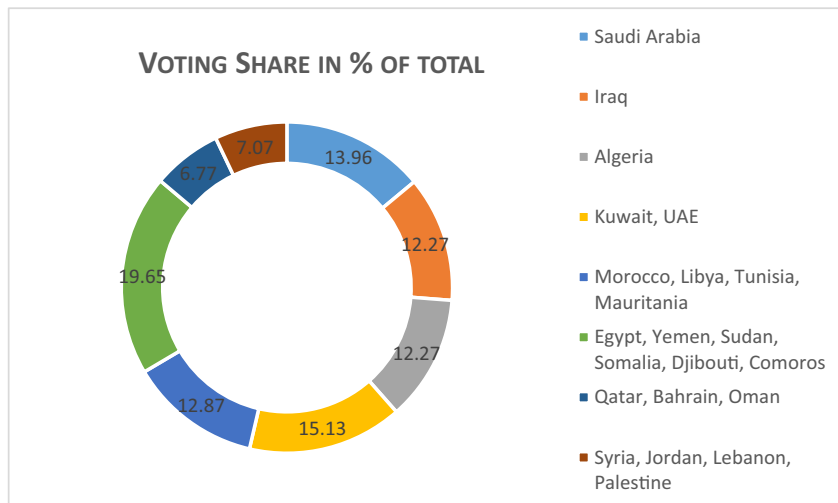
Source: FLAR (2018), FLAR (n.d.b).

Figure A3. AMF Capital contribution per member country.



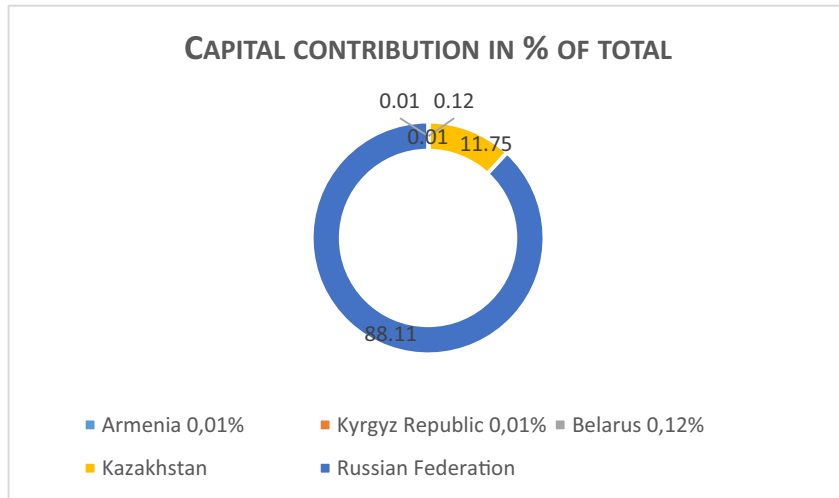
Source: AMF (2019).

Figure A4. FLAR Voting share per member country.



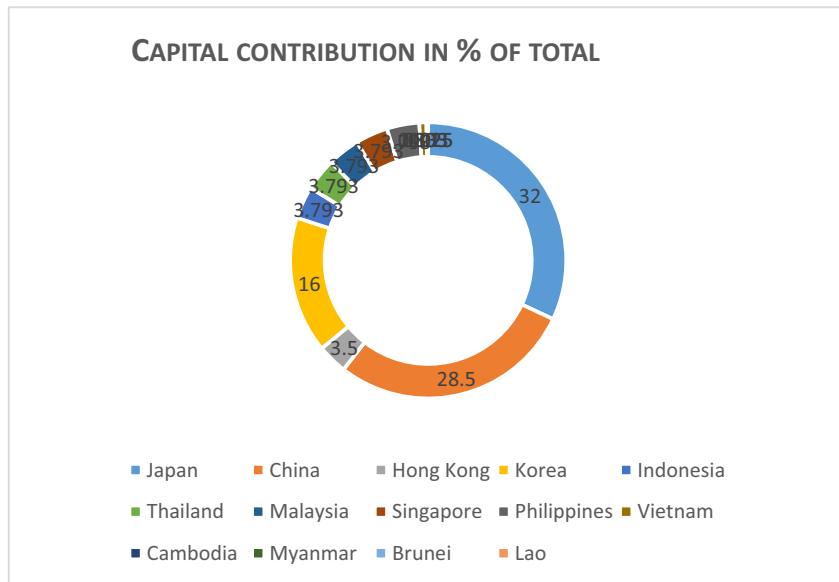
Source: AMF (2019).

Figure A5. EFSD Capital contribution per member country.



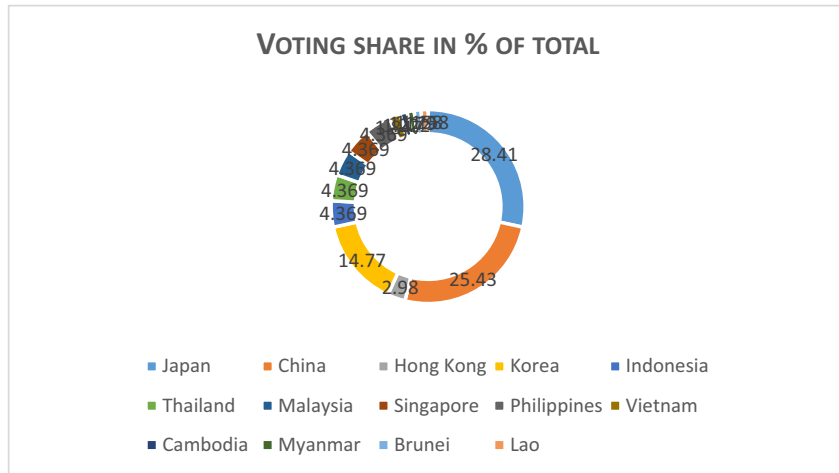
Sources: EFSD (2019), EFSD (n.d.a).

Figure A6. CMIM Capital contribution per member country.



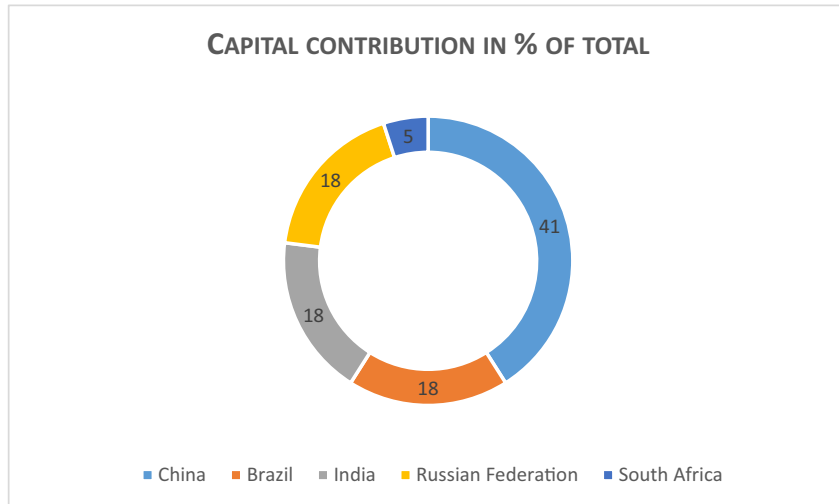
Source: AMRO (n.d.).

Figure A7. CMIM voting share per member country.



Source: AMRO (n.d.).

Figure A8. CRA capital contribution per member country. Source:



BRICS 2014.

Table A2. RFA member countries

AMF	FLAR	EFSD	CMIM	SAARC	CRA
Algeria	Bolivia	Armenia	Brunei Darussalam	Afghanistan	Brazil
Bahrain	Colombia	Belarus	Cambodia	Bangladesh	China
Comoros	Costa Rica	Kazakhstan	China	Bhutan	India
Djibouti	Ecuador	Kyrgyz Republic	Hong Kong SAR, China	India	Russia
Egypt, Arab Rep.	Paraguay	Russian Federation	Indonesia	Nepal	South Africa
Iraq	Peru	Tajikistan	Japan	Pakistan	
Jordan	Uruguay		Korea, Rep.	Sri Lanka	
Kuwait	Venezuela, RB	Lao PDR	The Maldives		
Lebanon			Malaysia		
Libya			Myanmar		
Mauritania			Philippines		
Morocco			Singapore		
Oman			Thailand		
Qatar			Vietnam		
Saudi Arabia					
Somalia					
Sudan					
Syrian Arab Republic					
Tunisia					
United Arab Emirates					
West Bank and Gaza					
Yemen, Rep.					

Table A3. Central bank currency swaps: Sources

Bilateral currency swap partner countries	Year	Source
AMF member countries		
Egypt-China	2016	https://www.chinadaily.com.cn/business/2016-12/06/content_27591117.htm
Morocco-China	2016	http://english.www.gov.cn/news/international_exchanges/2016/05/11/content_281475346907700.htm
Qatar-China	2014	https://www.reuters.com/article/china-economy-qatar-idUSL4N0ST3LY20141103
Qatar-Turkey	2018	https://www.dailysabah.com/economy/2018/08/20/turkey-qatar-central-banks-sign-currency-swap-deal
Sudan-Ethiopia	2017	https://addisfortune.net/articles/ethiopia-sudan-to-swap-16m/ ; https://www.centralbanking.com/central-banks/reserves/foreign-exchange/3307331/ethiopia-launches-first-of-its-kind-swap-agreement-with-sudan
United Arab Emirates-China	2015	https://www.news18.com/news/world/uae-and-india-sign-35-billion-rupees-currency-swap-agreement-1960875.html
United Arab Emirates-Rep. of Korea	2013	http://www.reuters.com/article/us-china-emirates-yuan-idUSKBN0TX0DE20151214 ; https://www.reuters.com/article/korea-economy-swap-idUSS6N0DP01T20131013
United Arab Emirates-India	2018	https://www.news18.com/news/world/uae-and-india-sign-35-billion-rupees-currency-swap-agreement-1960875.html
EFSD member countries		
Armenia-China	2015	https://www.cogitasia.com/swap-agreements-chinas-rmb-currency-network/ ; https://www.nbs.sk/_img/Documents/_PUBLIK_NBS_FSR/Biatec/Rok2016/01-2016/biatec_01_2016_orzaghova.pdf
Belarus-China	2009	http://news.xinhuanet.com/english/2015-03/26/c_134098842.htm
	2015	https://www.globaltimes.cn/content/921154.shtml ; http://en.people.cn/business/n/2015/0511/c90778-8890657.html ; https://www.cogitasia.com/swap-agreements-chinas-rmb-currency-network/

(continued)

Table A3. (continued)

Bilateral currency swap partner countries	Year	Source
Tajikistan-China	2015	https://www.belarus.by/en/business/business-news/central-banks-of-belarus-china-sign-currency-swap-agreement_i_22840.html
Russian Federation-China	2014	http://www.chinadaily.com.cn/business/2015-12/14/content_22708218.htm https://www.rbth.com/business/2017/04/25/why-russia-china-currency-swap-agreement-turned-damp-squib-750321
Kazakhstan-China	2011	https://www.rt.com/business/195556-russia-china-currency-swap/ http://www.pbc.gov.cn/english/130721/2889957/index.html
	2014	http://thebricspost.com/china-kazakhstan-ink-14-bn-deals-renew-currency-swap-accord/#.Vx89T0faI30 http://silkroadnews.org/en/news/kazakhstan-and-china-signed-an-agreement-on-currency-swap-on-t200-billion
CMIM member countries		
Thailand-China	2011	http://en.people.cn/90883/7687595.html
	2014	http://www.china.org.cn/business/2014-12/23/content_34386301.htm
	2017	http://www.china.org.cn/business/2014-12/23/content_34386301.htm
Thailand-Japan	2017	https://asia.nikkei.com/Economy/Japan-agrees-to-currency-swap-deals-with-Thailand-Malaysia https://www.mof.go.jp/english/international_policy/financial_cooperation_in_asia/bsa/thailand_170505_e.html
Sigapore-USA	2008	http://www.federalreserve.gov/newsevents/press/monetary/20081029b.htm
Sigapore-China	2013	https://www.bloomberg.com/news/articles/2013-03-08/china-singapore-double-currency-swap-agreement-to-48-billion
Sigapore-Japan	2015	https://www.boj.or.jp/en/announcements/release_2015/rel150521b.pdf http://www.boj.or.jp/en/intl_finance/cooperate/index.htm/
Malaysia-China	2016	https://www.boj.or.jp/en/announcements/release_2016/rel161130b.pdf
	2009	https://www.thestar.com.my/business/business-news/2009/02/09/malaysia-and-china-establish-currency-swap/ http://www.chinadaily.com.cn/business/2015-04/18/content_20468511.htm http://www.chinadaily.com.cn/business/2015-04/18/content_20468511.htm http://www.chinadaily.com.cn/business/2015-04/18/content_20468511.htm
	2018	https://www.cogitasia.com/swap-agreements-chinas-rmb-currency-network/ https://www.bnm.gov.my/-/renewal-of-bilateral-currency-swap-arrangement-between-bank-negara-malaysia-and-the-people-s-bank-of-china?inheritRedirect=true&redirect=%2Fsearch%3Fq%3Ddigital%2Bbanking%2Blicence%26start%3D21%26tag%3Dzeti
Malaysia-South Korea	2013	https://www.reuters.com/article/uk-korea-economy-swaps-idUKKBN0E60G320140526?edition-redirect=uk https://books.google.de/books?id=_7i9BAAAQBAJ&pg=PA54&lpg=PA54&dq=south+korea+united+arab+emirates+currency+swaps&source=bl&ots=wHGjA2kMcJ&sig=iuCKb7tNdPyAskphJRxSmx9B2V8&hl=de^&sa=X&ved=0ahUKewjgiryAhKrMAhXJ3SwKHrrDJQ6AEILTAC#v=onepage&q=south%20korea%20united%20arab%20emirates%20currency%20swaps&f=false
Indonesia-China	2009	http://www.china.org.cn/business/news/2009-03/23/content_17488163.htm
	2012	https://www.thejakartapost.com/news/2015/11/18/ri-china-agree-renew-currency-swap-arrangement.html
	2015	https://www.thejakartapost.com/news/2015/11/18/ri-china-agree-renew-currency-swap-arrangement.html
	2018	http://www.xinhuanet.com/english/2018-11/19/c_137617248.htm
China-Japan	2018	https://www.boj.or.jp/en/announcements/release_2018/rel181026b.pdf
Hong Kong-China	2009	https://www.hkma.gov.hk/eng/news-and-media/press-releases/2009/01/20090120-4/
	2011	https://www.hkma.gov.hk/eng/news-and-media/press-releases/2011/11/20111122-3/
	2014	https://www.hkma.gov.hk/eng/news-and-media/press-releases/2014/11/20141127-4/ https://www.boj.or.jp/en/announcements/release_2011/rel111130e.pdf
Japan-India	2008	https://timesofindia.indiatimes.com/business/india-business/India-Japan-in-50-billion-currency-swap/articleshow/22380271.cms
	2011	https://timesofindia.indiatimes.com/business/india-business/India-Japan-in-50-billion-currency-swap/articleshow/22380271.cms
	2013	https://timesofindia.indiatimes.com/business/india-business/India-Japan-in-50-billion-currency-swap/articleshow/22380271.cms
	2018	https://www.reuters.com/article/us-japan-india-modi-currency/india-japan-sign-75-billion-currency-swap-agreement-idUSKCN1N31BS

(continued)

Table A3. (continued)

Bilateral currency swap partner countries	Year	Source
Rep. of Korea-Japan	2005	http://www.ft.com/cms/s/0/34fc5f7a-dcb6-11e2-9700-00144feab7de.html#axzz43iUb9Hrq
Rep. of Korea-China	2011	http://english.hani.co.kr/arti/english_edition/e_business/967020.html
Philippines-China	2007	Kawai et al. (2014): 101–102
Philippines-South Korea	2008	Kawai et al. (2014): 101–102
Philippines-Japan	2012	http://www.reuters.com/article/oukwd-uk-philippines-japan-swap-idAFBRE8430M520120504
	2014	https://www.boj.or.jp/en/intl_finance/cooperate/index.htm/ https://www.boj.or.jp/en/announcements/release_2014/rel141006a.pdf
Indonesia-Japan	2013	https://www.boj.or.jp/en/intl_finance/cooperate/index.htm/ https://www.boj.or.jp/en/announcements/release_2013/rel131213b.pdf https://www.reuters.com/article/us-china-ukraine-swap/china-ukraine-renew-bilateral-local-currency-swap-agreement-idUSKBN1O918Z
Indonesia-Singapore	2018	https://www.thejakartapost.com/news/2018/10/11/indonesia-singapore-announce-currency-swap-agreement.html https://edition.cnn.com/2018/05/04/africa/nigeria-china-currency-swap/index.html
India-Japan	2008	https://www.boj.or.jp/en/announcements/release_2008/ind0806a.htm/
	2011	https://www.reuters.com/article/us-india-japan-trade/india-japan-agree-15-billion-currency-swap-as-rupee-swoons-idUSTRE7BR0N020111228
	2013	https://www.business-standard.com/article/economy-policy/india-japan-sign-15-billion-currency-swap-deal-111122900050_1.html https://economictimes.indiatimes.com/news/economy/foreign-trade/india-japan-to-enhance-currency-swap-arrangement-to-50-billion/articleshow/22371624.cms?from=mdr
	2018	https://www.reuters.com/article/us-china-japan-agreements-swap/china-japan-sign-three-year-fx-swap-deal-to-strengthen-financial-stability-business-activity-idUSKCN1N00GD
Indonesia-Japan	2018	https://www.businesstimes.com.sg/banking-finance/indonesian-japanese-central-banks-expand-bilateral-fx-swap-agreement
China-Japan	2018	https://www.boj.or.jp/en/announcements/release_2018/rel181026b.pdf
CRA member countries		
Russia-China	2014	https://www.rbth.com/business/2017/04/25/why-russia-china-currency-swap-agreement-turned-damp-squib-750321 https://tass.com/economy/860115
South Africa-China	2015	http://www.chinadaily.com.cn/business/2015-04/11/content_20410314.htm
SAARC member countries		
Nepal-China	2016	https://affairsccloud.com/currency-swap-deal-signed-nepal-china/?amp https://onlinelibrary.wiley.com/doi/epdf/10.1111/dech.12474
Pakistan-Turkey	2012	http://www.pakembassyankara.com/currency-swap-arrangement-between-pakistan-and-turkey-becomes-operational_4-165
Pakistan-China	2013	http://www.pakistan-china.com/mn-news-detail.php?id=ODM=&pageid=newssince%202011:https://www.dawn.com/news/682668
	2018	https://economictimes.indiatimes.com/news/international/business/china-extends-currency-swap-deal-with-pakistan/articleshow/64305181.cms?from=mdr
Sri Lanka-China	2014	https://www.colombotelegraph.com/index.php/sri-lanka-and-china-entered-into-a-currency-swap-agreement/
Sri Lanka-India	2015	https://economictimes.indiatimes.com/news/politics-and-nation/currency-swap-agreement-sri-lanka-receives-1-1-billion-from-india/articleshow/48795184.cms

Note: Bilateral currency swaps between developing and emerging economies that are member of AMF, FLAR, CMIM, EFSF, SAARC, or CRA 1976 – 2018.