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International Money after the Crisis: What Do We Know?

Does the 2007–08 Global Financial Crisis (GFC) crisis signal the end of the US Dollar as the dominant International Reserve Currency (IRC)? Recent books by two prominent North American political economists offer typical, albeit competing assessments. Eric Helleiner (2014) expresses some surprise that so little has changed with respect to global financial governance and in particular the centrality of the US dollar; his title, *The Status Quo Crisis*, reveals his assessment. By contrast, Jonathan Kirshner (2014) sees the crisis as beginning the unravelling of US dollar centrality and US macro-economic policy autonomy. For him, the crisis dealt a mortal blow to US dominance by delegitimizing the market fundamentalist ideology justifying financialization of the global economy, free capital flows, and de-regulation of finance. Both books are right and wrong for the wrong reasons.¹ Both skate on the surface of what it is that makes the US dollar central because neither asks what it is that makes money money, and what

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¹ Both books are also “early,” despite publication dates six years after Lehman Brothers bankruptcy in September 2008, and four years after the official end of the acute crisis in 2010. In some ways, even though we are now almost a decade away from Lehman, it is still too early to tell. Historical memory compresses the relatively slow unfolding of the Great Depression, which occurred against a backdrop of unsettled geo-economic and geo-political questions from World War I, and in which immediate government reactions to the crisis were either incorrect or incoherent. The famous American stock market crash in October 1929 did not immediately provoke a massive downturn. Rather, the crisis percolated another 19 months until the collapse of the Austrian bank Credit-Anstalt. Moreover, the majority of US banks failed after the Credit-Anstalt crisis, and world trade did not complete its two-thirds nominal contraction until mid-1933. The political and economic effects of the US crisis still seem to be rippling outwards towards the global economic periphery, and especially China, as of 2017.

distinguishes international money from domestic money. Legitimacy matters; but why? International institutions and governance matter; but why?

In this respect, neither book is unusually superficial. Each addresses the key questions about international money in the usual way. Is an International Monetary System (IMS) based on a national currency inherently unstable? Does US economic and political power logically precede the use of the US dollar as the preeminent IRC, or is it the use of the US dollar that creates global economic power for the United States (Eichengreen 2011)? The usual answers to this question combine one-sided explanations from economics and international relations.² But both sorts of explanations assume the separation of the political and economic realms. Combining them in an additive or ad hoc manner replicates the inadequacies of each. In this case both books share a set of implicit assumptions deriving from Weber: that capital is different from the state; that capital is intrinsically mobile; that capital is fundamentally without nationality.

Other chapters in this book address these assumptions with respect to capital mobility and state policy. Bryan, in particular, sees mobility as state policy. In this chapter I analyse the likely trajectory of the IMS starting from an explicitly political economy point of view that assumes the unity of the political and economic spheres. This modified chartalist theory of money (see section 2 and briefly below) explains the operation of and tensions accruing to the IMS by using a different but less imperfect analogy to the operation of a domestic monetary system than that used in the usual explanations. The precise points of non-congruence in the analogy reveal why the IMS is inherently unstable and enable us to make coherent sense of the existing partial arguments and also to combine them coherently.

Put as simply as possible, monetary systems generally are composed of both inside money and outside money. Private actors create inside money, that is, credit to other private actors. In doing so, banks simultaneously create both assets and liabilities. The extension of credit creates a loan, which shows up as an asset; the deposit of loan funds into the borrower's account creates a liability for the bank.

² Some exceptions are Strange (1971) generally on the IMS, Otero-Iglesias and Vermeiren (2015) and Germain and Schwartz (2017) specifically on the Chinese RMB, and Germain and Schwartz (2014) specifically on the euro.

New loans simultaneously create assets and liabilities, and thus in principle balance sheets that net out across the whole economy. But this private credit creation is inherently unstable. First, absent some mechanism for collective discipline, private financial firms have an incentive to expand their balance sheets by creating excessive amounts of inside money. In principle, this behaviour nets out, but in practice an asymmetry plagues this accounting balance. While asset values can – and do – change in response to behaviour by market actors, liabilities in the form of debt have values that remain stable in nominal terms until a formal bankruptcy. If asset values fall (as they do in when a panic or crisis starts), then banks can fail as their liabilities (deposits) remain unchanged while the collateral behind their assets collapses. Second, as the other papers in this volume attest, credit money can flow across borders, destabilizing other monetary systems.

If private actors were disciplined, this asymmetry between assets and liabilities on banks' balance sheets would matter less. Indeed, Schumpeter's (1934) entire analysis of creative destruction is built on the assumption that credit creation to entrepreneurs is self-liquidating (or self-validating) because new production comes on stream that generates sufficient income to service this new debt. But Minsky (1977; see also Harvey 1982), by contrast, sees endogenous dynamics in the financial system leading banks to extend credit to borrowers with no present or future capacity to service that debt. Minsky (1977) argues that under almost all conditions private financial actors have incentives to expand their balance sheets beyond an economically sustainable level. By creating additional assets for themselves they necessarily create debt liabilities for others. In doing so, private actors create the possibility for a 'Minsky moment,' an endogenous economic shock that reduces the value of assets across the economic system. This shock creates an overhang of liabilities on private balance sheets, bankrupting the financial system. Only an authoritative, legitimate actor can constrain private actors from this excess credit creation (in normal times) and rescue them from the overhang of liabilities (in moments of crisis): the state.

The state creates outside money. Unlike inside money, state created outside money does not simultaneously create an explicit financial liability, and thus outside money can be used to absorb the overhang of private liabilities revealed in a financial crash. *Vide* the US Federal Reserve Bank (FED) and, less so, the European Central Bank (ECB)

in 2008–2010. Each used their outside money to buy up devalued assets at par and thus re-establish balance in the financial system (Schwartz 2009). The state's ability to create outside credit money, and thus assets unburdened by formal liabilities aside from money itself, rests on its ability to tax the territorial economy it controls. The ability to tax in turn rests on the state's legitimacy. The central problems in the IMS arise from the absence of a superordinate authority capable of extracting the resources that back its outside money, and from a potential lack of legitimacy for the issuer of the dominant IRC. Theoretically a legitimate global central bank capable of issuing acceptable outside money is possible – this was the essence of Keynes' proposed International Clearing Union and *Bancor* (see Chapter 4, this volume). But Keynes' failure shows the political limits to this kind of proposal.

Explanations of problems in the IMS that are one-sidedly economic, and look only at the efficiency of transactions or the size of a state's economic zone, miss the importance of legitimate extraction of resources in normal times; in a crisis they miss the importance of a sovereign's legitimate claim to 'enact a state of exception,' in Carl Schmitt's sense. Explanations that are one-sidedly power political, and look only at blunt control over internal or external resources and the threat to withhold or grant those resources, miss the importance of having a domestic or imperial economic zone with enough productive resources to credibly sustain outside money. This plays out as Triffin's dilemma in normal times, and as a run on a reserve currency in abnormal times. In other words, both logics of consequence and logics of appropriateness matter. An IMS in which a single national currency dominates thus faces a higher order version of Triffin's dilemma: not confidence versus liquidity but capacity versus legitimate authority.

This article thus takes four steps to make its case. First, it briefly surveys the literature on the IMS to make the case for incompleteness and one-sidedness in the current literature. Second, it explains how all monetary systems are built on a combination of outside money and inside money, and the state's role in generating, controlling and rescuing the monetary system. Third, it applies this quasi-chartalist view to provide a different understanding of what the GFC that began in 2008 means for the US dollar as the IRC. It concludes with some recommendations for both policy and the literature on the IMS.

With respect to the literature, a quasi-chartalist view both accommodates and logically orders the contributions of the core arguments about the IMS. With respect to policy, a quasi-chartalist view suggests that a more transparent and democratic body should supplement or supplant the informal congeries of swap agreements central banks have constructed if we want a more stable IMS. Given that this body minimally and necessarily will resemble Keynes' original proposal for an International Clearing Union, I doubt this will happen.

Section 1: The Usual Suspects

The existing literature on the IMS and IRCs is both incomplete and one-sided. The economic literature suffers from three major flaws. It makes an incorrect analogy to domestic money. It suffers from methodological nationalism. Combined, these two flaws mean that it can generate only necessary but not sufficient causes to explain the IMS. The political science literature suffers from its focus on coercive monetary diplomacy, and by unquestioningly accepting the economic analyses, imports methodological nationalism and a focus on transaction costs.

Much as in the tale of the blind men and the elephant, most single analyses capture a part of the whole. Equally, so, disciplinary perspectives and concerns tend to rigidly separate the political and economic spheres. Economists tend to focus too narrowly on the costs of adjustment, on the assumption that disequilibria by definition should be transitory. They advance policy recommendations aiming at constructing systems that avoid disequilibria (akin to Minsky's 'lack of tranquillity'). At its best, as with Triffin (1960), this literature is attentive to an inherent tendency towards disequilibrium, and the essential indeterminacy of the choice of currency for an IMS. At its worst, as in many discussions of the reasons for European monetary union and the promulgation of the euro, the literature focuses on narrow technical issues, elevating lower transaction costs into the only and ultimate goal of policy (for criticisms, see the contributions in Matthijs and Blyth 2015). In this respect, nothing much has changed since Fred Bergsten (1975: 3) wrote in 1975 that his analysis of the US dollar's international role was venturing forth into new waters³

³ He had perhaps not quite assimilated either Cohen (1971) or Strange (1971).

by combining political and economic factors, even if he immediately turned to adjustment costs as the main issue.

International relations (IR) scholars focus too much on the ways in which the issuer of the IRC exploits consumers of that IRC, and in which money in general can be a weapon of power politics. This relationship is sometimes reversed, as when control over oil, for example, becomes the basis for the maintenance of a given IRC. IR scholars thus also focus on the essentially political choice of an IMS (e.g. Helleiner 1996, 2003a), and (excessively so) on seigniorage as a motivation for compelling others to use one's currency as the IRC.⁴ At its best (Strange, 1971; Cohen, 1998), this literature explores the hierarchy of monies in the global economy. Strange, for example, captures the different economic and political understandings of money in her typology of top, negotiated, and master currencies, which Cohen further subdivides and amends. In more narrow analyses – however good they might be on their own terms – it devolves into studies in the use of relational monetary power for narrow policy ends (see e.g. Kirshner 1997 or the studies in Andrews 2006). These studies successfully illuminate the instrumental use of relational power but do not allow us to draw conclusions about the normal (mis-)functioning of the IMS, or how that power translates into power in times of crisis.

Despite these problems, the existing literature raises issues that touch on the first principles informing any study of the IMS. Those first principles are the existence of a hierarchy among monies, the global (in-)adequacy of macro-economic demand, political legitimacy, and the ability to extract resources. Before surveying those issues, it is important to acknowledge a point Cohen (1971) made long ago: a functionally useful currency necessarily is issued by an economy that is large relative to the global economy, that has deep and liquid markets both for the currency itself and for the kind of assets that back that currency, and that has an infrastructure for supporting trading in that currency. These however, do not explain the dynamics of the IRC. They are necessary but not sufficient conditions.

⁴ Seigniorage is the additional revenue a state obtained by coining money with a facial value of X, yet which contained less than 100 percent of X in terms of actual specie. In a fiat money system, foreign holdings of paper currency create seigniorage because holders are in effect offering an interest free loan to the sovereign issuing the paper. Cash generates no interest. But seigniorage amounts to very little in economic terms (Schwartz 2009).

Cohen's pioneering study on international money set much of the terms of the economic debate, working off an analogy to domestic money. Cohen (1971) argued that a fully developed IRC had to perform six critical economic functions similar to that of domestic money, acting as a unit of exchange, a store of value, and a unit of account, and at both the private and official levels. He further argued that possessing an IRC conferred several admittedly not overwhelming advantages on the country emitting the IRC. To the extent that foreign entities held currency in their reserves, the emitter benefited from seigniorage. Most analyses of seigniorage suggest that this is a trivial benefit relative to the size of the emitter's economy. More substantially, the ability to generate an IRC allowed the emitter to delay balance of payments adjustment in a world of fixed-exchange rates (as under Bretton Woods), or indeed avoid it entirely in a world of true fiat currencies. Cohen sees this autonomy or delay as the essence of global monetary power.

In *The Geography of Money*, Cohen (1998) generated a hierarchical typology of international and domestic monies. At the top of his currency pyramid were two historically unique currencies, the pound sterling in the nineteenth century and the US dollar in the twentieth. Like Strange (1971), Cohen identified these as *Top* currencies. Below those came *Patrician* currencies with some regional force, like the old Deutschmark and Yen – had the book been written later, one presumes he would have slotted the euro and the renminbi here, as he did in later work. These currencies circulated outside the territorial limits of the issuing country, but not as universally as the top currency. Moreover, though Cohen did not note this, the presence of multiple patrician currencies constitutes a kind of protection for the top currency, by limiting the network externalities of any given patrician currency. Below that were *elite* currencies, largely the currencies of former global empires, like sterling or the Dutch guilder, or the currencies of economic significant and stable countries like Australia or Switzerland. Four increasingly fragile currency types largely confined to domestic use or disuse constituted the bottom of Cohen's monetary pyramid. As with Strange (1971), Cohen (1998) points towards the importance of outside money without making the distinction.

While Cohen can justifiably be considered a grandfather of international political economy as a field, his causal explanation for differentiation of currencies is fundamentally economic. He (1998:2) posited

“a kind of darwinian process of natural selection, driven by the force of demand” in which (1998:13) “transaction networks define the functional domains of individual currencies.” This is explicitly and implicitly a model based on competition, efficiency and transaction costs. Natural selection operates blindly, after all, selecting on the basis of fitness for a given environment. By contrast, politics is about positive selection, the construction and use of power. Efficiency models are at best partial. Cohen (1998) describes the benefits of and uses that flow from currencies positioned farther up in the monetary hierarchy, but otherwise does not have a political explanation for why a hierarchy might exist. This is curious given that Cohen (1998:11) first dismisses Knapp’s state theory of money but then puts forward an explanation that uneasily mixes essentially statist reasons for the imposition of a uniform currency in a defined territory with fundamentally market based rationales for ‘acceptability.’ By making a strong argument for monetary hierarchy, Cohen provides one piece of the monetary puzzle, but he leaves unclear where money comes from. Furthermore, he focuses overmuch on seigniorage and domestic macro-economic management to the exclusion of global macro-economic management.

By contrast Robert Triffin (1960) did elucidate the contradictions involved in global macro-economic management. The Triffin Dilemma highlighted the growing contradiction between the US dollar’s global macro-economic role in the early Bretton Woods period and its fixed link to gold. The dollar supplied the world economy with the liquidity it needed to grow by facilitating the growth of other countries’ reserves and thus their ability to sustain uninterrupted economic growth in an era of fixed-exchange rates. Yet, precisely this accumulation of dollar balances abroad risked undermining future confidence in the dollar’s value in relation to gold, and thus its utility as an IRC. Given the Bretton Woods fixed-exchange rate system, Triffin (1960: 63) argued, ‘further increases in dollar balances cannot be relied upon to contribute substantially and indefinitely to the solution of the world illiquidity problem.’ Triffin saw that relying on outflows of a single dominant national currency to supply world liquidity was illogical and problematic. Much better to internationalize the provision of world liquidity.⁵

⁵ Here Triffin agreed with Keynes about the need for a banking union, but not with Keynes’ preference for the *Bancor*. Triffin instead proposed what became the Special Drawing Right (SDR) at the IMF (Triffin 1960: 90–93).

The critical takeaway from Triffin's analysis is the recognition that an international currency must expand the global monetary stock in sync with the growth of world trade. In this sense, Triffin's macro-economic counterpart to Cohen's micro-economic analysis is still tied to a conventional economic view of money as a useful commodity, as an efficient way of expressing claims, rather than also being a fundamental source of credit. On this view, money is a reflection of the real economy. Thus, for Triffin, money supply growth has to be synchronized to prior growth in the real economy in order to prevent either inflation or deflation, rather than money being a *demi-urgé* for growth in the 'real' economy by providing the financial counterpart to Schumpeter's productive entrepreneurs.⁶ Nonetheless, Triffin's dilemma opens one pathway to endogenous crises.

Triffin's focus on liquidity derived from the scarring experience of competitive devaluations and deflation in the Great Depression. In this context, fixed rates and a generous supply of liquidity matter. In today's world of floating rates, the issue is whether or not the global economy has an output gap (Schwartz 2014). But in either context, liquidity provision is about expanding global aggregate demand by expanding either public or private credit. Not only are increases in liquidity and demand necessary for global economic expansion to occur, but the form which this growth takes is necessarily political in inception and operation. The need for growth in aggregate demand has been an enduring feature of the global political economy throughout the post-1945 period, despite changes in the precise mechanisms through which the US dollar as the dominant IRC helped expand demand. Yet Triffin correctly pinpointed what was in effect the potential gap between the assets the global hegemon possessed and the liabilities it incurred in its efforts to manage the global economy. For Triffin this over-extension took the form of a fear of inflation, and thus a loss of confidence. But we would see it rather as a fear of relative decline for the hegemon as the exorbitant burden ate into the hegemon's economy, reducing its relative economic pre-eminence (Nitzan 1998; Schwartz 2009). Generically, Triffin's dilemma at an economic level is a lack of current state income and/or assets (i.e. future income)

⁶ Chapter 5 makes the same assumptions about money from a Marxist point of view, seeking to anchor money in a labor theory of value. Nitzan and Bichler (2009) provide a thorough critique of this view.

to validate overseas liabilities denominated in the dominant IRC. This is similar to but not isomorphic to what Bryan (this volume) sees as the problem of money becoming an unstable store of value.

Both Cohen and Triffin deliberately analogize international money to the standard neo-classical economic understanding of money, where money arises spontaneously. Money, for economists, is simply a convenient way to denominate commodities, store value, and facilitate exchange. This analogy informs the pre-requisites for an IRC, namely transaction costs and liquid markets, and the problems each sees for a dominant IRC, namely issues of inflation or deflation. In this approach money is not explicitly political. Rather, both adapt economics' methodological individualism to a methodological nationalism (Wimmer & Glick Schiller 2002; but the term seems to have originated with Gore 1996). In methodological nationalism, states or nations are taken as the unit of analysis, and, like individuals in micro-economics, ascribed rationality, preferences, and the ability to act on those preferences. One of those choices is which IRC to use. Thus for Triffin, defection from the dollar is a calculation around differences in inflation rates, productivity growth, and the potential that US gold reserves might be exhausted through speculation.

Cohen (1998, 2016) understands the limits to a purely transaction cost based analysis – thus his hierarchy in *New Geography of Money* – but generates a political analysis that is marked by the same methodological nationalism. Where Triffin examined defection from the dollar, Cohen understood the politics of the IRC as revolving around the ability to obtain and exploit autonomy, which he defined as the ability to defer adjustment to a deteriorating balance of payments. But politics is not reducible to economics, and countries are enmeshed in a global structure of power. Kindleberger (1981), who added the issue of legitimacy, and even more so Strange (see the essays in Germain 2016), who added the issue of hegemony, went farthest in breaking away from this economic approach to politics. Both of the analyses of the post-crisis IMS noted at the beginning pick up these themes. In a reversal of Kirshner (1997), which looked at the instrumental use of control over a dominant IRC to coerce target countries, Kirshner (2014) stresses the overriding importance of ideas about proper macro-economic management. In Triffin's world, the Europeans lacked confidence in the US economy; in Kirshner's world, the Chinese lack confidence in US economic ideas and policy.

Helleiner (2014), for his part, is surprised how little international institutions matter. Instead, the centrality of American financial and state institutions in the global financial architecture anchor the IMS on the US dollar.

Charles Kindleberger (1981) had already considered legitimacy in relation to Triffin's confidence problem. Where Triffin stressed the question of how to meet the demand for additional world liquidity, Kindleberger emphasized the channels through which that demand flowed. During the 1960s, New York financial institutions provided global intermediation by borrowing short domestically and lending long globally. Global demand, in other words, was not simply a function of the volume of imports a leading economy consumed, but also its mediation through the creation and distribution of financial assets (cf Schwartz 2009). Kindleberger thus explicitly connected the IRC to the creation of and distribution of assets globally, but in line with traditional views saw this as a natural outcome of transaction cost considerations. The dollar functioned as a kind of universal language for Kindleberger. Kindleberger, like Triffin, saw the central problem as one of balancing inflation against growth. Where Triffin sought a technical solution, Kindleberger proposed an explicitly political solution to this problem. Rather than pooling currencies into some apparently neutral or apolitical currency like a Special Drawing Right (SDR) or *Bancor*, Kindleberger suggested putting foreigners onto the US Federal Reserve Bank Open Market Committee as a way to legitimate decisions about expanding or contracting the global monetary supply. Europeans who feared that the United States might prove a malign hegemon might then see it instead as a benevolent supplier of public goods. Or at least be implicated in any harsh decisions. By emphasizing legitimacy, Kindleberger took a giant step, albeit only a half-step, towards seeing money as a political creature. But his analogy that the United States functioned like a bank stopped at the possibility that banks might endogenously create money.

Susan Strange also noticed the political nature of money. She (1996: 14) feared that global financial instability arose from financial markets having outgrown states, with "The diffusion of authority away from national governments [leaving] a yawning hole of non-authority, ungovernance it might be called." Here Strange seems akin to Kindleberger, Cohen and Triffin, in that she appears anchored in a world in which states are discrete entities opting to use (or not) a particular IRC.

This methodological nationalism marked her early work (1971, 1976) and obviously even some of the later work (1996). But by the 1980s she began tentatively moving in a different direction. The two most important departures concerned the nature of money, and the degree to which hierarchy and empire characterized the international system rather than independent units.

Strange pooh-poohed (1994: 30) the traditional neo-classical economics and Marxist idea that credit had its roots in the accumulation of profits: “Many [marxists] still entertain the old fashioned notion that before you invest you must accumulate capital by piling up this year’s profits on last year’s, that capitalism somehow depends on the accumulation of capital. What they do not understand is that what is invested in an advanced economy is not money but credit, and that credit can be created. It does not have to be accumulated.” Credit creation was the province of the banking system. But what kind of credit did banks create? Strange similarly began to attack the liberal institutionalist idea that independent, individual states rationally chose various modes of participation and cooperation and thereby constituted the international system we observe. Instead, Strange (1989) makes a straightforward argument for hierarchy, coercion and structural power. The international system was an empire, rather than academic realism’s anarchic collection of paranoid billiard balls or liberal internationalism’s collection of states seeking to cooperatively reduce transaction costs around trade.

The gaps in Cohen, Triffin and Kindleberger, and Strange’s half steps towards filling those gaps all point us towards the ineluctably intertwined economic and political character of international money. Money in the form of an IRC is more than simply a payments system. Rather, the IRC is also a system for creating and extending credit. As both money and credit, an IRC cannot be detached from the political system that underwrites that money. To see why, we need to look at state theories of money.

Section 2: States and Outside Money; Banks and Inside Money

Suppose we analogize to state theories of money rather than the usual neo-classical economics analogy to domestic money. Two things differ in this analogy. First, money does not arise spontaneously in order to resolve the problem of a double coincidence of wants, even though

money does in fact help solve that problem. Instead, both the state and the financial system create money. Second, while both the state and financial system can create money, there is a profound difference between state created money – labelled ‘outside money’ because it arises outside the financial system – and financial system money – labelled ‘inside money’ because it originates inside the financial system. This difference boils down to the state’s legitimate ability to coerce payments from the entire economy via taxation. Unlike inside money and assets denominated in inside money, the state’s outside money is backed by the entire future stream of income generated inside the economy the state governs. This drastically reduces the probability of default. As with the usual analogy, the analogy between an IRC and state created money is imperfect. In particular, even in the kind of hierarchical system that both Cohen (1998) and Strange (1989) observe, the hegemonic IRC lacks both the full legitimacy that domestic outside money possesses, as well as the state’s ability to extract resources at will. These problems drive the problems that Triffin and Kindleberger observed. Nonetheless, the IRC can function as a kind of global outside money – as the US dollar did spectacularly in the acute phase of the 2009–2010 GFC, as well as in other, lesser global financial crises.

As Knapp argued back in the nineteenth century, states create money by putting tokens into circulation when they claim resources, and accepting those tokens as payment for taxes (Maclachlan 2003; Wray 1998, 2004).⁷ Americans will be familiar with ‘legal tender for all debts public and private’; Britons with the Bank of England’s and the Bank of Scotland’s eventual monopoly on note issue after 1844. A note is a token. The state’s tokens can and do circulate in the private economy, because all actors can anticipate having some future tax liability. Moreover, the state historically had an interest in monetizing the economy in order to expand its claims on locally produced but often immobile resources. The state’s token money is a liability for the state, but the greater its ability to draw on the output of the entire economy long into the future, the greater the implicit asset corresponding to this liability. As a gross generalization, the state thus rarely finds itself in a situation of bankruptcy.

⁷ See Fox (1971) for a description of this process in late medieval France; the problem is generic to all societies with states, however.

The reader will immediately object: ‘yet we see bankrupt states.’ The obvious limits to the gross generalization above derive from varying degrees of state-ness and state power (Mann 1984, 1986). Money as a unit of account and a store of value is ultimately an enumerated claim on the future behaviour of individuals located inside a legally defined territory within which a given state currency circulates. In the absence of sufficient social power, sufficient ‘caging,’ to compel or induce those future behaviours, state promises to redeem tokens are weak (Mann 1986, but of course also: Bourdieu 1977; Foucault 1977; Nitzan and Bichler 2009 – all provide different flavours of the same argument, as does Bryan this volume). The limiting case illuminating a ‘bankrupt’ state is a failed state, that is, a state with no social power.

Secondarily, states that accrue liabilities in currencies they cannot produce, that cannot borrow in their own currency, that are marked by Ricardo Hausmann’s (1999) ‘original sin,’ can go bankrupt, insofar as they cannot automatically generate a claim on future resources that might satisfy liabilities denominated in foreign currencies. But these states by definition cannot generate an IRC. By contrast, domestic political legitimacy and a robust economy are obvious pre-requisites for supplying money to the global economy (Seabrooke 2006; Germain and Schwartz 2014, 2017). The deep and liquid capital markets in the standard economic view of an IRC are the product of prior state social power. This state power validates outside money. Indeed, it can make an IRC powerful enough that it circulates inside the domestic economies of fragile states emitting equally fragile currencies (Helleiner 2003a, 2003b).

By contrast, money created *inside* the domestic financial system is much more fragile than state money. But a clarifying note is necessary before explaining why. Historically, state money and bank money were different things, that is to say, different tokens. Banks used to issue their own notes, and these were not acceptable as payment for tax liabilities. The parallel circulation of private money was pervasive, as Helleiner (2003a, 3; see also Forsyth and Verdier 2003) noted:

Before the nineteenth century, monetary structures in all parts of the world, including Europe, diverged from the territorial model in three ways: foreign currencies frequently circulated alongside domestic currencies, low-denomination forms of money were not well integrated into the official monetary system, and the official domestically issued currency was far from homogenous and standardized.

The internal standardization of what Helleiner calls territorial currencies occurred as states generated infrastructural power by imposing capitalist markets on predominantly agrarian societies. This blurred the distinction between ‘low-denomination forms of money’ – often local tokens – and ‘official money.’ The broad standardization and homogenization of private money with state money occurred when states permanently severed the link between specie and money in the Great Depression (although this process had started in Britain with the Bank Charter Act 1844, which gave the Banks of England and Scotland a de facto monopoly on note issue). From roughly 1930 forward, identical notes circulated as outside and inside money in most countries. But inside money, money created by banks, is intrinsically weak in the absence of state backing. Why?

Banks can create (inside) money. In the standard economics story, savings and money arise outside the banking system, and allow loans to occur when savers deposit this money into banks. Banks are mere pipelines in this transformation of savings into investment. But there is increasing recognition that this story is wrong. Rather, banks create money when they extend a loan, because in the act of extending a loan banks simultaneously create a deposit in the borrower’s account. Both sides of the bank’s balance sheet are enlarged simultaneously – the deposit constitutes a liability and the loan an asset (Schumpeter 1934; Wray 2004).⁸ Even central banks have acknowledged this conclusion in their official publications (see McLeay, Radia and Thomas 2014).

Yet banks face a collective action dilemma around credit creation. As Minsky (1977; see also Pettis 2001 and Polillo 2013) argued, credit creation has a public good aspect in that new loans stimulate the economy by increasing aggregate demand. By increasing aggregate demand, they validate earlier credit creation and raise the value of collateral. Each new extension of credit thus encourages more lending. But banks’ greater tolerance for risk in an expanding economy, and the inevitable exhaustion of reasonable investment opportunities, means that lending shifts from what Minsky called *hedge*

⁸ Obviously this simplifies a bit. In a multibank system an initial deposit might be immediately siphoned off into a different bank. But aggregating balance sheets across banks, the effect is the same, with clearing houses facilitating net flows to/from banks and the repo market or central bank accommodating temporary imbalances.

finance, in which prudent borrowers create new productive assets whose cash flow can cover their principal and interest payments (note the similarity to Schumpeter 1934), to *ponzi finance*, in which borrowers buy existing assets at prices too high for cash flow to cover either principal or interest payments. Ponzi borrowers inevitably must capitalize their interest payments into their loans, which means they need large capital gains in order to emerge with a profit. Yet anyone buying an asset at a price sufficient to award profits to the first ponzi buyer by definition finds themselves in an even worse position. With no new borrowers to validate asset prices, forced sales ensue as banks perceive the abyss and begin limiting credit to the weakest borrowers.⁹ At that point the collateral behind banks' assets (loans) collapses, and with it the market value of those loans. But banks' liabilities (deposits) remain at the same nominal level, at least until depositors begin running on the bank. The collapse of bank asset values, but not their liabilities, bankrupts banks and causes the financial system to collapse.

Private banks can sometimes organize a rescue for individual banks. Historically private British banks have occasionally bailed out what regulators would today call systemically important financial institutions (SIFIs), as with Barings in 1890 (though there is considerable evidence that the Bank of England orchestrated the bailout). Similarly, the House of Morgan (again, perhaps helped by the US state) resolved the Panic of 1907 (Chernow 2010; Bruner and Carr 2008). But generally panics cannot be resolved by creating new inside money. Because new inside money increases both the asset and liability side of a bank, it simply increases the volume of potentially bad assets and the volume of crippling liabilities.

The state's regulatory role, and the role of outside money should now be clear. On the one hand, an effective state will try to regulate and limit credit creation by banks in order to prevent a financial crisis. Indeed, the first Basel accord emerged after the debt/financial crisis of 1982 threatened to bring down the US financial system after banks created excessive credit for Latin American and other emerging

⁹ The 2006–2008 housing bust in the United States is a clear example, with the house price-to-income ratio and the house cost-to-rental-cost ratio both rising to 160 percent of the historic average. House prices stopped rising in 2006 as the marginal home buyer returned to the rental market either voluntarily or by force of circumstance.

markets.¹⁰ Basel 1 aimed to slow credit creation by imposing capital requirements on internationalized banks. The Basel 2 accord theoretically strengthened capital requirements and expanded regulatory supervision, yet enabled banks to game those requirements and evade supervision by acquiring mortgage assets, which were considered risk free.

Section 3: From State Money in Theory to Crisis Response in Practice

Efforts at regulation will inevitably fail. As Minsky (1977) argues, the longer a period of state enforced stability, like the Great Moderation of the 1990s, the greater the incentives for banks to pursue various forms of regulatory arbitrage in order to create what they perceive as relatively riskless credits. On the other hand, the state's ability to create outside money allows it to buy up impaired assets (or loan cash against impaired collateral) in order to repair the asset side of banks' balance sheets. During and after the 2009 US financial crisis, for example, the US FED bought up (among other assets) \$1.7 trillion in mortgage backed securities (MBS) at face value, permitting Fannie Mae and Freddie Mac to continue functioning. The Troubled Asset Relief Program similarly bought up billions of dollars of MBS outside the FED's remit. This helped prevent the entire \$8 trillion in notional US home equity that banks had created during the bubble from completely collapsing. In effect, the FED created cash and handed it to the banks in exchange for MBS whose value, if marked to market in 2009, was dubious at best and near zero at worst.¹¹

Does the IRC play an analogous role in the IMS? Yes. But as with the analogy from standard economic accounts, with limits. First, recall Kindleberger's argument that the United States acted as a global bank, borrowing short term from the world and lending long term

¹⁰ While the first committee aiming at global regulation was formed after the 1973 Bank Herstatt collapse, nothing much was done until 9 of 10 major US banks found themselves technically insolvent if Latin American debtors were allowed to default in 1982. See Mayntz, this volume, for a history of failed efforts at global regulation.

¹¹ See Chapter 5 for a different argument about MBS that seems to imply that the FED somehow gains from holding MBS to maturity. To be sure, dumping MBS into the market would bankrupt the FED. But it would also bankrupt various SIFIs also, as MBS are a big part of their capital reserves.

(see also Germain 1997). Kindleberger understood that this situation gave the United States discretion over global interest rates, prompting his recommendation that the FED be opened up to foreign representation in order to create legitimacy for decisions about that interest rate. But he missed the possibility that the United States was in fact creating credit via expanded inside money and thus increasing aggregate demand for the world via its perpetual trade deficits (Schwartz 2009, 2014).

The US housing market was central to the creation of excess inside money in the 1990s and even more so the 2000s (Seabrooke 2006; Gotham 2006; Schwartz 2009). Excess here means: \$8 trillion over a period of four or five years, or in other words, roughly ten times the Obama stimulus program (the American Recovery and Reinvestment Act, 2009, was \$841 billion over two years). This credit creation drove economic growth that validated massive investment in productive capacity in China and a massive increase in housing supply in the United States. In both cases lending set off the kind of positive feedback loops described in Minsky (1977) and Pettis (2001). These loops produced a massive overhang in capacity and passive assets that eventually triggered a Minsky moment in US housing in 2008, and seems to be triggering a slow-motion Minsky moment in a China currently plagued by excess industrial capacity, falling profit rates and a rising share of non-performing loans in the banking sector. Finally, European banks were doing much the same in the 2000s, lending to private borrowers in Europe's periphery for housing and automobile purchases. European banks inserted themselves into the US housing bubble, intermediating US derived credit back into the US market. By 2008 European banks held roughly \$1.1 trillion in US dollar denominated assets, with both a maturity and a currency mismatch (McGuire and von Peter 2009; Borio and Disyatat 2011).

So the US dollar, as the IRC, facilitated a global expansion of credit in the form of rising exports of US dollar denominated and often US sourced financial assets. These assets naturally were matched by liabilities: for US investment banks, to the commercial money market in the form of asset backed commercial paper (ABCP); for northern European banks the same, but denominated in dollars; for southern European banks, to northern European banks; for Chinese firms, to the giant state owned banks and the new wealth management trusts that constitute the Chinese shadow banking system.

When the Minsky moment came, only the US FED could step in and orchestrate the creation of outside money. This obviously had a domestic component. But the FED also created global outside money to rescue European and other banks in 2009 (McGuire and von Peter 2009). The FED provided roughly \$600 billion in dollars to the ECB, Bank of England, and Bank of Switzerland for distribution to beleaguered European banks between March and October 2008. Altogether roughly \$10 trillion in claims flowed through the swap channels from 2007 to 2010 (Tooze 2016). In this instance, not only was the ECB legally unable to bail out member banks, but it also was practically unable, given that their liabilities were US dollar denominated. The legitimacy of this intervention went unquestioned for two pragmatic reasons. First, the ECB had no wish to see the European financial system collapse along with the US financial system. Second, probably more importantly, the US and European, and in particular the US and British banking systems were inextricably intertwined (Fichtner 2014, 2016). It was impossible to rescue one without also saving the other. But the asymmetry here is clear: the US FED could bail out Europe, but Europe could not bail out the United States.

Understanding international money through the lens of state money helps resolve the conflicting assessments in Helleiner (2014) and Kirshner (2014) noted at the start of this paper, while also highlighting the inherent instability of the IMS. Put simply, the United States supplies outside money to the entire global financial system. No other currency can currently replace it. Given that banks and especially the large internationalized banks will tend to overproduce inside money (of various sorts), no one can afford to remove the US dollar and the US state from their central position. Thus Helleiner's stability. A supra-national entity as fragile as the G20 cannot replace this US role.

On the other hand, the US government does not possess the kind of legitimacy that a well-developed national state has within its own borders. Legitimacy is mechanical rather than organic. Equity cross holdings, repo arrangements, counterparty positions and other links bind global banks together. Given the centrality of US banks (Fichtner 2016), no major bank can avoid some US dollar position, and thus no major bank has an interest in displacing the US state as the source of outside money. But this narrow interest is not matched by identity or organic legitimacy, which is why Kirshner (2014) is correct that the

delegitimation of the US economic and financial model in the 2008 crisis is analogous to the Triffin's crisis of confidence in the 1960s.

Here both material and ideational factors fuse. Part of what makes outside money outside money is the state's ability to capture revenues from an extensive economic territory, and over a longer time horizon than any single economic entity. From 1990 forward, the US economy largely captured revenue from the rest of the world through its control over finance and its firms' control over various intellectual property rights. Both channels show up in the enormous gap between US payments to foreign multinational firms and foreign earnings by US-headquartered multinationals. The delegitimation of finance weakens the first channel. Slower economic growth subsequent to the 2008 crisis lowers the probability that trade deals reinforcing intellectual property rights will be signed. This is the modern version of Triffin's confidence problem: can the US economy generate enough US dollar denominated claims, services and goods to make other economies need those dollars?

Section 4: Conclusion

This paper started by asking whether an IMS based on a national currency was inherently unstable. The IMS is inherently unstable if it relies on a single IRC. Behind Triffin's deceptively simply confidence-liquidity dilemma lies a fundamental problem in finance: banks will expand inside money to the breaking point. Only the state can coerce cooperation among banks in limiting inside money. Even this, by creating financial stability, risks inducing regulatory arbitrage in pursuit of what seem like easy profits (Minsky 1977). When the inevitable crash comes, only the state can put things right by substituting outside money for devalued inside assets. But the international system lacks a state with the legitimate authority to create outside money, and any regular system of taxation that might validate that money.

The supplier of the IRC thus confronts a Janus-faced exorbitant privilege and exorbitant burden. Putting demand and money out into the international economy requires a trade deficit; running a trade deficit slows domestic growth (Triffin's confidence problem). Slower growth can be offset by monetary expansion (the inflation that so troubled Triffin), but monetary expansion risks financial instability. What Cohen sees as the structural power that flows from the ability to

delay adjustment is also a requirement to supply global demand. What Kindleberger sees as a need for cooperation is actually a need for some form of legitimation for the creation of outside money in a crisis. What Strange sees as uncontrolled finance is largely the United States generating bigger and bigger piles of assets to cover a trade deficit that has been the source of a good bit of world growth.

Is it possible to design an IMS that does not suffer from destabilizing flows of excess inside money from the IRC issuer, and from limited legitimacy on the part of that issuing country? Keynes was right with respect to his preferences for structuring both the domestic and the IMS. Given unequal incomes, a low marginal propensity to save among the rich, and any degree of fear on the part of business, growth rates would be suboptimal. Given the lack of an international currency, the IMS was inherently unstable, as the 1920s and 1930s showed. Keynes' prescription was domestic financial repression to induce higher rates of investment and growth, and an artificial international currency, the *Bancor*, that would obviate the need for global financial flows.

While Keynes' comprehensive socialization of investment did not imply state ownership of the financial system, it did imply euthanasia of the rentier, so as to increase the marginal propensity to consume, and state direction of savings into productive investment, so as to overcome fear. Minsky of course thought that Keynes was pollyannish about how stable this might be. Still, the post-war record of rapid growth fell apart more because of endogenous social dynamics – strikes by semi-skilled male labor, bored housewives, and excluded immigrants/minorities – than it did because of financial instability. At the same time, Keynes' *Bancor* was intended to limit the possibility that one country's inside money might spread to the rest of the world. The *Bancor* was designed to force trade surplus countries to absorb output from trade deficit countries, validating investment in those deficit countries. Countries with trade deficits would have been able to borrow *Bancor* from the International Clearing Union and use those *Bancor* to cover their deficits. Countries with accumulations of *Bancor* from trade surpluses could only use those *Bancor* to buy goods from deficit countries, allowing deficit countries to extinguish their debts to the ICU. In this way, destabilizing international capital flows could not arise as quickly as with private finance of trade deficits. Moreover, the *Bancor* assured that one country's inside money could not flow overseas, bloating balance sheets everywhere.

But the euro and RMB are not plausible rivals to the US dollar's position as the dominant IRC, and something like the *Bancor* is flatly impossible. The very fact that two apparent rivals exist (or three, with the Yen), means that a capital market rivalling that of the United States is unlikely to emerge. Europe and China will not cede first place to the other, fragmenting alternatives to the US dollar. But more pointedly, the euro and ECB currently lack even domestic legitimacy. The RMB has barely enough domestic legitimacy to keep massive capital flight at bay; the People's Bank of China shed nearly \$1 trillion of its reserve holdings in 2015 and 2016 as capital moved off-shore. Neither economy can generate sufficient inside money to sustain global demand (Germain and Schwartz 2014, 2017), and neither currency is entangled enough with all branches of global finance to be able to supply outside money in a crisis. Thus the tension between Helleiner (2014) and Kirshner (2014) cannot be resolved in favour of one or the other. It rests on the necessarily incomplete revenue capacity of the US state, which cannot openly tax the entire world economy, and the necessarily fragile legitimacy of the FED with respect to either limiting inside money or creating outside money for the world. Short of the kind of political suicide that a Trump Presidency seems to constitute, the medium-term position of the US dollar as the IRC seems assured. This also means that instability in the IMS is a certainty, as the FED has abetted rather than deterred excess creation of inside money for the past three decades and the Trump administration seems dead set on destroying the legitimacy of the US state and of global governance institutions.

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