

An Elephant in the Room: The US External Balance Sheet and International Monetary Power

Iain Hardie

University of Edinburgh

Sylvia Maxfield

Providence College

Abstract: We address the impact on international monetary power of the size and nature of the US's international financial assets and liabilities. Financial globalization makes critical a focus on a nation's international financial assets and liabilities, its 'external balance sheet'. We suggest an expansion of Cohen's existing framework of international monetary power to include the implications of valuation changes in these external balance sheets, focusing on sources of valuation, sensitivity of the US economy to these changes and implications for US ability to use monetary statecraft. By focusing on developments since 2007 and on events over the financial crisis period, we show that the increased size and nature of the US's external balance has reduced US monetary power. Underpinning the changes in the US's external balance sheet are activities of private financial market actors whose influence in international monetary affairs has grown markedly.

INTRODUCTION

International monetary power, and the power of the United States in particular, has long been a focus of international political economy. The ability of the US to influence other states' behaviour as a result of the international pre-eminence of the US dollar was a central concern of Susan Strange (1996), and has been carefully articulated at the 'macro' or state level in the work of Benjamin Cohen from as early as 1966.¹ For Cohen (2006, also Andrews 2006), the focus of international monetary power is the current account, measured by the balance of trade and net income from international investments. The current account deficit leads to external indebtedness that must eventually be reduced through economic adjustment that imposes costs on those sectors of the economy exposed to international trade. Due to these costs, any deficit nation will seek to delay adjustment as long as possible, either through drawing down reserves or borrowing from abroad. Once adjustment is necessary, a country may be able to deflect the transitional costs of adjustment onto others. A country's ability both to delay adjustment and to deflect its costs onto others demonstrates international monetary power. In the unique case of the US, international actors' willingness to hold dollar assets gives the US an unparalleled ability to delay adjustment by increasing international borrowing. Furthermore, the low trade openness and high flexibility of the US economy lead to low sensitivity and high adaptability, underpinning power to deflect transitional costs of adjustment.

The focus on power to delay and to deflect costs in the existing literature rests on an empirical view emphasizing the current account, of which the trade balance is the most significant component (Helleiner and Kirshner 2009a, 2009b), and on international liabilities. The literature entertains questions about the impact on US monetary power of when and why foreigners would no longer be willing to continue to hold ever-increasing volumes of dollars to finance the current account deficit (De Cecco 2009; McKinnon 2009; Eichengreen 2011: 97). In the prevailing view of international monetary power, the Bretton Woods II system (Dooley, Folkerts-Landau and Garber 2003) and/or geopolitical considerations (Calleo 2009; James 2009; Stokes 2014), make official (government) holders of dollars, primarily in Asia and the Middle East, reluctant to diversify away from the dollar. Private financial actors enter this literature somewhat at the margin, similarly financing US current

account deficits through their willingness to hold ever-increasing volumes of US debt and taking the same currency risks as official actors.

In this article, we argue that this approach takes too narrow a focus, giving insufficient attention to financial globalization. International financial integration and the growing magnitude of global financial markets – dominated by transactions involving private financial actors – have significant implications for the prevailing conceptualization of international monetary power. Financial globalization involves all countries building up an ever-increasing stock of international assets and liabilities. These assets and liabilities are a country's 'external balance sheet' (Gourinchas and Rey 2005; Gourinchas, Rey and Govillot 2010; Gourinchas, Rey and Truemptler 2011). The magnitude of countries' external balance sheets, and their influence on US international indebtedness, measured by the Net International Investment Position (NIIP) increasingly challenge the centrality of current account deficits in the analysis of US international monetary power.

This requires an update to the dominant conceptualization of US international monetary power in international political economy (IPE). To achieve this, the article proceeds as follows. It first discusses the historical development of the US external balance sheet and academic consideration of its importance. We show the greater influence on US international indebtedness of changes in valuations of the external balance sheet and the US NIIP relative to the US current account deficit, focusing in particular on the sharp deterioration of the NIIP since 2007. The second section discusses the implications of these valuation effects for the power to delay, as Cohen defined it. The third section considers the implications of valuation changes for economic growth and the sensitivity of the US economy to these valuation effects. Finally the paper assesses the implications of the financial globalization underpinning the external balance sheet for the US's capacity for international 'monetary statecraft' (Andrews 2006).

FINANCIAL GLOBALIZATION AND THE EVOLUTION OF THE US EXTERNAL BALANCE SHEET

As early as 1966, Depres *et al.* argued for a view of the build-up of US international indebtedness that also recognised the increase in US international assets. In this view the US was 'the world's banker', lending long term to the rest of the world and borrowing through

relatively short term instruments with high confidence in the ease of ‘roll over’ or reissuance of these short term instruments upon maturity (also Kindleberger 1965). This is a classic bank function – maturity transformation – involving taking risk. For taking this risk the US earned income through the interest differential between long term lending to, and short term borrowing from, the rest of the world. Payment for this banking service by foreign nations to the US is investment income recorded on the US’s current account portion of the balance of payments. Historically, this income reduced the US current account deficit, and in that way increased US power to delay adjustment because it commensurately reduced the US need to borrow to finance the gap between spending and revenue on the trade account.

By focusing on the ‘world’s banker’ aspect of US international monetary leadership, this analysis of international monetary power balanced a focus on international liabilities of the US (in the 1960s, borrowing through short term instruments) with analytical attention to the other side of the US’s external balance sheet, international assets (in the 1960s, long-term loans to the rest of the world). These international assets and liabilities appear in the US international investment accounts; subtracting the value of US international liabilities from the value of the US international assets gives the measure of US international indebtedness, the NIIP. As the literature on international monetary power developed over time after the 1960s, focus has deepened on the implications of the trade disequilibrium and the US’s international borrowing, i.e., the liability side of the US’s external balance sheet. More recognition is needed in the literature that the size of the US external balance sheet and the nature of the international financial instruments on that balance sheet are vastly different from the 1960s. Change has accelerated since 2002, as figures 1 and 2 show.

Figure 1: US External Assets 1990-2014

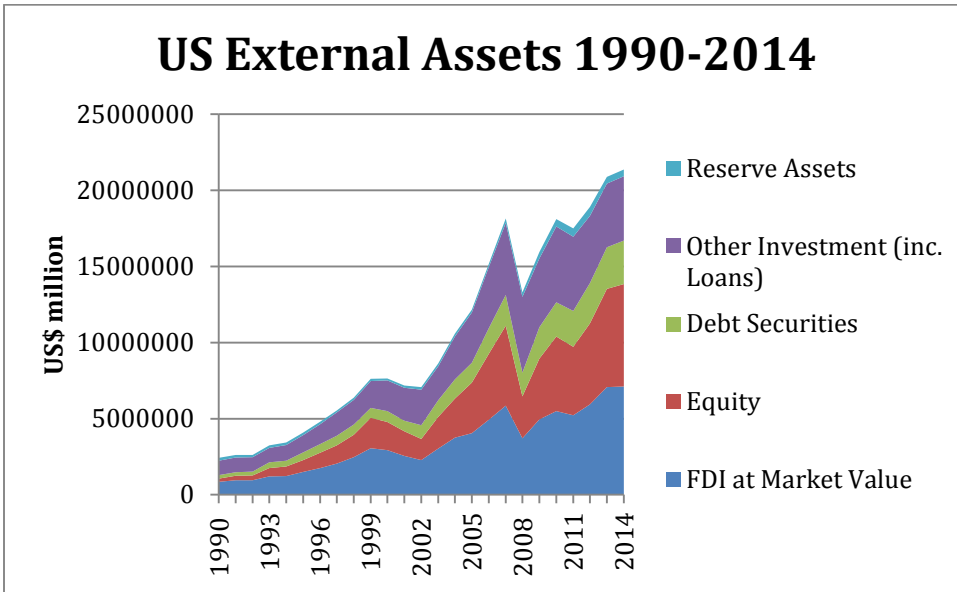
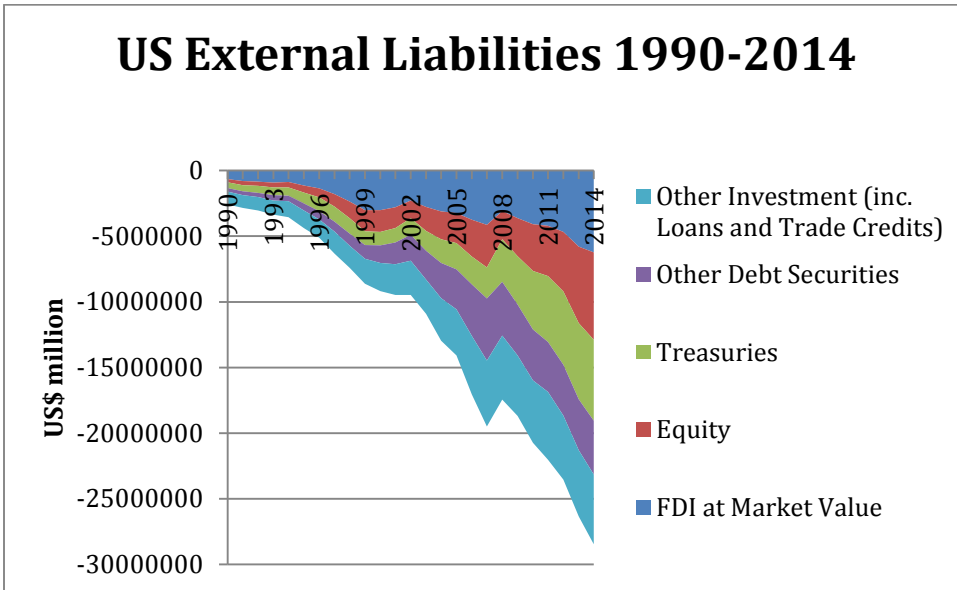


Figure 2: US External Liabilities 1990-2014



Source: NIIP: Bureau of Economic Analysis. International Investment Position 1976-2014. Table 1.2. Link from <http://www.bea.gov/international/index.htm#iip>.²

Currently the US sends funds out to the rest of world more by buying assets such as stocks, bonds and derivative financial instruments³ than by making loans. The vast majority of these

activities are also by the private sector; they are not the official flows on which so much IPE discussion focuses (also Johnson 2009: 5; Schwartz 2009b: 105; US Treasury 2008: 13). Portfolio investments such as equity and bonds, and foreign direct investment (FDI), are subject to a greater extent than loans to valuation changes determined by the decisions of market actors. As the external balance sheet expands, the importance to external indebtedness of these valuation changes relative to the current account increases. We have now reached the point where the size of valuation changes evident in the NIIP can be larger than the increase in US borrowing to finance the current account deficit. As of 2015, this had been the case in seven of the prior eight years.

The size of external balance sheets is a measure of financial globalization.⁴ In the economics literature, there is a lively debate regarding external balance sheets, including examination of the ‘exorbitant duty’ of the US (Gourinchas, Rey and Govillot 2010), questions such as ‘does the current account still matter?’ (Obstfeld 2012) and ‘the possibility that a focus on the [US current account deficit] can miss most of the action in cross-border financial flows’ (Johnson 2009: 2). In this debate, to capture the change in the US’s global role, economists suggest the US has shifted from being the world’s banker to serving as its ‘venture capitalist’, ‘insurer’ or even as a ‘hedge fund’.

IPE literature has not kept pace with these developments, particularly since the financial crisis. There is recognition of growth in external balance sheets (Norrlof 2008, 2010; James 2009; Schwartz 2009a, 2009b; Vermeiren 2014). But based on analysis ending in 2007 these scholars argue that this growth enhances US international monetary power, or for Schwartz, ‘economic power.’ The picture painted shows the US moving smoothly from international financial activities that suggest a banker’s role of ‘intermediation’ between savers and investors to one of ‘arbitrage’ across international financial markets (Schwartz 2009b: 93). In the existing literature this evolved role for the US in financial globalization provides the US benefits that reinforce its international monetary power, letting it enjoy a ‘free ride’ (Norrlof 2010: 130) and an ‘optimal’ position (Norrlof 2010: 131). Cohen (2013) argues generically that a currency’s role in international financial markets enhances state power. Scholars acknowledge the potential for a significant reversal of this positive impact (James 2009: 38; Norrlof 2010: 129), but portray its likelihood as low.⁵

Here we challenge this sanguinity. The size and composition of external balance sheets have changed so much that they must be explicitly acknowledged within Cohen's existing framework for analysing international monetary power. When better understood, the dynamics of external balance valuation changes show that the US's pre-crisis valuation gains came at the increasing cost of assuming financial market risk. This risk began to materialize in 2007. We focus on implications of the external balance sheet for three aspects of Cohen's framework: the ability to delay adjustment that reverses the current account deficit, the economy's sensitivity and adaptability to external balance sheet changes (Keohane and Nye 2001; Cohen 2006) and the implications for the scope of monetary statecraft (Andrews 2006). Overall, we see a decrease in US international monetary power.

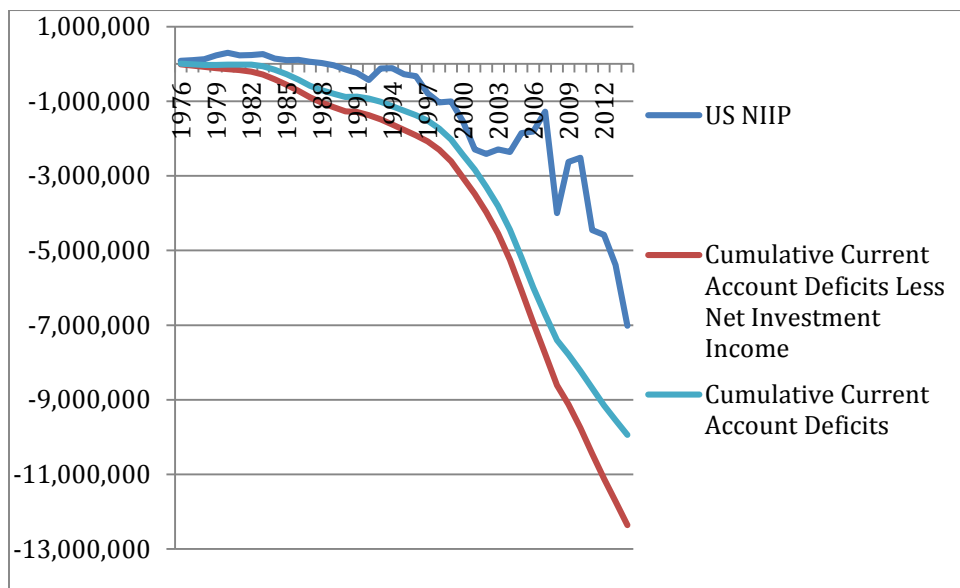
We conclude that the size and composition of these balance sheets sheds light on the dynamics of increased influence of private actors in financial markets relative to government actors, and that the role of private actors in financial markets translates, through the external balance sheet, to diminishing US international monetary power. The particular nature of the US external balance sheet, and the relative magnitude of year-to-year valuation changes compared with the magnitude of flows evident on the current account, reveal reduced US power to delay, a heightened sensitivity in terms of the real economy implications of financial asset and liability valuation changes compared with changes in the terms of trade, and narrowing scope for international monetary statecraft.

THE POWER OF DELAY AND VALUATION CHANGES IN THE EXTERNAL BALANCE SHEET

In the traditional analysis of international monetary power, the power to delay comes from the ability to borrow internationally to cover the current account deficit. Without the current account returning to balance, at some point, US international indebtedness risks reaching such a level that it can no longer increase further. This in turn will prompt adjustment via the reduction of the current account deficit through the trade balance, with negative consequences for economic growth.

In this view, the US power of delay is the ability to borrow internationally, and the ability to earn net investment income despite its international indebtedness, traditionally measured by the positive net investment income recorded on the current account of the US balance of payments. This is shown in figure 3 as the difference between the cumulative current account deficits and the higher current account less net investment income.

Figure 3: US Cumulative Current Account Deficit and Current Account Deficit Less Net Investment Income vs. US Net International Investment Position, 1976-2014



Source: NIIP: Bureau of Economic Analysis. Line 1. Table 1. International Investment Position 1976-2013. Link from <http://www.bea.gov/international/index.htm#iip>. Cumulative Current Account and Trade Deficits: Authors' calculations from Bureau of Economic Analysis. Table 1.1, US International Transactions, 1960-present. Link from <http://www.bea.gov/international/index.htm#iip>. Annual figures. Current account = line 30. Net investment income = line 6 less line 14.

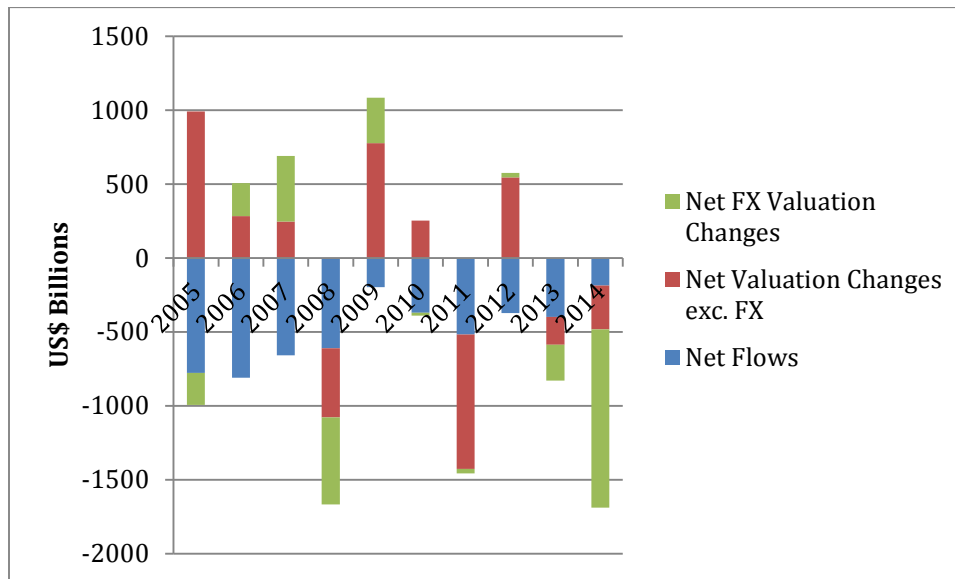
However, figure 3 also shows an empirical puzzle, and one that looms particularly large since 2000: US international indebtedness (the NIIP) is nowhere near as large as the cumulative current account deficit. How and why does US international indebtedness, measured by the NIIP, lag behind the cumulative current account deficit?

The bulk of the explanation lies in unrealized relative valuation gains in the US external balance sheet (Norrlof 2010). Realized capital gains – the result of US investors selling their

investments and making a profit – appear as investment income in the current account, contributing to the long-recognized US net investment income. However, the international investment account also records the prevailing market values of US residents' foreign financial assets and of their financial liabilities to foreigners (i.e., the value of the US assets owned by foreigners). These values change as a result of changes in the market prices of international assets and liabilities, even when no transactions take place. For example, they include equity investments abroad by US actors (US external assets) that might have risen or fallen in value but have not been sold. They also include foreigners' investment in FDI, US equities, corporate bonds and Treasuries. These latter constitute foreigners' external assets at the same time they comprise US external liabilities.

Not only has the size of the US external balance sheet risen dramatically, but the exposure to financial market prices of the components of this external balance sheet has also increased. The influence of these valuation changes on US international indebtedness (the NIIP) has also grown, relative to both net investment income and the US trade deficit. Between 2000 and 2014, the size of the US external balance sheet has tripled,⁶ and it includes huge volumes of FDI⁷ and financial instruments exposed to constant changes in their market valuation (see figures 1 and 2 above). When the market value of US external assets rises more than, or falls less than, the market value of US external liabilities, US international indebtedness falls. Alternatively, if the market value of US external assets rises less than, or falls more than, the market value of US external liabilities, US international external indebtedness rises. In every year, except one, between 2007 and 2014, such valuation changes had a larger impact on US international indebtedness, and by extension the power to delay, than the current account deficit (see figure 4).

Figure 4: Sources of change in the US NIIP 2005-2014.⁸



Source: Nguyen, 2006-15. Net FX Valuation Change = Exchange Rate Changes in Table B (Table C from 2014), ‘Changes in US-Owned Assets Abroad, Excluding Financial Derivatives’ – Exchange Rate Changes in Table C (Table H from 2014), ‘Changes in Foreign-Owned Assets in the United States, Excluding Financial Derivatives’.

Net Valuation Change Exc. FX = (Price Changes + Other Valuation Changes) in Table B (Table C from 2014), ‘Changes in US-Owned Assets Abroad, Excluding Financial Derivatives’ – (Price Changes + Other Valuation Changes) in Table C (Table H from 2014), ‘Changes in Foreign-Owned Assets in the United States, Excluding Financial Derivatives’.

Net Flows = Financial Flows in Table B (Table C from 2014), ‘Changes in US-Owned Assets Abroad, Excluding Financial Derivatives’ – Financial Flows in Table C (Table H from 2014), ‘Changes in Foreign-Owned Assets in the United States, Excluding Financial Derivatives’.

The valuation effect of the US external balance sheet illuminates the changing nature of the power to delay adjustment. This observation does not challenge the standard view of a power of delay linked to the ability to increase international indebtedness. Yet there must also be an additional view of the power of delay focused on the sources and implications of the valuation gains and losses on the US’s external balance sheet. Given, as we have shown, that valuation changes on the outstanding stock of US assets and liabilities can have now have a greater impact on US international indebtedness than current account flows, these valuation changes must have implications for the power of delay, whatever the level of

international indebtedness that might prompt a collapse in international willingness to finance the US trade deficit. As financial globalization – measured by the size of external balance sheets – rises, the relative importance of valuation changes will only grow.

Sources of valuation changes

Understanding the implications of this development involves examining the three conceptually distinct sources of these valuation changes. The overall impact of valuation changes on the NIIP will be the result of the balance of all three sources. Nevertheless, it is helpful to consider the sources separately, as they highlight three particular aspects of the US external balance sheet and the different risks inherent in the particular nature of US international assets and liabilities.

The first source of valuation effects is the currency denomination of the external balance sheet. US assets are overwhelmingly denominated in non-dollar currencies, its liabilities are overwhelmingly in US dollars: the US is ‘short’ the dollar. Relative changes in the value of the US dollar against other currencies will change the relative value of US assets and liabilities. This is shown separately in figure 4. When the US dollar falls (rises) in value, the US makes valuation gains (losses) and the NIIP – US international indebtedness – improves (deteriorates).

A second source of valuation change stems from the composition of US external assets and foreigners’ investments in the US (i.e., US external liabilities). US international assets are not composed of the same instruments as its liabilities. The US is ‘short’ bonds (i.e., bonds are a higher percentage of liabilities than assets) and ‘long’ equity and FDI (i.e., equity and FDI are a higher percentage of assets than liabilities).⁹ This is often described as the US being ‘short safe assets’ and ‘long risky assets’. US international indebtedness falls (the NIIP improves) when the value of ‘safer’ US bonds, and especially US Treasuries – falls, relative to ‘riskier’ equity and FDI. This was the case for most of the pre-financial crisis period. However, when risk aversion rises in global financial markets, and investors seek ‘safe havens’, US international indebtedness rises. This US situation led to the US role in financial globalization being relabelled ‘world insurer’ (Gourinchas, Rey and Govillot 2010) although the US cannot control its balance sheet to minimize losses to the same a corporate insurer does.

These first two sources of valuation changes are generally well-recognised in the existing literature. However, there is also a third source of valuation effects stemming from the return on particular asset classes.¹⁰ As figures 1 and 2 show, a further characteristic of the US external balance sheet is very large volumes of both equity and FDI on both sides of the balance sheet. For example, at end 2014 was 'long' equity of US\$54 billion, as the net balance of US investors owning international equity valued at US\$6.7 trillion and international investors owning US equity of almost the same value.¹¹ The rise or fall in the NIIP in this case comes from the relative performance of counterparty nations' equity markets. US external indebtedness will increase (fall) if US equity markets outperform (underperform) those international equity markets in which US investors have invested.¹² In this case, the risk on the US external balance sheet is simply based on the relative performance of different national equity markets. The same could hold for other financial asset markets across counterparty countries.

Assessing the valuation effect requires careful consideration of a country's external balance sheet following these three conceptual distinctions. In the years immediately prior to the 2007-8 financial crisis, valuation effects on the US external balance sheet, stemming from all three sources of valuation change noted above, meant the NIIP improved and US international indebtedness fell, despite continued current account deficits (see figure 3 above; Gourinchas and Rey 2005; Habib 2010; Norloff 2008 2010). In this period valuation effects in the external balance sheet increased the power to delay. Not only did the US enjoy net positive investment income from interest, dividends and realised capital gains, despite its position as a sizeable international debtor, but it had substantial unrealised net valuation gains on its external balance sheet.

Such analysis yields a starkly different picture of the US for the period since the financial crisis of 2007-2008. Despite *The Economist* concluding in September 2013 that 'the world has rebalanced' (cited by Drezner 2014: 49), US international indebtedness has increased more than fivefold (see Figure 3). Since 2007, there have been four years when the US NIIP moved heavily in a negative direction due to a combination of the flows traditionally emphasized in the IPE literature on international monetary power and the valuation effects we suggest should be introduced into evaluation of continued US capacity for international monetary leadership. These years are 2008, 2011, 2013 and 2014. In three of those years the

valuation effects made a larger contribution to the negative shift than flows (i.e., than the current account deficit). In one year, 2013, flows and valuation effects were equivalent.

All three sources of valuation change represent financial market prices, extensively although not exclusively, determined by the activities of private financial sector actors. Valuation changes are the result of the balance of financial market actors views on the relative attractions of: 1) the dollar compared to the currencies in which Americans invest internationally; 2) 'safe' bonds compared to 'risky' equity and FDI; and 3) US bonds, equity and inward FDI compared to the international bonds and equity in which US entities invest and their outward FDI. These are financial market determined values. Considering all three sources of valuation change and the performance of the US external balance sheet, the overall picture is that US experiences valuation gains when US financial markets and the US dollar underperform and losses when they outperform. There is a clear irony here: the US dollar's key currency status depends in large measure on the attractiveness of US financial markets, but this US gain from key currency status is linked to those US markets underperforming international counterparts.

Valuation changes in the NIIP since 2008

As noted above, figure 3 shows there have been four years recently when the US's international debt grew considerably through the relative outperformance of US financial markets: 2008, 2011, 2013 and 2014. Unsurprisingly, 2008 marked the most significant outperformance after an extended period of US financial markets (and to a lesser extent the US dollar) underperforming. A combination of two market responses: 'safe haven' and 'home bias' inflicted valuation losses on the US.¹³ Safe haven refers to non-US investors seeking the safest and most liquid markets and home bias occurs when US investors sell international assets and move money back to the US. These shifts increased the value of the dollar and raised US government bond prices, more than doubling of the US NIIP (see figure 3 above; also Gourinchas, Rey and Truempfler 2011). This episode occurred during very considerable market uncertainty, and reflects the consequences of US risk-taking through the nature of its financial market exposure. Essentially the US was 'paid' to assume risk on behalf of the rest of the world and that risk crystalized during market weakness.

US international indebtedness rose in 2008 through the relative outperformance of 'safe' assets relative to 'risky' assets, and a rise in the dollar. The definition of 'safe' here is related to the US's key currency status. The data illustrate that in a period of financial crisis such as 2007-08, the safe haven and home bias impact on the US dollar imposes valuation losses on the US external balance sheet, with the rising value of the US dollar contributing roughly 30 percent of these losses (see figure 4).

In 2011 the US suffered another significant deterioration in its NIIP, or increase in its international indebtedness, of US\$1.5 trillion (see figure 3). Largely as a result of the euro area crisis, the debt increase came mainly from US losses on non-US equities and non-US investors' gains on investments in US government securities.¹⁴ This was another period of uncertainty in global financial markets that arguably triggered a flight to quality. The safe haven phenomenon appeared to impact asset prices (pushing up the value of US government securities), although the dollar appreciated relatively little. However, the largest increase in US international indebtedness came not as a result of its role as issuer of the safest assets, US Treasuries, and their US dollar denomination, but rather from a fall in the value of US international investments.

The picture of 2008 and 2011 in figure 4 is broadly consistent with expectations given the long-standing characterization of the US external balance sheet as long riskier assets and short more secure assets (Schwartz 2009a). However, our focus on the relative performance of financial markets highlights the fact that such a simplification is no longer sufficient. The investment counterparty relationship with Europe is the US's largest (Milessi-Ferretti, Stobbe and Tamarisa 2010), and includes very substantial bilateral holdings of equity and FDI. As noted above, it has been US underperformance relative to non-US markets on such bilateral holdings that has been the main source of US valuation gains over a substantial period (Gourinchas and Rey 2005; Habib 2010; although see Curcuru *et al.* 2008). It is misleading in this context to see US equities or FDI as 'safe' and European equities or FDI as 'risky'. As figure 4 (above) shows, 2013 saw further valuation losses and increased international indebtedness for the US, although less than in the previous two episodes. These losses in 2013 occurred in a year when the US Dow Jones equity index recorded its largest rise in 18 years (CNBC 2013).

The year 2013 represents a very different episode compared with 2008 or 2011. That year saw global market strength, not weakness; however, net valuation changes still increased US international indebtedness. This episode reflects a negative valuation change for the US from the third source above: outperformance of US financial markets relative to their non-US counterparts, *unrelated to changes in demand for safe versus risky assets*. This would involve US equities outperforming non-US equities, for example, or US outward FDI underperforming FDI into the US.¹⁵ In 2013, global equity markets rallied but US equity markets rallied more than the markets in which US financial actors had mainly invested,¹⁶ increasing US external indebtedness. The negative shift in the US NIIP was over US\$800 billion, more than twice the amount of the US current account deficit (see figure 4). This represents a different kind of event compared with 2008. It involves an economic or political event that causes a relatively more positive view of US financial markets and/or the US dollar relative to financial markets outside the US.

In terms of the impact of valuation changes on US international indebtedness, 2014 is the most dramatic year shown in figure 4, mainly due to the rise in the value of the US dollar (see figure 5 below). The uncertainty in the euro area continued in 2014, compounded by events in Ukraine; the year saw many major developed equity markets, but *not* the US's, fall in value.¹⁷ Investment flows both into, and *out of*, the United States were at their highest since 2010 (Nguyen 2010, 2015). More than flight to safety or risk aversion, 2014 valuation changes in the NIIP also reflect private financial actors viewing US markets as relatively more attractive than others. As a result, by the end of 2014, US international indebtedness had increased by US\$1.7 trillion in a single year to reach US\$7 trillion (see figures 3 and 4). Investors voting with their feet in this way suggests continued US economic 'power' but the underlying impact on the US external balance sheet heightens US exposure to global financial markets and to risks hidden the particular nature of the balance sheet.

The distinction between 'flight-to-safety' and 'US outperformance' is somewhat idealized. Most periods are likely to involve a combination of sources of valuation changes. In 2011, with the euro area crisis, US financial markets outperformed those in which US financial actors invested. But 2011, with a deterioration in the US NIIP as a result of the euro area crisis, involved both 'flight to quality' and outperformance of certain US financial markets as a result of investment activity unrelated to demand for safe assets. Even in 2008-09, for

example, the largest single source of increased US international indebtedness was US investors' unrealized valuation losses on their holdings of non-US equities (Gourinchas, Rey and Truempler 2011).

Conceptually disentangling the sources of valuation changes highlights how increased indebtedness can result from economic and political events in countries or regions that are significant counterparties for international investment into and out of the US, leading to relative price weakness in that country's or region's financial markets – bonds, equities, FDI and derivatives – relative to US financial markets. The economic troubles in the euro area since 2010 are a relatively extreme example of this. Less extreme events outside the US or geopolitical events with a greater economic impact on Europe, such as in Ukraine, might be sufficient to cause large negative valuation changes for the US. The rise in US international indebtedness from valuation changes in 2014 illustrates this scenario.

A power of delay constrained by the ability to increase international indebtedness unavoidably involves exposure to events outside the US, for example Chinese reserve management policies. In the current account-centred approach, US domestic economic factors and their influence on the trade balance largely determine the timing of the US reaching the end of its power to delay. A focus on external balance sheets highlights the extent to which the views of private financial markets actors shape that timing, whatever level of indebtedness may be the trigger. In other words, private financial markets actors' strategies for their relative investment into the United States and elsewhere constrain US international monetary power. By showing how this occurs through valuation effects on the external balance sheet we give new and specific empirical grounding to one aspect of the long-standing stream of research in IPE on how and to what extent capital mobility and international financial integration constrain sovereign entities (Mosley 2003, Andrews 2005; Verdun 2000).

VALUATION CHANGES, WEALTH TRANSFERS AND ECONOMIC GROWTH: INCREASED US SENSITIVITY

The valuation effects discussed above have a significant impact on US international indebtedness. They are also not simply accounting numbers; rather, they result in real economy effects (e.g., Gourinchas, Rey and Truempler 2011). As the value of US

international investments rise (fall), the wealth of the owners of those assets increases (falls). Similarly, the international holders of investments in the US (US liabilities) see their wealth change with valuation changes. The balance of these changes results in a wealth transfer between countries and a ‘wealth effect’ on economic growth. The wealth effect is well-known from debates surrounding US monetary policy. Higher asset prices, including equity prices, increase consumption and investment, and therefore economic growth (e.g., Bertaut 2002; Case, Quigley and Shiller 2006; also Vermeiren 2014: 58-60). This is primarily a matter of wealth held in domestic assets, and quantification of the effect has concentrated on US equity and housing markets (*ibid.*). However, wealth effects result from international as well domestic wealth, with the relative importance of the external balance sheet for US economic growth increasing as its size increases.

When US growth declines because of wealth transfers to the rest of the world that stem from external balance sheet valuation changes, other countries must be the recipients of those transfers and see increased economic growth relative to the growth trajectory assumed in a scenario of unchanged valuations. A full discussion of these transfers is beyond the scope of this article, but Gourinchas, Rey and Truempeler’s (2011) breakdown for the period from the end of 2007 to the first quarter of 2009 shows that the US, a substantial net debtor, suffered the largest wealth transfer, over US\$2 trillion,¹⁸ while smaller losses also hit substantial creditor nations China¹⁹ and Switzerland, and the euro area. Most striking, the largest gains were made by the UK, which runs a substantial trade deficit (like the US).²⁰

At the same time, as valuation changes were causing wealth transfers *out* of the US to the rest of the world over this period, the US was clearly also benefiting from flows *into* its financial markets as foreigners sought safe assets and US investors sold overseas investments and returned the proceeds home. These flows have a positive economic impact on the recipient economy, and contribute, through higher relative growth, to economic power (Schwartz 2009a).²¹ This might make it appear that the US is in a ‘win-win’ situation: the recipient of inflows at times of global market uncertainty, and the beneficiary of wealth transfers when market confidence favours riskier assets. But just as flows into the US will always have a positive impact on economic growth, wealth transfers from the US will always have a negative impact, and the two can take place at the same time. In times of market uncertainty, (net) flows into the US increase the US power of delay the adjustment in the current account

that will impose lower economic growth, but simultaneous wealth transfers from valuation changes will nevertheless reduce economic growth. The wealth transfers from the US represent an ‘exorbitant duty’ (Gourinchas, Rey and Govillot 2010) that must be set against the widely-recognised exorbitant privilege. Calculating the impact of flows and wealth transfers is a complex task, is subject to debate in the economics literature, and is well beyond the scope of this article. However, the larger the US external balance sheet is relative to the US current account deficit, the more wealth transfers from valuation effects are economically important relative to balance of payments flows. In 2014 the US annual current account deficit was lower than it was in 2000, but the US external balance sheet was 3.3 times larger (see figures 1 and 2).

As already noted, financial globalization has driven dramatic increases in virtually all countries’ external balance sheets. A key question is whether and how the US situation is different. Central to US international monetary power as currently conceived is the low sensitivity of the US economy to international trade, as measured by assessing imports plus exports as a percentage of GDP relative to other countries (Cohen 2006: 46-7; Keohane and Nye 2001). This enhances the ability of the US to deflect the costs of adjustment. The external balance sheet approach suggests additional focus on the relative sensitivity of the US economy to the net effect of changes in the exchange rates and market valuations of a nation’s international assets and liabilities. This gives a very different picture of US sensitivity. For example, the total US external balance sheet - assets plus liabilities – relative to GDP is similar to that of Germany,²² whereas German imports plus exports as a percentage of GDP are approaching three times the US level. Compared to Germany, changes in the terms of trade will have relatively low impact on the US economy, while changes in the external balance sheet will have as great an effect in the US as in Germany. Furthermore, there seems no reason *a priori* to believe that the US economy has higher adaptability; i.e., that it can adjust relatively quickly to changes in the external balance sheet as it is argued is the case with trade (Cohen 2006: 47-8).

On one level, this amounts to the simple observation that the US is the same as other countries. The NIIP of any country will deteriorate and its indebtedness will rise if the nation’s financial markets (including currency), in which foreigners invest, outperform the foreign financial markets (including currency) in which its nationals invest. However, as

Kirshner (2014: 16) suggests, with a different focus, a ‘more “normal”... level of exposure of the US economy to external financial pressures’ is itself ‘new and unfamiliar’. This represents a decline in monetary power. Consideration of external balance sheets suggests a substantial increase in the relative exposure of the US economy to financial market movements.

FINANCIAL GLOBALIZATION AND MONETARY STATECRAFT: CURRENCY MANIPULATION AND EXPLOITATION OF LIQUIDITY PROVISION

Thus far, our focus has been on what Cohen terms passive international monetary power in contrast to active international monetary power or monetary statecraft (Andrews, 2006). Monetary statecraft is use of monetary tools to induce a particular action by another sovereign. For Cohen (2006: 35), monetary statecraft requires autonomy ‘as a basic and necessary condition’.²³ To be autonomous, ‘policy makers must be free (or at least relatively free) to pursue national objectives...without outside constraint, to avoid compromises or accommodate the interests of others’ (*ibid.*: 33). Monetary statecraft involves actions that are ‘purposeful’ (*ibid.*: 45). In this section, we consider the implications of the financial globalization represented by external balance sheets for monetary statecraft.

Literature on international monetary statecraft has long emphasized currency manipulation (‘talking down the dollar’) and liquidity provision as important tools through which the US exercises power. In one view, the external balance sheet increases the potential efficacy of the ‘exchange-rate weapon’ (Henning 2006) because a weaker dollar benefits the US via the structure of the external balance sheet. Our contention is different; it is that the scale and nature (particularly the ‘flight to quality’ phenomenon) of the international financial market activity represented by the US external balance reduce the ability of the US to engage in currency manipulation. Similarly, the US dollar liquidity provision during the financial crisis clearly demonstrated the centrality of the US authorities, most crucially the Federal Reserve, to the international financial system and their capacity to support that system. It is tempting to see this as an indication of increased US monetary power. However, evidence of monetary statecraft exercised through liquidity provision lies in finding either discrimination among the recipients of liquidity (i.e., preferential treatment of US domestic institutions, or at least of those of certain favoured countries), and/or the extraction of concessions in return for

liquidity provision, and/or the ability to force other countries to bear a disproportionate share of the cost of such provision. There is no significant evidence of any of these. To be clear, we are not suggesting that there have been purposeful attempts by the US authorities to bring about wealth transfers into the United States via valuation changes on the external balance sheet. However, we argue that the size and nature of the financial market activities and actors represented on the external balance sheet have implications for monetary statecraft. In the case of both currency manipulation and the exploitation of liquidity provision, we see reduced US capacity for active monetary power.

Currency Manipulation

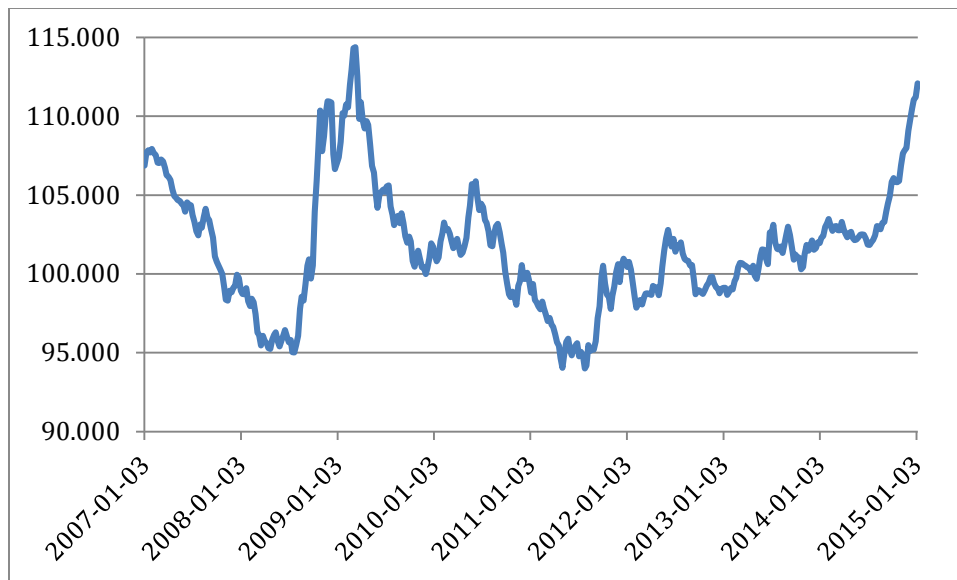
Despite some debate (Baker 2006), the ability of the US to manipulate the value of the US dollar has long been seen as a key example of monetary statecraft (e.g., Kirshner 1995, 2006; Andrews 2006; Henning 2006). As shown above, the composition of the US external balance sheet increases the benefit the US might derive at the expense of other countries from ‘talking down the dollar’ (also Norrlof 2008, 2010; Vermeiren 2014: 32). Still, events since 2007 suggest financial globalization has reduced the ability of the US authorities to influence the value of the dollar.

Emerging market economies charged that the Federal Reserve engaged in a ‘currency war’ in its 2007-8 crisis response because the policy of low interest rates and quantitative easing, even if focused on the domestic economy, weakened the dollar. Certain emerging market currencies certainly saw significant upward pressure, but overall, the trade-weighted value of the dollar, shown in figure 5, demonstrates that the so-called currency war from 2009 did no more than reverse the previous rise in the dollar’s value. This rise was the result of the ‘flight to quality’, the buying of US dollar assets by international investors and the repatriation of international investments by US investors, in reaction to financial market uncertainty.

There have been further periods of this flight to quality since, in reaction to problems in the euro area; by end-2014 the dollar was once again approaching its post-crisis peak. (Figure 4 shows the resultant valuation losses on the US external balance sheet). This occurred despite the enormous expansion in the Federal Reserve balance sheet (absolutely and relative to other central banks), which triggered the currency war accusations. The Federal Reserve’s Quantitative Easing programme (‘QE’) should have a far more material negative impact on

the value of the dollar, by way of increasing its supply, than talking about the currency, but it did not. This movement in the dollar's value suggests that the US may be able to resist the impact on the US dollar of the 'flight to quality', primarily by private sector actors, but it also strongly suggests that the US has only limited ability to weaken the dollar below its value before periods of market uncertainty.

Figure 5: Trade-Weighted Index of US Dollar 2007-2013 (January 1997 = 100)



Source: St. Louis Federal Reserve²⁴

Exploitation of liquidity provision

The ability to exploit others need for liquidity also features frequently in discussions of active monetary power (Andrews 2006; Helleiner 2006: 88). The growth of external balance sheets results largely from the activities of private financial institutions that have intensified the spider web of cross-national financial counterparties. This reduces monetary statecraft, or active monetary power, because it becomes impossible to select for nationality in providing liquidity during times of crises.

It is clear that the Federal Reserve was the only entity capable of providing US dollar liquidity during the 2008 financial crisis (e.g., Drezner 2014; Helleiner 2014). This role arguably demonstrates US international monetary power. While the Federal Reserve had the capacity to provide liquidity, the demonstration of monetary statecraft hinges on the ability to discriminate in liquidity provision or the ability to extract concessions in exchange. US policy response to the 2008 financial crisis demonstrates the centrality of the US dollar to the global financial system, but does not demonstrate the US's active monetary power. The US authorities could only serve the interests of the US economy by supporting the global financial system – they could not discriminate. They also took on added exposure to global financial markets in the course of liquidity provision.²⁵ The Federal Reserve lent directly to banks regardless of nationality, accepted as collateral securities of considerably more questionable creditworthiness than previously, and instituted swap lines to the central banks of all significant countries in the international financial system. Its motivation for doing so was 'defensive', aimed at addressing threats to the US economy as a result of a crisis of financial globalization (McDowell 2012; Helleiner 2014: 44).

The story of US actions in response to the 2007-8 financial crisis is well-known and includes US government support for AIG, a US Treasury guarantee of US money market mutual funds (MMFs), a variety of Federal Reserve programmes provided funding for those foreign banks short of dollars such as the Term Auction Facility (TAF) and swap lines with foreign central banks. Each is an example of liquidity provision in a sense of the word defined more broadly than in financial economics, by referring, beyond direct liquidity provision, to policies that indirectly bolster liquidity such as guarantees for particular institutions and/or assets. We evaluate scope for US monetary statecraft in a brief discussion of each of these policies.

US government support to AIG totalled US\$182 billion. Direct payments to AIG counterparties totalled \$106 billion (COP 2010). 65 percent went to non-US institutions, nearly all European. For France's, Société Générale, Germany's Deutsche Bank, the UK's Barclays and Swiss UBS, the pay-outs were equivalent to 20 percent or more of capital (Blundell-Wignall, Atkinson and Roulet 2012: 32). Schwartz suggests (2009b: 111) 'AIG's \$300 billion in credit default swaps...benefiting European banks apparently forced the Treasury to nationalize AIG'. At a minimum, this is an example of the difficulties of

targeting liquidity provision. Counterparties could have been selectively made subject to some form of ‘haircut’ on their exposures to AIG, but they were not (COP 2010). Nor is there evidence of the US government using leverage in other issue areas: it is noteworthy, for example, that Barclays was a major beneficiary of the AIG rescue on the same weekend that the UK government refused to support its takeover of Lehman. The Swiss bank UBS, another significant beneficiary, was at this time in dispute with the US government over the assistance it had provided to US tax avoiders.

The rescue of AIG not only benefitted European banks’ US operations. For example, European banks also undertook esoteric financial derivatives trades called ‘Regulatory Capital Swaps’ with AIG.²⁶ The details of these transactions are not important here, but if AIG had failed, eliminating these swaps, the largest European bank counterparties would have needed \$16 billion more in capital (COP 2010: 92), most likely from European governments.²⁷ AIG’s ‘failure would have badly damaged Wall Street. However, even more damaged would have been European banks – and potentially European taxpayers’ (Kos 2010: 64).

The US Treasury guarantee of US MMMF prevented a run that would have disproportionately hurt European banks (Baba et al. 2009: 73). In addition the largest three recipients of the Federal Reserve purchases under the ABCP Money Market Liquidity Facility (AMLF) were European banks: UBS (\$72 billion), Dexia (\$53 billion) and Barclays (\$38 billion) (FCIC 2011: 401). Large US companies did benefit, but only in any size through the finance companies of General Electric (\$16 billion) and the big three car companies (\$34 billion in total). Only 41 percent of Federal Reserve purchases under the Commercial Paper Funding Facility (CPFF) were from commercial paper or ABCP programmes sponsored by US entities.²⁸ Overall, ‘the run on US dollar money market funds after the Lehman failure stressed the global interbank markets because the funds bulked so large as suppliers of US dollars to non-US banks. Public policies stopped the run and replaced the private supply of dollars with public funding’ (Baba *et al.* 2009: 65). Actions of US authorities were effective, but could not have been successful if they discriminated by nationality. The situation was very similar to that of AIG: the US authorities acted because of the threat to the US economy, but they could only achieve this by providing significant support to non-US financial actors.

The Term Auction Facility (TAF) was the most important Fed programme aimed at providing direct funding for banks short of dollars during the 2008 crisis. European banks accounted for 49 percent – and other non-US banks (including banks from China, Libya and Venezuela) a further 12 percent – of the US\$1.2 trillion of Federal Reserve crisis-related lending (also Shin 2012). Ten banks' usage of the emergency lending exceeded US\$100 billion.²⁹ Of these, seven were European. Royal Bank of Scotland received more in emergency loans from the Federal Reserve than from the Bank of England. Swiss bank UBS again borrowed heavily, as did German state-owned Bayerische Landesbank.

In response both to 2008 and 2010 market uncertainties, an additional tool was used: central bank swap lines. Most importantly, on 13 October 2008 the Federal Reserve announced: 'sizes of the reciprocal currency arrangements (swap lines) between the Federal Reserve and the [Bank of England], the [European Central Bank], and the [Swiss National Bank] will be increased to accommodate *whatever quantity* of US dollar funding is demanded' (emphasis added). At this point the direct threat to the US economy was clear, but the swap lines were reinstated to five major central banks in May 2010, in response to difficulties in the euro area at the time of the Greek bailout. At this point, the origins of market problems were not the US, but elsewhere. Yet these swap lines remain in place 'until further notice'.³⁰

Broz (2012) argues that this is an area where the Federal Reserve discriminated in liquidity provision, choosing central bank swap line counterparties and rejecting some nation's requests. We cannot be certain of the full list of countries denied swap lines in 2008, but 14 were, and their identities are significant: if the ability of the Federal Reserve to discriminate in liquidity provision is reduced to denying swap lines to countries such as Indonesia, Turkey and the Dominican Republic, the scope for monetary statecraft is quite limited, especially considering other central banks swap extension efforts were meagre by comparison with the Fed's (Helleiner 2014: 42). Denying swap lines to major players in the global economy or negotiating for them to make material contributions to the liquidity provision effort in return was not a feasible response to the crisis.

Overall, the Fed could not support US financial institutions or markets, and through them, the US economy while discriminating in its other liquidity providing efforts against non-US financial market actors. Similarly, initial US plans to target bailouts only at US entities had to

be reversed before implementation (Pauly 2009: 359). The US authorities could not achieve their broader aims of mitigating systemic risk to the US economy without supporting non-US financial institutions.³¹ As a result, considerable US liquidity support went to non-US financial firms. ‘Benign neglect’ (Andrews 2006: 92) regarding financial systems outside the US was not a viable policy option.

In its liquidity provision role, analysts (Mehrling 2011) call the Federal Reserve a dealer of last resort that has a “sizeable and fundamental quasi-investment bank role in financial markets,” with the market exposure that entails (Stella 2009: 47). In this role of dealer for the world, the link between the Federal Reserve monetary policy and asset prices globally clearly limits concerns regarding the Fed’s market exposure. Drezner (2014: 119) argues that through its liquidity-shaping policies and actions the Fed controls the global business cycle. However, the ability, while economically significant, is also far from absolute, and the transmission mechanism, financial institution balance sheets, increases the financial fragility to which the Fed is exposed (Rey 2013).

Financial globalization, and in particular the ‘flight to safety’ at times of market uncertainty, limit the ability of the US to reduce the value of the dollar against the preferences of (mainly private) financial market actors. In the case of liquidity provision, the issue is the ability of the US authorities to target that provision and to extract concessions from recipients. At a time of the most acute global demand for dollars, the US could not materially achieve either. With regards to both currency manipulation and liquidity provision, we see a reduction in US active monetary power.

CONCLUSION

We have argued that financial globalization, as measured by the increased size of countries’ external balance sheets, has grown to a point that the analysis of monetary power must expand to accommodate the implications. While the net investment flows in the US current account are seen as contributing to the US power of delay, gross valuation changes in US international assets and liabilities have in recent years become so large they challenge the current account deficit as a contributor to changes in US international indebtedness (see figure 4). Furthermore, these valuation changes have complex real economy implications.

The increased power of delay pre-2007 came at the cost of the US assuming substantial risks. The risk for the US is not primarily a collapse in confidence amongst its international creditors, but much more likely either generalized global market uncertainty or issues impacting financial markets in which US financial actors have substantial investments. Indeed, given contagion in international finance, the risks could potentially be of any significant financial market-influencing event. Historically, for example, the US experienced wealth transfers triggered by ‘the LTCM [Long Term Capital Management] collapse,³² 9/11, [and] around the tech bubble collapse’ (Gourinchas, Rey and Govillot 2010: 11).³³

Our analytical focus does not suggest superseding the existing approach to international monetary power that focuses on disequilibrium in the current account and adjustment as an issue of the balance of trade. In this article, we argue for additional focus on external balance sheets and the implications of valuation changes. An extension of Cohen’s approach becomes increasingly necessary as external balance sheets expand. Cohen’s framework has always contained two connected disequilibria: the current account and net international indebtedness. The disequilibrium of the current account is only sustainable as long as the disequilibrium of international indebtedness is also sustainable. Unsustainable disequilibrium in international indebtedness then forces adjustment in the current account via the trade balance. A focus on external balance sheets demonstrates that there is a second potential source of adjustment: net valuation changes in the assets and liabilities on the external balance sheet. Such adjustment could, for example, reduce the need for US trade adjustment (Cavallo and Tille 2006), or undermine European efforts to adjust to external imbalances through the trade (European Commission 2012). Understanding the implications of these processes for monetary power requires a much closer focus on external balance sheets.

This focus necessitates more evaluation of Europe’s role as the leading US international investment counterparty, and in particular European private financial market actors. Valuation changes that shape the NIIP stem from the actions of the market and private actors – US and non-US – whose preferences make market prices. These actors, and the market, set the prices that determine the valuation of the assets and liabilities on external balance sheets, and thereby determine changes in the US NIIP and wealth transfers between the US and the rest of the world. The magnitude of the valuation effects from external

balance sheets reveals a shift in the relative influence of governments and markets in the international financial arena in favour of markets. It will be the actions of private investors globally that largely determine future outcomes.

It will not, however, be private investor actions solely based on continued confidence in the value of the dollar. Primary focus on confidence in the dollar is appropriate for official flows, but private sector investments require much more careful study. The depth and sophistication of US financial markets have long been seen as central in attracting investment and increasing the power of delay. We now know, however, that these characteristics allowed European banks to both borrow from, and invest into, the US, with no view being taken on the future value of the currency (Baba et al. 2009). This is one example of a much more complicated picture than the IPE literature recognises.

The US political response to the pressures of financial globalization must also be recognised. Neither the support for AIG passing through to non-US banks nor liquidity provision involving lending to global banks, including foreign ones, have been popular with US voters. Senator Sanders of Vermont is somewhat notorious for his interest in such issues, but a substantial portion of the US national electorate would agree with his view: “It is incomprehensible to me that while creditworthy small businesses in Vermont and throughout the country could not receive affordable loans, the Federal Reserve was providing tens of billions of dollars in credit to a bank [Arab Banking Corp] that is substantially owned by the Central Bank of Libya” (quoted in Griffin and Ivry 2011). These concerns have influenced legislation curtailing both the Federal Reserve’s and the US Treasury’s ability to repeat their 2007-08 crisis resolution activities, through constraints on Section 13(b) lending and use of the Exchange Stabilization Fund.³⁴

IPE has not yet given the necessary attention to the growth of external balance sheets. When there has been focus, the conclusion has been that this growth has only enhanced the benefits of financial globalization and key currency status for the US and that these increase US monetary power. We have argued that the period since 2007 shows that the costs are far greater than recognised. Even after the crises of recent years, financial globalization and

external balance sheets continue to grow. Scholarship on international monetary power must incorporate the implications of this growth.

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¹ Cohen's work in this area spans a number of important publications. We focus on Cohen 2006 as, in our view, the clearest statement of his framework. Challenges to Cohen's conception of power are outside the scope of this article.

² The updated BEA data no longer distinguishes between official and private investment. Figures exclude derivatives, which are only included in BEA data since 2005. Loans and trade credits are separate line items since 2002. In 2013, loans represented 52 percent of 'other investment' external assets; loans and trade credit 44 percent of 'other investment' external liabilities (authors' calculations from BEA data).

³ The value of financial derivatives was not included on the US external balance sheet until 2005. For consistency, we therefore omit them from figures 1 and 2. In 2014, financial derivatives add over US\$3 trillion to both international assets and liabilities. The impact on the NIIP is however not material.

⁴ All developed, and many developing countries, have such large external balance sheets, regardless of their current account positions. For example, a major current account surplus (net creditor) country, Germany, had international liabilities of €5.9 trillion (240 percent of GDP), in addition to its international assets of €7 trillion, at the end of 2012. Source: Deutsche Bundesbank. These figures include intra-euro area assets and liabilities.

⁵ Both James and Norrlof see geopolitical factors as important in this regard.

⁶ Excluding financial derivatives.

⁷ FDI is now also recorded at market value in the US IIP data.

⁸ 2012 - 2014 include FDI at market value, 2005 - 2011 at cost. Changes in the NIIP from valuation effects are therefore understated before 2011.

⁹ For example, equities, derivatives and FDI were 69 percent of assets in 2013, bonds were 4 percent. Bonds were 33 percent of liabilities. This ignores the division of FDI into equity (the far larger component) and debt. The impact of this structure of assets and liabilities is known as the 'composition effect'.

¹⁰ Note that a number of authors conflate 'composition' and 'return' effects as the single label of 'return'.

¹¹ The IIP figures now split FDI by equity and debt. Including FDI equity, the net 'long' remains a sizeable US\$1.3 trillion, the balance of international assets of \$12.8 trillion and liabilities of \$11.5 trillion.

¹² There is considerable debate about the size of these returns, with Curcuru *et al.* (2008) seeing considerable lower returns than Gourinchas and Rey (2005). Curcuru *et al.* raise further questions regarding US international monetary power, as a possible implication is that the US current account deficit is far smaller than existing data suggest.

¹³ This is likely to involve reduced leverage amongst financial actors globally (Obstfeld, 2012; Rey 2013), and, if serious enough, a reduction in external balance sheets globally (again, as in 2007-08; see figures 1 and 2).

¹⁴ Source: www.bea.org international investment position data.

¹⁵ FDI is mainly equity and includes mergers and acquisitions. Market values are therefore closely connected to equity market values.

¹⁶ The S&P 500 rose 30 percent (and the Nasdaq 34 percent), Germany's Dax 23 percent, France's CAC index 18 percent, UK's FTSE 14 percent. Only Japan's Nikkei outperformed the US, rising 52 percent (*Independent* 31 December 2013; *Daily Telegraph*, 19 December 2013). The US dollar also rose slightly (see figure 5)

¹⁷ Russell Investments 2015, 5.

¹⁸ To put this figure in perspective, Norrlof (2010: 130) shows US\$3.6 trillion of gains changes for the US in the 25 years to 2006.

¹⁹ Chinese losses on its external balance sheet were largely vis-à-vis Europe, with simultaneous gains from rising US Treasury prices and the dollar.

²⁰ The UK gained from currency depreciation. The UK also saw valuation gains pre-crisis, though smaller than the US (Norrlof 2010: 126).

²¹ This ignores the 'savings glut' argument that flows into the US contributed to the crisis.

²² Germany's external balance sheet also includes a high level of intra-euro area investment, reducing the currency risk.

²³ Andrews (2006: 20) sees autonomy as a possible aim of monetary statecraft.

²⁴ <http://research.stlouisfed.org/fred2/series/TWEXB>, accessed 3 August 2015.

²⁵ The Federal Reserve minutes, now released, shows concern on the FOMC regarding these risks but a perception that there was little choice but to take them (see New York Times 2014).

²⁶ Regulatory Capital Swaps reduce the capital a bank needs to support its overall business.

²⁷ The largest counterparty was ABN Amro (COP 2010: 91), bought by RBS, which was subsequently rescued by the UK government.

²⁸ Authors' calculations from Federal Reserve data available at www.federalreserve.gov/newsevents/reform_cpff.htm, accessed 3 May 2012. Figure based on all transactions, not outstandings.

²⁹ Usage by subsequently merged entities has been combined.

³⁰ See http://www.federalreserve.gov/monetarypolicy/bst_liquidityswaps.htm.

³¹ In addition, the US authorities delegated bank monitoring over the final foreign country bank loan recipients and suffered diminished monitoring authority over US banks with access to foreign central bank support (McGuire and von Peter 2009: 21). Even before Lehman's collapse, it has been suggested that Federal Reserve pressure on the bank to raise more capital had less impact because Lehman was able to borrow from the European Central Bank (Acharya and Backus 2009: 320; Obstfeld 2009: 45).

³² Arguably in turn triggered by Russia's default on its domestic debt.

³³ On recent causes of dollar strength, see Prasad 2014.

³⁴ The fund used for the US contribution to the bailout of Mexico in 1994.