



On the centrality of the current account in international economics

Speech by Claudio Borio
Head of the BIS Monetary and Economic Department

Keynote speech at the ECB-Central Bank of Turkey conference “Balanced and sustainable growth – operationalising the G20 framework”

Frankfurt, 28 August 2015

I would like to thank the organisers for their kind invitation to this event. I am delighted to be here.

The conference title highlights the G20’s goal of achieving balanced and sustainable growth. This, in fact, has been the goal of international policy cooperation from the start. That said, the way this challenge is interpreted has evolved substantially over time, reflecting not just shifting geopolitical currents but – of greater relevance to this conference – changing analytical paradigms too.

One aspect that remains unchanged is the critical importance of the international monetary and financial system (IMFS) in channelling policy efforts – or in reflecting their absence. This was inevitably the case during the Gold Standard era, the chaotic pre-war years of the retreat into trade and financial protectionism, the Bretton Woods phase and again, in more recent times, following the breakdown of those arrangements. Not surprisingly, the perennial challenge – and one that has given rise to heated debates – has been to identify the strengths and weaknesses of the IMFS with a view to improving it.

In my remarks today I would like to address this issue, to which we devoted a whole chapter in the latest BIS Annual Report (BIS (2015)). But I would like to do so by taking a step back. My objective is to assess critically, and from an analytical perspective, why the current account occupies such a central position in international economics and policy debates.

This centrality has a long tradition. It harks back at least to David Hume’s view of the gold specie standard, in which current account balances were regarded as the source of cross-border gold flows (Hume (1898)). It is through this lens that the economic havoc in the interwar years is seen in terms of the transfer problem, as linked with war reparations (Keynes (1929) and Ohlin (1929)). This is the perspective that highlights a systematic contractionary bias in the global economy because deficit (borrowing) countries are forced to retrench when surplus (creditor) ones are no longer willing to lend to them (Keynes (1941)). It reappears in the view that traces the 1970s Latin American crisis to the recycling of oil exporters’ surpluses (Lomax (1986), Congdon (1988)). And, more recently, it has re-emerged in the argument that a saving glut, reflected in large Asian current account surpluses, was at the root of the Great Financial Crisis (Bernanke (2005), Krugman (2009), King (2010)).

I will argue that this centrality is not that helpful in understanding how the global economy works, especially in a world of free and huge capital flows. And it may even lead to the wrong policy prescriptions. We should not forget that, for quite some time now, the terms “global imbalances” and “current account imbalances” have been treated as almost synonymous in G20 policy discussions – so ingrained is the centrality of current accounts in the policy debate.

To be clear: I do believe that current accounts matter greatly. If very large and persistent, they do provide information about long-term sustainability, they do raise the costs of financial crises, and



they do pose the risk of trade protectionism. But current accounts have been asked to do too much and, as a consequence, focusing on them excessively can lead policy astray.

Because this is a research conference, I would like to approach the topic at a rather high level of abstraction before I turn to policy. My basic thesis is that the current account is asked to shed light on issues for which it is ill-suited, such as the amount of financing a country gets from, or provides to, others; the direction of that financing (who lends to whom) – a key ingredient in the so-called Lucas Paradox (1990); the degree of capital mobility – a key ingredient in the Feldstein-Horioka Puzzle (1980); and financial instability – the risks thereof and the mechanisms involved – as highlighted in the notion of “sudden stops” (Calvo (1998)).

I shall argue that this “overburdening” of the current account concept results from the failure to make a sufficiently clear distinction between saving and financing, and hence also between gross and net flows. In turn, this ultimately points to an under-appreciation of the monetary nature of our economies. And the problem is compounded by the tendency to extrapolate inferences from a two-country to a multi-country world – something which is, or at least should be, well known but is often overlooked.

In the process, I shall take issue with familiar statements such as the following. The current account is a “...measure of total external capital financing available for investment in a country...” (Prasad et al; p 120) or of “...the total amount of finance flowing in or out of a country...” (p 129). Or again, “(t)he largest and arguably most advanced world economy, the United States, has been a net capital importer since 1982 and has been increasingly financed by fast growing emerging economies” (Gourinchas and Rey (2013); p 5).

The key point is that current account patterns are largely silent about the role a country plays in international borrowing, lending and financial intermediation

Now, I do not expect you to leave this room fully convinced, given how deep-seated the convictions underlying these statements are and the limited time available. But I do hope to raise some questions in your mind and trigger your curiosity.

You can take what I am saying to be not just about substance but also about rhetoric. More precisely, you can take it as exploring also how the way we talk about identities and our models can inadvertently shape the inferences we draw from them.

The structure of my remarks is as follows. I shall first elaborate on the distinction between saving and financing, initially in a closed economy and then in an open economy. I shall then revisit the Lucas Paradox and the notion of sudden stops, arguing that the current account concept actually muddies the water. I shall finally draw some policy conclusions, including about the workings of the IMFS. Here I shall highlight how a current-account-centric analytical framework could lead policy astray. For those that would like to explore these issues further, let me say that they have been developed in detail, with help of a simple model, in a recent paper with Piti Disyatat (Borio and Disyatat (2015)). I understand that the paper, which is still preliminary, will be made available to participants at this conference.

I – Saving and financing

The origin of the problem – the “original sin”, if you would like – is the conflation of two quite different concepts: saving and financing. *Saving* is a national accounts concept and denotes income (output) not consumed. *Financing* is a cash flow concept and denotes access to purchasing power in an accepted settlement medium (money), including through borrowing. In a causal sense, *all* expenditures, and hence



also investment, require financing, not saving. Financing, in turn, is about *gross*, not net, financial flows. And it is required for both financial and real transactions, which may or may not add to output.

Look at it another way. Saving alleviates an economy's *real resource constraint*: abstaining from consumption makes room for investment to take place without putting pressure on resources. Cash flows alleviate the economy's *financing constraint*: without cash flows, no spending can take place.

Why are the two concepts conflated? Probably, this reflects the use of models that do not explicitly trace the financing (monetary) flows – what I would call real economies disguised as monetary ones. This includes many DSGE models as well as the benchmark consumption-smoothing model of the current account – the workhorse model of international finance these days. In the simplest form, with a representative agent and a single asset (“bonds”), the relevant distinctions disappear (eg Obstfeld and Rogoff (1995)): there is no need to model financing flows explicitly and gross flows collapse into net flows.

Closed economy

Before opening up the economy, it is easiest to see the difference between saving and financing in a closed economy.

The key feature of this hypothetical economy is that it is a monetary economy, ie one in which all transactions must be settled in money, here assumed to be bank deposits. Moreover, while often overlooked, deposits are created by extending credit. More specifically, deposits are a claim issued by banks as the counterpart of the acquisition of some other claim, which typically takes the form of credit – just as cash nowadays must be issued by the government or the central bank as counterpart of the acquisition of some item. Critically, the role of banks, therefore, is to create purchasing power, not to allocate pre-existing real resources.

A couple of implications follow.

For one, there is no link between the volumes of saving and financing. Financing does not require saving, ie, abstaining from consumption. For instance, in an economy with no saving, and hence investment, one still needs financing for production, such as to pay factors of production.

In addition, saving does not have to go into financial assets: strictly speaking, it cannot, because one would be comparing apples and oranges. Saving materialises once investment takes place but is silent about the flow of financial assets. To think otherwise probably results from a misleading extrapolation from an individual agent to whole economy. That is, an agent's “saving” his labour income simply amounts to, in the first instance, a deposit transfer from his employer: there is no link to “saving” in the national accounts sense.

It is thus not meaningful to say that “country X can sustain a lot of government debt because it has a high saving rate” – a common enough statement in policy debates. Debt is sustained by the willingness of agents to hold it – a portfolio allocation decision. Saving is a just “hole” in aggregate demand that allows investment to take place without putting pressure on aggregate resources. There is no such thing as a “wall of saving” that pushes down interest rates as it sucks up financial assets: saving and investment balances at best determine natural rates, not market rates – a point to which I will return later.

Open economy

These conclusions carry through to an open economy. Three implications are worth highlighting.



First, there need be no relationship between the current account position and the financing flows underpinning expenditures, and hence investment and output. A country may be in surplus, but have all its investment financed from abroad; or be in deficit but have it *all* financed at home. For instance, in a simple model in which banks are the only source of funding, it will depend on where they are located. In other words, the location of those who spend and produce determines current account positions while the location of those who provide the funding determines financing flows.

Second, the nature of the credit risks is unrelated to the current account position: it depends exclusively on financing patterns. For instance, if the banks are located in the deficit countries, they will be the creditors and bear the credit risk in the first place. Thus, the irresistible image that surplus countries are “creditors” and are exposed to risk on deficit countries is misleading. True, balance of payments identities must hold: a surplus country is accumulating, on net, claims on others. And in a *two-country* world this would necessarily be on the deficit country. But answering the question whether any credit risk is involved and how it is distributed requires an understanding of financing patterns, by both location and instrument, and how they crystallise in outstanding stocks.

Finally, moving from a two-country to a multi-country world undermines our straightforward intuition about *bilateral* relations. Now, even in *net terms*, surplus countries need not accumulate claims on deficit countries. In the extreme case, *all* the financing could come from a third country, which does not trade with the first two – think of it as a pure financial hub. By construction, net positions would be accumulated vis-à-vis this third country.

II – Revisiting common notions

It is now possible to revisit the Lucas Paradox and financial instability, with special reference to the popular notion of sudden stops.

The Lucas Paradox

The famous Lucas Paradox states that, based on current account positions, capital counterintuitively flows “uphill”. This is because, on balance, advanced economies have current account deficits and less developed ones surpluses. But since the marginal productivity of capital should be higher in less capital intensive economies, this is not optimal.

Typical explanations of the puzzle focus on reasons why the differential in returns on capital may be more apparent than real and/or not exploitable. This may well be true. But the previous analysis suggests a different possibility: the question may not be fully well-posed.

For one, current account positions are not informative of the direction of financing: investment could be fully financed from advanced economies even if these are in deficit. One needs to look at the details of bilateral gross financing flows.

In addition, in a multi-country world, even if bilateral net positions correspond to current account positions – and they need not – it does not follow that, in aggregate, surplus countries accumulate *net* claims on *deficit* ones. For example, assume that country A has a current account deficit with B; B a current account deficit with C and B is in balance. In this case, A is in deficit and C in surplus. Assume further that bilateral net positions do correspond to the current account positions, although, as discussed, they need not. Then country C, which has a surplus, is acquiring net claims on B, which is in balance, and which is in turn acquiring net claims on A, which is in deficit. Thus, there is no sense in which capital is flowing from C, in surplus, to A, in deficit.

This is, in theory, a matter of identities. But what do the data actually say?



Data on financing patterns are very limited; but what is available suggests that the puzzle may be more apparent than real. The size of gross flows dwarfs current accounts. FDI, which can be closely linked to investment, has tended to flow “downhill”, from advanced economies to EMEs, not vice versa (eg, Prasad et al (2006)). The same is true of bank flows, at least over the last decade. And more generally, the data show little correspondence between bilateral trade positions and bilateral net financial positions, as the previous illustrative example postulates, or between bilateral net and gross financial positions. For instance, in the years up to the Great Financial Crisis, France had trade deficit – a current account proxy – with the rest of the euro area but was acquiring net claims on it, and a small surplus with the rest of the world but it was increasing its net liabilities to it (Hobza and Zeugner (2014)). Likewise, at end-2007, even as the United States had its largest bilateral net liability position vis-à-vis China and Japan, it had much larger *gross* positions vis-à-vis the euro area and the United Kingdom (Milesi-Ferretti et al (2010)).

Financial instability

What about the link between current accounts and financial instability? A common view sees current account deficits as a major source of *financial* vulnerabilities, from which current account surplus countries are spared. The reason is that deficits are regarded as exposing countries to foreign investors’ and lenders’ sentiment and hence to sudden stops.

In fact, the previous analysis makes clear that *both* current account deficit *and* surplus countries are exposed to it.

For one, since current accounts are largely silent about financing patterns, they can hardly say much about financial crises and the mechanisms involved. At most, they may say something about triggers, if economic agents *perceive* them as a vulnerability – which they often do – and about the macroeconomic costs once crises erupt. Surely the focus has to be on gross exposures, on their size and distribution. For instance, in the case of the Great Financial Crisis, the institutions exposed to it outside the United States were located in the United Kingdom, a country with a current account deficit, and the euro area, which was roughly in balance (Borio and Disyatat (2011)).

In addition, the pivotal role current accounts are given in sudden stops surely cannot be right analytically. Current account reversals do not *causally* reflect a sudden stop in net capital flows – this is simply what current accounts are, *by definition*. We should look for causal mechanisms elsewhere. If we think of the current account items, a current account “sudden stop” could only take place if foreigners decided not to export to the country any longer, giving up on the corresponding revenues, or residents freely decided to purchase fewer goods. Both of these mechanisms are implausible. Surely the sudden stop must be in gross financing flows, domestic and external, which force agents to cut imports and pre-finance exports. Thus, current account reversals are more like the tail that is wagged by the dog.

The empirical evidence is consistent with this perspective. In particular, it suggests that the best single leading indicators of financial crises are credit booms (Jordà et al (2011), Gourinchas and Obstfeld (2012), Borio and Lowe (2002)). The information content of current accounts tends to vanish once the booms are controlled for. The evidence also indicates that external sources of credit expansion do tend to outpace domestic ones as these booms proceed (eg Borio et al (2011)) and it suggests that the bust in financing flows causes activity to come to a halt. In fact, some of the most damaging credit booms in history have occurred in current account surplus countries, including the United States prior to the Great Depression and Japan in the late 1980s. Today, several current account surplus countries have been experiencing outside booms, not least China. And analytically, the main link is not between the *sign* of the current account and credit booms, but between *changes* in the current account and credit booms, to the extent that booms go hand in hand with strong domestic demand.

III – Policy implications

Let me just highlight three policy implications of the analysis.

First, there is a need to rebalance the focus of international macroeconomic cooperation away from *current account* imbalances towards *financial* imbalances. In G20 circles the term “global imbalances” has been treated as almost synonymous with “current account imbalances” for too long. In a world of huge capital flows, financial imbalances are a more important source of macroeconomic dislocations. The latest financial crisis is just the most recent reminder of their potentially disruptive force.

Second, in some cases, a focus on current account imbalances may even be counterproductive. This can be the case when surplus countries are pushed to boost aggregate demand *regardless* of domestic financial vulnerabilities – as happened to Japan in the 1980s, at the cost of adding fat to the fire of a hugely damaging financial boom (Shirakawa (2011)). And this might be what has happened to China following the Great Financial Crisis.

Finally, once attention shifts from current account imbalances to financial imbalances, central banks take centre stage (Borio et al (2014)). This is because of their first-order influence on financial conditions through monetary policy and their typically important role in prudential policy, not least macroprudential policy.

Indeed, as suggested by this analysis and as argued in detail elsewhere (Borio (2014)), the Achilles heel of the IMFS is less its inability to constrain the size and persistence of current account imbalances than its inability to constrain financial imbalances – what with Piti Disyatat we have called its “excess financial elasticity” (Borio and Disyatat (2011)). Such imbalances typically take the form of unsustainable increases in credit and asset prices, especially property prices, on the back of aggressive risk-taking. And external financing, as a source of credit expansion, tends to play a key role (Borio et al (2011)). Once these imbalances collapse, they cause huge economic damage.

To be sure, this excess elasticity originates in inadequacies of domestic policy regimes, especially monetary and prudential ones; but it is amplified by their interaction through the IMFS.

As domestic monetary regimes pay little attention to the build-up of financial imbalances, their interaction can spread the corresponding easing bias from the core economies to the rest of the world. This occurs through the extensive reach of international currencies – above all, the US dollar – beyond national borders and through resistance to exchange rate appreciation. For example, US dollar credit to non-US residents has grown at a much faster pace than US domestic credit post-crisis (eg, McCauley et al (2015)). Moreover, there is growing evidence that US policy rates have had an influence on policy rates in the rest of the world over and above that of domestic conditions (Taylor (2013) and Hofmann and Takáts (2015)).

And the interaction of financial regimes, through the free mobility of capital across currencies and borders, reinforces and channels these effects, by adding a key external source of funding during domestic financial booms and by making exchange rates subject to “overshooting” for exactly the same reasons as domestic asset prices are, ie owing to loosely anchored perceptions of value, risk-taking and ample funding. “Global liquidity”, or the ease of financing in international markets, moves in irregular but powerful waves (Borio (2013), Shin (2013), Caruana (2014)). Through these mechanisms, easy monetary and financial conditions can, and have, spread to countries that do not need them, fuelling the build-up of financial imbalances there.

This is not the place to develop and document these arguments in detail, given the space available (for an elaboration, see eg Borio (2014) and BIS (2015)). But one aspect is worth exploring further because of its possible connection with current accounts: one symptom of the weakness inherent in the interaction of monetary regimes is that, at the global level, inflation-adjusted interest rates have



trended down and appear quite low regardless of benchmarks. Those focusing on current accounts would argue that their decline, in fact, reflects an excess of ex ante saving over ex ante investment at the global level, which has been pushing down market rates alongside equilibrium (or natural) real interest rates. This is precisely a key mechanism highlighted by those who argue that a global saving glut was at the heart of the Great Financial Crisis: low interest rates, so determined, boosted the US mortgage boom whose collapse contributed to widespread financial stress.

From the perspective outlined in my remarks, such a view can be questioned. One objection concerns the link between saving and investment, on the one hand, and market interest rates, on the other. The second concerns the relationship between market and equilibrium or natural interest rates.

Saving and investment imbalances do *not* directly influence interest rates. There is general agreement that, in a monetary economy, market interest rates are determined by a combination of central banks' and market participants' actions. Central banks set the nominal short-term rate and influence the nominal long-term rate, through signals of future policy rates and purchases of assets. Market participants adjust their portfolios based on their expectations of central bank policy, their views about the other factors driving long-term rates, their attitude towards risk and various balance sheet constraints. Given these nominal interest rates, actual inflation determines ex post real rates and expected inflation determines ex ante real rates. Thus, the influence of saving and investment is only indirect, through these proximate factors and, in particular, through their influence on central banks' and market participants' *perceptions* of equilibrium or natural rates.

The question then comes down to what determines those equilibrium rates and whether the market rates prevailing at any given point in time are equilibrium ones. This is necessarily an analytical issue and the answer must be model-dependent. The prevailing view, shared by proponents of the saving glut and secular stagnation hypothesis (Summers (2014)), is that the equilibrium or natural rate equates saving and investment at full employment and that when this does not happen, inflation rises (if there is excess demand) or falls (if there is excess supply). The behaviour of inflation is the key signal of unsustainability. But from the perspective proposed here another possible signal of unsustainability is the build-up of financial imbalances (Borio and Disyatat (2011, 2014), BIS (2015)). After all, it is hard to argue that the interest rate is at its equilibrium level and that *this rate is a cause of major financial instability, hugely damaging to the economy*. Seen in this light, such a narrow definition of the equilibrium rate is more a reflection of the incompleteness of the analytical frameworks used to define the concept than one of an inherent tension between natural rates and financial stability.

Conclusion

To conclude, current accounts have been at the centre of international economics and policy for a very long time.

There are, of course, very good reasons for this. Current accounts tell us whether a country is spending more than it is producing. They are followed closely by market participants and can influence their mood changes. They can affect the macroeconomic costs of crises. And they can give rise to dangerous protectionist pressures. In short, in this respect I do agree with Maurice Obstfeld (2012), who gives an affirmative answer to the provocative question that heads up his Richard T Ely Lecture: "Does the current account still matter?"

But, more generally, current accounts have been asked to tell us more than they can about several key macroeconomic magnitudes – about the volume and direction of capital flows; about how economic activity is financed; about the role countries play in financial intermediation, lending and borrowing; and about the risks of financial instability and the mechanisms involved.



In my remarks, I have argued that this ultimately stems from the failure to distinguish with sufficient clarity between saving and financing, and hence between net and gross flows, and, ultimately, to recognise the fundamentally monetary nature of our economies. In turn, this problem is compounded by the tempting tendency to extrapolate reasoning that holds in a two-country world to a multi-country world, where it does not apply.

This state of affairs shapes in unhelpful ways both the rhetoric we employ to talk about the economy and the policy conclusions themselves. And it is one reason why, within the G20, international policy cooperation has focused so heavily on current account imbalances at the expense of financial imbalances. There is a need to rebalance this situation, as regards both analytics and policy. Post-crisis in particular, there have been some positive signs. Within the academic community, for instance, greater attention has been paid to gross capital flows and their nexus with financial booms and busts (eg Shin (2012), Obstfeld (2011, 2012), Rey (2014)). And within the G20, the concept of “global liquidity” has made a timid appearance. But progress has been too slow. The sooner we recognise this, the better.

References

Bank for International Settlements (BIS) (2015): *85th Annual Report*, June.

Bernanke, B (2005): "The global saving glut and the U.S. current account deficit", Sandridge Lecture, Richmond, 10 March.

Borio, C (2013): "Commentary: Global liquidity: private and public", in *Global dimensions of unconventional monetary policy*, proceedings of the Jackson Hole Symposium, Federal Reserve Bank of Kansas City, 21–23 August, pp 261–73.

_____ (2014): "The international monetary and financial system: Its Achilles heel and what to do about it", *BIS Working Papers* no 456, September.

Borio, C and P Disyatat (2011): "Global imbalances and the financial crisis: Link or no link?", *BIS Working Papers*, no 346, June. Revised and extended version of "Global imbalances and the financial crisis: Reassessing the role of international finance", *Asian Economic Policy Review*, no 5, 2010, pp 198–216.

_____ (2014): "Low interest rates and secular stagnation: Is debt a missing link? ", *Vox EU*, 25 June.

_____ (2015): "Capital flows and the current account: Taking financing (more) seriously", *BIS Working Paper*, (forthcoming).

Borio, C, H James and H S Shin (2014): "The international monetary and financial system: a capital account historical perspective", *BIS Working Papers*, no 457, September.

Borio, C and P Lowe (2002): "Assessing the risk of banking crises", *BIS Quarterly Review*, December, pp 43–54.

Borio, C, R McCauley and P McGuire (2011): "Global credit and domestic credit booms", *BIS Quarterly Review*, September, pp 43–57.

Calvo, G (1998): "Capital flows and capital market crises: The simple analytics of sudden stops", *Journal of Applied Economics*, no 1(1), pp 35–54.

Caruana, J (2014): "Global liquidity: where it stands, and why it matters", IMFS Distinguished Lecture at Goethe University, Frankfurt, March.

Congdon, T (1988): *The debt threat: The dangers of high real interest rates for the world economy*, Oxford: Basil Blackwell.

Feldstein, M and C Horioka (1980): "Domestic saving and international capital flows", *Economic Journal*, vol 90, pp 314–29.

Gourinchas P and M Obstfeld (2012): "Stories of the twentieth century for the twenty-first", *American Economic Journal: Macroeconomics*, no 4(1), pp 226–65.

Gourinchas, P and H Rey (2013): "External adjustment, global imbalances and valuation effects", *NBER Working Papers*, no 19240.

Hobza, A and S Zeugner (2014): "The 'imbalanced balance' and its unravelling: Current accounts and bilateral financial flows in the euro area", *European Commission Economic Papers*, no 520.

Hofmann, B and E Takáts (2015): "International monetary spillovers", *BIS Quarterly Review*, September (forthcoming).



Hume, D (1898): "Of the balance of trade" in T Green and T Grose (eds), *Essays, Moral, Political and Literary*, vol 1, Longmans.

Jordà, Ò, M Schularick and A Taylor (2011): "Financial crises, credit booms, and external imbalances: 140 Years of Lessons", *IMF Economic Review*, no 59(2), pp 340–78.

Keynes, J (1929a): "The German transfer problem", *Economic Journal*, vol 39, pp 1–7.

_____ (1929b): "The reparations problem: a discussion. II. A rejoinder", *Economic Journal*, vol 39, pp 179–82.

_____ (1941): "Post-war currency policy", memoranda reproduced in E Johnson and D Moggridge (eds), *The collected writings of John Maynard Keynes*, vol 25, *Activities 1940–1944: Shaping the post-war world: the Clearing Union*, November 2012, MacMillan/Cambridge University Press.

King, M (2010): Speech delivered to the University of Exeter Business Leaders' Forum, 19 January.

Krugman, P (2009): "Revenge of the glut", *The New York Times*, 1 March.

Lomax, D (1986): "The developing country debt crisis", London: Macmillan.

Lucas, R (1990): "Why doesn't capital flow from rich to poor countries?", *American Economic Review*, vol 80, pp 92–6.

McCauley, R, P McGuire and V Sushko (2015): "Global dollar credit: links to US monetary policy and leverage", *BIS Working Papers*, no 483, January.

Milesi-Ferretti, G, F Strobbe, and N Tamirisa (2010): "Bilateral financial linkages and global imbalances: A view on the eve of the financial crisis", *IMF Working Papers*, no 10/257.

Obstfeld, M (2011): "Financial flows, financial crises, and global imbalances", *Journal of International Money and Finance*, vol 31, pp 469–80.

_____ (2012): "Does the current account still matter?", *American Economic Review: Papers and Proceedings*, no 102(3), pp 1–23. Richard T Ely Lecture.

Obstfeld, M and K Rogoff (1995): "The intertemporal approach to the current account", in G Grossman and K Rogoff (eds), *Handbook of International Economics*, North-Holland Amsterdam, pp 1731–99.

Ohlin, B (1929): "The reparation problem: a discussion", *Economic Journal*, vol 39, June, pp 172–83.

Prasad, E, R Rajan and A Subramanian (2006): "Patterns of international capital flows and their implications for economic development", Jackson Hole Symposium, Federal Reserve Bank of Kansas City.

Rey, H (2013): "Dilemma not trilemma: the global financial cycle and monetary policy independence", in *Global dimensions of unconventional monetary policy*, proceedings of the Jackson Hole Symposium, Federal Reserve Bank of Kansas City, 21–23 August, pp 285–333.

Shin, H S (2012): "Global banking glut and loan risk premium", Mundell Fleming Lecture, *IMF Economic Review*, no 60(4), pp 155–92.

_____ (2013): "The second phase of global liquidity and its impact on emerging economies", proceedings of the Federal Reserve Bank of San Francisco Asia Economic Policy Conference, November, pp 1–10.

Shirakawa, M (2011): "Global imbalances and current account imbalances", in *Global imbalances and financial stability*, special issue of the *Financial Stability Review*, Bank of France, pp 113–26.



Summers, L (2014): "Reflections on the 'New Secular Stagnation Hypothesis'", in C Teulings and R Baldwin (eds), *Secular stagnation: Facts, causes and cures*, VoxEU.org eBook, CEPR Press.

Taylor, J (2013): "International policy coordination and the great deviation", *Journal of Policy Modelling*, in press.