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What is Driving Global Deflation and How Best to Fight It

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The massive US stimulus that has just been enacted is liable to raise questions sooner or later about the viability of the dollar in financial markets. It is true that no currency today – or, in the foreseeable future - seems capable of providing a safer alternative to the dollar, but that should not be a cause for complacency. A panicky rush into gold out of the dollar is always possible, and that can turn the current slump into a great depression worse than the last.

The interwar years offer a lesson on the dangers posed by a potential slide/rush into gold. Though clearly nowhere as important as they have since become, foreign exchange (mainly British *consols* and US Treasury bonds) had already figured significantly in countries' monetary reserves under the gold standard, and capital movements (from the US) financed similar chronic current account deficits (in Europe). The Fed's shift to tight money in 1928 led to an abrupt fall in the US lending to Europe. Deficit countries were forced to deflate, increasing doubts about the overvalued sterling and – eventually, by association - the dollar as well. A destabilizing dynamic was thus set in motion – the more confidence eroded the fear of devaluation led countries to liquidate foreign exchange (sterling and dollar) in favor of gold in their reserves and the devaluation risk rose further. Moreover, dwindling foreign exchange in international reserves led to a progressive contraction of money supply and credit, causing a slump both abroad and in the US, further undermining the confidence in the monetary system. The Fed stuck to tight money to restore confidence in vain, only to see the slump get worse. The effort to defend the dollar remained a contractionary burden until 1933 when finally the dollar was devalued by the incoming FDR Administration, but the damage was already done.

It is true that there are no fixed parities to defend today, whether against gold or any other currency, and the Fed is doing exactly the opposite of what it did then. However, there are also unmistakable parallels. Just like then, a process of deflation driven by the disruption of the recycling of trade surpluses - triggered by the financial crisis this time around rather than an abrupt shift in policy then –is threatening global financial disintermediation. Moreover, the erosion of confidence is again liable to cause a massive monetary contraction around the world in the period ahead similar to what happened then. But, this time around the stakes are higher and the room for maneuver less, given that the share of dollars in international reserves is incomparably larger now than it was in the late 1920s. This makes the challenge we face today more formidable. If financial sentiment were to force the US to choose between trying to keep unemployment from rising further into double digits or defending the dollar, the US could probably succeed in neither. Reversing its policy of extreme monetary easing and fiscal stimulus in order to defend the dollar could be equally disastrous as letting its value fall precipitously. Unlike the 1930s, depreciating the dollar today would be hugely deflationary abroad as it can decimate the international money supply and thus is much less of a viable option.

In its current policy, the US ignores the possibility that changes in financial sentiment might eventually force its hand on the dollar, and the monetary easing and a massive fiscal stimulus on the way amounts to fighting deflation by trying to destabilize the monetary standard to induce inflation. That is however a pact with the devil. If it fails the current slump can turn into a great

depression worse than the last, and if it works the resulting inflation will probably make the 1970s look good. But, given the severity of the situation what else can be done?

A much safer alternative would be to prepare for the day when the devaluation risk of the dollar rises. A credible game plan would involve figuring out a way to draw a wedge between the global dollars accumulated in foreign reserves and the domestic dollars that the US is and will be creating at a much faster clip. That way the world economy can reflate as a whole as needed, since everyone including the US would be able to devalue in relation to a stable monetary standard which these global dollars can become. Thus, finding a way to go off the “dollar standard” the way the US went off the gold in 1933 to free its hand to fight the deepening slump is a crucial policy move the Obama Administration should be working on. Dealing with it effectively requires close international cooperation, which means that much rests on whether the US can supersede the unilateralism of the Bush years. Putting pressure on the Chinese to appreciate the *renminbi* is however a nonstarter.

Why pressuring the Chinese to revalue is wrongheaded?

The arguments that call for a stronger Chinese currency are usually based on the notion that the *policy exchange rates* pursued by the Chinese and other Asian governments are the cause of today’s global imbalances. The idea of market adjustment behind this in turn derives from David Hume’s time-honored *price-specie flow* mechanism, even though it was meant to be a model of how adjustment supposed to have worked under the gold standard in an era long past. It describes an automatic adjustment process where countries that are running trade surpluses experience rising prices, making their exports more expensive and imports cheaper, while deficit countries experience falling prices, making their exports cheaper and imports dearer. Thus, automatic price changes bring about an adjustment where exports (imports) tend to rise and imports (exports) fall in deficit (surplus) countries, eliminating the initial trade imbalance. If this is indeed how market adjustment worked, then clearly the very persistence of trade imbalances in itself implies market *interference*.

However, despite its simple elegant logic, the *price-specie flow* mechanism is a highly misleading way of thinking about international trade imbalances. Not only for today, but even for the gold standard era, the period spanning from early 1870s to the beginning of the WWI, it was arguably a poor model of how adjustment actually worked. For its simplifying assumptions leave out a couple of essential features, viz., capital flows due to foreign lending and central bank policy, that had already become important by the second half of the 19th century and have been even much more so since.

Hume had assumed that only gold coins circulated as money and that trade imbalances were settled in transfers of bullion, ignoring the impact of both foreign lending and central bank policy on the money supply. But, of course, under the gold standard, convertible paper currency was the norm. By statute, central banks usually had to hold gold (along with foreign exchange) reserves in the order of 35 to 40% of their liabilities depending on the country and use government bonds to collateralize the part of the paper currency not backed by gold, the so-called the *fiduciary* issue. Thus, they could change within certain bounds at their discretion what we would today call the *money multiplier* by varying the ratio of gold reserves to currency, or more importantly manage

their reserves (*money base*) by varying the interest rate at which they borrowed from other central banks. Moreover, uncertainty and pessimistic expectations could become self-fulfilling as they had the effect of lowering the money multiplier and thus causing the money supply to shrink even when gold inflow was raising the gold reserves as was the case for instance in Belgium and France, late 1920s on (Bernanke 1995, Eichengreen 1996). Thus, the real world gold standard allowed for a good deal of flexibility and it was far from a foregone conclusion that a deficit (surplus) country would experience a falling (rising) money supply. In fact, the system worked relatively well only when the money supply, prices and output were relatively insulated from trade imbalances and ran into trouble when they were not, as happened during times when foreign lending became skittish.

The *real world* gold system was mainly about central banks acting in accordance with what Keynes called, the *rules of the game*, whereby preserving gold reserves in the face trade imbalances was their main priority. Their most effective tool was the interest rate policy, and thus whenever a country ran a trade deficit (surplus) its central bank's first response would be to raise (lower) the interest rate. That in turn had two opposing effects on final demand. On the one hand, the higher discount rate in the deficit country had a contractionary effect on spending and thus tended to lower prices. But, at the same time, it attracted foreign lending which augmented reserves (domestic money base) and thus was potentially expansionary. The strength of the contractionary effect depended on how high the interest rate rose and on the interest rate elasticity of spending, while that of the expansionary effect rested on how responsive the capital inflow was to the higher interest rate and the degree to which credit supply expanded with the money base. Likewise, the response of the central bank of a surplus country would be to lower the interest rate, giving rise similarly to two opposing effects. The lower interest rate on the one hand would stimulate domestic spending, and on the other induce increased foreign lending, contracting the domestic money base. The net impact on final demand depended on the balance of these two opposing forces.

Thus, adjustment toward balanced trade – holding onto the rest of the assumptions of the *price-specie flow* mechanism - presupposes that the negative impact of interest rate changes on spending is stronger than its positive impact on the capital flows and thus the credit supply. Under the best of circumstances, the contractionary (expansionary) effect in the deficit (surplus) country would be slightly stronger, giving rise to an adjustment of prices that is both gradual (and thus relatively painless) and *functional*, i.e., in the direction proscribed by the *price-specie flow* mechanism. That was by no means always the case however. As happened in the 1920s and increasingly in our neoliberal era since the early 1990s, the two effects often canceled each other out for prolonged periods of time, giving rise to chronic trade imbalances; or, yet, the expansionary (contractionary) effect in the deficit (surplus) country became stronger, causing the trade imbalance to worsen over time before it eventually unraveled in a crisis.

Thus, adjustment can clearly become *dysfunctional* even in the absence of market *interference* and regardless of whether the gold standard holds or not. All that is required is that it becomes capital account driven, i.e., creditors' perceptions of borrower creditworthiness and financial conditions bearing upon foreign lending rather than trade imbalances govern capital flows. However, in the longer run *dysfunctional* (mis)adjustment is unstable since the capital inflow sooner or later breaks down as the deficit country's creditworthiness is undermined past a certain threshold by its steadily rising debt. Foreign lending is then disrupted when creditors sharply re-

assess their credit risk, and that is when the *price-specie flow* mechanism begins to work *at last* as the deficit country is forced to deflate with all the attendant economic pain that entails. But, now, the *price-specie flow* adjustment signifies a breakdown of financial intermediation more than anything else and might have little to do with any realignment of internal prices to their external levels on the basis of productivity and cost differences. Thus, persistent trade imbalances are not a *prima facie* evidence of market interference that causes price misalignments giving rise to disequilibrium.¹

Thus, there is little rationale to pressuring the Chinese to revalue their currency, especially given the fact that the empirical literature finds no or little significant undervaluation of the *renminbi*.² Worse, adjustment along the lines of the *price-specie flow* mechanism today could hasten the breakdown of global financial intermediation with disastrous consequences. But, if price misalignments caused by policy driven exchange rates are not the cause of chronic US trade deficits, what is?

Towards An Alternative View

An alternative view draws on the implications of the dollar's replacement of gold as the main monetary reserve asset throughout the world after the WWII. The story of how the severe dollar shortages of the early post-WWII era quickly turned into rising US trade deficits and accumulation of excess dollars in European central banks by the 1960s is too well known to recount here. The US deficits were initially quite welcome as they were seen as means of reserve injections into a dollar starved Europe and beyond. However as the 1950s wore on they increasingly became a cause for concern and even alarm. By the early 1960s, the US liabilities overseas exceeded its gold reserves, and questions began to emerge about the stability of the dollar.

At the time, Robert Triffin (1960) captured the gist of the problem posed by the dollar's reserve currency role. To avoid getting trapped in a deflationary spiral similar to what occurred during the interwar years, the world needed an elastic money supply and thus its dollar holdings had to increase steadily to back it up. But, that required the world to run a trade surplus with the US. To put it differently, the US had to keep running ever larger trade deficits for the size of these dollar holdings overseas to expand, which however raised doubts about the dollar-gold parity, undermining confidence in the monetary standard. This was in a nutshell, Triffin's dilemma. The world growth and the prerequisite expansion of monetary reserves it depended on undermined the monetary standard that was the backbone of these reserves. Fine tuning the US policy mix could at best strike a balance between the opposing scales and help earn time but not solve the problem. – that is, until the *strong-dollar* policy after the 1980s gave the dollar a second lease on life.

Potentially, the reserve shortage and convertibility problems could simultaneously be fixed by raising the dollar price of gold while maintaining other currencies' peg to the dollar. That would

¹ Keynes thought it was a “doctrinaire delusion” to “suppose that there exists some smoothly functioning automatic mechanism of adjustment which preserves equilibrium if we only trust to methods of *laissez-faire*...” (quoted in Eichengreen 1996, p. 93).

² See, for instance, Cheung et al 2007, Chou & Shih 1998, Chu 2005, Peng et al 2008.

have simply amounted to devaluing all currencies together against gold which would raise the size of reserves by increasing the value of gold in them. In fact, the *Bretton Woods*' Articles of Agreement had a provision for a universal reduction in par values that could have been used to that effect. But, such a measure was politically unattractive to the US because it would have rewarded countries who cashed in their dollars and penalized those who held onto them, and in addition would have benefited the Soviet Union and South Africa (Mundell 1995). Thus, the US instead supported the idea of developing a synthetic substitute for gold and that was how IMF Special Drawing Rights (SDRs) were initially born.³ But, for a host of reasons – striking a deal among G-10 countries proved hard and slow - that did not go far either and the system simply broke down. Inflation accomplished with a vengeance what concerted action failed to do. International (especially European central bank) reserves that were already inflated by the US deficits of the 1960s exploded during the 1970s.⁴ Rising inflation and the explosive rise in international reserves fixed international attention on the problem of confidence in the dollar. The US' reluctance to rein in spending to improve its balance of payment situation eventually gave rise to successive runs on the dollar, finally triggering a regime change in the US by the end of that decade.

Reconstitution of the Dollar Standard

It is possible to read the monetary history since the breakdown of the *Bretton Woods* as a story of the protracted process of reconstituting the dollar standard without the gold anchor rather than the usual emphasis on the transition from fixed to floating exchange rates. The key to this revisionist reading is the focus on how the *strong dollar* policy became a viable option in terms of dealing with Triffin's dilemma when it could not be before. In the Bretton Woods era, the *strong dollar* was associated with reserve shortages abroad since it implied US trade surpluses. But that radically changed under the altered conditions of the 1980s when the *strong dollar* went hand in hand with ballooning US current account deficits. What made this change possible was first and foremost the political and monetary regime shift in the US.

A dollar standard without a gold anchor was successfully negotiated in the Smithsonian Conference in Washington D.C. right after the Nixon Administration terminated the dollar's convertibility to gold in July 1971, only to crumble within a couple of years. Two general themes are often emphasized as to why it failed. One is the idea of incompatibility of fixed exchange rates with international capital flows that were becoming increasingly *free* at a time when many of the earlier capital controls were being dismantled,⁵ while the other is the Europeans' frustration at having to accommodate the turns and twists in US macroeconomic policy and their

³ These gold guaranteed SDRs were quite different than what they later became, the SDRs that were backed by a currency basket.

⁴ At a time when the actual volume of monetary gold reserves remained approximately constant, there has been about an 8 fold increase in international monetary reserves from 1969 to 1984. Roughly half of this was due to higher dollar price of gold while the other half stemmed from increases in foreign exchange. The increase in the third source of reserves, SDR holding and IMF deposits was less than 10 percent (Triffin 1986). Incidentally, the two big beneficiaries of the rising price of gold, USSR and South Africa, ended up increasing significantly their import dependency. It is an interesting question to what extent that contributed to the later political demise of both regimes.

⁵ This is in fact the forerunner of the *bi-polarization* thesis that gained currency by the end of the 1990s, which holds that the exchange rate mechanism to be viable has to be either a hard-peg or a full float.

complaint about the inflationary impact of the weak dollar. The common European currency, it is often remarked, to a large degree owes its very inception to this sense of frustration on the part of the Europeans. Be that as it may, the real source of the problem with inflation as it turned out was not so much the US macroeconomic profligacy as it was the political strength of labor that gave rise to the wage-price spiral throughout the advanced capitalist countries. The lesson was not lost on the world in the aftermath of the Bretton Woods that it was next to impossible to discipline a superpower such as the US, let alone do it by anchoring the dollar to gold. The threat of inflation could be much better contained if the US led Europe in abrogating the post WWII social compact that made it hard to discipline labor.

The monetary tightening that started under the Fed Chairman Paul Volcker was soon joined with a large dose of fiscal stimulus under the Reagan Administration, and the result was higher real interest rates, a much stronger dollar and ballooning trade deficits - just as the Mundell-Flemming model predicted. But, this time around, US trade deficits were no longer a source of chagrin for confidence in the dollar. The political reconfiguration that broke the back of labor unions provided all the necessary backing the dollar needed as the increased threat of unemployment proved a much more convincing anchor than gold for wealth owners around the world. It still took about a decade for the pure dollar standard to come to its own as marked gyrations in major exchange rates and the domestic political backlash against the *strong dollar* in the US continued to pose a threat to the emergent monetary regime. However, by the 1990s, advancing globalization and the triumphalism that ensued after the fall of the Berlin Wall clinched the trend the changing political climate had set in motion earlier. As the *strong dollar* and trade deficits returned with a vengeance in the mid 1990s it became abundantly clear that there was no going back.

US trade deficits were once again the key to world growth. But, now, reserves accumulated in the hands of a few successful export promoters only – first Japan and Germany, then increasingly China and the oil exporters among a few others – who ran increasing trade surpluses with the US, which were then recycled to the rest of the world through the US financial system. The fact that exports became the sole safe source of demand stimulus helped contain the exchange rate volatility of the earlier decade. The appreciation of any currency against the dollar was self-limiting as any country whose currency appreciated was liable to experience falling exports and succumb to economic stagnation, which then curtailed the demand for its currency

Also, the trade imbalances were no longer deflationary for the deficit countries that could attract capital. *De facto*, less successful exporters in the periphery were given a choice between deflation and making themselves hospitable to foreign capital, and more often than not the hope of expansion on borrowed money won over deflation. It was as though a privatized version of Keynes' old International Clearing House idea was put into effect in the sense that the trade surpluses were now being effectively recycled. In fact, more than merely recycled, they were being multiplied at an increasing rate within the US financial system as they were in part absorbed in the US and in part passed onto the rest of the world. On the one hand, with Bank of Japan monetizing US debt at an increasing rate, an endogenous mechanism of speculative demand led global money supply came into being (D'Arista 2004, Schnabl & Hoffman 2008). On the other, getting rid of the last vestiges financial regulation in the US gave impetus to a market based credit system that eclipsed traditional banking (D'Arista 2002, Erturk & Ozgur 2008). New financial instruments proliferated and were absorbed with rapidly increasing levels of leverage,

raising the financial system's capacity to finance ever larger quantities of long-term illiquid assets with short-term liabilities (Crotty 2008, Kregel 2008). Soon, the world was awash in liquidity.

The main recipients of these funds were the countries that could compete better than the rest in attracting capital. While some hardly received anything others were drenched, and the latter had to cope with the strongly procyclical nature of the capital inflow with limited success at best. Thus, the threat of deflation and exchange rate volatility was replaced by capital flow volatility, leading to capital-account driven boom and bust cycles that culminated in one currency crisis after another in the emerging economies throughout the 1990s.

The main point about the increased prevalence of sudden stops and abrupt capital flow reversals is that international adjustment in this period became capital account driven and increasingly *dysfunctional* in the sense of accentuating existing trade imbalances. The explosive expansion of financial liberalization in emerging economies in the 1990s made variable-price financial instruments the main conduits of capital flows in contrast to the originally nonnegotiable fixed-price bank loans of the 1980s. As a result speculative asset price expectations became an important driver of portfolio dynamics, giving rise to erratic capital flows (Erturk 2005). The primacy of the capital inflow was such that even countries that ran sizable trade deficits quite often experienced rising real exchange rates and credit booms, culminating in even larger deficits – that is, until they were hit by a crisis.

The Asian crisis marked an important turning point. In its aftermath, the “savings glut” Bernanke talked about was real, caused by the collapse of investment in Asia and beyond which was in part the result of growing competition from China (Erturk 2001-2) and in part the crisis itself. Foreign exchange reserves of emerging economies steadily increased as many of them began to run large current account surpluses. Contagion made it harder to finance consumption booms and even those countries that continued to run deficits began to accumulate reserves as net spending remained below the capital inflow. With spending either curtailed or harder to finance in many emerging economies the epicentre of debt financed credit booms shifted onto more developed economies with greater reservoirs of credibility, the US first and foremost among them. As we now know all too well, the Fed engineered real estate bubble that gave the US consumption boom a second lease on life has created a huge financial house of cards that collapsed when increasing debt finally caused risk aversion to rise. Once investors pulled back, a self-reinforcing cycle of deleveraging forced a mass liquidation of assets, shaking the system to its very core. Now that the US and the world economy have both gone off the cliff, the question is what is to be done?

What should be the focus of crisis management?

Until just recently it was believed that the crisis would end when investors returned to the stock market and recapitalized banks. But investors lacked confidence that they would not be throwing good money after bad. The dubious assets still buried deep in bank balance sheets had to be

cleansed and yet trying to sell them off would push down their market value further, compounding banks' losses. Thus the bottom could not be reached until the investors returned, but they would stay on the sidelines until asset prices have hit bottom. The initial Paulson rescue package was aimed at addressing this dilemma by trying to provide a floor to falling asset prices. It was meant to work like the kiss of the beautiful princess, restoring the frog of bad assets to their *true* market value, and the hope was financial markets would go on functioning normally there after. But, the Paulson Plan failed to transform investors' expectations. It failed to persuade financial markets that it could provide the bottom the market would not.

It has by now become clear that this is no ordinary recession. As economic contraction gained momentum in the US and the rest of the world, the focus of crisis management has shifted in quick succession from restoring the liquidity of the credit system to mitigating credit contraction by direct intervention in banks, if need be. Also, in the US and beyond, there now appears to be considerable agreement across a wide spectrum that a massive fiscal stimulus is indispensable to prevent the current slump from getting even worse. As a result, a hefty package of public spending and tax cuts in the US is now on its way. Leaving aside the new European emphasis on regulation, the only real criticism is that it might not be big enough (Feldstein 2009).

While the emphasis on resuscitating the banks and injection of public spending are both important, the trouble is that neither addresses directly the main source of global deflation, which is that the global imbalances are no longer being recycled effectively. The fundamental issue comes down to this: because both its households and banks are now bankrupt, the US has lost much of its capacity to either absorb or recycle trade surpluses elsewhere. That in a nutshell is the driving force behind the global deflationary trend. Substituting *en-masse* public spending for private consumption and putting banks on life support are at best stop-gap measures, but it is unlikely that they will ever bring back the old system that recycled trade surpluses. Even under the best case scenario where the confidence in the dollar holds up, the broken machinery that produced the world credit supply will not be put back together for the simple reason that too many borrowers and intermediaries are insolvent. There is no easy way to make the debt overhang go away, and thus tax cuts or other measures won't bring about a lasting increase in private consumption. If moreover the confidence in the dollar ebbs and a slide/rush to gold occurs as happened in the late 1920s, the situation will be further complicated, with a protectionist unraveling of world trade perhaps the most likely outcome.

At that point, the exceptional advantage the US enjoys in being able to issue its liabilities in its own currency ceases to be of any help. No doubt, it has so far shielded the US from the worst ravages of a financial crisis other countries would have experienced in similar circumstances. But, it can become a part of the problem. Most countries that had a currency crisis in the 1990s experienced a speedy, V-shaped recovery, mainly because the sharp capital account reversals they went through provided the unambiguous market signal that asset price deflation had hit bottom and overshot. That in turn led to a strong surge in the capital inflow, bringing a speedy end to the crisis. The trouble now in the case of the US is that no quick obvious market-driven bottom to asset price deflation can conceivably be in the horizon following a dollar crisis in part because of the massive size of the dollar reserves outside the US. Because it can cause these reserves to unravel, a sharp dollar devaluation can result in a massive dollar overhang, causing most probably the world trade to fragment into an archaic form based on bilateral and regional agreements. In essence, this is the Triffin's dilemma all over again, except the stakes are much

higher this time. The concern about the confidence in the dollar is only the visible head of a Siamese twin where the other head is the world monetary reserves. If the integrity of the world monetary reserves cannot be secured there soon might be nothing left to recycle, and that danger is now uncomfortably high.

It is crucial to understand that the problem is not the global imbalances *per se*, but the unsustainable way financial deregulation and neoliberal global order absorbed and recycled them. Thus, in addition to re-asserting public control over the credit creation process (D'Arista 2008, Geider 2009), the first thing to do would be to be prepared in case the dollar tanks, and the next thing would be to focus on how to resume the recycling of trade surpluses before contraction begins to destroy them. The former would safeguard the global monetary standard and thus the integrity of monetary reserves, while the latter aims at waning world demand of its dependence on US overspending without the world getting stuck in a depression.

Technically, neither objective needs to be a pie in the sky. For instance, one idea that is recently suggested to secure the dollar is to set up a substitution account at the IMF to convert unwanted dollars to SDRs (Bergsten 2007). Such an account was considered before in the late 1970s when the international confidence in the dollar was ebbing only to be shelved once the political swing to the right made it redundant. In principle, the IMF could issue as many new SDRs as demanded without that being inflationary, and even refashion itself as the asset manager of the world (Bordo & James 2008). Potentially, the IMF could even play a very helpful role in putting in place new instruments such as the proposed Asia bond the Chinese reserves can be used to issue (Shinawatra 2008). But, then in all these proposals as many others that came before the real question is whether there will be the political *will* to carry them out. Will the US have the wisdom to lead in helping the world economy *decouple* itself from it? Will the two countries, the US and China, who have the most to gain from cooperation will be able to do so? Will G-20 be the driving force behind a new "global accord" as Gordon Brown is now advocating? Time will show.

References:

- Bergsten, F. (2007). "How to Solve the Problem of the Dollar," *Financial Times*. December 10.
- Bernanke, B. (1995). "Macroeconomics of the Great Depression: A Comparative Approach," *Journal of Money, Credit, and Banking*, 27(1).
- Bordo, M. & H. James (2008) "The Fund Must be A Global Asset Manager," *Financial Times*. October 20.
- Cheung, Y., Chinn, M. & E. Fujii (2007). "The Fog Encircling the Renminbi Debate," *Singapore Economic Review*, 52(3), pp. 403-18.
- Chou, W.. & Y. Shih (1998). "The Equilibrium Exchange Rate of the Chinese Renmimbi," *Journal of Comparative Economics*, 26(1), pp. 165-74.
- Chu, T.H. (2005). "The Chinese RMB: Its Value, Its Peg, and Its Future," *Business Economics*, 40(2), April, pp. 7-17.
- Crotty, J. (2008). "Structural Flows in Deregulated Financial Markets Caused the Current Crisis: A Critical Evaluation of the 'New Financial Architecture' University of Massachusetts at Amherst, Mimeo.
- D'Arista, J. (2008). "Broken Systems: Agenda for Financial and Monetary Reform," Speech. 17th Annual Hyman P. Minsky Conference, The Levy Economics Institute of Bard College, Annandale-on-Hudson, April 17.
- D'Arista (2004). "Dollars, Debt and Dependence: The Case for International Monetary System," *Journal of Post Keynesian Economics*, 26(4), Summer.
- D'Arista, J. (2002). Rebuilding the Transmission System for Monetary Policy. *Financial Markets and Society*. (November): 1-28.
- Erturk, K. (2005) "On the Changing Nature of Currency Crises," in P. Arestis, J. Ferreiro & F. Serrano (eds.) *Financial Developments in National and International Markets*, Palgrave Macmillan.
- Erturk, K. (2001-2) "Overcapacity and the East Asian Crisis," *Journal of Post Keynesian Economics*, 24(2) Winter.
- Erturk, K. & G. Ozgur (2009). "The Decline of Traditional Banking and Endogenous Money," Schwartz Center for Economic Policy Analysis, Working Paper 2009-2.

- Eichengreen, B. (1996). *Globalizing Capital. A History of the International System*. Princeton Un Press.
- Feldstein, M. (2009). "Fall in US Household Wealth Likely to Spur a Long Recession," *Taipei Times*, March 3.
- Geider, W. (2009). "Fixing the Fed," *The Nation*, March 30.
- Kregel, J. (2008). "Changes in the US Financial System and the Subprime Crisis, The Levy Economics Institute, Working Paper No. 530
- Mundell, R. (1995). "The International Monetary System: The Missing Factor," *Journal of Policy Modeling* 17(5), pp. 479-92.
- Peng, T., Lee, M. & C. Gan (2008). "Has the Chinese Currency Been Undervalued?" *Journal of Chinese Economic and Business Studies*, 6(1), pp. 49-66.
- Schnabl, G. & A. Hoffman (2008). "Monetary Policy, Vagabonding Liquidity and Bursting Bubbles in New and Emerging Markets: An Overinvestment View," *World Economy*, 31(9), pp. 1226-52.
- Shinawatra, T. (2008) "An Asia Bond Could Save Us From the Dollar," *Financial Times*. October 10.
- Triffin, R. (1989). "The International Monetary System and the Paper-Exchange Standard," in O. Hamouda, R. Rowley & B. Wolf (eds.) *The Future of the International Monetary System: Change, Coordination or Intability?* Sharpe, pp. 35-41.
- Triffin, Robert (1960). *Gold and the Dollar Crisis: The Future of Convertibility*. Yale Un Press.
- Yang, J. & I. Bajeux-Besnainou (2006) "Is the Chinese Currency Undervalued?" *International Research Journal of Finance and Economics*, 2, March, pp. 106-30.