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Paper by invitation

International Subprime Crisis and Recession: Emerging Macroprudential, Monetary, Fiscal and Global Governance

Summary: This paper scrutinizes technical international policy reactions to the subprime crisis and recession. Short-term policy responses present challenges to the conservative policies of the 1980s-2000s, while long-term structures and issues are likely to redirect governance significantly. Macroprudential policy now includes systemic risk and debt problems arising from booms in the cycle. Monetary policy considers asset price instability as well as inflation. Fiscal policy in practice cannot ignore functional finance. Alternative forms of global money and reducing international payment instabilities are now a core element of policy. While there is still some asymmetry in policy, international financial crises can be useful in moderating ceremonial policy structures.

Key words: Subprime crisis, International macro policy and governance.

JEL: E60, F02, G01, N10, P16.

Much of the world has been going through the worst financial and economic crisis since the Great Depression of the 1930s. The subprime crisis started when housing prices began to fall in the United States in 2007, continued through major liquidity crisis when Lehman Bros failed in late 2008, and adversely affected output through recession in many nations during 2009-2011. Numerous areas have joined this multiple crisis (financial, economic, policy) through dealing with subprime bonds and the chains of bankruptcy affecting other institutions involved in the circuit of money capital. When a global financial panic emerged in late 2008, this led to a drop in liquidity which further affected output and employment in most nations. In total the subprime, liquidity and output crises have generated a major global crisis of confidence, including deep recession in most major nations and many emerging and underdeveloped ones. As a result some nations and transnational organizations have undertaken some very serious rethinking of macroprudential, monetary, fiscal and international policy, while the European Union and others have been reinforcing their neoliberal policy of cutting budget deficits.

Most of the economic journals have had special sections or even whole issues on the crisis; and *Panoeconomicus* has joined this tendency in trying to ascertain the causes and consequences of the crisis and recession. For instance, in this journal Georgios P. Kouretas and Prodromos Vlamos (2010) examine the nature of the Greek crisis, paying special to rising private sector debt transferring to the public sector due to policy reactions to the financial crisis. Kosta Josifidis, Alpar Lošonc,

and Novica Supić (2010) argue that the crisis is cyclical and especially structural in origin, linked to the financial and economic instabilities generated by neoliberalism. In this light, the current paper accepts these arguments (see Phillip Anthony O'Hara 2009) but concentrates instead on the *practical policy architecture* emerging from the subprime crisis. While general problems are emerging in terms of sovereign debt and public budgets, we are more interested in lesser known questions such as the changes emerging in the four areas of prudential, fiscal, monetary and global money issues. What specific policies (and policy issues) of a prudential, monetary, fiscal and international money nature have emerged from the crisis? Can improvements be made in these four areas? We differentiate between immediate policy responses and the likely long-term policy styles emerging from the crisis.

1. Crisis and Immediate Policy Response

As the international bubble (especially for advanced nations) that emerged during 2004 to 2007 came to a halt the major property, finance and equity markets stalled and then declined as euphoria evaporated. Early problems in 2006 and 2007 were the closure of Ownit Mortgage Solutions and New Century in the US, two of the biggest lenders in the subprime market. Problems were brewing in Europe, which had bought masses of these Collateralized Debt Obligations (CDOs) (bonds) through Special Investment Vehicles (SIVs). Trying to evade Basel-II style capital adequacy rules by having SIVs off balance sheet posed great problems, once these special vehicles started to collapse. Banks thus started to put them back on their balance sheets (including their growing liabilities) which led to massive losses.

The UK giant HSBC was the first to be affected in this way in November 2007, transferring US$45 billion onto its balance sheet. Then in December 2007 a whole host of other institutions followed suit, including Citigroup (transferring US$49b), Rabobank (US$7.6b), Standard Chartered (US$1.7b) and Societe Generale (which bailed out its SIV with a US$4.3b credit line). (Michel G. Crouhy, Robert A. Jarrow, and Stuart M. Turnbull 2008, p. 14). Problems continued through 2008 as the German Dresdner Bank provided US$17 credit to its SIV to avoid a firesale. Monoline insurers came under pressure and many failed since they had responsibility for US$127b of CDOs which depended mainly on subprime home loans. Globally, hedge funds also suffered losses as they had to guarantee multi-trillion dollars worth of credit default swaps for their clients.

The first stage of the crisis, the liquidity crunch which started in late 2007 throughout much of the globe, revealed a core series of contradictions in the institutions. In the UK for instance, the new tripartite regulatory system, instituted in the late 1990s, was found seriously wanting. This tripartite system included the bank of England, which was given independence to concentrate on interest rates to control inflation, as well as being responsible for the stability of the financial system in general. The Financial Services Authority (FSA) had the task of supervising the whole financial sector, particularly the individual banks. And the Treasury controlled finance if indeed this was required for stability or regulation.

A new operating procedure was instituted in the UK, whereby banks could specify for each reserve maintenance period the quantity of cash required from the

reserve bank. If they needed less cash than already specified they could redeposit the surplus with the reserve bank (below the policy rate), and if they needed more cash than specified they could borrow from the reserve bank (above the policy rate). This new procedure worked well, until problems emerged at Northern Rock in August and September 2007, concerning wholesale securitized mortgage bonds. These problems became public knowledge as Northern Rock experienced declining confidence and deposit holders sought high volumes of cash. Northern Rock failed to gain the required liquidity, the takeover option fell through, and it was left to the government to solve the problem (Alistar Milne and Geoffrey Wood 2008).

The Bank of England and the operating procedures thus failed to solve the liquidity crisis at Northern Rock because there was no effective system of deposit insurance, no system existed to provide substantial funds to institutions in need without the public reacting adversely, and Northern Rock was hardly too big to fail in the normal sense of the term. The government therefore did the only thing possible to reduce further lack of confidence, it intervened and eventually nationalized Northern Rock under public ownership. Further nationalizations followed in quite succession. For Milne and Wood (2008) three policy changes are required in the light of this experience. The first is to institute a general system of public deposit insurance up to a limit of around 35,000 pounds (since raised to 50,000). The second is to provide a workable system of liquidity for banks, against a broad array of collateral, at a penalty rate and limited to about three months, where information is not readily available to the public. And the third is to reorganize takeover and bankruptcy rules to enable prompt closure, reorganization and payout; or takeovers/nationalisations.

While the Chairman of the Federal Reserve, Ben Bernanke, was saying in mid-2007 that he didn’t expect the subprime problems to affect the rest of the financial system or economy, it started to do precisely this soon after. The global credit crunch that emerged in late 2007 through 2008 was stage one in the subprime crisis. Linkages between problems in the subprime market, collateralized debt market, hedge market, investment banking, monocline insurers, money market corporations, government sponsored enterprises, and commercial banks led to problems in the general economy. Declining confidence led to greater demand for money, the flight to quality, declining equity prices, and reduced consumption and investment. Investors sold mortgage backed securities, property and equities as safe alternatives such as government bonds became the order of the day.

As a result, schemes were introduced or expanded, including interest rate reductions, discount window funds, and assistance to mortgagees. Even before the liquidity crunch started in the US, the HOPE alliance (homeowners help group) was started to help mortgagees avoid foreclosure. The Federal Housing Administration scheme was greatly expanded to help mortgagees (re)finance their home. Project Lifeline was instituted to delay foreclosure for mortgagees at least 90 day delinquent on repayments to encourage loan modifications. Once the liquidity crunch started massive central bank interventions ensured from August 2007, including a combined injection of US$294b from European, US, Canadian, Japanese, Swiss, Australian and Singaporean reserve banks (Crouhy, Jarrow, and Turnbull 2008, p. 44). Other schemes were introduced, including the Primary Dealer Credit Facility, which watered down the collateral required of investment banks for loans from the Fed.

The credit crunch, equity and housing declines as well as flight to quality continued through 2008, especially for investment banks. In March 2008 Bear Stearn's hedge funds underwent liquidity problems as their investments in securitized mortgage bonds falted and leverage was found to be much higher than officially announced. Because their positions were closely associated with J.P. Morgan (their banker) and other institutions, the Federal Reserve intervened to organize loans and then a takeover by J.P. Morgan. Freddie Mac and Fannie Mae experienced a major decline in the value of their stock in July 2008, which was very serious because these institutions were the backbone of the securitized mortgage bond market. Being government sponsored enterprises, though publically listed and private-sector institutions, any problems here would potentially (and actually did) cause a major panic. Through July Treasury Secretary Hank Paulson organized a plan for an emergency US$300 billion loan and afterwards both agencies were effectively nationalized to bring them under public ownership (Paul Mizen 2008).

Towards the end of 2008 a second stage of the crisis started: the financial panic. Up until then things had been fairly grim, but full-scale panic had not ensured. As Hyman P. Minsky (1982) indicated, a financial panic usually is elicited through the emergence of a *surprise event,* something unexpected that makes the system move from liquidity crunch to panic. This surprise event was the collapse of Lehman Bros on 15 September 2008, a large holder of subprime bonds. This was the biggest bankruptcy of an investment bank (worth US$50 billion) in the history of US capitalism, and was followed by successive crashes in the equity market. The "market" was stunned that it was not rescued by the authorities, due to "moral hazard" as treasurer Henry Paulson said; and the crisis that ensured led to the movement from liquidity crisis to financial panic (though Lehman Bros was eventually merged with other companies). Even though the government failed to act with Lehman Brothers, it effectively nationalized another investment bank, AIG, the same month through 80 percent public ownership. Similar bailouts of ravaged assets were soon activated as the US government began a series of further nationalizations.

Lehman Brothers had huge financial linkages throughout the circuit of money capital, which in turn linked closely to the real sector. The proceedings were called "The most important hearing ever conducted in a bankruptcy case" (Stephen Lubben 2008, p. 1), and its aftermath "the latest intensification of the global financial crisis" (Willem H. Buiter and Anne Slbert 2008, p. 1) Strange though it may seem, all through the liquidity crisis the Federal Reserve had not expanded money base. Instead, being concerned mainly with inflation it had consistently exchanged relatively illiquid securities offered by the government security dealers for more liquid Treasury securities, and then offset this through selling government securities in the open market to bring changes to the monetary base to zero. From September 2008 all this changed as the Fed obviously realized the problem of systemic crisis and that the inflation problem was not a concern. For the first time in recent history the Fed made massive net open market expansions of money base in September 2008 onwards, so that money base increased from around US$800b (July 2008) to US$1400b (October 2008). The Fed thus changed course from purely reallocating credit to expanding

credit on a massive scale (Daniel L. Thornton 2008). It thus started to protect the system through lender of last resort facilities in the open market.

The Lehman Brothers failure led from liquidity crunch to financial panic, which intensified the ensuring recession in many nations. Lender of last resort policies were activated through [i] open market operations, accompanied by the [ii] Paulson Plan to inject US$700b into the system through fiscal policy. Costing around US$1 trillion, this combined plan was primarily linked to the US Treasury buying up massive amounts of useless securitized bonds and mortgage debt in exchange for Treasury dollars. Even motor vehicle manufacturers were "bailed out" to assist economic recovery, while the limit on Deposit Insurance was raised to US$250,000 (John Friedland 2009). For the first time the US authorities started to treat the crisis as a *systemic problem* and inflation control took a back seat. Suddenly it looked like a Great Depression could emerge, and therefore everything centered on overcoming the latest phase of the crisis. Just why the US authorities took so long to act to save the system from deep recession or worse evidently stems from its obsession with inflation control. Until September, they believed that the system was viable and that the financial architecture was essentially sound. This was now no longer the case, as major changes in policy and institutions were happening and also seen as necessary.

Meanwhile in Europe things were heating up, especially after the liquidity crisis moved into financial panic. Iceland had deregulated its financial system by the early 1990s, resulting in a major expansion of bank assets and liabilities. The financial system by the mid-late 2000s came to represent 80 percent of GDP, and the debt of the three big banks was six times Iceland's GDP. The Icelandic banking model was fundamentally contradictory, due to it being a small country, having its own currency, with an exceptionally exposed deregulated banking system. Like most other institutions involved in the subprime crisis, they were highly leveraged, with mostly long-term assets but short-term liabilities, which set the scene for critical liquidity shortages followed by insolvency (with "fair value" pricing). The big banks could not borrow sufficient funds during the global liquidity crunch. This led to a bank run, a speculative attack on the currency, a decline in Iceland's (Moody's) risk assessment from A+ to BBB- by early October 2008, and (despite loans from the IMF, EU nations and Russia) a Depression emerging in 2009 (Buiter and Slbert 2008). The three big banks–Landsbanki, Glitnir (Islandsbanki) and Kaupting–were placed under control of the Financial Supervisory Authority in October 2008.

As Grahame F. Thompson (2010) has demonstrated, the "subprime crisis" has not been truly global due to several forces that generate an uneven pattern of performance through time. For instance, the most severely affected areas of the world were the Baltics (Estonia, Latvia, Lithuania), followed by Eastern Europe (Ukraine, Russia) and then Western and Southeast Europe. Many nations of Eurasia, Latin America, Scandinavia and Sub-Saharan Africa were moderately-to-seriously affected. A few nations of Central Europe, Asia and North America were moderately affected. Hardly any nations of the Middle East and Northern Africa were implicated in the crisis or recession, while most nations of SSA and Asia were unaffected. The real paradox is that the nation at the centre of the crisis, the US, was relatively mildly affected in terms of recession, compared with the most severely affected areas, de-

spite most of the media attention being on crisis and recession in the US (O'Hara 2011). Another paradox is that the nations most implicated in sovereign risk problems (Greece, Portugal) were in the lowly-affected scale in terms of recession, although it is true that Ireland was quite moderately-to-severely affected (though nowhere near as much as the Baltics and Eastern Europe) (World Bank 2011).

Many nations are suffering according to the extent that their banking sectors have grown rapidly over recent decades, or are severely exposed to high debt levels. Many developing nations of Asia, such as China, have seen their growth affected but with still very high rates, despite problems with unemployment. Nations with close links to China, such as Australia, just missed out on a technical recession. Another irony is that the area most unaffected, the Middle East and North Africa, has been at the centre of some of the most revolutionary and destabilizing political changes of recent decades. The nations not significantly affected by the crisis are generally those with a "low level of financial sophistication" (Viorel Lefter, Andra-Maria Vasilescu, and Alina Mihaela Dima 2008), illustrating that there are sometimes considerable advantages of having a simple financial system. The world as a whole, however, experienced negative growth during 2009 (World Bank 2011). Overall, this is the worst crisis, as many analysts have already stated many times, since the Great Depression of the 1930s, for those with a sophisticated or historically rapidly growing financial system.

2. New Financial Architecture & Long-Term Governance

The financial architecture has been transformed by the subprime crisis and recession. Markets have been shown to be faulty, as the information provided has become opaque, ambiguous, inadequate, lacking substantial fundamentals, or otherwise of dubious authenticity. Investment banks have disappeared in some nations, such as the US, as they took on more risk than they realized and either went bankrupt or became banks instead. US financial policy has become radically transformed, as banks have been nationalized (in the US euphemistically called "conservatorship"), deposit insurance extended and fiscal policy legitimized. In Europe the rising public debt designed to reduce private debt has ironically generated a new bout of neoliberalism as schemes are employed to reduce government spending. In the midst of this policy asymmetry, during 2010-2011 we saw numerous reactions against incumbent governments, such as liberals in the US and UK and conservatives in Ireland and Germany, the outcome of which is uncertain in terms of general policy activism.

The question arises as to what will be the long-term economic and policy outcome of this crisis, in terms not so much of general policy thrusts, but rather the specific and practical instruments of policy. Clearly a new financial architecture and policy regime will emerge globally. The crisis was so strong and so clearly exposed problems with core aspects of the national, regional and global regimes that major structural changes are in motion. The main difficulty is differentiating the crisis response policies from more long-term ones, and it is to the latter that we now turn. There are four core issues that have *collectively* received quite superficial analysis in the literature and which are crucial to the long-term perspective. These include macroprudential, monetary, fiscal and international-money policy, discussed below.

2.1 Macroprudential Regulation

In some nations and transnational organizations there has been movement since the crisis for a practical policy shift towards postneoliberal instruments and issues. Three issues stand out, namely those concerning deposit insurance, nationalization of banks and systemic risk. On the first of these, most nations majorly affected by the subprime crisis have deepened the role of deposit insurance. Most of Europe (including Ireland, Iceland, Germany, UK, Sweden, Austria, Denmark, Greece) provided/extended universal deposit insurance, up to a limit of 40,000–70,000 Euros or Pounds during 2007/09. The US extended deposit insurance to US$250,000. Australia introduced unlimited deposit insurance for institutions within the banking system (including credit unions and building societies; but not investment banks, merchant banks, trusts, and other eclectic wholesale institutions). Some of these schemes are privately financed (mostly paid by the banks) and others are government guarantees. In this respect, policy makers have unwittingly concluded that moral hazard is less important than *systemic uncertainty* which insufficient insurance is likely to generate in times of crisis.

The second issue of prudential policy is nationalization of financial institutions. Most nations affected considerably by the crisis have engaged in a whole series of nationalizations of the banking system, or bringing them under regulatory control. Mostly this was due to issues such as “too big to fail”, such as in the case of the Icelandic banks and the UK Northern Rock bank. In the US, the US$700 Paulson Plan included two parts, the first being to buy preferred stock in troubled banks (partial nationalization), and the second to buy troubled assets (mortgage market bonds) to increase liquidity and solvency of institutions. The nationalization part of the plan is a major change in policy, but was seen as necessary to instill confidence in the system. The second part of the plan, buying the troubled assets, was seen necessary to promote liquidity in the markets (these assets can then be sold later, reducing the loss on government budget).

There are two main ways of nationalizing financial institutions. The first is to retain nationalization as a way of directly stabilizing markets. The second is along the lines of the Swedish example of the 1990s, with nationalizations being reversed once the crisis has settled down. Both options are occurring to some degree. The US will eventually sell many of the securities back to the private sector, except Fannie Mae and Freddie Mac; while in Europe fewer will move into the private arena. Regardless of which options emerge, the process of nationalizing banks either temporality or permanently in a substantial crisis is a major change of policy and a challenge to neoliberalism which has generally argued for privatization, “period”.

Likely the best way policy is to nationalize those institutions that are the biggest. This is the so-called “boundary problem” discussed in the literature. Charles Goodhart (2008) argues that using “size” as a criterion solves most problems. It means that Fannie Mae and Freddie Mac, for instance, should always have been nationalized, partly because they were so large, and partly because they have been in the contradictory situation of pointing to their independence while alluding to their secure “public” position. In this context, hedge funds and private investment banks

need to remain moderately small or otherwise they generate too much power, financial clout and become too big to fail.

A third issue of prudential policy is risk and uncertainty. Several innovations and institutions operating in the financial system during the 1990s and 2000s became highly risky and were a critical factor in the generation of the crisis. A core problem was the complex process by which mortgages were distanced from borrowers and lenders, repackaged as bonds, and then sold as even more complex collateral debt obligations. The earlier model of "originate and hold" changed to "originate and distribute", where security originators redistributed them at a faster pace than quality allowed. Increasing distance between the underlying mortgages and securitized securities propelled multiple sources of risk. Some of these risks include "'information fog' (i.e. other than rating, no information to assess the risk exposure)", along with "'illiquidity' (in the absence of exchange traded secondary market for CDOs)", as well as "'shady valuation' (where valuations are marked-to-model or marked-to-myth… rather than marked-to-market)" (Sitikantha Pattanaik 2008, p. 89; also Christian Laux and Christian Leuz 2010).

The mathematical models of risk used by the credit rating agencies assumed risk specificity and counter-cyclicality. Most of the symptoms of the crisis followed from these assumptions and the investment and financial behavior that they stimulated. A core part of the solution to financial crises is thus to recognize the procyclical nature of macroeconomic risk for capitalist economies. This involves gaining from the insights of Karl Marx (1894), Thorstein Bunde Veblen (1923), John Michal Kalecki (1937), and Minsky (1982), who recognized that cycle booms can generate substantial uncertainty and systemic risk since agents tend to forget about past crises. The excess investment and debt of the boom is often a bubble which exaggerates its durability. These political economists provide the lesson that agents should moderate their euphoria and not be overly seduced by a positive current business climate. This has significance for rating-agency reform, as many have realized the need for less use of so-called scientific calculative models of risk and more holistic methods, including general systemic data of cycles and alternative scenarios. Whether mere reforms of risk assessments are capable of moderating the systemic dynamics of investment and finance under conditions of endogenous cycles and waves, however, is a more fundamental problem not yet seriously discussed by the major policy institutions and departments.

From the viewpoint of practical policy, however, stress testing is a core policy requirement into the future for risk assessment, where different assumptions are made about rates of growth, different market patterns and broader data are included (see International Monetary Fund 2010a). Institutions such as the Financial Stability Board (FSB), elements within the Federal Reserve, as well as the World Bank and UNCTAD, have finally incorporated this "rising systemic risk during the boom" insight into their policy perspectives. To be generous to these policy institutions, it took them at least 35 years (since the crisis of the 1970s) to seriously note the problem and advocate changes to policy accordingly. In practice, this relates to strengthening macro-prudential policies to reduce procylical systemic risk in the financial system through moderating credit instabilities, fundamentally restructuring risk as-

sessment methods and stabilizing international flows of capital (see Financial Stability Board, International Monetary Fund, and Bank for International Settlements 2011).

As for the use of Structured Investment Vehicles (SIVs) and related institutions, their use should be prevented where they are used purely to evade capital adequacy requirements. How the authorities could have effectively overlooked such a core problem has mystified many analysts. SIVs were used by (particularly) investment banks and other financial institutions for removing risky securities purchased through debt from their balance sheet. They gave a misleading indication of the debt and risk positions being held by institutions and thereby increased the system risk of the economy. Authorities must ensure that Basel III proposed changes to reduce systemic risk and procyclicality are not evaded through institutional or instrumental "innovations" that contribute to financial and economic crises (see Nout Wellink 2011).

These three issues of macroprudential policy have changed the nature of the policy environment substantially. Actively seeking to deepen deposit insurance, nationalize financial institutions, and reduce risk during the upswing of the cycle are core changes in governance. They all address the problem of systemic crises, uncertainty and protecting the system from market problems.

2.2 Monetary Policy

The past several decades have seen supposedly independent monetary authorities throughout the world having responsibility for inflation control as the core policy target. Official interest rates have been the prime instrument for controlling inflation. This policy environment was the outcome of a period of high inflation when double digit figures were common in advanced nations (1970s and 1980s) while three digits were common in developing countries (1980s and 1990s). It is also the result of a series of theoretical models ranging from monetarism, supply side economics, rational choice theory, real business cycle models and to some degree even new Keynesian philosophy.

Three core changes have been or should likely be happening in the face of the subprime crisis and recession. The first is that, as noted above, financial regulators have become concerned with *systemic* financial and economic risk and crises. In this light, financial regulators need to supplement a concern with inflation of commodity prices with one for asset prices. A concern for systemic risk and asset prices leads one to conclude that reserve banks took too long to start increasing money base in the recent crisis, since if they had expanded liquidity earlier the movement from credit crunch to financial panic and full-blown recession might have been prevented. It is certainly the case that placing too much emphasis on moral hazard in the light of the Lehman Brothers collapse increased the degree of systemic uncertainty and lack of confidence. Investment banks were given too much latitude, engaging in excessively risky behavior which infected other institutions. In this environment, liquidity should have been increased much earlier in the US, or Lehman Brothers should have been nationalized in the public interest.

Secondly, interest rate targeting needs to come under more critical scrutiny. There is no doubt that the crisis was in part a product of a monetary policy based on

low interest rates to push recovery and boom into action, followed by high interest rates to moderate potential inflation and economic activity. It is difficult to control inflation without also affecting real output and employment. Also, in the process it is difficult not to impact significantly on asset prices. The argument that the Fed cannot predict bubbles and should not attempt to influence them seems vacuous in the light of recent problems. The asset bubbles in real estate, equity, securities and resources were fundamentally the cause of the problem. By using interest rate targeting the way they did, the Fed encouraged both rising and crashing bubbles.

Somehow governments and their regulatory authorities need to come to terms with new ways of moderating business cycles. Eventually interest rates will have to be used less to stimulate recovery and to moderate inflation. Asset prices have to be a core element of policy (see James Bullard 2010). More stability of interest rates will help moderate asset prices. There is some truth in the Austrian School proposition that reserve bank–induced changes in rates destabilize the long-term investment climate of capitalist economies. Where this view fails is in the assumption that asset bubbles are caused mainly by government intervention. Bubbles are generated through a process of circular and cumulative causation, in part contributed by the inefficiencies and failures of market processes.

Thirdly, governments could utilize two policies to moderate bubbles as generated by the market process. The first is to institute *Asset-Based Reserve Requirements (ABRR),* where regulators could impose reserve requirements on potentially unstable assets held by financial institutions and possibly other companies (Thomas Palley 2004). They could target assets such as subprime mortgages, derivatives, or some new innovative securities, depending on the situation of the times. The reserve bank would require a certain percentage of such securities be held in an official account. The reserve ratio, and the securities included in the ratio, could be modified according to reserve bank research about changes in various asset prices. Clearly, asset bubble research would have to be given a high priority and much more knowledge would help in this regard.

The second policy, in addition or instead of this one, could be the policy of *"leaning against the wind"*. Sushil Wadhwani (2009), for instance, presents a case for an integrative or holistic interest rate policy, where changes in rates are made not only in relation to inflation but also asset prices. Taking a cue from the Swedish experience, interest rates may be moderated with an eye to inflation, crises of confidence and asset prices. In the current environment this could mean interest rates may be low for a shorter period; not maintained excessively low for many years. It also means that during the later years of recovery and boom interest rates may not be increased as fast as inflation would singularly dictate. If this were taken seriously by the authorities then monetary policy would be a part of a broader countercyclical framework, with economic agents having an eye to inflation of not only consumer and wholesale prices but also asset prices. After the current crisis we can no longer leave asset bubbles out of the policy architecture.

2.3 Fiscal Policy

One of the major responses to the crisis, once it moved from a liquidity crunch to panic, was massive government spending and tax concessions to enhance consumption and investment. Generally the packages were announced during late 2008 and into early 2009. The US package (Paulson Plan) included US$825 over ten years, including US$525 over two years. It involved tax cuts, mostly to consumers and some to firms, plus government investment spending. The European Commission proposed a 200 billion Euro package, coming partly from individual states and partly from the commission. The Chinese stimulus package, worth about US$500b, likely prevented a halving of growth in China as well as recession in many Asian nations plus Australia (Editorial 2009a).

Three things have hampered fiscal policy (and indeed, monetary policy) from reducing the impact of the crisis on growth rates. The first is the continued dominance of the neoliberal philosophy, which constrains the community from taking a proactive approach to the problem. The second is linked to this, namely, the inability of business and government to undertake careful and responsible research on financial and economic crises, including crisis response mechanisms for business, plus fiscal and monetary policy. Trying to deal with the crisis through sudden and apparently ad hoc governance measures is hardly responsible management. This leads to a third factor, that the authorities acted too late, generally more than 12 months too late, since they assumed the immediate credit crunch would not lead to full-blown panic and recession.

This leads to some serious questions about fiscal policy philosophies and actions. It is likely time the governments of the world pursued serious research on financial and economic crises on an ongoing basis. It is also high time that governments seriously questioned orthodox fiscal views. One of the core theories in need of serious consideration is Lerner's principles of functional finance. The first such principle is a commitment to full employment levels of spending, where a balance is made between the twin objectives of full employment and inflation constraint. The second principle is one that has mostly been put into practice, but not officially legitimized, namely, taxation should be modified according to the state of demand and not to requirements of government payments and receipts. The third rule has also been unwittingly accepted in practice if not theory, namely, that government should borrow money only when it is desirable that the public should have more bonds and less money; and visa-versa (Abba Lerner 1943).

Broad changes in fiscal policy philosophy are required to fit into a research program committed to crisis prevention and management (Philip Arestis and Malcolm Sawyer 2010). It is indeed ironical that large government deficits have been achieved by mostly conservative administrations in recent decades, for instance, the Reagan and George W. Bush administrations. These were mostly due to tax cuts and/or large spending on wars or preparation for war. Otherwise surpluses tend to emerge when there is an economic boom. Indeed, government spending during downturns is often likely, ceteris paribus, to reduce deficits due to its positive impact on growth. Productive government spending is also desperately needed after decades of neglect, largely globally, of infrastructure, hospitals, schools and universities

(Jenny E. Ligthart and Rosa M. Martin Suárez 2011). Such spending has been shown to have robust positive crowding-in effects on private investment.

2.4 International Money and Payments

We come now to broader issues of developing nations, capital flows and the circuit of money capital between advanced and developing nations. There are three main paradoxes of the current crisis. The first is that nations not closely linked to sophisticated financial deals to some degree were insulated from the crisis. This is a crisis primarily of highly developed capitalist economies plus economies financialising to a high level. Many developing nations had their growth halved, but still to only reasonably low levels. The crisis has adversely affected world trade by up to 30 percent, and capital flows potentially up to 50 percent. Global confidence has declined considerably (World Bank 2011).

The second paradox is that when the advanced nations saw governance problems in the developing world in the late 1970s and early 1980s, they quickly imposed the Washington Consensus upon them through the IMF, World Bank and even UNCTAD. Latin America was the basis for their assessment, but this was also applied to Africa, the Middle East and eventually Asia. Now that major problems have appeared in the edifice of *advanced* nations, many are raising the question of the need for imposing radical changes on *them*. Some of these changes have been discussed above, but others include reducing major global payments imbalances and creating a truly global system of payments.

The third paradox relates to US financial hegemony. The US has been trying to reestablish its global power financially, economically and militarily as challenges to this power have emerged. Immanuel Wallerstein (1983) argued that hegemony tends to arise first in agro-production, then in commerce and lastly in finance; and diminish along similar lines. The US has already long lost production dominance to other areas especially Asia, commercial dominance is now in the hands of transnational corporations who tend to be increasingly footloose, while financial dominance is still present but faltering badly recently. This current crisis is a crisis not only of finance, economics and society, but US finance in particular. The US style of deregulated finance with periodic innovation and minimal governance is increasingly seen as a failure, and will likely generate changes along different institutional lines.

These three paradoxes are core contradictions impacting on the global political economy. One reason why the subprime crisis had strong international connections was the large US current account deficits which generated large capital account surpluses. These surpluses included trillions of dollars of incoming credit from especially China, to buy mortgage-backed securities and credit swaps in case the securities failed. This represented a source of endogenous credit into the US economy, which expanded the boom and generated bubbles in housing, equities and resources. When confidence faltered in the subprime industry this left many overseas companies and governments with securities which were of ambiguous and faltering value. Essentially confidence in the US financial system declined and this has been adversely affecting US financial dominance.

This does raise the question, however, about the problematic nature of increasingly unequal capital and current account imbalances at the global level (see Karl Whelan 2010). The current system effectively works against developing nations with persistent current account deficits. Persistent current account deficits tend to lead to advice requiring higher interest rates and lower government spending (although since the Asian Crisis of the late 1990s some emphasis has been given to protecting the innocent with social safety nets). The failure of these policies is reflected in the tendency for such advice to lead to lower growth and higher unemployment. The imbalances have been especially problematic since the early 2000s when capital flows have been notably unstable. For instance, during the mid-late 2000s there has been enormous increase in debt and portfolio capital inflows into the US (capital account surpluses) to balance the increasing current account deficits. This provides the institutional basis for global disarray now that the US dollar is rapidly losing its hegemonic power, unless suitable changes emerge.

Policy options in the light of this problem are changing the international financial architecture through the adoption of a policy to encourage greater balance. A well-known policy, initially advocated by Keynes and latterly by Paul Davidson, has been a system whereby current account surplus nations are required to stimulate effective demand to moderate these surpluses and thereby improve global growth outcomes. Persistent current account surpluses generate a demand constraint that reduces global performance. Reducing this through conventions to expand demand, especially of a productive nature, tends to crowd-in global private investment and improve confidence in the system. Various detailed proposals have been developed along these lines (see Davidson 2004). Somewhat minor alternatives to this scheme are Tobin Taxes, capital controls and other regulations.

A similarly crucial policy that needs activation is that of an alternative global currency. Having the US dollar as the main "global" currency is problematic since US monetary policy is primarily activated for domestic reasons, although it often adversely impacts on other countries through, for instance, changes in the value of interest rates and the US dollar. The ongoing financial and economic crisis has convinced more policy activists of the need for an alternative global currency. So numerous are these calls for a new currency that it is likely to soon be a reality. For instance, the International Monetary Fund (2010b) has recently advocated the expanded use of (modified) SDRs as a global source of money instead of the US dollar, while others argue for using the Chinese currency in this capacity, or an entirely new global currency.

3. Conclusion

The purpose of this paper has been to critically evaluate the interrelated policy environment in the light of the global subprime crisis. We concentrated on macroprudential, monetary, fiscal and global money issues. Our main conclusion is that a new (postneoliberal) environment has been *stimulated* by the crisis, *considered at the technical level of analysis*, which may become durable after the crisis subsides. Macroprudential regulation must now centre on problems of systemic risk and uncertainty rather than simply moral hazard. In this new light, expansion of deposit insur-

ance, nationalization, Kaleckian and Minsky insights into systemic crises, controls over structured investment vehicles and regulating especially large institutions have come to the fore of policy-making.

Monetary policy likely requires some attention to asset price bubbles, a critical reflection on interest rate policies which tend to stimulate cyclical tendencies, asset based reserve requirements, leaning against the wind, and the need to develop a deeper research culture into crisis management. Fiscal policy is moving some governance institutions toward a pragmatic program involving traditional discretionary policy and functional finance. Global money issues have become pressing as problems emanate from the core rather than periphery. This will likely stimulate more policy changes to the current regime of global finance. Adopting demand-enhancing policies likely moderates imbalances of global payments and generates a more stable environment, as do new sources of global money that are emerging.

Overall the subprime crisis has enabled a critical series of debates and policies that question prevailing orthodoxies about moral hazard and deregulation of finance. Martin Konings (2009) argued that the move to financialisation over the past three decades has enhanced the Federal Reserve's and Treasury's ability to control finance. This has not happened noticeably through the subprime financial crisis and recession as US power continues to slide. This paper has shown that quite major changes have been and are continuing to impact on policy instruments and targets in most nations as well as through transnational institutions. On balance, this has been a challenge to orthodox theories and policies, especially concerning risk, asset bubbles, government finance and global money.

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