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**There is no financial crisis so deep that cannot be dealt with by public
spending**

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1. Introduction

In the past year, major ructions have occurred in Global financial markets which now threaten to seriously derail all real economies around the World. The consequences will be escalating unemployment, lost income and general economic malaise for the period ahead.

The extraordinary events in world financial markets which have undermined the basis of capitalism have led to equally amazing Government responses – massive injections of public spending, nationalisations of banks and bailouts of huge financial institutions with little regard for the relevant shareholder interests.

A major paradigm shift is occurring in economic thinking away from the free market deregulation era that has dominated since the 1970s.

All the logic that justified government cut backs in the last three decades; the run down of public infrastructure; the harsh treatment of welfare recipients; the wasteful privatisations, and the rest of the neo-liberal litany that served to transfer wealth from poor to rich and create a disadvantaged underclass has been destroyed by these events.

The crisis has once again exposed the fallacy of the notion that free markets can regulate and generate sustained growth and prosperity. It has been categorically re-affirmed that “free markets” do not work effectively. We learned this lesson during the Great Depression but then, in recent times, under sustained pressure from the free market lobby, society has been bullied into giving market players freedom to pursue their own interests free of significant regulation. Governments around the world forgot that markets need strong regulation and that the Government has to play a strong role as an employer and a spender. The policy folly of the last few decades which has culminated in this disaster shows that governments need to firmly steer the ship.

The neo-liberal response to the crisis has been to rely on monetary policy (lowering interest rates; changing conditions under which central banks will lend to private banks etc). This strategy failed because they don't understand the nature of the problem. There is plenty of liquidity in the banking system. Missing is the confidence to make it available. Lowering the price of credit does not tell prospective borrowers that they will be able to sell what they produce.

The advantage of fiscal policy is that it directly stimulates spending and signals to firms an increasing demand for their goods and services. It instils confidence that economic growth will continue.

This paper aims to explain the current world financial crisis in terms of an understanding of modern monetary macroeconomics, which specifically includes all countries where the government has sovereignty in the issue of the currency.

The paper shows that the prevailing orthodoxy in macroeconomics has failed and that the belief that markets self-equilibrate at levels that are remotely socially acceptable is erroneous. Further, the paper shows that markets do not self-regulate in ways that avoid major financial upheavals and these crises have profound impacts on the real economy. In particular, the body of literature that is built upon the belief that fiscal policy should only be a passive support to an inflation targeting monetary policy is shown to be highly damaging to the long-term growth prospects of modern monetary economies.

The crisis confirms that the only way that the non-government sector can save is for the government sector to run continual budget deficits. The paper shows that this fiscal conduct is non-inflationary, if managed properly, exerts downwards pressure on nominal interest rates and underpins full employment. We demonstrate *that there is no financial crisis so deep that cannot be dealt with by public spending.*²

We also address some erroneous claims made by progressive economists about the way in which financial markets interact with government (for example, Gnos and Rochon, 2004; and Bryant and Rafferty, 2007).

The paper is organised as follows. Section 2 outlines the fundamentals of a modern monetary macroeconomics where the sovereign government has a currency issuing monopoly which provides it with the opportunities to resist the vicissitudes of the private economy. Section 3 argues that governments must use fiscal policy to address the current crisis and abandon their faith in monetary policy. Sections 4 and 5 demonstrate the major findings from Section 3 using a “flow of funds” framework. Section 6 applies this framework to the recent history of the sectoral balances in Australia, the US and Japan to show the intrinsic relationship between government and non-government balances (deficits/surpluses). Concluding remarks follow.

2. The modern monetary framework

2.1 Basic features of a modern monetary economy

Much of this section is taken from Mitchell and Muysken (2008). What parades now as macroeconomic policy is a mishmash of half-truths and fallacy. We trace the origins of the financial crisis before us to erroneous macroeconomic policy stances. The pursuit of public surpluses meant that the maintenance of growth had to rely on the private sector going increasingly into debt. The government balance is the mirror, dollar-for-dollar, of the non-government balance.

To understand how the modern monetary economy operates we need to take a step back into national accounting. First, a modern monetary system has three essential features: (a) a floating exchange rate, which frees monetary policy from the need to defend foreign exchange reserves); (b) a sovereign government which has a monopoly over the provision its own, fiat currency; (c) under a fiat currency system, the monetary unit defined by the government has no intrinsic worth. It cannot be legally converted by government, for example, into gold as it was under the gold standard. The viability of the fiat currency is ensured by the fact that it is the only unit which is acceptable for payment of taxes and other financial demands of the government.

Within a modern monetary economy, as a matter of national accounting, the sovereign government deficit (surplus) equals the non-government surplus (deficit). The failure to recognise this relationship is the major oversight of neo-liberal analysis. In aggregate, there can be no net savings of financial assets of the non-government sector without cumulative government deficit spending. The sovereign government via net spending (deficits) is the only entity that can provide the non-government sector with net financial assets (net savings) and thereby simultaneously accommodate any net desire to save and hence eliminate unemployment. Additionally, and contrary to neo-liberal rhetoric, the systematic pursuit of government budget surpluses is necessarily manifested as systematic declines in private sector savings.

Third, the decreasing levels of net private savings which are manifest in the public surpluses increasingly leverage the private sector. The deteriorating debt to income ratios which result will eventually see the system succumb to ongoing demand-draining fiscal drag through a slow-down in real activity.

Fourth, the analogy neo-liberals draw between private household budgets and the government budget is false. Households, the users of the currency, must finance their spending prior to the fact. However, government, as the issuer of the currency, must spend first (credit private bank accounts) before it can subsequently tax (debit private accounts). Government spending is the source of the funds the private sector requires to pay its taxes and to net save and is not inherently revenue constrained.

Fifth, unemployment occurs when net government spending is too low. As a matter of accounting, for aggregate output to be sold, total spending must equal total income. Involuntary unemployment is idle labour unable to find a buyer at the current money wage. In the absence of government spending, unemployment arises when the private sector, in aggregate, desires to spend less of the monetary unit of account than it earns. Nominal (or real) wage cuts *per se* do not clear the labour market, unless they somehow eliminate the private sector desire to net save and increase spending. Thus, unemployment occurs when net government spending is too low to accommodate the need to pay taxes and the desire to net save.

Sixth, while the sovereign government is not financially constrained it still issues debt to control its liquidity impacts on the private sector. Government spending and purchases of government bonds by the central bank add liquidity, while taxation and sales of government securities drain private liquidity. These transactions, which we term “vertical” (invoking the hierarchy of government and non-government), influence the cash position of the system on a daily basis and on any one day they can result in a system surplus (deficit) due to the outflow of funds from the official sector being above (below) the funds inflow to the official sector. The system cash position has crucial implications for the central bank, which targets the level of short-term interest rates as its monetary policy position. Budget deficits result in system-wide surpluses (excess bank reserves).

Competition between the commercial banks to create better earning opportunities on the surplus reserves then puts downward pressure on the cash rate. But importantly, these “horizontal” transactions (between non-government units at the same hierarchical level) cannot eliminate the surplus reserves. Only vertical transactions provide net adds to and subtracts from the reserve system.

In this context, if the central bank desires to maintain the current target cash rate then it must provide an alternative to this surplus liquidity by selling government debt (a vertical transaction). In other words, government debt functions as interest rate support via the maintenance of desired reserve levels in the commercial banking system and not as a source of funds to finance government spending.

While the modern monetary framework we develop is clearly at odds with the orthodox view of the economy, it also challenges some of the spurious reasoning among progressive thought. For example, Gnos and Rochon (2004) believe that it is important to distinguish between Treasury and Central Bank balance sheets. They also complain that the modern monetary view presented in this paper is at variance with the endogenous money view that money is largely created by banks in response to the demand for credit from economic agents. Their criticism of the modern monetary

arguments for merging central bank and Treasury functions seem to concede that only transactions outside the consolidated banking sector create net financial assets. Yet this claim, over and above all other arguments about Treasury influence over the Central Bank decisions through influencing board appointments and policy regimens, is the crucial reason for consolidation of these two functions. We also acknowledge that the revolving fund of credit finance can expand to accommodate growth in private sector activity, at a rate related proportionately to the product of provisioning rates for capital adequacy requirements and the percentage of retained earnings available for leveraged lending. For this very reason, the private sector can take up some of the slack created through government fiscal conservatism. However, and this is the crux of the modern monetary view espoused in this paper, this growth will become unsustainable because net financial assets are either being destroyed or are not being created in insufficient quantity to meet the net saving needs of the private sector. Private sector debt levels will be rising while the stock of net financial assets declines.

From a markedly different perspective Bryant and Rafferty (2007) urge a move away from a source-of-funds approach to thinking about corporate finance (which places emphasis on parent-subsidiary relations and the split between internal and external finance in financing investment, including mergers and alliances) towards a system-of-calculation approach. They focus on the capacity of derivatives to leverage beyond the constraints of asset ownership, and support the blending of a variety of financial characteristics (thus enabling the pricing of individual exposures within intensely competitive and globally integrated markets). The events that have unfolded in the last year would suggest that the complex derivatives trade is not a stabilising influence in world financial markets as Bryant and Rafferty assert.

2.2 The problem with budget surpluses

We can now see why a growth strategy predicated on fiscal surpluses and increasing levels of private debt was inherently unstable and ultimately unsustainable. First, the levels of debt rendered private agents increasingly susceptible to small changes in external conditions including policy changes. For example, the increasing fuel prices in recent years endangered the solvency of highly geared households. In turn, debt defaults would be less confined than in the past because of the size of financial derivatives market which has grown to drive the proliferation of credit. Second, private agents eventually had to increase their saving to reduce the precariousness of their balance sheets.

Both sources of instability mean that aggregate demand would fail resulting in unsold inventories, reductions in production levels, job loss and rising unemployment.

The resulting unemployment is involuntary in nature by which we mean labour unable to find a buyer at the current money wage. It also invokes the idea of a systemic macroeconomic constraint that renders an individual powerless to improve their employment circumstances.

Orthodox macroeconomic theory struggles with the idea of involuntary unemployment and typically tries to fudge the explanation by appealing to market rigidities (typically nominal wage inflexibility). However, in general, the orthodox framework cannot convincingly explain systemic constraints that comprehensively negate individual volition.

The modern monetary framework clearly explicates how involuntary unemployment arises. The private sector, in aggregate, may desire to spend less of the monetary unit of account than it earns. In this case, if this gap in spending is not met by government, then unemployment will occur. Nominal (or real) wage cuts *per se* do not clear the labour market, unless they somehow eliminate the private sector desire to net save and increase spending.

The non-government sector depends on government to provide funds for both its desired net savings and its tax obligations. The private sector cannot by itself “net save” because saving is a signal to lend and so savers are always in an accounting sense matched by a borrower (Tobin, 1963; Palley, 2001; Mitchell and Mosler, 2002; Mitchell and Muysken, 2008).

To obtain these funds, non-government agents offer real goods and services for sale in exchange for the needed currency units. This includes, of-course, offers of labour by the unemployed. Thus, unemployment occurs when net government spending is too low to accommodate the need to pay taxes and the desire to net save (Mitchell and Mosler, 2002; Mitchell and Muysken, 2008). Wray (1998: 81) says, “Normally, taxes in aggregate will have to be less than total government spending due to preferences of the public to hold some reserves of fiat money.” Thus, in general, deficit spending is necessary to ensure high levels of employment.

The concept of a budget surplus is often misunderstood. The current Australian Treasurer has recently been talking about a “\$40 billion hole in the budget bucket”. Well there is no hole because there is no bucket. To explain this we need to understand what happens when the sovereign government runs a budget surplus.

It is often argued that the surplus represents “public saving”, which can be used to fund future public expenditure. With the current decline in government revenue and the need for a dramatic fiscal injection generating rapidly declining surpluses in Australia, many commentators are erroneously claiming that the Government will run out of funds and will have to postpone or abandon its much-touted infrastructure development plans, including the upgrade of the broadband network.

In rejecting the notion that public surpluses create a cache of money that can be spent later, Mitchell and Mosler (2002: 255) note that ‘Government spends by crediting a reserve account. That balance doesn’t “come from anywhere”, as, for example, gold coins would have had to come from somewhere. It is accounted for but that is a different issue. Likewise, payments to government reduce reserve balances. Those payments do not “go anywhere” but are merely accounted for. In the USA situation, we find that when tax payments are made to the government in actual cash, the Federal Reserve generally burns the “money”. If it really needed the money *per se* surely it would not destroy it. A budget surplus exists only because private income or wealth is reduced.’

The following accounting relation, often erroneously called the government budget constraint (GBC) can be used to show the impact of budget surpluses on spending and private wealth:

$$(1) \quad G + iB = \Delta M + T + \Delta B$$

$$\quad \quad \quad [(G + iB) - T] = \Delta M + \Delta B$$

where G is government spending net of interest payments on debt, i is the nominal bond rate, B is the stock of outstanding bonds, M is base money balances, and T is tax

revenue. In an accounting sense, when there is a budget surplus then $\Delta M < 0$ (destruction of base money) and/or $\Delta B < 0$ (destruction of private wealth).

The budget surplus may be applied to running down debt (that is, forcing the private sector to liquidate its wealth to get cash) but this strategy is finite. In recent years the Australian government followed the pattern of several sovereign governments and established the Futures Fund. This amounts to the Treasury competing in the private equity market to fuel speculation in financial assets and distort allocations of capital (Palley, 2001).

However, this behaviour has been grossly misrepresented as providing future savings. Say the sovereign government ran a \$15 billion surplus in the last financial year. It could then purchase that amount of financial assets in the domestic and international capital markets. But from an accounting perspective the Government would no longer have run that surplus because the \$15 billion would be recorded as spending and the budget would break even. In these situations, the public debate should be focused on whether this is the best use of public funds. It would be hard to justify this sort of spending when basic infrastructure provision and employment creation has been ignored for many years by neo-liberal governments.

The alternative when a surplus is generated is to destroy liquidity (debiting reserve accounts) which is deflationary. The weaker demand conditions would force producers to reduce output and layoff workers with rapid increases in joblessness. Investment irreversibilities driven by uncertainty of future demand conditions then retard capacity growth and prolong the downturn (Mitchell and Muysken, 2008).

In closing, we emphasise that the pursuit of public surpluses has necessitated an increase in the net flow of credit to the private sector and increasing private debt to income ratios.

The current financial crisis is now evident that a threshold has been reached where the private sector, by circumstance or choice, becomes unwilling to maintain these deficits? It also means that reliance on rising indebtednesses to underwrite private spending is now unsustainable and an alternative growth strategy, based on fiscal expansion has to be introduced.

In terms of fiscal policy, there are only real resource restrictions on its capacity to increase spending and hence output and employment. If there are slack resources available to purchase then a fiscal stimulus has the capacity to ensure they are fully employed. While the size of the impact of the financial crisis may be significant, a fiscal injection can be appropriately scaled to meet the challenge. That is, *there is no financial crisis so deep that cannot be dealt with by public spending.*

3. Fiscal Policy and the current world economic crisis

It is not difficult to pin point the triggers for the current crisis. The dynamics began in the US with the collapse of their real estate boom. Since 2000, the US financial engineers had loaned massive amounts to drive the boom. To increase their profits further, they penetrated into the riskier segments of the market – the so-called sub—prime loans. The bet was that even high risk borrowers would be able to re-finance on higher property values and avoid default. This bet turned out to be very unsound. As the housing price bubble burst and increasing numbers of borrowers faced negative equity, defaults and foreclosures rose dramatically.

The extent of the exposure was at first unknown but we now know that many investment banks had borrowed huge amounts to purchase the mortgage-backed securities which were derived from the initial unsound loans.

It is also clear that the US mortgage giants Freddie Max and Fannie Mae, which together own or guarantee around three-quarters of the total US mortgage market, led the lending frenzy without sufficient due diligence.

Another factor has been the so-called credit-default swaps which are akin to insurance contracts. They are totally unregulated and provide the holder with a guarantee against loan default. Trillions of dollars of these swaps were written against risky mortgage loans. The problem was that once the loans soured, and the holder of the swaps started to seek their “insurance payment”, the many financial institutions that had issued them could not honour their obligations.

But the crisis became seriously disruptive to the real economy when the interbank market dried up. Banks struggled to fund their exposed positions. Investors, who in more normal times underwrote the capital of these financial institutions, became extremely risk-averse fearing that the sub-prime exposure was the tip of the iceberg. Once the credit markets became crippled, firms in the real economy started to struggle to finance their working capital.

Institutional trends in financial markets have also been problematic. Over the last two decades banks have moved away from operating as intermediaries between household depositors and firm borrowers to banks acting as brokers, the potential for a disastrous disconnection becomes enormous. This is because the markets do not function rationally, making efficient use of available information. There are profound gaps in the information flows between the banks, investors, firm and household borrowers, providers of securitized assets to be used as collateral, providers of insurance for these assets, the credit rating agencies assessing levels of risk in relation to these assets (which include credit default swaps), and the parties in the “real sector” who are generating the actual IOU’s that eventually become securitised. It is these interactions between the real and the financial sectors that must be grasped to fully understand modern financial crises. The role of fiscal policy, however, in both a positive and a negative sense, must be understood.

While the global turmoil associated with current financial crisis introduces new opportunities for a shift in macroeconomic paradigms, the very opposite could occur. For example, some conservative business economists are reverting to completely discredited Monetarist theories in arguing that the seeds of the current crisis lie in the United States’s gradual move away from the Bretton-Woods Currency System, the abandonment of money-supply targeting, and the Greenspan policies of “easy money” or low interest rate targets after the dot-com slump in 2001.

The theoretical core grounding such views is the neoclassical growth model, for which the “natural rate” of growth in output (correlated with full-employment) is determined—at the margin—by the real (inter-temporal) forces of productivity and thrift. Irrespective of whether a neo-classical or post Keynesian growth model is used, it is important to recognise that actual rates of growth can fall well below this maximal level due to an insufficiency of effective demand. It is these insights that justify activist fiscal policies of the part of central governments.

4. A Flow of funds view of modern monetary macroeconomics

A Flow-of-funds approach to the analysis of monetary transactions highlights both the importance of the distinction between vertical and horizontal transactions and the fundamental accounting nature of the budget constraint identity. It shows categorically that the GBC is an *ex post* accounting identity rather than an *ex ante* financial constraint. It also shows that if the sovereign government runs cumulative surpluses which destroy net financial assets then the non-government must accumulate deficits in the form of increasing indebtedness which are unsustainable.

The distinction between vertical and horizontal transactions can be clearly demonstrated by examining the current transactions matrix for a simplified economy.

The last row of the current transactions matrix affords a crucial insight into the nature of (vertical) transactions between the government and non-government sectors. These transactions must be clearly distinguished from their (horizontal) counterparts: those between banks, households, and firms. The basis for this distinction is that only vertical transactions give rise to net financial assets or increases in real wealth, whereas horizontal transactions net out to zero.

Figure 1 A current transactions matrix

	HHs	Firms	Govt	Banks	Row
		Current	Capital		Sum
Consumption	$-C$	C			0
Government		G	$-G$		0
Investment		$p\Delta K$	$-p\Delta K$		0
Wages	W	$-W$			0
Taxes	$-T_w$	$-T_f$	T		0
Interest on loans		$-i^l_{-1}L_{-1}$		$i^l_{-1}L_{-1}$	0
Interest on bills			$-i^b_{-1}B_{-1}$	$i^b_{-1}B_{-1}$	0
Interest on deposits	$i^b_{-1}D_{-1}$			$-i^b_{-1}D_{-1}$	0
Dividends	$F_d + F_b$	$-F_d$		F_b	0
Column sum	S_h	F_u	$-p\Delta K$	S_g	0

While transaction accounts (or T-accounts) are helpful for distinguishing between such things as high powered money and other forms of money, and for explaining why it makes theoretical sense to consolidate the central banking and treasury functions of government, they are not very helpful when it comes to establishing the difference between vertical and horizontal transactions. However, this difference can easily be justified by examining a current transactions matrix for the economy, which depicts flows of goods and services and flows of monetary payments between institutions (households, banks, firms, and the government sector). An example of a matrix like this, taken from Dos Santos and Zezza's (2007) presentation of a simplified stock-flow consistent macroeconomic model, is depicted below.³

Here, consumption spending, C , comprises wages after tax, $W - T_w$, plus a fixed share a , of (lagged) household wealth, V^h . Household wealth increases both through savings

out of income, the latter including (lagged) interest receipts on deposits, i_b , and dividends received from banks, F_b , and firms, F_d , inclusive of the capital gain on equities (a component subject to minor degree of simplification).

Firm investment is $p\Delta K$, i_l is the loan rate of interest, and T_l is the tax rate on firm income. It is further assumed that the government chooses the bill rate of interest, i_b , tax parameters and government spending as proportion of total capital. Likewise, it is assumed that firms distribute a fixed share of after tax profits F_d as dividends, while banks distribute their total profits F_b to households. For simplicity, households are assumed to lend all their savings to firms without borrowing themselves.

The sources and uses of funds can be determined by reading the entries in each of the cells in any given column of the matrix. For the household sector, the sources of funds include wages, interest on deposits, and distributed dividends from banks and firms. Uses of funds include consumption and payment of taxes on household income. For firms, sources of funds include revenue from the sale of goods and services to households and government, as well as that component derived from the sale capital goods to other firms. These funds are used for investment, the payment of corporate taxes, the payment of interest on borrowings, and the distribution of dividends. Banks receive interest on loans and issued bank bills, and use their funds for payment of interest on deposits and the distribution of profits.

By summing across the rows for the flow-of-funds accounts of banks, households and firms, it is apparent that all transactions cancel out with the exception of the interest paid on bank bills by government, the payment of taxes by firms and households, and the receipt of revenue by firms for the sale of goods and services to the government. However, these components are all vertical transactions between the government and non-government sectors.

5. Applying the SAM framework using sectoral balances

5.1 Government surpluses and non-government indebtedness

The bottom row of the Current Transactions Matrix indicates that government savings (surplus) or tax revenue net of government spending and payment of interest on bonds ($T - G - i^b_{-1}B_{-1}$) are equal to the non-government sector's dis-savings (deficit = $p\Delta K - F_u - S_h$). This is a crucial accounting identity because it implies that, in periods when governments run continual budget surpluses, although economic growth could well be sustained over the short run, this will only happen if the non-government sector runs an on-going deficit, thus accumulating ever-increasing levels of debt. Moreover, as surpluses destroy net financial assets, this increase in private sector debt will be matched by a continuous decline in net financial assets or wealth. To show this, we must interpret the flow-of-funds accounts more closely for each of the sectors in terms of how they interact together. However, before this is attempted it is desirable to incorporate transactions with the rest-of-the-world.

5.2 Extending the Model to Include Rest-of-the-World Accounts

Figure 2 is a simplified transactions table taken from Godley and Izureita (2004: Table 1, 132) and, while simplifying the components of GDP, it now includes a column for the rest-of-the-world (ROW) account.

Here, Gross Domestic Product, Y , is equal to Private expenditure, PX , plus government expenditure, G , plus exports, X , minus imports, M . The ROW account

reveals that imports minus exports and transfers paid by the external sector, TF , equals the balance of payments deficit. Every item in the Production (GDP) account is matched by a corresponding negative entry in some other column. Taxes net of transfers are received by the government. Net property income, taxes and transfers, TF and TP , are paid by the external and private sectors, respectively (Godley and Izurieta, 2004: 132). The final row totals reveal that public sector net borrowing, PSNB, equals the private net acquisition of financial assets, NAFA (private savings less investment) minus the balance of payments surplus (or plus the deficit), BP.

Figure 2 Current transactions table

	Income and Expenditure	Production	Government	Foreign Sector	Row Sum
Private Expenditure	$-PX$	$+PX$			0
Exports		$+X$		$-X$	0
Government Expenditure		$+G$	$-G$		0
Imports		$-M$		$+M$	0
GDP	$+Y$	$-Y$			0
Taxes, factor payments etc	$-TP$		$+T$	$-TF$	0
Financial Balances	$+NAFA$	0	$-PSNB$	$-BP$	0

Source: Godley and Izurieta (2004).

From the perspective of a stock-flow consistent approach to macroeconomic modelling outlined above, the fundamental accounting identity states that government savings (surplus) or tax revenue net of government spending and payment of interest on bonds is equal to the non-government sector's dis-saving. That is, public sector net borrowing equals the private net acquisition of financial assets (private savings less investment) minus the balance of payments surplus (or plus the deficit). As governments have moved away from deficit spending at levels typical of the post-war period of full-employment, private sector debt levels have escalated.

The reason why this has happened is that causality flows from fiscal policy to the private sector simply because economic influences over the rest-of-the-world account change quite slowly, with income effects dominating over the price effects that are championed by neoclassical theorists. In contrast, fiscal policy responds immediately to government decisions about spending and taxing. The transmission mechanism behind these changes is complex, as it operates within a portfolio setting, by changing relative rates-of-return between real investment, the equity-premium, and the term structure of bonds.

6. Sectoral balances in Australia, USA and Japan

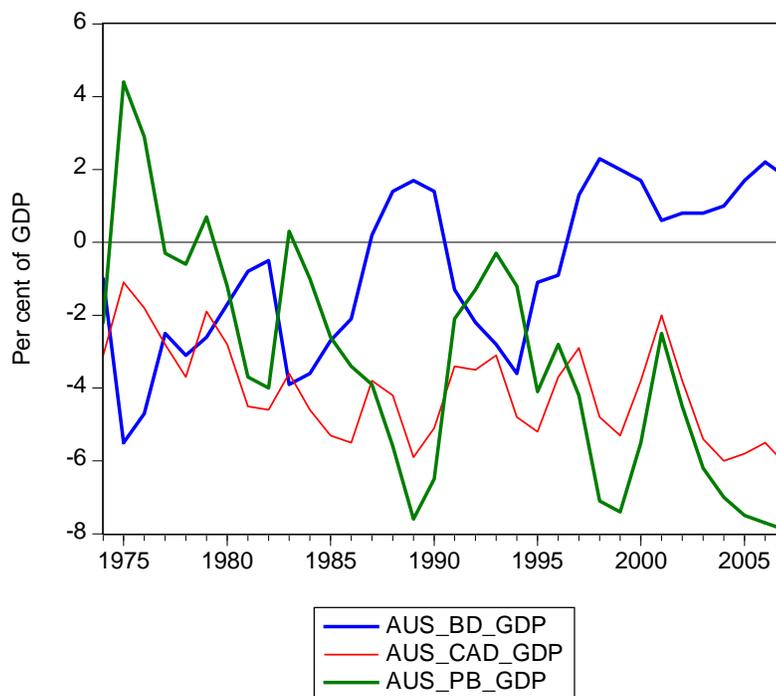
This Section of the paper examines empirical evidence for the influence of fiscal policy over private sector indebtedness. Consider the accounting identity for the three sectoral balances:

$$(2) \quad (S - I) \equiv (G - T) + (X - M)$$

Equation (2) says that total private savings (S) is equal to private investment (I) plus the public deficit (spending, G minus taxes, T) plus net exports (exports (X) minus imports (M)), where net exports represent the net savings of non-residents. Thus, when an external deficit ($X - M < 0$) and public surplus ($G - T < 0$) coincide, there must be a private deficit. While private spending can persist for a time under these conditions using the net savings of the external sector, the private sector becomes increasingly indebted in the process.

Figure 3 shows the sectoral balances for Australia. While the current account deficit has fluctuated with the commodity price cycle, it has continued to deteriorate slightly over the longer term. Accordingly, the dramatic shift from budget deficits to surpluses from the mid-90s onwards has been mirrored by a corresponding deterioration in private sector indebtedness.

Figure 3 Sectoral balances, Australia, 1974 to 2007, per cent of GDP



Source: RBA Bulletin database.

The only way the Australian economy could keep growing in the period after 1996 was for the private sector to finance increased spending via increased leverage. As we have explained in Section 2, this is an unsustainable growth strategy. Ultimately the private deficits will become so unstable that bankruptcies and defaults will force a major downturn in aggregate demand. Then the fiscal drag compounds the problem.

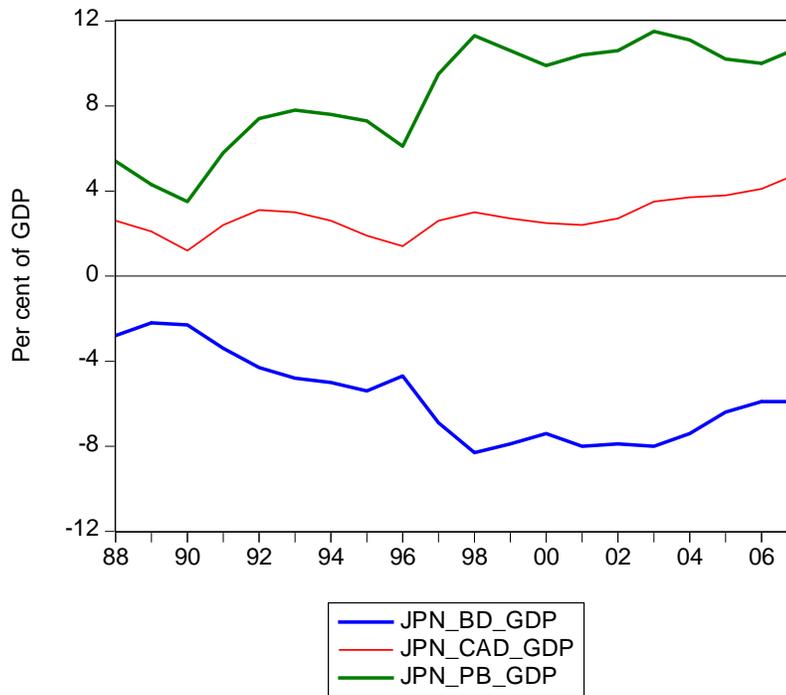
The solution is simple. The government balance has to be in deficit for the private balance to be in surplus for a stable external balance.

In terms of the slightly worsening current account deficit, we can interpret that as signifying an increased desire by foreigners to place their savings in financial assets

denominated in Australian dollars. This desire means that that the foreign sector will allow us to enjoy more real goods and services from them relative to the real goods and services we have to export. We note that exports are always a “cost” while imports are “benefits”. As long as there is a foreign desire for our financial assets, the real terms of trade will provide net benefits to Australian residents which manifests as the current account deficit. An external deficit presents no intrinsic problem despite views by the orthodoxy to the contrary.

In contrast, Figure 4 shows the sectoral balances for Japan and reveals that the private sector surplus has increased on a par with the long term increase in budget deficits. In other words, the persistent and substantial fiscal deficits have financed the saving desires of the private sector and helped to maintain positive levels of real activity in the economy. These relationships demonstrate the strength of fiscal policy to underwrite economic activity.

Figure 4 Sectoral balances, Japan, 1988 to 2007, per cent of GDP



Source: Bank of Japan.

The Japanese economy also beguiles analysts who attempt to apply orthodox macroeconomic theory to its aggregates. It is clear that Japan has had the highest public debt ever recorded and faced repeated downgrades from the ratings agencies. It has also run persistently large fiscal deficits for more than 20 years. Every day the Bank of Japan issues as many treasury bills as it likes at virtually zero interest yields. Further, inflation has been low and sometimes negative since 1991. So if deficits really caused high interest rates and/or runaway inflation, Japan would have revealed these pathologies years ago.

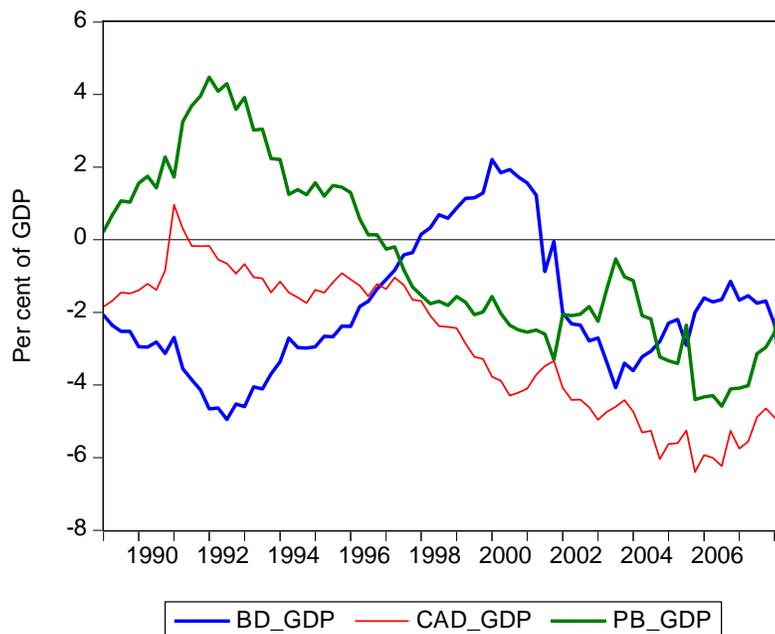
The fact is the Bank of Japan does not completely drain the “fiscal wash” every day with its treasury bill issue and in this way allows competition between the commercial

member banks to keep the short-term interest rate at around zero. This, in turn, allows the longer rates to be as low as possible and provide a favourable climate for investment. In turn, the fiscal stimulus is designed to counteract the deflationary impacts of the private saving.

Figure 5 depicts sectoral balances for the US. Significantly, Godley and Izurieta's (2004: 133-4) discussion of deteriorating financial conditions in the US focuses on the adverse consequences (for other sectoral balances) that resulted from the dramatic shift in the US federal government's budget balance over the 1992-2000 period from borrowing levels of 6 percent of GDP to a budget surplus of over 1.5 percent of GDP in 2000. As the government surpluses began to diminish after 2000, private sector debt levels began to recover, although the situation began to deteriorate once again after 2003.

The solution to the economic downturn in the US is to continue to increase the budget deficit and allow the private balance to improve even further so that households and companies can reduce leverage and put their balance sheets on firmer footing.

Figure 5 Sectoral balances, USA, 1989:1 to 2008:2, per cent of GDP



Source: US Bureau of Economic Analysis (thanks to Cesar Guerra at Valance Corp for data).

7. Conclusion

This paper has focused on the role of fiscal policy in the current financial crisis. The modern monetary framework introduced in Section 2 highlighted the need for governments to deficit spend at times when the private sector's desire to net save would otherwise result in underutilisation of capacity and unemployment. Section 3 provided an overview of the financial crisis. In Section 4, a more detailed justification was provided for the modern monetary approach based on the analysis of current transactions within the macroeconomy. The emphasis of this section was on the different economic effects of vertical transactions (between government and non-

government sectors) and horizontal transactions (between households, banks, and firms).

This framework was expanded to provide coverage of the interaction of the three sectoral balances. The transmission mechanism was described in Section 6, followed by empirical evidence, which was set out in Section 7. Here, the crucial insight was that policies of fiscal conservatism in Australia and the US had aggravated private sector indebtedness. By the same token, expansionary fiscal policy should be adopted to assist ailing economies to recover from the global financial crisis. In this light, any attempt on the part of the Rudd government to embrace activist fiscal policy, however modestly, should be applauded.

Further, statements like “punching a hole in the surplus” and “the government will run out of money” and “infrastructure projects will now not be funded” are all erroneous and the framework developed in this paper should provide the reader with the capacity and essential understanding of a modern monetary economy to discern the inapplicability of such statements.

The ability of the sovereign government to pursue its fiscal program is only limited by the available real resources. The scale of this program should reflect the desire to save of the private sector and the objective of keeping demand at levels consistent with true full employment.

The paper demonstrates beyond doubt that *there is no financial crisis so deep that cannot be dealt with by public spending.*

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² Thanks to Warren Mosler who coined this expression.

³The stock-flow consistent modelling approach set out in Lavoie and Godley (2001-2002) relies on the use of rigorous double-entry accounting procedures to ensure that stocks change *pari passu* with increases and decreases in respective flows. Dos Santos and Zezza refer to the above matrix as a “current transactions” table. Another way of representing economy-wide transactions is through a Social Accounting Matrix or SAM. Following United Nations conventions, SAMs depict economic institutions and rest-of-the-world accounts along both the vertical columns and the horizontal rows of the matrix with respective cells accounting for the sale and receipt of products and services and the costs and revenues associated with factors of production.