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Modern Money Theory:
A Response To Critics
*Scott Fullwiler, Stephanie Kelton
& L. Randall Wray*

A Rejoinder to "Modern Money Theory:
A Response to Critics"

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MODERN MONEY THEORY AND THE 'REAL-WORLD' ACCOUNTING OF 1-1<0:

THE U.S. TREASURY DOES NOT SPEND AS PER A BANK

Brett Fiebiger

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Abstract

This paper argues that Modern Money Theory, known also as neo-Chartalism, does not describe the modern monetary system. Instead, its proponents typically describe a system that resembles US colonies in the 1690s, and switch occasionally to the 1940s. Modern money theorists seem unaware that they forward opposing theories and that neither version has much empirical relevance. The 1690s version inverts fiscal policy by supposing that Treasury spending is financed by *ex ante* money creation in place of the *ex post* collection of fiscal receipts. The paper argues that the 'Treasury spending equals money creation' storyline requires highly-implausible assumptions; specifically, either that the Treasury's account at the central bank is not debited when it spends or that in expending deposits the laws of mathematics no longer apply (i.e. one credit to private accounts plus one debit to the Treasury's accounts equals money creation < 0). The paper concludes that modern money theory does not offer a viable alternative to fiscal austerity and suggests consideration of narrow banking *a la* Minsky (1994).

Key Words: Modern money theory, neo-Chartalism, fiscal policy, monetary policy.

JEL Codes: E50, E52, E62.

Introduction

Treasury debt could be eliminated entirely if the central bank were to simply pay interest on reserves, or if the Fed were to adopt zero as its overnight interest rate target. In either case ... there would be no need for sales of sovereign debt.
- Randall Wray (2003, p. 95)

So here is what I propose: let's support Senator Bayh's proposal to "just say no" to raising the debt ceiling... [Once the federal debt reaches its statutory limit] Treasury would continue to spend by crediting bank accounts of recipients, and reserve accounts of their banks. - Randall Wray (2009b)

For most economists the US federal government finances its spending primarily by acquiring bank money from agents outside of the domestic banking system. When one turns to Modern Money Theory (MMT), also known as neo-Chartalism, they find that the world is upside-down. Fiscal policy is said to be 'really' monetary policy. In most instances we are told that Treasury spending is financed by net/new money creation; with the receipts from taxes and bond sales *unable* to be spent, but instead 'destroyed'. This claim defines MMT and is defective. While the federal government's alleged ability to print money via fiscal expenditures is said to occur without the "complicity of the central bank" as a financing agent (e.g. Wray; 2006b) this argument is often forwarded with the term 'government' used ambiguously and deceptively to denote both the Treasury and the central bank. Everyone accepts that the Federal Reserve finances its activities by issuing money *ex nihilo* (i.e. 'out of nothing') but the Treasury finances its spending by depleting deposit balances (*ceteris paribus*). That Treasury spending results in a credit to the accounts of private banks (a reserve) is taken as evidence of 'the State' emitting 'money'. That the central bank also debits the Treasury's account entails that the transaction is not money creation but a transfer of an existing deposit. The maths is one credit to private accounts plus one debit to the Treasury's account equals zero money creation (not < 0). Money creation does not shift deposits from one account to another but creates them. MMT gets fiscal policy back-to-front by supposing that the Treasury expends funds without first procuring funds. The Treasury is not a bank and if it does not collect fiscal receipts it cannot spend because it has no 'money'.

The analysis proceeds as follows. Section one argues that the series of unconventional MMT claims on fiscal policy pivot on the assumption that the Treasury's expenditures increase the supply of high-powered money (correct) *and* the amount of central bank liabilities outstanding (false). In section two the 'Treasury spending creates money' storyline is shown to require alternative-world mathematics. Section three links the faulty MMT description of the money supply process to arbitrary accounting practices; in particular, to the mislaid belief that the Treasury's account at the central bank can be "ignored" because the deposits are not 'counted' in any money stock measure and 'net out' when the public sector's books are consolidated. Section four argues that MMT shifts between theories which describe the monetary system in US colonies circa 1690 and another circa 1945. Section five critiques altered MMT storylines which recast the central bank as the financing agent for *all* Treasury debt. The paper concludes that, while everyone wants an alternative to fiscal austerity, MMT is not it.

1. Treasury spending financed by drawing on deposits is money creation??

[The MMT/neo-Chartal] approach recognises that most HPM enters the economy as a result of fiscal policy. Whenever the government spends, it "emits" HPM

[while]... payment of taxes drains HPM from the economy... Thus, government budget deficits mean that there has been a net creation of HPM, while surpluses drain HPM from the economy. - Randall Wray (2000, p. 14)

The analyst who comes across MMT literature could infer that its adherents believe that budget deficits do not matter.¹ Statements such as the notion of a government budget constraint “has no significance as an economic constraint” and policymakers can spend “without worrying about “availability of finance” (Wray; 2006b, p. 13)” suggest that the ‘government’ has a ‘money’ tree at its disposal. The analyst might presume that the ‘money’ tree making all of this possible is the printing press operated by the central bank; however, this is not what MMT argues at least most of the time.

The ‘classic’ MMT texts by Bell (1998; 2000) and Wray (1998a) argue that the Treasury does not need to procure funds in order to spend but creates new funds as it spends such that in ‘theory’ fiscal receipts *cannot be spent*. This description of fiscal policy could perhaps be applied to monetary systems that existed centuries ago, for example, when the colonial government of Massachusetts issued the first *fiat* paper currency in America circa 1690. The bills of credit were spent into the economy and redeemable not for a precious metal but for tax liabilities. Does the US Treasury finance its expenses in the *modern* era in a way comparable to the colonial experiences of the 1690s-1700s? Wray (2004b, p. 9) writes that: “Treasury spending by check really is the equivalent of “printing money” in that it increases the supply of HPM.” Elsewhere he comments that: “tax payments always lead to a reserve drain (that is, reduce central bank liabilities) (Wray; 1998b, pp. 31-2).” These two statements are entirely false.

The key assumption underpinning the controversial series of MMT claims about how fiscal policy works is that whatever transactions increase (or decrease) the supply of high-powered money (HPM) equals a one-for-one increase (or decrease) in the amount of central bank liabilities outstanding. Transfers out of (or into) the Treasury’s account at the central bank will increase (or decrease) the quantity of bank reserves and, hence, the quantity of HPM. But it will not affect the amount of central bank liabilities because bank reserves and Treasury deposits are *both* liabilities of the central bank. When the Treasury spends the transaction only alters the *composition* of central bank liabilities and, therefore, is not money creation. Fiscal receipts paid into the Treasury’s account at the Federal Reserve are not ‘destroyed’ *a la* Bell (1998; 2000) or “simply wiped off the liability side of the central bank’s balance sheet” *a la* Wray (1998a, p. 116) but increase the deposit balance that the Treasury then draws on to pay for things.

In his thirteen-point summary of the “modern money view” the progenitor of MMT, Randall Wray (2009a, p. 5), proclaims that “government deficits mean net credits to banking system reserves and also to nongovernment deposits at banks” without discussing anywhere in the paper the counterpart ‘debits’ to the Treasury’s accounts at Federal Reserve Banks (or at private banks). In reality the Treasury can ‘credit’ the accounts of the private sector by drawing on deposits no more than nonfinancial firms can ‘credit’ the accounts of workers by drawing on deposits: the process is constrained by the positive balance in the account. The Treasury cannot ‘net credit’ the accounts of the private sector through expenditures because the ‘credits’ to its own accounts are obtained by collecting fiscal receipts and, hence, by recording previous ‘debits’ against the accounts of the private

¹ See, for example, Bell (1998; 2000), Forstater and Mosler (2005), Fullwiler (2005; 2010), Fullwiler and Wray (2011), Parguez (2002), Tcherneva (2005), Tymoigne (2005), and Wray (1998a; 1998b; 2000; 2003; 2004a; 2004b; 2006a; 2006b; 2007; 2009a; 2011a). For a contrarian perspective see Gnos and Rochon (2002) and Rochon and Vernengo (2003).

sector (with a sidenote needed for the Fed's holdings of Treasury debt). Matters are straightforward: if the Treasury wants to spend in excess of the balance in its account at the central bank (normally around \$5 billion) it must first collect and then draw on fiscal revenues or else its checks will bounce.

Fullwiler and Wray (2011, p. 14) write that although "Some will object that there is a fundamental difference between spending by the Fed and spending by the Treasury [they are equivalent]... since each leads to the creation of a bank deposit as well as bank reserves."² There are fundamental differences between financing commitments made by the Federal Reserve (a bank) and the Treasury (a non-bank). The former's activities are financed by issuing new money and the latter's by depleting existing deposit balances. The MMT belief that the federal government spends as per a bank is disconcerting as it implies that the most crucial aspect of fiscal policy can be neglected: how the Treasury obtains the 'money' that it uses to finance expenditures.

2. The 'Real-World' Accounting of $1 - 1 < 0$

The point is that the tax receipts cannot be spent... Of course, governments believe that they must sell bonds to borrow the funds necessary to financing spending. However, this is an illusion, as the spending must come first... [Indeed, bond sales] function to drain excess reserves; they cannot finance or fund deficit spending. - Randall Wray (1998a, pp. 78, 85)

If fiscal receipts cannot finance or fund spending by the Treasury then why does it collect fiscal receipts? In 'practice' the Treasury is said to 'voluntarily' coordinate its spending operations with fiscal transfers *but only* because it does the Fed's job, that is, the Treasury transfers fiscal receipts into its account at the central bank in order to 'destroy' the excess reserves (and neutralise downward pressures on the fed funds rate) that are thought to result from the Treasury's prior creation of 'money'. The fallacies here are many with the main one being that we are meant to believe that in 'theory' the Treasury could spend *ad infinitum* without transferring 'money' into its account at the central bank: as if its checks would not bounce once the deposit balance reached zero. The Treasury cannot create one type of central bank liabilities (\uparrow reserves) *ad infinitum* by means of drawing on another type of central bank liabilities (\downarrow Treasury deposits) when it pays for things. The maths here is one credit to private bank accounts at the central bank and one debit to the Treasury's account at the central bank equals zero change in the amount of 'money'. MMT supposes that the sum of one minus one does not always equal zero but could in 'theory' be a positive number approaching infinity.

How much 'money' has the Treasury 'destroyed' just so the central bank can hit its overnight interest rate target? As per MMT the amount of 'money' destroyed by the US federal government is equal to the sum of total federal receipts plus net bond issuance which was \$62,733bn over 1945-2011Q2 (Table 1).³ Wray (1998a, p. 116) argues that the simultaneity of fiscal transfers with federal government spending is not indicative of a financing operation but undertaken "to maintain stability in the market for reserves... In practice, the Treasury tries to manipulate its accounts so as to maintain a closing balance of \$5 billion at the Fed each day."⁴ Whereas taxes are thought to 'destroy' the

² Elsewhere Wray (2007, p. 8) claims that the "sovereign government... spends by emitting IOUs" without differentiating between the central bank and the Treasury. This is misleading and mistaken. Money is created when an issuer credits the receiver's account without drawing on another account. When the Treasury spends its account at the central bank is debited: this is not money creation.

³ Bell's (1998; 2000) argument is that *any* funds received by the Treasury is 'destroyed'.

⁴ There is a straightforward reason why the Treasury's account at the Fed is usually kept at a low and stable level: the Treasury

“government’s money” outright Treasury bonds are said to be issued ‘voluntarily’ to provide an alternative asset to bank reserves and ‘really’ just “HPM that pays interest (Wray; 2011a, p. 7).” Why then does the US private banking sector hold a diminutive share of Treasury bonds outstanding (i.e. 2.9% in 2011Q2)?

Table 1: Accumulated Money Balances ‘Destroyed’ by the Treasury (\$Bns)				
	1945-2011Q2	2000-2011Q2	2007-2011Q2	2009-2011Q2
(1) Federal Government Total Receipts	53,246	26,015	11,184	5,973
(2) Change in Treasury Debt Outstanding	9,487	6,058	4,853	3,377
Total Government Money ‘Destroyed’ (1+2)	62,733	32,073	16,038	9,350
Sources: Federal Reserve, <i>Flow of Funds</i> , Table L. 1. BEA, <i>NIPA</i> , Table 3.2.				

To understand what MMT is and why it is faulty one must grasp that its proponents suppose that the federal government’s account at the Federal Reserve is the nexus of ‘State money’ creation and destruction. They transform a few billions (i.e. the normal balance in the Treasury’s account) into ‘theoretical’ trillions of net/new ‘money’ for the private sector only then to claim that in ‘practice’ the Treasury uses taxes or bond sales to ‘destroy’ all of the ‘newly-created money’ by the end of the day for “reserve / interest rate maintenance” purposes (thereby leaving no additional ‘money’ in the economy). Modern money theorists declare that all of this is just a description of the ‘real-world’ accounting practices of the Federal Reserve System but it is based on the erroneous belief that Treasury operations affect the volume of central bank liabilities outstanding rather than the composition. Wray (1998b; 2003; 2004b; 2006b; 2007; 2009a; 2011a) typically does not verify his claims in balance sheet format.⁵ This disinclination might be why he cannot realise the implausibility of the MMT money supply process. Table 2 presents the MMT version of deficit-spending (i.e. spending in excess of taxes) *but with* the debits and credits to the Treasury’s accounts. The folly is that the first step is said to be able to continue *ad infinitum*, that is, in ‘theory’ the Treasury can spend without drawing on fiscal receipts held in Tax and Loan (T&L) accounts at private banks.

Table 2: The MMT Version of Deficit-Spending					
Treasury		Private Banks		Non-Bank Public	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
<u>1. Treasury Spending for Goods, Services or Infrastructure (e.g. Bridge)</u>					
- Fed Deposit		+ Reserves	+ Bank Deposit	+ Bank Deposit	
+ Bridge					
<u>2. Treasury Bond Sale to Private Bank</u>					
+ T&L Deposits	+ Bond	+ Bond	+ T&L Deposits		
<u>3. T&L Funds Transfer</u>					
- T&L Deposits		- Reserves	- T&L Deposits		
+ Fed Deposit					
<u>4. Net</u>					
+ Bridge	+ Bond	+ Bond	+ Bank Deposit	+ Bank Deposit	

would retire an interest-bearing debt than allow a non-interest-bearing deposit balance to expand beyond that required to ensure its checks do not bounce.

⁵ Fullwiler (2009) presents a tabular description of deficit-spending that excludes the accounts of the Treasury *altogether*. His description of deficit-spending ‘without a bond sale’ supposes that the Treasury’s account at the Federal Reserve either does not exist or is not debited.

Observe also in Table 2 that step three *conveniently* replenishes the Treasury's account at the Fed but that the transfer of fiscal receipts is thought to be not because the Treasury needs the proceeds to spend: "but because it *chooses* to coordinate its taxing and spending (Bell; 2000, p. 618) [Emphasis original]." A voluntary action is one that an agent can choose not to do: if the Treasury does not collect fiscal receipts on an ongoing basis it cannot spend because it has no 'money'. Any plausible description of deficit-spending must begin with a bond auction (act of procuring finance) followed by the expenditure (act of executing finance) and include the on-sale of the bond by private banks. After all, the Treasury must obtain 'money' before spending, and agents outside the domestic banking sector are the main holders of US Treasury securities. Wray (1998b, p. 3; 2009a, p. 10) is adamant that bond sales are all about substituting bonds for reserves as if Treasury securities reside mostly on the books of private banks when they do not. The irony is that modern money theorists present their theory as unique in the economics profession for its use of 'real-world' accounting practices:

Of critical importance to most of MMT's description of the monetary system is its elaboration of the system's operational realities... First is the *accounting logic of real-world transactions*. Any relevant theory simply must be consistent with real-world accounting as a very basic criteria, and furthermore it is just this sort of base level understanding of accounting that is quite often absent from economic theories and how both the public and policymakers discuss and understand economics (Fullwiler; 2010) [Emphasis original].

The problem is that the critics [of MMT] almost universally have no idea how the government actually spends; they have no understanding of the operational details and coordination between the Fed and the Treasury that allows government to spend, collect taxes, and sell bonds (Wray; 2011e) [Emphasis original].

Wray (2003, p. 95) clarifies as follows his position that bond sales are 'designed' for 'interest rate maintenance' operations: "Treasury debt could be eliminated entirely if the central bank were to simply pay interest on reserves, or if the Fed were to adopt zero as its overnight interest rate target."⁶ Why then has the US Treasury continued to issue bonds in the period 2009-2011Q2 (equal to \$3,377bn) even though it had no reason to do so – according to MMT – because the fed funds rate was effectively zero and the Federal Reserve acquired the power to pay interest on reserves? If bond sales are a 'voluntary' part of fiscal policy and not needed since late 2008 for the 'designed' purpose of 'interest rate maintenance' operations, then, why did the US Treasury still issue bonds even though it bumped into the congressional 'debt ceiling' and nearly defaulted on its financial obligations in August 2011? Modern money theorists might reply that policymakers, along with everyone else, fail to realise that the Treasury does not need to collect fiscal receipts to spend (actually cannot spend fiscal receipts).

Such is the MMT conviction on this issue that Wray (2009b) assures everyone that the federal government debt limit does *not* need to be raised because the "Treasury would continue to spend by crediting bank accounts." Fullwiler (2009) praises Wray's (2009b) advice as a "creative suggestion" but it is disastrous advice: if the debt ceiling is not raised the US Treasury will be unable to pay interest costs and/or fund vital services.⁷ Were the US Treasury to default the carnage in global

⁶ Comparable passages can be found in Wray (1998b, p. 32; 2007, p. 9) and Fullwiler (2005).

⁷ Wray (2009b) and Fullwiler's (2009) "creative suggestion" is thought to be possible within existing operating procedures; and, not an alternative system say where the Treasury issued platinum coins (of whatever denomination desired) or the Fed provided an overdraft facility (which would enable the Treasury to bypass the debt limit up to the exact extent to which the account could be

financial markets might surpass the collapse of Lehman Brothers. Elsewhere Wray (2011c) writes that the debt limit should be abandoned (good) or the federal government debt just abolished. Apparently, the second option would require only minor changes because Treasury bonds are just “reserve-draining operations that offer bonds as an alternative to reserves... So... just stop selling the bonds (Wray; 2011c).” The assumption here is that the Treasury spends by emitting net/new reserves which then call forth bond sales; however, the Treasury must issue bonds *first* to deficit-spend *later*. Which view is factual is a choice between whether the sum of one minus one equals a number greater than zero or zero.

3. ‘Real-World’ or Arbitrary Accounting Practices

[In this paper], the complexities of reserve accounting are carefully considered, and newly-created money is revealed as the source of all government finance. It is further argued that the proceeds from taxation and bond sales are not even capable of financing government spending since their collection implies their *destruction*. - Stephanie Bell (1998, pp. 2-3)

It makes no sense to depict the Treasury financing expenses by depleting its holdings of money as direct money creation. How have modern money theorists made this error? The answer appears to be that they have confused arbitrary accounting practices as ‘real-world’ accounting practices of great importance for theory. Bell’s (2000, p. 615) claim that the Treasury emits ‘money’ when it spends pivots on the observation that the Treasury writes checks on an account held at the Federal Reserve “that does not comprise part of the money supply or high-powered money.” The belief here is that classifications of monetary aggregates provide “accounting identities” suitable for making theoretical claims about the processes of money creation. So in MMT ‘money’ is only ‘money’ if statisticians ‘count’ it. That the Treasury’s cash holdings and deposits at the Fed are not counted in *any* money stock measure does not mean these items are akin to ‘non-money’. These items exist as ‘money’ where it matters most: on the books of the Treasury as an asset and the central bank as a liability (Table 3, page 8).⁸

Modern money theorists have built a theory on statistician conventions and not the economic roles of the money-items. MMT proponents might object that fiscal policy does impact the level of reserves and the verity that it does not affect the amount of central bank liabilities is just a minor technicality.⁹ The problem is that the roles MMT assigns to the Treasury require it to be net a creator and destroyer of ‘money’. If it is accepted that when the Treasury spends its monetary assets fall while the Fed’s liabilities are unchanged, then, it cannot be argued that “fiscal policy is the primary determinant of the quantity of money issued (Wray; 1998b, p. 3) [Emphasis original]” or that “the treasury is responsible for draining/adding reserves over a longer run (Wray; 2003, p. 95).” Instead, it must be recognised

overdrawn).

⁸ Note that Cagan’s (1965) approach to calculating the supply of HPM counts the Treasury’s cash holdings and deposits at the Fed as “high-powered monetary assets” and then ‘nets out’ these funds to obtain a *desired* measure of ‘reserves plus currency held by the public’. Had Bell (1988; 2000) and Wray (1998a) looked at Cagan’s ‘real world’ accounting identities they might have realised that Treasury spending is not net/new money creation because it drains/depletes the Treasury’s holdings of high-powered monetary assets issued previously, and for the most part, by Federal Reserve Banks.

⁹ One MMT advocate advised that I check the ‘definition’ of HPM. The process of defining the components of a complex system not only informs but *precedes* the process of theorising how that system works: arbitrary definitions of ‘money’ (e.g. HPM) produce an arbitrary theory (e.g. MMT).

that the main ‘source’ of HPM is the central bank, with the Treasury’s role limited to coins and Special Drawing Rights.

Table 3. The Fed’s Balance Sheet and Factors Affecting Reserve Balances*			
ASSETS		LIABILITIES	
Reserve Bank Credit:	(1)	Currency in Circulation	(5)
Securities Held Outright Holdings		Reverse Repurchase Agreements	(6)
Repurchase Agreements		Treasury Cash Holdings	(7)
Term Auction Credit		Deposits with FRB, other than Reserve Balances	(8)
Other Loans		US Treasury General Account	
Net Portfolio Holdings (various)		US Treasury Supplementary Financing Account	
Preferred Interests (in AIG Subsidiaries)		Foreign Official	
Float		Service-Related	
Central Bank Liquidity Swaps		Other	
Other Federal Reserve Assets		Other Liabilities and Capital	(9)
Gold Stock	(2)		
Special Drawing Rights Certificate Account	(3)	Total Factors, other than Reserve Balances,	(5-9)
Treasury Currency Outstanding	(4)	Absorbing Reserve Funds	
		Reserve Balances with Federal Reserve Banks	(10)
Total Factors Supplying Reserve Funds	<u>(1-4)</u>	Total Factors Using Reserve Funds	<u>(5-10)</u>
* The item ‘Total Factors Using Reserve Funds’ is added but implicit to the accounting relations.			
Source: Federal Reserve, Table H.4.1.			

Wray (2003) invokes the ‘conglomerated State’ as a reason why the Treasury’s account at the central bank is not important for analysis. He argues that the central bank *monetaring* public debt (i.e. ‘credits’ to the Treasury’s account in exchange for a bond) is an *equivalent financing method* to the central bank *intermediating* Treasury payments (i.e. ‘debits’ to the Treasury’s account when funds are spent) without realising that the procurement and execution of financing are separate issues. The ultimate justification given for the ‘conglomerated State’ is that when the Treasury spends “It would be more transparent, but would change nothing of significance [i.e. the current procedures allow this], if the treasury simply spent by crediting a private bank account directly (Wray; 2003, p. 92).” It would make a massive difference if the Treasury could directly credit private bank accounts *without having its own account debited*: that would be money creation. In promulgating the ‘conglomerated State’ Wray (2003) only confuses the subject and himself. Consider that the books of the private sector can also be consolidated such that all holdings of bank money ‘net out’. The problem is that when looking at the books of the ‘conglomerated private sector’ or ‘conglomerated State’ the analyst cannot discern how non-bank agents finance their expenses.¹⁰

4. The 1690s and 1940s Versions of MMT are Incompatible

In applying this first law of Functional Finance [i.e. tailoring spending to full employment], the government may find itself collecting more in taxes than it is

¹⁰ Fed holdings of Treasury debt should not be ‘counted’ for debt sustainability analyses (i.e. the Fed would not force the Treasury to default). But the Treasury’s deposits at the Fed must be ‘counted’ to understand how the Treasury obtains the ‘money’ it uses to spend and, thus, how fiscal policy works.

spending, or spending more than it collects in taxes. In the former case it can keep the difference in its coffers or use it to repay some of the national debt, and in the latter case it would have to provide the difference by borrowing or printing money.

- Abba Lerner (1943, p. 40)

Economists have long believed that the government must either ‘print money’ or ‘borrow’ whenever it deficit spends. However, as we have shown, government always spends by crediting reserves to the banking system. - Randall Wray (2003, p. 93)

Modern money theorists do not have one version of how ‘the State’ spends but conflicting versions. Bell (1999) following Lerner (1943) argues that ‘banks’ can create fiscal receipts via borrowing operations which can then be spent. This is all fine from a theoretical perspective; however, the share of US Treasury bonds held by the domestic banking sector has fallen from over-half in 1945 to between one-tenth and one-fifth in recent years (Table 4). The majority of Treasury debt issuance will sooner or later divest a non-bank agent of a bank deposit as per the collection of tax receipts (with the role of ‘banks’ limited to clearing agents). Moreover, whereas Lerner (1943) highlighted that banks could always create spendable balances *for* the Treasury, the ‘classic’ MMT texts by Bell (1998; 2000) and Wray (1998a) reject this description of fiscal policy. The point to take here is that there are at least two versions of MMT; and, that in the 1940s Chartalist version ‘printing money’ means money creation by banks (correct) whereas in the 1690s neo-Chartalist version it means the Treasury exhausting deposits (false). Matters are exasperating because MMT advocates seem unaware that they present conflicting theories and that neither version has much empirical relevance. The 1690s and 1940s versions cannot coexist. Combining the two involves Orwellian doublespeak: all fiscal receipts are ‘destroyed’ and cannot be spent but not always.

Table 4: Bank Holdings of US Treasury Debt as a Percent of Totals Outstanding					
	1945	2008	2009	2010	2011Q2
Federal Reserve Banks	9.7	7.5	10.0	10.9	16.7
Depository Institutions	41.6	1.7	2.7	3.4	2.9
Total Banks	51.3	9.2	12.6	14.4	19.6
Memo: Treasury Debt Percent of GDP	112.6	44.3	55.8	64.4	64.8
Source: Federal Reserve, <i>Flow of Funds</i> , Table L.209.					

The reader must query if modern money theorists know what their own theory is.¹¹ Consider that Wray (2004a, p. 7) simply declares that “complex procedures have been adopted to ensure that Treasury can spend by cutting checks; that Treasury checks never ‘bounce’” – without informing the reader what these procedures are or referencing a paper which examines them. Perhaps he has mind Bell’s (1999) paper recounting Lerner’s (1943) position? Modern money theorists claim that they do not neglect how the Treasury gets ‘money’ into its account at the central bank. What they have is a ‘theory’ where the Treasury does not need fiscal receipts (and, by implication, deposits at the Fed) in order to spend and another ‘theory’ where everything is presented in the opposite order. In one post Wray (2011e) argues that deficit-spending financed by bond sales “is not technically possible”

¹¹ Wray (2011f; 2011g) cannot decide one week from the next if he wants everyone to think of how the ‘sovereign government’ spends as “essentially printing money”; and, somehow wants it both ways.

because the “government spending must come first, then the bonds can be sold.” Elsewhere Wray (2006b, p. 13) remarks that policymakers “might require that bonds are issued before deficit spending actually takes place [Emphasis added].” We are meant to believe that in ‘theory’ deficit-spending occurs before bond sales *but* there ‘might’ in ‘practice’ be legal constraints requiring bond sales to occur before deficit-spending *but* somehow fiscal receipts still do not finance the *subsequent* deficit-spending. All of this is just Orwellian doublespeak.

Fullwiler (2010) argues that critics assume that modern money theorists are unaware of various legal constraints such as the requirement that the Treasury must have a positive account balance at the central bank in order to spend. What we are told most often is that the “Treasury spends before and without regard to either previous receipt of taxes or prior bond sales (Wray; 1998a, p. 78)” along with cryptic passages that the “sovereign government neither has nor does not have money (Wray; 2011b).” In one paper Wray (2006b, p. 13) writes immediately after claiming that revenues from taxes and bond sales do not finance ‘government’ spending that policymakers: “might require that the treasury have “money in the bank” (deposits at the central bank) before it can cut a check [Emphasis added].”¹² It is a failure of reason to suppose that the Treasury ‘might’ have to obtain deposits before it spends but somehow insist that fiscal receipts do not finance the *subsequent* expenditures. Fullwiler’s (2010) answer as to whether the Treasury must obtain deposits before spending is somehow yes *and* no:

[Modern money theorists understand that there are legal constraints on the Treasury]—the key is to understand what “deficits or Fed lending logically precede tax payments and bond sales” does and does not mean. That is, when MMT’ers say the latter, they are effectively saying “deficits or Fed loans logically precede taxation and bond sales as an operational reality of the monetary system” (the general case), and this and the statement “the Treasury must have positive balances in its account prior to spending under current law” (the specific case) are in fact not mutually exclusive. Both can be and are true—the *government can* and does require itself through its own self-imposed constraint to *obtain credits to its own account at the Fed that were created via previous deficits* or Fed lending before it spends again (Fullwiler; 2010) [Emphasis added].

There are three issues here. The first is that the characterisation of reserve injections by the central bank as ‘Fed lending’ is misleading (a point returned to further below). The second is that the central bank injecting reserves into the economy in response to the activities of private banks and the Treasury financing its spending by collecting fiscal receipts are not just compatible ideas but how the system works.¹³ The third is that the Treasury cannot obtain ‘credits’ to its account at the central bank (↑ deposits) by drawing on *these same* ‘credits’ (↓ deposits) to finance expenditures. The maths is one credit (fiscal receipt) plus one debit (fiscal expenditure) equals zero not < 0 .

¹² Wray (2011h) trivialises the constraint that the Treasury must obtain deposits at the Fed *before* it spends as a matter “better addressed by behavioural psychologists than by economists.” In reality this constraint entails that MMT does not describe how fiscal policy works.

¹³ Most HPM is not created by the Treasury, or even for the Treasury, but is called forth into existence as a residual-item arising from the money-creating activities of private banks.

5. The Central Bank to the Rescue: No

Modern money theorists (or some of them) might cling to the claim that ‘government’ expenditures precede taxation and bond sales because a reserve injection must occur before fiscal receipts can be collected. Wray (1998a) and Fullwiler and Wray (2011) not only want to reconceptualise fiscal policy as monetary policy but also monetary policy as fiscal policy (i.e. the central bank’s activities are part of the ‘government’ budget). Would it matter much if it is the central bank that injects reserves into the economy on a net basis? The paradigm-defining claim of MMT is that fiscal receipts are not even capable of financing Treasury spending *because* Treasury spending is the main ‘source’ of HPM *independently and instead of activities initiated by the central bank*:

Fiscal policy, or, more specifically, the expenditure decision, principally determines the amount of fiat money... available to pay taxes. While it is true that *central bank* net purchases (or lending) *also* supplies reserves (thus fiat money), *this is small relative to [federal] government spending and taxing* and is taken as a defensive action to add/drain reserves on a short term basis... Thus *it is fiscal policy* [i.e. expenditure decisions] that determines the amount of new money *directly created by the federal government* (Wray; 1998a, pp. 81. 97) [Emphasis added].

If one is not discussing the Treasury as net creator of ‘money’ via fiscal expenditures, then, they are no longer talking about MMT. Labelling the central bank’s activities as fiscal policy cannot rescue the MMT claim that taxes and bond sales are ‘designed’ for ‘interest rate maintenance’ purposes.¹⁴ For the Treasury fiscal policy is fiscal policy as per conventional understandings. Wray (2006b) explicitly rules out the ‘complicity’ of the Fed in the financing of deficit-spending by ‘printing money’, that is, by buying Treasury bonds at auctions or in the open market. Wray (2011b; 2011d) now recasts the Fed as the ‘indirect’ financing agent for *all* Treasury debt issuance both in respect to its own holdings of bonds (correct) and ‘somehow’ also private sector bond holdings simply because it injects reserves into the economy (false). In one passage Wray (2011b) equates all government spending to money creation and then discusses what he thinks is a “roundabout method” to allow the Treasury to “issue an IOU to its own bank”:

So when the Treasury is deficit spending... it cannot simply issue an IOU to the Fed. It must instead sell its bills and bonds to private households, firms or banks... To spend it needs to transfer the demand deposit [in T&L accounts] to its account at the Fed... Bank XYZ would find itself short of reserves after the Treasury transferred its deposit... Note that if the Fed lends reserves to banks, we end up in a position in which banks have essentially borrowed reserves from the Fed in order to “lend” to the Treasury (holding government bonds). If on the other hand the Fed buys the bonds in an open market operation, we end up in a position in which the Fed holds the Treasury’s bonds, so has effectively “lent” to the Treasury.

Why would the Treasury need to issue IOUs in the form of a debt to anyone if all of its spending is pre-financed? Or as Wray (2011b) puts it, “the money government uses to spend is created as it spends.” The MMT ‘fiscal receipts cannot be spent’ storyline not only rules out the private sector as a source of financing for the Treasury but *also the Federal Reserve*. It cannot be argued that fiscal

¹⁴ The idea that central bank reserve injections can be thought of as ‘fiscal expenditures’ does not alter that these injections are done primarily to accommodate the activities of private banks; and, that the central bank’s ‘fiscal expenditures’ do not play an operative role in the financing of the Treasury’s fiscal expenditures except when open market purchases are coordinated with bond auctions.

receipts provided by the central bank can be spent but somehow fiscal receipts obtained from the public and paid into the same account cannot. The central bank does not have to inject or ‘lend’ reserves after the Treasury draws on T&L funds *a la* Wray (2011b; 2011d) because the ensuing expenditure will *return* the reserves absorbed earlier.¹⁵ Further, while reserves grew remarkably from \$20.8bn in 2007 to \$1,595.9bn as of 2011Q2, private bank holdings of Treasury bonds remain diminutive (Table 4). The US Fed does not inject reserves or lend reserves so that banks can buy Treasury bonds on any significant scale. One can only make sense of this altered storyline involving the Fed that the key axiom of MMT is that the public cannot finance Treasury spending with everything else including the facts malleable to ‘proving’ this axiom. Fullwiler’s (2011) proposal for the US Treasury to ‘go around the debt ceiling limit’ by minting a \$1 trillion coin is a tacit admission that MMT does not describe how fiscal policy works; indeed, its advocates must change their theory or develop proposals to make the system fit their theory.

Conclusion: MMT is an alternative but not to fiscal austerity

[My 1998 book scared people] and I’m still scaring them. Why? Because nobody wants the truth about money. They want comforting fictions, fantasies, bedtime stories. As Jack Nicholson put it: “They can’t handle the truth”... [Everyone on] the left and the right as well as economists and policymakers across the political spectrum fail to recognise that money is a public monopoly... So the question is: WHAT IS MONEY? - Randall Wray (2011i)

In MMT ‘money’ is everything except the exact money-items that the Treasury uses to pay for things. Everyone wants an alternative to fiscal austerity but MMT is not it. Its proponents are not prophets of ‘truth’ but of alternative-world maths. Disposing of the MMT myths on fiscal policy are important in view of the ongoing crisis and prospect that the US federal government will be running deficits for awhile and adding to its debt outstanding. Fiscal-raising activities are not monetary policy tools but undertaken to *finance* the federal government’s spending. The inconvenient truth is that MMT is a distraction to understanding and developing solutions to current economic problems. Counteracting the neoliberal march towards fiscal austerity requires sensible analysis (e.g. Ferguson and Johnson; 2011, Pollin; 2011, Pollin and Garrett-Peltier; 2011).

MMT arguments on the international monetary system are just as problematic as their arguments on the domestic monetary system. Wray (2004a; 2006a; 2006b; 2009a) and Sardoni and Wray (2007) argue that a ‘sovereign government’ on a floating exchange rate regime does not ‘really’ borrow. This claim should strike the reader with a sense of incredulity and repugnance. MMT connects Washington’s enviable domestic policy autonomy to *factors aside from the dollar’s “key” currency status* and then supposes that everyone else can have the *same* policy space. It is unrealistic to expect that all other nations could neglect the external position as per the centre country when they do not issue the “key” currency and global finance is so dysfunctional (Costabile; 2010). Everyone should turn to the ideas of D’Arista (2002; 2009a) and Palley (2004; 2011) for reforming the transmission belt of monetary policy and to D’Arista (1999; 2009b) and Davison (1992; 2008) for the design of an inequitable and stable international system.

¹⁵ The Treasury’s budgetary operations only affect the amount of reserves temporarily as funds are *first* received and *then* spent. This means that any reserve shortages of the paying-banks will be offset by excess reserves of the receiving-banks (and thus resolvable within the interbank market).

It is perhaps time also to revisit the positions of Soddy (1926), Fisher (1935), Friedman (1948) and Minsky (1994). These economists agreed on little except that the fractional reserve banking system is structurally unstable and inherently procyclical. Wray (2002) remarked on Friedman's (1948) proposal to abolish private bank money creation in favour of a monetary system where new money would be supplied and budget deficits financed through government money creation that it is "just a description of what really happens (so long as we drop the 100% reserves idea)." It is not. Consider the following remarks from UK Prime Minister David Cameron (2011): "We have to understand this is a debt crisis, it's not a traditional cyclical recession where you can just turn on the money tap." When debt problems are endemic in the United States, Japan, Italy, the United Kingdom, and elsewhere, it must be queried why the money taps are controlled by private interests and produce debt-money. Soddy (1926) defined *fiat* 'money' as an abstract symbol for real wealth. From this perspective it is absurd to argue that society cannot afford to do XYZ due to a shortage of virtual wealth tokens that private banks are able to create 'out of nothing'. MMT does not pursue this line of analysis because 'money' is apparently already a public monopoly (e.g. Wray; 2011a). The reality is that the monetary system that exists is one where private banks reap exorbitant profits from creating the public's money only to periodically collapse and pass costs onto taxpayers.

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MODERN MONEY THEORY: A RESPONSE TO CRITICS

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Introduction

Over the past two decades a group of us has developed an alternative approach to monetary theory that integrates the insights of Knapp's (1924) state money approach (also called chartalist and adopted by Keynes (1930; 1914)), the credit money view of Innes (1913, 1914), Lerner's (1943, 1947) functional finance approach, Minsky's (1986) views of banking, and Godley's (1996) sectoral balance approach. In addition, most of us have used our understanding of the operation of the monetary system to propose an employer of last resort or job guarantee program to provide an anchor to the value of the currency. The approach has come to be known as modern money theory (MMT) and has been widely debated and adopted, especially on the blogosphere. Prominent economists such as Paul Krugman and Brad DeLong have taken notice and deemed it to be a theory of note, even if they do not accept all of it. Further, developers of MMT have been credited with foreseeing the global financial collapse as well as the troubles with the Euro as early as the 1990s (Wray 1998, Bell 2003).

Still, MMT has always had its critics. Somewhat surprisingly to us, some of the most vocal critics have been heterodox economists, particularly the Post Keynesians. We see nothing in the MMT approach that should be difficult for PKs to accept. Yet, in recent weeks both Marc Lavoie and Bret Fiebiger have provided critiques. It looks to us as if they have not understood our arguments. Instead of providing a point-by-point response to either of their papers, we think it will be more useful to briefly lay-out our main argument in a way that should be accessible to PKs.

We have been given only 4000 words for this task, hence, we can only hit the main points. More specifically, this response will in turn discuss the role of endogenous money and the circuit for MMT, the MMT understanding of government debt operations, and the links between the MMT approach and heterodoxy in general.

Endogenous Money and the Circuit—An Entry for Post Keynesians into MMT

We find the French-Italian PK circuit approach particularly useful for driving home the point that the finance for spending must come from somewhere. (Graziani 1990) Most recognize that to finance a purchase one needs to use income, to sell an asset, or to borrow. At the individual level that is certainly true. Yet, the "finance" that comes from income flows as well as the receipts from sales of assets also must come from somewhere—and an "infinite regress" is not logically compelling. The typical neoclassical *deus ex machina* source of finance is saving—but if saving is in financial form it must have been generated by someone else's spending, another infinite regress. Hence, when the circuitist begins with a bank loan to finance purchase of commodities (to be used to produce commodities) all logical problems are resolved.

Spending and creation of "money" in the form of a bank deposit are linked. It is best to think of these as balance sheet entries: the bank accepts the IOU of the borrower and credits her demand deposit; the

borrower's IOU is offset by the credit to her deposit. Spending then simply shifts the demand deposit to a seller. Money is created "endogenously" to finance spending. Later, when loans are repaid, the demand deposit as well as the borrower's IOU are debited—money is destroyed. There is no magic involved, no "manna from heaven", no separation of the "real" (say, IS curve) from the "monetary" (LM curve). As Clower (1965) would remark, money buys goods and goods buy money but goods do not buy goods. Barter is ruled out as one must first obtain money—from income flows, asset sales, or borrowing—before spending. And the money must get created with an initiating purchase.

That is the idea behind the "endogenous money" approach adopted by Post Keynesians: loans create deposits. And repayment of loans destroys deposits. Many PKs go further and adopt the "horizontalist" approach: both the supply of loans and the supply of bank reserves are horizontal, at an exogenously administered interest rate. (Moore 1988) We do not need to get into this in detail here, nor does a reader have to accept a horizontal supply of deposits and loans (we don't!). The fundamental idea is that bank lending is never constrained by the deposits that flow into banks—since banks create deposits when they lend.

However, as we know, banks must meet reserve requirements, and banks use reserves for clearing. Here is where "horizontal reserves" come into play: any central bank that administers an overnight interest rate target must supply reserves on demand—for otherwise it would lose control of the interest rate. In the PK literature, it is said that CB policy always "accommodates" the demand for reserves. Given that this demand is highly interest-inelastic, there is little room for "error" by the central bank. It must accommodate more-or-less exactly the demand. We believe that this view is now widely accepted, even by the mainstream: modern central banks operate with an overnight interest rate target and accommodate bank demand for reserves in order to continuously achieve it.

All of this is old ground and not controversial (or should not be).

MMT—Bringing the State into the Circuit

What extension does MMT make?

1. The money of account, at least today, is virtually always a state money of account—a "dollar" chosen by the authorities.
2. The authorities issue the currency, which consists of notes and coins denominated in that money of account, and the central bank (whether it is legally independent or not) issues bank reserves in the same unit.
3. The authorities impose taxes and other obligations in the same unit, and accept their own liabilities (notes, coins and reserves, together high powered money--HPM), in payments to the state.
4. The authorities issue HPM denominated in the same unit when they spend.
5. The authorities sell other types of (generally longer term) liabilities denominated in the same unit, accepting their own HPM IOUs in payment for them.

We would thus insist that any modern circuit should begin with the recognition that the "bank money" created at the beginning of the circuit is denominated in the State's money of account. Further, recognizing that banks use HPM for clearing (more specifically, the reserve balance portion of HPM),

the circuit should also begin with HPM. We believe this is now accepted by circuitistes like Parguez and Seccareccia, who have explicitly put the State in the circuit. (Parguez 2002, Parguez and Seccarrecia 2000) The final point we often make is that *from inception* the authorities must levy an obligation (fees, fines, taxes) to ensure their HPM will be accepted, however we will not try to make this case here.

Now, the question is, where does the HPM come from? Is it manna from heaven? Is it part of humanity's initial endowment? Clearly, the answer is no. It comes from the State, as it is a State IOU denominated in the State's money of account. Now there are two obvious ways HPM can get into the economy: state spending and state lending. Banks cannot get hold of HPM for clearing (or, to meet reserve requirements) unless the state lends or has spent HPM into existence. Note the analogy to bank deposits: banks must spend or lend them into existence. We have already noted that among PKs there is absolutely no disagreement so far as we are aware that "loans make deposits"—the common view that banks sit and wait for a deposit to come in before they make a loan must have the logical sequence backwards. It also has to be true that the State must spend or lend its HPM into existence before banks, firms, or households can get hold of coins, paper notes, or bank reserves.

Now, we recognize that in developed countries today there is a division of responsibilities between the Treasury and the Central Bank, and that the Central Bank is in many nations nominally independent of the State. We need not quibble about the degree to which the Central Bank is legally separate (in the US, for example, there is no question that the Fed was created by an act of Congress and that it is legally subject to Congress's will; that Congress prefers not to exercise much control over the Fed is beside the point in our view). But as a first approximation, we prefer to consolidate treasury and central bank operations; we then separate them for further analysis. There are two reasons for this—simplicity and generality.

For most purposes, the user of HPM (bank, household, firm) could care less whether it is an IOU of the Treasury or the Central Bank. They are just about perfectly substitutable. Consolidation also lets us first explain the simple proposition that "Government" IOUs have to be spent or lent into existence—just like bank IOUs. And it allows us to postpone discussion of the particular operational details on "how government really spends and lends its IOUs into existence", as these vary across time and nation. While most PKs are somewhat familiar with the case of the US—which separates the Fed and Treasury—that is not the case in many nations today (where the central bank is explicitly the treasury's "bank") nor was it true in the past, when all of the government IOU's were spent and lent into existence directly by treasury (remember that central banks are relatively recent inventions). To be sure, if MMT analysis had stopped there, never going beyond the simplest analysis with a consolidated treasury and central bank into something called "government", it would have been remiss. But that has never been the case—the earliest analyses detailed the operations between the central bank and the treasury. (Wray 1998, 2004; Bell 2000, Bell 2002, Bell and Wray 2002-3; Fullwiler 2003, 2005, 2006, 2008, 2009, 2010; Fullwiler and Wray 2011)

In the next section we will turn to those details. Let us first summarize the simplest, most general case. The issuer of the currency must supply it *first* before the users of the currency (banks for clearing, households and firms for purchases and tax payments) have it. That makes it clear that government cannot sit and wait for tax receipts before it can spend—no more than the issuers of bank deposits (banks) can sit and wait for deposits before they lend. Government spends or lends HPM into existence, and receives back what it spent or lent when taxes are paid or debts to government are repaid. That also means that at most, government can receive back in payments as much as it spent or

lent. Over a period, of course, it might receive more or less than it spent or lent over that period. But it is impossible for government to receive cumulative payments to itself in its own currency that exceed its cumulative spending and lending anymore than it is possible for the banking sector to receive greater payments to retire loans than its cumulative lending—as the circuit demonstrates. It is far more likely that government will receive less—and the shortfall will exactly equal the accumulation of balances of HPM held by banks, households and firms.

Finally, not only must government spend or lend its HPM into existence before it can receive HPM in taxes, but logically government also must spend or lend HPM before government can borrow HPM. This might sound a little strange. But—again recalling the circuit—can banks in the aggregate borrow deposits before banks have created them? No, they must lend or spend (buy assets) by creating deposits before deposits can exist. Once deposits exist, a bank can “borrow” them—issue some non-deposit liability to obtain a deposit. To be clear, a bank that has created a deposit liability on itself will not “borrow” its own deposit, but it can induce one of its depositors to give up the deposit in favor of some other bank liability—say, subordinated debt or short-term commercial paper. It can also sell such debt to depositors of other banks, in which case it will receive a clearing drain in its favor. This normally will take the form of a credit to its reserve account at the central bank, but it could be a deposit in a correspondent bank (“country” banks in England kept deposits in “city” banks in London that could be used for clearing before the creation of the Bank of England, for example).

In the case of government, its borrowing is a substitution of its HPM liabilities for bills and bonds liabilities. It must first spend or lend the HPM into existence before it can “borrow” its HPM liabilities in exchange for bills and bonds. Exactly how that is done is a matter for the next section, and can vary over time and across nations. It will typically involve the central bank today because the HPM liabilities submitted to buy “treasuries” will mostly be reserve liabilities of the central bank. However, the final result would be the same if the treasury were to sell its bonds for its own metal coins—or for its own wooden tally stick debts.

Operational Details of Government Debt Operations

For the purposes of the simplest or most general explication, it is convenient to consolidate the treasury and central bank accounts into a “government account”. To be sure, the real world is more complicated: there is a central bank and a treasury, and there are specific operational procedures adopted. In addition there are constraints imposed on those operations. Two common and important constraints are a) the treasury keeps a deposit account at the central bank, and must draw upon that in order to spend, and b) the central bank is prohibited from buying bonds directly from the treasury and from lending to the treasury (which would directly increase the treasury’s deposit at the central bank). (There is a third constraint that we will not discuss further here: a government can promise to convert its own currency to a foreign currency or precious metal at fixed exchange rate; obviously this restricts fiscal and monetary policy space and is why MMT generally prefers a nonconvertible currency.) But, as Paul Davidson has frequently noted, the appropriate general case is the one that makes the fewest assumptions while enabling analysis or understanding of the fundamental or “true” nature of the object of inquiry. We argue that the appropriate general case is the consolidated Treasury/Central Bank, but the reader should not confuse this attempt at defining a general case with a description of actual operations for any particular country. Unfortunately, this is precisely what our critics do, repeatedly.

Beginning with the simple or general case, consider a consolidated government (central bank plus treasury) running a deficit. The basic transactions could be listed as the following:

1A. The government's spending credits bank accounts with reserve balances (HPM). These accounts are liabilities of the government/central bank.

2A. Banks credit the deposit accounts of the spending recipients. So, overall, the increased reserve balances have raised bank assets while the increased deposits have increased bank liabilities by the same amount. Further, because spending to the private sector is greater than taxes drawn from the private sector, the private sector's net financial wealth has increased. The change to the government's financial position is necessarily the opposite—its net financial wealth has been reduced (i.e., the equity on the liability/equity side of the government/central bank balance sheet has been reduced). This is the basic Godley sectoral balance identity many are familiar with.

3A. Absent interest on reserve balances, the government/central bank issues bonds or offers time deposits to drain or otherwise replace the reserve balances (HPM) created by the deficit if they are not consistent with banks' demand for reserve balances at the targeted interest rate. This is the Horizontalist recognition that if actual reserves deviate from desired balances, the central bank must drain reserves to hit its interest rate target.

Viewed this way, it is clear that the general case suggests the nature of a government deficit can be understood in three parts—

(i) the government is not constrained in its spending by its ability to acquire HPM since the spending *creates* HPM as in 1A and 2A. Spending does not require previous tax revenues and indeed it is previous spending or loans to the private sector that provide the funds to pay taxes or purchase bonds.

(ii) the issuance of bonds in 3A is not for financing purposes but for monetary policy purposes so that the targeted interest rate can be achieved. Note that the government actually has a few options here. It can simply pay interest on reserve balances at the target rate, and the interest rate on the reserves resulting from the government's cumulative deficits will be equal to the target rate (aside from reserve balances replaced by the private sector's demand for currency, which earn no interest). It can issue short-term debt (T-bills) or time deposits that will generally arbitrage with the target rate. Or it can issue long-term bonds or long-term time deposits that will mostly follow the current and expected future target rates. A still simpler option is to simply set the rates it is willing to pay for short- or long-term bills, time deposits, or bonds and allow the private sector to purchase the quantities it desires while the rest of the deficit will simply remain as reserve balances. Again, clearly none of these are financing operations.

(iii) the government deficit did not crowd out the private sector's financial resources but instead raised its net financial wealth as in 2A. Again, from (ii), the "market" does not set interest rates on the debt, or at the very least the government has the option of always setting the rate on its own debt. Interest rates in the general case are clearly a matter of political economy.

One could obviously have separated the Treasury and Central Bank instead of consolidating, but this simply adds assumptions and intermediate steps without changing the nature of the operations, and

would thus be less general. Indeed, it has the potential of masking the true nature of the operations, in our view, which makes it decidedly less useful as a starting point.

To continue, now consider how operations are really done in the US—where the Treasury really does hold accounts in both private banks and the Fed, but can write checks only on its account at the Fed. Further, the Fed is prohibited from buying Treasuries directly from the Treasury (and is not supposed to allow overdrafts on the Treasury’s account) and thus the Treasury must have a positive balance in its account at the Fed before it spends. Therefore, prior to spending, the Treasury must replenish its own account at the Fed either via balances collected from tax (and other) revenues or debt issuance to “the open market”. (Pause for just one moment to ponder that: the Treasury cannot issue IOUs directly to the government’s own bank—the Fed—but must instead issue them to any other bank to obtain deposits that are then transferred to its own bank. This is a self-imposed constraint. Imagine imposing such a constraint on a private firm: it can issue an IOU to anyone except its own bank. Clearly this self-imposed constraint is anything but “natural” and cannot be useful for describing a general case for government debt operations.)

As a result, in the US case there are at least six transactions related to deficit operations, rather than three in the general case.

1B. The Fed undertakes repurchase agreement operations with primary dealers (in which the Fed purchases Treasury securities from primary dealers with a promise to buy them back on a specific date) to ensure sufficient reserve balances are circulating for settlement of the Treasury’s auction (which will debit reserve balances in bank accounts as the Treasury’s account is credited) while also achieving the Fed’s target rate. It is well-known that settlement of Treasury auctions are “high payment flow days” that necessitate a larger quantity of reserve balances circulating than other days, and the Fed accommodates the demand. (Note that the point here is not that the Fed necessarily engages in operations that are equal to or greater than the auction, but that the operations ensure that sufficient balances circulate such that the auction settles without the effective federal funds rate for the day moving above the target rate. This requires that the balances already in circulation plus those added via operations are sufficient to settle the auction and enable banks in the aggregate to end the day with their desired positions at the target rate largely equal to actual positions.)

2B. The Treasury’s auction settles as Treasury securities are exchanged for reserve balances, so bank reserve accounts are debited to credit the Treasury’s account, and dealer accounts at banks are debited. Treasury auctions can only settle via reserve balances using the Fed’s Fedwire clearing and settlement system. The auction itself is an asset swap of reserve balances and thus do not affect the private sector’s net wealth.

3B. The Treasury adds balances credited to its account from the auction settlement to tax and loan accounts. This credits the reserve accounts of the banks holding the credited tax and loan accounts.

4B. (Transactions 4B and 5B are interchangeable; that is, in practice, transaction 5B might occur before transaction 4B.) The Fed’s repurchase agreement is reversed, as the second leg of the repurchase agreement occurs in which a primary dealer purchases Treasury securities back from the Fed. Transactions in A above are reversed.

5B. Prior to spending, the Treasury calls in balances from its tax and loan accounts at banks.

This reverses the transactions in 3B.

6B. The Treasury deficit spends by debiting its account at the Fed, resulting in a credit to bank reserve accounts at the Fed and the bank accounts of spending recipients. This increases the net financial wealth of the private sector.

(As with the general case above, the analysis is much the same in the case of a deficit created by a tax cut instead of an increase in spending. That is, with a tax cut the Treasury's spending is greater than revenues just as it is with pro-active deficit spending.)

What MMT stresses is that regarding (i), (ii), and (iii) above, the end result is exactly as stated in the general case, even though with the procedures adopted due to the self-imposed constraint the transactions are now more complex and the sequencing is different.

Regarding (i), recall that only reserve balances can settle Treasury auctions via Fedwire and the only sources of reserve balances over time (that is, aside from various short-term effects from autonomous changes to the Fed's balance sheet) are loans from the Fed or the Fed's purchases of financial assets either outright or in repurchase agreements. The Fed normally purchases Treasury securities or requires Treasury securities as collateral for repurchase agreements (in the aftermath of the global crisis, the Fed has engaged in highly unusual purchases of a wider variety of assets, and has lent against various kinds of assets). Since existing Treasury securities were issued as a result of a previous government budget deficit, *it is the case that the reserve balances required to purchase Treasury securities are the result of a previous government deficit or a loan (including repurchase agreements or purchases of private sector securities) from the Fed to the non-government sector.* This is true even though the Treasury must have a positive balance in its account before it can spend, and even though the Fed is legally prohibited from providing the Treasury with overdrafts in its account due to the "self-imposed constraint."

Regarding (ii), the Treasury's tax and loan account operations are for the purposes of aiding the Fed's ability to achieve the target rate, as is well established in the Fed's own literature and annual reports. And while the Treasury must issue bonds in order to replenish its own account when it runs a deficit, again as with (ii) above the interest rate on these bonds is largely determined by arbitrage against the Fed's target rate. This suggests that the self-imposed constraint is not really a constraint at all. Recall that in the general case the government has the choice of spending with no bond sales while it pays the target rate on reserve balances or issuing debt at essentially the central bank's target rate. For the US, the former is analogous to a scenario with no self-imposed constraint and with the Treasury obtaining overdrafts to its account at the Fed when it deficit spends, whereas the latter is obviously what occurs now with no overdrafts allowed. In other words, prohibiting overdrafts leaves the Treasury issuing bonds that arbitrage against the Fed's target rate. There is no economically significant difference—if given the choice between an overdraft at the target rate or issuing debt at roughly the target rate, it is not economically significant for the Treasury's purposes if the former choice is then prohibited. (And while the Treasury may issue longer-term bonds that can be issued at significantly higher interest rates than the Fed's target rate, for both the general and US cases this is a choice, not anything enforced by private debt markets.) Even under current operations, interest rates are a matter of political economy rather than being set in a loanable funds market or subject to the whims of bond vigilantes.

Regarding (iii), the private sector's net financial wealth has been increased by the amount of the deficit. That is, the different sequencing of the Treasury's debt operations does not change the fact that deficits add net financial assets rather than "crowding out" private sector financial resources.

Indeed, primary dealers finance their purchases of bonds at auction in the repo market, mostly using Treasuries as collateral, while the newly issued bond will likely serve as collateral for further credit creation in financial markets. Far from “crowding out,” bonds can actually enable further credit creation than would occur in their absence.

In summary, separating the Treasury and the Fed and adding the rule that the Treasury must finance its operations in the open market results in the six transactions described above for the Treasury’s debt operations compared to the three simpler operations in the general case. Nevertheless, the nature of these operations as described by the general case of a consolidated government/central bank balance sheet or the results described in (i), (ii), and (iii) all remain completely intact. Unfortunately, and most importantly, the added complexity is counter-productive because it leads to poor understanding among economists, poor modeling, and bad policy choices. Were economists and policy makers to understand that the MMT general case explains the true nature of government debt operations, we suggest that all three could be markedly improved.

Why the Right Framework Matters

It is impossible for anyone to develop a perfect model of the macro economy, one that incorporates all of the fluid activities that take place in a world rich with institutional detail, where humans engage in a vast array of complex economic decision-making. The most widely accepted mainstream models do not even try. Instead, they abstract from the complexities of the real world, replacing involuntary unemployment with revealed preferences, fundamental uncertainty with calculable risk, central bankers with helicopter pilots, and so on. In contrast, heterodox economists working in the Post-Keynesian and Institutionalist traditions have worked to produce a more realistic framework from which to analyze and understand the workings of a modern capitalist economy.

As a group, we (Fullwiler, Kelton and Wray) have contributed to the PK and Institutionalist literature, served on their Editorial Boards and as members of their Boards of Directors, organized their annual conferences and summer schools, presented countless papers, organized panels, and so on. We are, in other words, part of this community of scholars.

Lately, however, we have been accused of departing too sharply from the PK tradition and of attempting to compete with our heterodox friends by rebranding ourselves with the MMT label. We have been asked, “Where did this name come from?” “Why do you need to distinguish yourselves from the rest of us?” “Why are you getting so much attention?” One of the more vocal opponents of MMT, in an apparent moment of weakness, even confessed that there is a “lot of jealousy” in the heterodox community over the success the MMTers have achieved.

We cannot know what motivates those who prefer to focus on our subtle differences in style rather than our significant similarities in substance. As a theoretical school of thought, MMT draws heavily on J.M. Keynes’s analysis of monetary production economy, Abba Lerner’s theory of Functional Finance (FF), Hyman Minsky’s Financial Instability Hypothesis (FIH), Wynne Godley’s Sectoral Balance (SB) approach to macro modeling, and the work of G.F. Knapp and A. Mitchell Innes, who independently developed chartalist or state theories of money. These are our forefathers and MMT is an amalgamation of their most important contributions. Some have used this admission to attack and trivialize our contributions, insisting that MMT has really added nothing new. But this strikes us as unfair (not to mention inaccurate), for it was the pulling together of these ideas into a coherent whole that allowed us to develop the general framework described in this paper. And it is from this

integrated framework that we have been able to understand events, assess policies and derive policy proposals for real-world economies operating with very different institutional systems.

Thus, it is the entire *collection* of ideas that has enabled us to make meaningful sense of events in domestic and global markets. For example, our framework has helped us to understand: the dynamics of debt default under fixed exchange rates (e.g. the Russian case), why the CBO's projection of "surpluses as far as the eye can see" (Clinton years) was destined to miss the mark, why the Stability & Growth Pact would not restrict government deficits, how default risk premiums would lead to a debt crisis in the Eurozone, why Quantitative Easing would not cause runaway inflationary, why the sharp increase in the US deficit would not cause US interest rates to rise, why the Fed's zero interest rate policy (ZIRP) would fail to restore a private credit expansion, etc., etc.

We have never tried to separate our "MMT" approach from the heterodox tradition we share with Post Keynesians, Institutionalists and others. We have tried to extend that tradition to study the "nature" of "modern" money—that is, state money as defined by Knapp and Keynes. We include a detailed analysis of the way money "works" in modern fiscal and monetary policy operations. And we examine the policy implications and possibilities that follow on from this analysis.

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A REJOINDER TO “MODERN MONEY THEORY: A RESPONSE TO CRITICS”

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Key Points of Dispute: (1) taxes and bond sales cannot finance Treasury spending; (2) *all* spending by the Treasury is financed by net/new money creation; and, (3) the purpose of Treasury bond sales is ‘interest rate maintenance’ operations.

In July 2011 I circulated a paper on Modern Monetary Theory (MMT). The email title “MMT Error: Treasury Spending = Money Creation” pinpointed a major problem that I have with the theory. After refining the argument, and receiving notification that the paper would be published at the Political Economy Research Institute, an invitation to respond was sent to leading MMT scholars at the start of December 2011. Nearly seven weeks later I received a reply from Scott Fullwiler, Stephanie Kelton and Randall Wray (hereafter FKW). Somewhat strangely, given that the invitation to reply was initiated on my behalf by Robert Pollin, FKW (2012) decided to jointly address my paper and one by Lavoie (2011). This might not have been a problem if they had directly engaged with either author’s critique. That FKW (2012) did not make a solitary reference to Lavoie’s positions or mine in their five-thousand word response to critics was unusual.¹

FKW (2012, p. 1) mention Lavoie and myself only once: “It looks to us as if they have not understood our arguments.” When Wray (2009b) advised US policymakers “to “just say no” to raising the debt ceiling [because]... Treasury would continue to spend by crediting bank accounts” and Fullwiler (2009) praised the advice I understood that the theory informing the argument was mislaid. FKW (2012) segment their discussion of fiscal and monetary operations into a “general” case and a “specific” case equating to existing institutional arrangements in the United States. The “general” case asks us to accept the following: (1) a consolidation of Treasury and central bank operations into a single entity (the government); and, (2) that various legal constraints imposed on the Treasury’s operations do not exist. As consolidation effectively transforms the Treasury into a bank (by ignoring that its spending and fiscal-raising activities involve respective debits and credits to its account at the central bank) the analyst can make claims that could not otherwise be made. But the merits of doing so are dubious with relevance the obvious objection. As soon as the analyst starts to discuss the world that exists and separates the activities of the “government”, the Treasury becomes a nonbank agent; with its capacity to create/issue money either directly or indirectly depending on the exact institutional context. FKW’s (2012) “general” case offers a “pre-central banking” framework that is ill-suited to providing insights on the modern monetary system.²

¹ It is difficult to see how progress on academic debates can occur without explicit and specific references to the disputed subject matters (including quotations where appropriate). This is especially the case when the purpose of writing a *response* paper is to *respond* to the work of critics.

² Conclusions drawn from a framework which transforms the Treasury into a bank are highly-specific and cannot be generalised to

Conflating the central bank and the Treasury into an ambiguous “authorities” which “issue HPM... when they spend (FKW, 2012, p. 2)” is inappropriate when the analyst is seeking to illuminate: (1) the processes of money creation; and, (2) the roles of fiscal and monetary policy. The “authorities” are dissimilar agents. Whereas the central bank finances all of its activities by issuing money, and does *not* raise revenues by taxation or debt issuance, the Treasury basically does the opposite (with a sidenote needed for bank holdings of T-bonds). Those familiar with MMT will know that its adherents emphasise that “State money” must be injected before the State can receive payments. It is one thing to say that the central bank’s money must exist before the Treasury can receive payments and another to conclude, as modern money theorists (MMTers) do, that Treasury spending can be thought of as already ‘pre-financed’ with the proceeds from taxation and bond sales unable to spend (e.g. Bell; 1998, pp. 2-3, Wray; 1998, pp. 75, 85). The MMT argument for consolidation falsely supposes that the mere existence of the central bank’s money somehow equals a pre-financing of Treasury expenditures.³ It is highly-misleading to depict Treasury spending as involving money issuance when in reality it is a *user* of monies issued by ‘banks’: the collection of fiscal receipts does not return any funds that the Treasury has created but *provides the wherewithal for it to spend*. The consolidated approach must be rejected because it leads to erroneous claims that government “spending does not require previous tax revenues” and that “the issuance of bonds... is not for financing purposes (FKW; 2012, pp. 4-5)”.

On page six the authors comment on the constraint prohibiting the US Federal Reserve from buying Treasury bonds directly at auction that: “this is anything but “natural” and cannot be useful for describing a general case for government debt operations.” There is no debate that all of the policy constraints imposed on the Treasury’s activities are arbitrary and should be abolished; however, it is no minor issue that the existence of these constraints invalidates the MMT description of how the State spends (e.g. Fiebiger; 2011). MMTers acknowledge that such constraints complicate matters but believe that these constraints do not change their analysis: FKW (2012) is no exception. For the purpose of furthering the debate, I will make arguments within the parameters of a “natural” case; where various legal constraints are relaxed but the activities of the Treasury and central bank are considered on a nonconsolidated basis.

It is appropriate to situate this discussion in view of FKW’s (2012) main conclusions. Their paper is structured through a series of grouped points (some are single sentences and others paragraphs). There are points 1-5; 1A-3A; (i)-(iii) and 1B-6B. In the context of their paper, and for the discussion here, points (i) and (ii) are particularly important. FKW (2012, pp. 5-6) argue that the “general” case suggests that “the nature of a government deficit can be understood in three parts”:

- (i) the government is not constrained in its spending by its ability to acquire HPM since the spending *creates* HPM. Spending does not require previous tax revenues and indeed it is previous spending or loans to the private sector that provide the funds to pay taxes or purchase bonds.

a system where the activities of the Treasury (a nonbank agent) and the Federal Reserve (a bank) are separate. If MMTers were proposing to abolish the central bank, then, FKW’s (2012) “general” case should be considered as a potentially-useful framework (i.e. in view to the prospect that the proposal could one day be adopted). But they are not forwarding any such proposal.

³ Statements like “Government spends or lends HPM into existence, and receives back what it spent or lent when taxes are paid or debts to government are repaid (FKW; 2012, p. 4)” just confuse the distinct roles of fiscal and monetary policy. The central bank’s money is created principally to attain monetary policy goals (e.g. reserves for interest rate management and paper cash to sate the nonbank public’s demand for this asset) and *only* in special instances to finance the Treasury’s expenditures (e.g. when open market purchases of T-bonds are combined with new auctions).

(ii) the issuance of bonds... is not for financing purposes but for monetary policy purposes so that the targeted interest rate can be achieved... [The government has some options here but none] are financing operations.

(iii) the government deficit did not crowd out the private sector's financial resources but instead raised its net financial wealth [Emphasis original].

Points (i) and (ii) are restatements of the “counter-intuitive” MMT claims that everyone should be familiar with. On page eight the authors conclude on the “specific” case that even when “separating the Treasury and the Fed and adding the rule that the Treasury must finance its operations in the open market... the results [of the “general” case] described in (i), (ii), and (iii) all remain completely intact.” Evidently, FKW (2012) believe they have responded to critics and emerged with an untarnished position, but there are no logical arguments explaining how the “results” of the “general” case (i.e. the MMT “counter-intuitive” claims described in points (i) and (ii)) apply to the “specific” case.⁴ Matters all the more perplexing because FKW (2012, pp.6-7) acknowledge in respect to the “specific” case that the central bank is the primary “source” of reserves and that the Treasury must replenish its account at the central bank prior to spending “via balances collected from tax (and other) revenues or debt issuance.” A recognition that these—fiscal receipts finance the Treasury’s subsequent expenditure and that taxation and bond sales can be *financing operations*—should follow but is not found in FKW (2012). Such recognition would be a departure from the ‘classic’ MMT texts by Bell (1998) and Wray (1998). FKW (2012) do not retract any of their earlier work; and, end up declaring that the “results” of the “general” case apply entirely to the “specific” case.

In arguing that there is no substance to FKW’s (2012) rhetorical claim to vindication I will turn now to the “natural” case. It should be safe to proceed with the assumptions that the Treasury has an account at the central bank in which monetary transactions are recorded with apposite credits and debits. In relaxing constraints imposed in the present era the Treasury could obtain “money” in alternative ways. It could ask the central bank to: (1) simply credit its account with money (i.e. debt-free money creation); or, (2) credit its account in exchange for a bond purchased directly at auction. Only if the Treasury’s spending is financed *exclusively* by these two options would it be correct to infer that its spending is *always* financed by money creation.⁵ Why? Because the two financing options both generate a net increase in the amount of money in existence (i.e. not just in circulation but in balance sheet terms).⁶ Now suppose that the Treasury levies taxes and also sells bonds to the private sector; and, that when it collects the receipts the central bank credits its account. Clearly, while the Treasury could always obtain the money that it requires from the central bank *via* the two money-issuance financing options discussed above, it may at times decide to draw on existing credits in its account (i.e. money balances) obtained by previously collecting fiscal receipts from the private sector.

⁴ As one example I refer the reader to FKW’s (2012, pp. 7-8) paragraph that starts “Regarding (i).” Many things are explained in that paragraph but nothing which validate the claims forwarded in their “point (i)”; for instance, the claim that government “spending does not require previous tax revenues”. Certainly, the central bank’s activities are financed by net/new money creation, but spending by the Treasury requires prior collection of funds which it does by levying taxes and selling bonds.

⁵ The central bank could also provide an overdraft facility. Supposing that this option was available, and one wanted to argue that the Treasury *always* spends by creating money, the overdraft facility would have to be limitless *and* never repaid. This option is unrealistic and thus not considered.

⁶ This is to say that: (1) Treasury deposits at the central bank are “money”; and, (2) the act of drawing of these deposits is not money creation. While Treasury spending will increase bank reserves (by the amount to which Treasury deposits decrease), how the Treasury obtains credits to its account at the central bank may or may not involve money creation, and the analyst must be clear on these issues.

In such circumstances the financing agent / supplier of funds (note: not necessarily the issuer) for the ensuing expenditure is the taxpayer or bond *holder*.

Sensible discussion requires the analyst to distinguish between Treasury spending that is financed out of existing money holdings from that financed by new money issuance as per Lerner (1943; 1944; 1951). Those who have read my paper will know that there is support *within* MMT literature (Bell; 1999)⁷ for the view that the US Treasury's capacity to create money (either directly or indirectly) is confined to a specific set of operations. Regrettably, MMTers often skip how the Treasury's procures financing, and instead misconstrue the act of expending existing deposits as money creation. Along these lines Wray (2012a) argues that Lerner's (1943) approach was replaced by a defective view in academia where: "There is no recognition that *all* spending by government is actually done by crediting bank accounts—keystrokes that are more akin to "printing money" than to "spending out of income"." Aside from the faulty use of the word "government" (i.e. the central bank and Treasury finance their activities in different ways), and that Wray (2012) forgot to qualify whether he is talking about a hypothetical "general" case or to country- and time-specific institutional arrangements which FKW (2012) profess MMTers take care to do, this is not Lerner's (1943; 1944; 1951) position. Consider the following remarks from Lerner (1944, p. 314) who is oft claimed as the father of MMT:

If the money that comes in to the government treasury from selling, borrowing, and taxes is equal to or greater than the money needed for buying lending, and bonus distribution, there is no need for any money to be printed. If the money coming in is less than the money that has to be given out, and there does not happen to be enough money in the stock in the government vaults, the printing press can called upon to provide the money needed to carry out the government policies.

In this quote Lerner (1944) is noting that the Treasury *can finance* its spending out of the money it collects from selling goods/services and also *via* fiscal-raising activities. He is not arguing that the Treasury finances its spending exclusively or even mostly by "printing money / keystroking money into existence" but highlighting that this option is always available when needed. MMTers have taken his position that policymakers *should never* or *need not view* the act of levying taxes (or selling bonds to agents outside of the domestic banking sector) *merely* as a means to raise money—because money can always be made available by new money issuance—and arrived at an irreconcilable position that "tax receipts cannot be spent" and that bond sale receipts "cannot finance or fund deficit spending (Wray; 1998a, pp. 78, 85)." The distinction drawn here between *should not view* and *cannot be used* is a semantic issue (i.e. the study of meaning and the precise use of language) and the exact point where MMT diverges from the work of Lerner and from describing how the modern monetary system works.

Turning now to existing US institutional arrangements it should be obvious, but is not to FKW (2012), that the "results" of the "general" case do not apply. The US Treasury directly issues coins and Special Drawing Rights and can be said to indirectly issue money when 'banks' (i.e. both the central bank and private banks) augment their *holdings* of Treasury bonds.⁸ Unless the funds used to finance the Treasury's spending comes from those activities it does involve net/new money creation.

⁷ Note that Stephanie Bell has since changed her surname to Kelton.

⁸ In a footnote Lerner (1943, p. 41) clarifies: "Borrowing money from the [private] banks, on conditions which permit the banks to issue new credit money based on their additional holdings of government securities, must be considered for our purpose as printing money."

Additionally, and contrary to MMT, when the Treasury collects fiscal receipts from the private sector and then expends these funds it is correct to say that the private sector financed/funded the ensuing expenditure. As a final point, the *timing* of Treasury fund transfers from its accounts held at private banks to its account at the central bank are coordinated to minimise the disruptive impacts that these activities have on the level of bank reserves and, hence, the central bank's interest rate target. But it must be acknowledged that, in the modern era, the US Treasury sells bonds to acquire the funds it needs to finance deficit-spending and that without this financing operation would be short of "money".

In concluding this short rejoinder I have rejected the applicability of FKW's (2012) "general" case and confirmed my position in view of the "nature" case and the insights of Lerner (1943; 1944; 1951). At the very least readers should take from my paper and rejoinder that declarations like "Nonspecialists can be assured that the simple explanation above [of how the monetary system works] is sufficient (Wray; 2009a, p. 8)" demand due scrutiny. Indeed, MMT rhetoric that "government always spends by creating money", "fiscal receipts cannot be spent" and "bond sales are designed for interest rate maintenance operations" do not add up, and should be explicitly retracted.

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