

JKH on the recent MMR/MMT Debates

INTRODUCTION

A recent round of blogosphere debates between some of those associated with MMR (Modern Monetary Realism) and some MMT (Modern Monetary Theory) enthusiasts examined the question of the nature of saving in economics and finance. As part of that discussion, an equation appeared suddenly, $S = I + (S - I)$, whose origin I have some personal responsibility for. It met with mostly disapproval and even scorn from the MMT side, particularly given its innocuous tautological form. Several people did plumb its intended meaning. The MMR folks grasped it. In my view, Tom Hickey at Mike Norman Economics was one person from the MMT side of things who by paying attention and following and documenting the development gained some understanding of how and why this equation came to be and its context. He made reference to how it originated several times in various blog conversations, attempting to be helpful for the benefit of fellow MMT commenters. But I don't recall seeing much evidence that his effort prodded corresponding investigation by those who were scratching their heads. Whatever Tom may have thought of the thing, he did understand that there was a more complicated back story to how this item bubbled to the surface of conversation on the subject of saving. The other MMT affiliated person I'd mention is Neil Wilson, who while sceptical of the notion that such an equation might be meaningful, did take the time to identify the correct technical specifications of its underlying assumptions and variables including the importance of the sector context. Several commenters not directly affiliated with either MMT or MMR grasped the key points. FDO15 and Vimothy come to mind, but I may be overlooking others. Special mention also goes to Ramanan, who is a persistent seeker of accuracy when it comes to the subject more generally.

Briefly, the equation mostly came about in recent form as my own version of a well known blogger's cogent observation on MMT's stylistic use of the language of "saving". In that sense of origination, I am the messenger, not the message. But I happen also to agree with the message, in verbal or math form, and had thought of it myself before seeing it articulated so effectively by someone else. The blogger in question was Steve Waldman at Interfluidity. I want to emphasize here that Steve Waldman seems to be a fairly strong supporter of the best that MMT has to offer, and has documented that in several posts. So his concern as it relates to the subject here is focused and exceptional in that context.

The full sequence of the original verbal portrayal and my math translation of it are included in section 2. But I don't want this to be just about that equation. I haven't been on any great promotional campaign in its favor. But I do think it's a concise illumination on a particular MMT style of exposition. More general observations in this category have been recorded by Marc Lavoie and Brett Fiebiger in their recent papers regarding the MMT form of monetary system description.

But when it reaches the point where an MMT leader tries to trample the thing to death in a flurry of venomous analytical naiveté, it deserves renewed briefing, at least for the potential benefit of those not yet fully biased against it. However, it's not been intended to be such a center of attention. That only distracts from "Modern Monetary Realism's" (MMR) more sensible reference to it as a symbolic representation of a balanced approach to describing the modern monetary system. MMR picked up on the expression as confirmation in balancing "vertical" and "horizontal" views of the monetary system, when providing explanations of its operation and especially in dealing with the description of "saving" in fully accurate fashion.

Some of the blogs involved in discussions around this general subject included, but were not restricted to, Interfluidity, Asymptosis, Mike Norman Economics, MMR, winterspeak, 3spoken, and John Carney's CNBC blog. In a way, Interfluidity was the origin of the critique in full, starting with several posts in 2011. Much of the subsequent discussion took place in February 2012, which coincided with the early days of MMR blogging. John Carney of CNBC reproduced a particular comment of mine from MMR, relating to the theme of the meaning of saving. That comment referenced MMT's preference to compress the idea of saving into a particular model that emphasizes the measure of consolidated private sector net financial saving. The comment reproduced at the CNBC blog made no direct reference to the suspect equation, but covered in general terms the originating theme that spawned it.

As far as the suspect equation is concerned, the general reaction to it was mixed, including those who were negative. A good deal of this was just puzzlement as to the intended purpose of such an innocuous form. Some of it went further and immediately assigned it zero value as contributing to the understanding of monetary systems. Some of it was even contemptuous, in particular the rather rancid, dismissive assessment by Professor Randall Wray. Some of it, including Wray's analysis, condemned the surface tautological appearance of the equation as an indictment of vapidness and meaninglessness. In contrast, Warren Mosler in a separate blog discussion exhibited more measured scepticism, while making insightful and useful points about the topic of saving in economics, and posing a reasonable question indirectly for me in the process. Perhaps he felt he didn't have quite enough information before arriving at the entirely dismissive point of his academic colleague. I appreciate that he didn't render the death sentence for the crime of tautology. His marshalling of the conversation flow at that particular blog is worth a look. Accordingly, I've excerpted some of the dialogue there in section 3, and added some of my own interpretation in the form of accompanying remarks.

My response to L. R. Wray is in section 4.

The interesting thing to me is how spontaneously the general theme was picked up by MMR, because I don't recall doing any heavy lobbying to that effect. Steve Waldman also expressed a favorable opinion regarding the development of the equation. How is it that both Waldman (an MMT supporter in some ways) and MMR came to a quick and similar view on this? What would be the common factor there? A few others joined positively in as well.

Waldman, Lavoie, and Fiebiger all record legitimate observations in my view. These observations are inextricably linked to specific stylistic tendencies of MMT. The recent collection of conversations has not only confirmed this, in my view, but exacerbated it with inconsistencies of argument that continue to betray internal contradiction.

There are 4 sections – a discussion of the concept of saving, a description of the development of the equation $S = I + (S - I)$, and reviews of each of the noted Mosler and Wray discussions/responses.

1.

SAVING

Saving From Income

John Carney of CNBC published a blog post on March 1, 2012, titled “More on Saving”:

<http://www.cnbc.com/id/46590791>

In that post, he reproduced a comment I had left at the Modern Monetary Realism post “Paul Krugman does $S = I + (S - I)$ ”:

<http://monetaryrealism.com/paul-krugman-does-s-i-s-i/#comment-2046>

That comment included the following:

“The correct economic definition of saving is disposable income not spent on consumer goods.”

That’s not perfect, but it is close enough. As preamble to the full discussion on $S = I + (S - I)$, its worth adding some meat to those bones. As part of this, I want to make reference to Andy Harless’ post from several years ago “Investment Makes Saving Possible”:

<http://blog.andyharless.com/2009/11/investment-makes-saving-possible.html>

Here is Harless’ definition from that post:

“Savings equal income minus consumption.”

Pretty close. He uses the plural form savings. To be more precise, saving refers to a subset of income flow, and savings usually refers to the cumulative balance sheet result of such a flow, i.e. a stock. But the plural form is a minor point in the debate about saving.

Apart from that, I agree with just about everything in the Harless post. So my objective here is not to reproduce his post, but use it as a credible and consistent reference. Most of what follows here is an extension from that base.

(Saving in the case of corporations is net undistributed profit, which follows after consumption in the form of capital depreciation cost.)

Harless is very specific regarding constraints he imposes on sector structure. He does this to streamline his treatment of causality in the relationship between saving and investment. His model eliminates government and foreign sector imbalances by assumption. This means that private sector $S = I$. Because of this, his particular model, although wise on issues of causality, is not directly relevant for purposes of examining sector specific issues in the MMT “sector financial balances” (SFB) model in its most common 3 sector form. It cannot provide insight into the implications of sector multiplicity. I do agree with his overview of causality in the relationship between saving and investment. But that is unrelated to issues that arise with sector complexity. As will be explained in section 2 below, the equation $S = I + (S - I)$ was created and written as specific to the 3 sector model. The S used in the equation is the same private sector saving S used in a 3 sector model, not the consolidated single sector saving that Harless uses.

Harless confirms that the primary causal direction at the macro level is that investment “allows” saving. This is a well known Keynesian analytic theme. There’s no need to elaborate on it here.

Choosing the Number of Sectors

Saving equals investment (in magnitude, not in substance) in a one sector economic model.

A one sector model can be simulated by constructing a global consolidation in which international current accounts sum to zero, and government accounts are consolidated with private sector accounts.

A more common approach in constructing a single sector model is to posit a national economy where both government and international current accounts are assumed to be in balance. A national system that assumes balanced government and foreign accounts can assume an $S = I$ relationship, where S is private sector saving, albeit in the context of the constraints noted. This is an artificial construct.

The only real world working economy that can be represented as a single sector model is the global economy. Current accounts net to zero on consolidation, and remaining government and private sector accounts can be consolidated globally as if one. The resulting system is a globally consolidated fusion of government and private sectors. Still, for $S = I$ in such a global construct, S must be defined as the combination of government and private sector saving. That is very different than the private sector S savings used by convention in a 3 sector national model.

From either single sector basis, one can move on to 2, 3, 4 and higher sector models.

The 2 sector model, used by MMT for its highest order demonstration of such concepts as “net financial assets”, consists of government and non government.

The 3 sector model, consisting of government, private, and foreign sectors, is derived from the standard national income accounting equation:

$$C + I + G + (X - M) = C + S + T$$

In this model, S is defined as private sector saving.

The MMT 3-SFB model is simply a rearrangement of terms in the national income model. For example:

$$(S - I) = (G - T) + (X - M)$$

That says that private sector “net saving” equals the sum of the budget deficit and the international capital account deficit. This interprets private sector “net saving” as the amount of financial surplus that spills over as funding for some combination of the government deficit and the capital account deficit.

(One can think of a capital account deficit as the automatic net debit to a pool of funds created by a corresponding current account surplus $(X - M)$).

Another rearranged expression is:

$$(S - I) + (T - G) + (M - X) = 0$$

This says that the sum of the net financial surpluses of all three sectors must be zero. That must be the case because net financial assets in total equate to mirror image reversing liabilities in total. MMT often presents the 3-SFB model in graphic form in this way, with the 3 sector balances represented above or below the zero line, and adding up to zero.

Finally, yet another expression:

$$S = I + (G - T) + (X - M)$$

That says that private sector saving is the sum of the amount of saving required to fund investment I, plus the government deficit $(G - T)$ plus the capital account deficit $(X - M)$.

THIS is the form that links directly into the interpretation of $S = I + (S - I)$ in a 3 sector model, which is the subject of section 2.

Recall that the Harless post describes a system in which $S = I$ because of specified 3-sector balance constraints – i.e. financial balance in government and foreign accounts.

But no actual open economy situation can be represented this way, because government and current accounts are not identically zero.

Stocks and Flows

The expressions used so far all pertain to flow accounts. Economic units that save from income produce a flow of saving. That flow accumulates over multiple time periods to a corresponding stock account. That stock account is referred to as savings, net worth, or equity. These are all conceptually interchangeable expressions.

Economic units that spend less than their disposable income on consumption save by definition. As a result, they increase their stock of savings, net worth, or equity.

Economic units that spend more than their disposable income on consumption dissave by definition. As a result, they decrease their stock of savings, net worth, or equity.

A unit that saves can acquire physical assets (investment) or financial assets, or repay liabilities.

However, the act of saving from income is separate from subsequent assets of asset-liability management. This is a critical characteristic in the correct definition of saving.

For example, a unit can increase liabilities to acquire assets, or liquidate assets to reduce liabilities. The use of funds in such cases is the same as it might be when saving or savings are the source of funds, but such asset-liability transactions require no saving.

Financial Accounting and Economics

From a financial accounting perspective, the following is true:

Saving is an income statement “event” in the sense that saving must be a subset of income. (Harless has the same view of it.) The accumulation of saving is recorded as a balance sheet item usually called net worth or equity (and classified as savings).

The deployment of saving or savings as a source of funds into increases in investment or financial assets (or reductions in liabilities) as a use of funds is classified as an accounting flow of funds. (Flow of funds is sometimes known as sources and uses of funds in corporate financial reporting.)

As noted above, economic units can alternatively acquire investment or financial assets or reduce liabilities with the proceeds of borrowing. But both lending and borrowing are separate and distinct from saving. Borrowing and the deployment of funds borrowed are also recorded through accounting flow of funds. And the same holds for the reversal of such transactions.

In summary, the three types of financial statements are income, balance sheet, and flow of funds. The income statement connects income and expense flows to balance sheets via the equity or net worth account. The flow of funds statement connects flows between different balance sheets in time and space. Although such statements apply formally to

corporate units, the accounting concepts carry over to household finance in a comparable fashion. Household saving is comparable to corporate saving in the form of undistributed profit.

This is all straightforward accounting that is essential to understanding the monetary system and arguably economics more generally. It is necessary but not sufficient in that sense.

While the described accounting framework is more familiar in the corporate environment (and the household sector by extension), it is certainly applicable in concept to the government sector. Moreover, the described set of “micro” accounting statements has “macro” correspondents in the form of such accounting statements as NIPA, Fed Flow of Funds, SNA, etc.

There are 1, 2, 3, and 4 sector models. But in theoretical concept, one could have a 7 billion sector model, with a balance sheet corresponding to each individual. These balance sheets could include connecting accounts for the internal flows of funds within households, for example. And each balance sheet has for example a “net financial asset” measure.

One aspect of the recent debate touched on the question of whether expenditure on investment should correspond to underlying saving. The conventional definition of course includes investment as a use of funds sourced from saving (at the macro level). But if saving were defined instead such that gross investment were to be treated similarly to consumption, then saving would be identically zero for a one sector model and for the global economy. Saving would not be equal to investment.

Such an idea results in some crazy arithmetic relationships. In the US, the household sector would hold approximately \$ 40 trillion in net financial claims corresponding to the value of its cumulative saving. At the same time, the US as a whole would have dissaved in stock form by approximately \$ 2 trillion, and the global economy would have no cumulative saving at all. This would be a chaotic mix of saving relationships indeed. My own view is that this approach to the definition of saving would be highly dysfunctional and wrong. MMT thinkers seem to be highly flexible on this aspect, though. Warren Mosler alluded to it in recent comments excerpted in section 3. The correct generic definition of saving in my view is still that expressed by Harless. It’s pretty much the language I used in my comment that John Carney used in his CNBC post.

Net Financial Assets (NFA)

MMT uses the term “net financial assets” or NFA. But there’s lots of confusion around this idea.

First, MMT didn’t invent the terminology “net financial assets”. It is a generic accounting categorization. For example, the United States has an NFA position with the rest of the world equal to its net international investment position, which is currently a liability, making it negative NFA or NFL. Any individual household whose financial

assets exceed its liabilities has an NFA position. The US household sector as a whole holds a very substantial NFA position due to its financial claims on the business sector. Any corporation that holds physical assets in any amount has an NFL position.

NFA is an accounting stock term rather than a flow term. It is most correct to refer to “change in NFA” when incorporating such changes relative to income and saving.

The NFA characteristics of a particular economic representation depend on the chosen sector decomposition of that representation.

In the MMT 2 sector SFB model, with government and non-government sectors, NFA positions of the two interfacing sectors are the symmetric inverse of each other. This is the generic version of the basic MMT point regarding the government as a supplier of NFA to the non government sector.

The frequently used MMT 3 sector SFB model admits 3 sectors, each with their own NFA position (positive or negative).

3 and higher sector models are more complicated from an NFA analytical perspective. One can't conclude automatically that any particular non-government sub-sector has an NFA position that is the direct result of government issuing NFA. That has to be assessed by examining the portfolio structure of NFA across all sectors. For example, the fact that much US treasury debt is held outside the US means a more nuanced view of government NFA provisioning is required.

Thus, the impact of government supplied NFA must be qualified as one explores increasingly higher dimensional sector decompositions. This becomes critical when decomposing the private sector into household and business sectors, where household sector NFA dramatically exceeds private sector NFA. The consolidated private sector view obscures important underlying dynamics relative to the all important household NFA and broader savings position. That is the subject of following sections.

Other Considerations

Recent debate has included some mention of the use of the terms “real” and “nominal”. Both terms are fraught with ambiguity. Perhaps “physical” is an option when distinguishing the physical nature of investment from the monetary nature of financial assets. “Nominal” seems to be a term whose destiny is assured as eternally ambiguous.

Warren Mosler has said that saving is the record of investment (section 3). I think such terminology reflects an inherent MMT bias toward loosely defined consolidation concepts, something that both Marc Lavoie and Brett Fiebiger have criticized MMT for in recent papers. (I've referred to those papers further below.) In my view, the technique of conceptual consolidation is overused and pointedly insufficient as a central analytical technique for understanding the modern monetary system. And I'd say saving is not the record of investment at all. The record of saving is found in the lower lines of an income statement. The record of saving accumulation, or savings, lies in a section of the balance sheet that is usually referred to as net worth or equity. The record of outstanding stock

investment is found on the asset side of the balance sheet, whether micro or macro. And the relationship of saving to investment is recorded in a flow of funds accounting statement.

In summary, saving is a subset of income. It is a flow, not a stock. It is the residual of after-tax spending on consumption. (In the case of corporations, it is undistributed profit after the payment of all expenses including taxes and depreciation.) Saving is not the actual deployment of funds into asset acquisitions or liability reductions. Those events are defined subsequent to the fact of saving. Harless recognizes this distinction in his piece. Saving flows into net worth, savings, or equity account as the subsequent stock form accumulation. Saving or savings is not a placement of funds “from itself” into other stock categories, a logical error made by many in an attempt to describe the essence of saving.

A system can be closed by construction or closed by assumption. The global system is closed by construction, assuming accounts are appropriately consolidated for closure purposes by intentional definition. A national system in which government and current accounts are balanced by assumption artificially constructs the private sector as a closed system in which $S = I$. When that system is opened for real world analysis, S becomes defined as private sector saving, according to the normal national accounting identity. Private sector saving can be decomposed into the amount of saving required to fund investment I and the amount deployed in net financial assets ($S - I$). That is the focus of the equation $S = I + (S - I)$. The detail of the deconstruction is explained in the next section.

As background, there is more discussion of this general theme in the following Asymptosis post and comments:

<http://www.asymptosis.com/how-accounting-constrains-economics.html>

2.

$$S = I + (S - I)$$

A local blogosphere dust storm kicked up in early 2012 around a particular equation that I have some responsibility for:

$$S = I + (S - I)$$

In particular, the MMT movement got quite agitated about it, especially since the MMR blog became active in promoting the idea. I thought it might be useful to lay out the facts as to how this particular expression came about.

As background, the equation $S = I + (S - I)$ began recent life, at least with any momentum, as a response I made to a comment by made by Steve Waldman at Steve Roth's Asymptosis blog on February 1, 2012.

Here is part of Waldman's comment:

“There is no “to the penny” sort of accounting relationship between household-sector financial saving and Government Issue of NFA. You can tell stories of how there might be a positive relationship between the two, but those are a function of policy choices and behavioral models, not logically necessary as a matter of accounting. And it is household-sector saving that conventional morality so strongly proclaims as a virtue. No bourgeois moralist ever complains when the value of a firm's assets rise, implying an increase in business-sector “indebtedness” to shareholders. (Firms owe their full value to financial claimants, as their value rises, so does what they owe.) It is a bad rhetorical trick that MMTers sometimes pull, to confuse an increase in “private sector net financial assets” with an increase in household-sector savings in order to recruit bourgeois support for the latter in the cause of promoting net issuance of government securities. There are a lot of perfectly good reasons to support net-issuance of government securities during times like now, and I'm certainly allied with MMTers in their promotion of wise fiscal policy. But claiming “saving” is impossible as a matter of accounting without a government deficit is a bait and switch, a game played with definitions by rhetorical confusing household sector financial surplus with an aggregate private sector surplus.”

<http://www.asymptosis.com/how-accounting-constrains-economics.html#comment-3725>

(This quote is included as part of a more complete record, at the end of this appendix.)

Waldman's Interfluidity blog is a popular spot for discussion about economics and finance. Notwithstanding the quote above, he seems to be a relatively strong supporter of MMT. He does have stated qualifications with this aspect noted above being one of them. Overall, my impression is that he is scrupulously honest in stating his full position on MMT. Importantly, he's done a lot of research on MMT, including both blogosphere and academic writing. The footnotes to his posts demonstrate that. So in my opinion he has some bed rock credibility as an observer of MMT who has actually scrutinized it quite closely. That doesn't mean he's always right. And it doesn't mean MMT has considered his criticism seriously. Anyway, here we have an opinion about MMT coming from somebody who in many ways is a supporter of MMT, but in this case describing one characteristic of its style that he perceives as unattractive. And this is a recent comment.

I responded to Steve Waldman's comment at the Asymptosis blog, by constructing the equation $S = I + (S - I)$ as my own algebraic translation of his thought process on this issue. This was not spontaneous, in that I'd made such a connection previously. And Waldman himself had articulated the same point previously, in a comprehensive blog post in April, 2011, that critiqued MMT more generally. But his Asymptosis comment was the raw material for the equation's most recent incarnation, from my perspective.

I explained the rationale in several more comments at the same Asymptosis blog post, which I'll reproduce here as well:

This is what I wrote on February 1, 2012, in response to Steve:

.....

“Steve Waldman,

For reference only (you know this cold):

$$S = I + (S - I)$$

Private sector saving = investment, plus the change in private sector net financial assets.

You're saying that you can increase S as a result of increasing I rather than (S - I), which is true, and very important, as you explain.

MMT is not entirely innocent of the “rhetorical overreach” you suggested, as I think you clarified in your second comment.

MMT frequently adopts short hand mode, in which it conflates terminology, describing what is actually (S - I), as saving.

This is unfortunate, in that the distinction is very important, not only in positive terms, but in normative terms.

To the degree that MMT associates saving with (S - I), it leverages the message of its normative view, that the private sector is driven by the motivation to satiate its desire for net financial asset accumulation. This general view has great associated consequences for its normative view on deficit financing, etc. etc.

This can be problematic from a logical perspective, and therefore from the perspective of normative balance.

It is not clear at all that the desire for net financial assets is in fact the driving force, in my view.

It is more the case I think that the true force in this Keynesian context is the desire for saving per se – i.e. for S.

And S can be mapped into two components, as above, “I” and (S - I).

To the degree that the “I” component is submerged in a lazy conflation of the meaning of “saving”, the (S - I) outlet for saving desires is the one that becomes accentuated in the MMT story.

The more accurate story, in my view, is that the (S – I) outlet is a critical point of adjustment, as per MMT, but that it is VERY importantly not the only critical point of adjustment.

So I think for the most part I may be agreeing with and reformulating your comment(s) in my own words. And you're right – the merging of business and household sectors into the private sector is a catalyst for lazy and perhaps overly convenient interpretation. After all, should we not hesitate just for a moment before blithely ticking off corporate debt and equity as “negative financial assets” within this private sector consolidation?

(To give MMT its due, they have published sub-sector analysis in this area, although it's not so prominent in the inherently fast marketing world of the blogosphere.)

“There is no “to the penny” sort of accounting relationship between household-sector financial saving and government issue of NFA.”

Right, and again, this statement is probably implicit in MMT's recognition of the difference between what it classifies as “horizontal” versus “vertical” financial assets. The horizontal nexus includes the financial asset interface between business and households, and there is real investment off to the left of that interface. But your point is a fundamental one that is submerged in the frequently applied MMT shorthand version of the world. MMT should be given credit for understanding this, but not for advertising it.

Perhaps we should start to look at the problem as one of portfolio mix, and portfolio balance, where the two major categories for the application of saving are investment and net financial assets. I see MMT driving a theme of persistent marginal adjustment through net financial asset accumulation; not one of deliberate portfolio balance between investment and net financial assets. And in doing so, there is a tendency toward open ended flow arguments that facilitate persistent budget deficit rationales, rather than targeted stock balance arguments, as a matter of overarching investment and saving strategies.”

<http://www.asymptosis.com/how-accounting-constrains-economics.html#comment-3730>

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Now, you can agree or disagree with Waldman's comment or my response, or both, but that is the record of the recent development of $S = I + (S - I)$.

Let me make a few further comments regarding my response noted above:

- a) The equation in question is the mathematical translation of somebody's observation about MMT. It was specifically for the purpose of illustrating, in algebra terms, the point that Steve Waldman was making verbally. He hasn't been the only one to make such an observation. And I did not think that math type connection up on the spot.

But it was an opportunity to record an instance of such a connection, using the thought process of somebody else as the input and reference.

Waldman had made an earlier comment in the same thread as lead in to the one above. Moreover, he did a complete post on MMT on April 11, 2011, in which he raised the very same point. For completeness of the record, I have included those two additional excerpts below, with corresponding links.

Again, the reader can be the judge of how my initial comment reflects what Steve was saying. You may not agree with either one, and/or you may not agree that the equation represents a good translation of his point, but you can be the judge of that. And I don't disagree with his observation about MMT at all. As I said to him:

“So I think for the most part I may be agreeing with and reformulating your comment(s) in my own words.”

- b) Given the general discussion on saving that has taken place since then, it is important to point to the assumptions that were documented as underlying $S = I + (S - I)$. As described above, this was the standard 3 sector “Sector Financial Balances” (SFB) model of MMT. The household and business sectors are consolidated into a single private sector in this 3 sector model. It is private sector S that is being used in $S = I + (S - I)$. Thus, it is essential to note that the context for the framing of the variable S in this equation was very specifically a 3 sector model of the type most frequently used in MMT's sector financial balances model and in the national accounts equation from which that 3 sector model is derived. The parent framework specifically is a 3 sector model, not 1 or 2 sectors. And while MMT has occasionally made reference to a 4 sector model in its writing, such a 4 sector partition is not its standard form of presentation and it's certainly not the context for MMT's typical reference to private sector saving. In this equation, as in the 3 sector SFB model, S is the very specific variable that is the designation for private sector saving.

I notice there has been occasional discussion in the recent debate that the term “private sector” in general might refer to an MMT 2 sector model. I must say that I mostly recall the usual relevant term in such a 2 sector model being “non-government”, complementing government, and that I don't recall much use by MMT of “private sector” in a 2 sector SFB model context. And I would think that the rationale would be to avoid ambiguity with respect to analysis referencing either 2 or 3 sector models.

- c) In any event, the (domestic) private sector is definitely the construct that corresponds to Waldman's description regarding the decomposition of same. It clearly accords with Waldman's intended meaning, and Steve himself didn't seem to disagree with this when he made the following remark in a separate post of his own, written shortly after, on February 12, 2012:

“JKH — wildly off-topic, but I returned too late to the discussion to congratulate you on how great your $S = I + (S - I)$ discussion was. (Michael Sankowski did a service by highlighting it.)”

<http://www.interfluidity.com/v2/2874.html#comment-22596>

The two links he included there are:

<http://www.asymptosis.com/how-accounting-constrains-economics.html#comment-3736>

<http://monetaryrealism.com/s-i-s-i-the-most-important-equation-in-economics/>

Once again, whatever you may think of the equation or the underlying view, these are the facts as to the recent development of the equation in question.

d) Finally, I repeat a point I made in my comments to Waldman, above:

“To give MMT its due, they have published sub-sector analysis in this area, although it’s not so prominent in the inherently fast marketing world of the blogosphere ... MMT should be given credit for understanding this, but not for advertising it.”

Thus, I’m quite familiar with the scope of MMT’s inquiry into the subject matter as it concerns saving. This becomes relevant to my response to Randall Wray’s post on March 4, 2012, which is the subject of section 4.

I made some additional related comments at the same Asymptosis post, which I wanted to extract here also. The next one was highlighted by Waldman himself, noted in c) above. I’m gratified he picked this, because it goes to the underlying logic behind the equation as a tautological expression. It might be interpreted as meaningless by those who gave little thought to it or who didn’t probe its origins. A number of commenters have apparently reacted that way. Indeed, it has been depicted that way by Randall Wray. Based on the quoted comment that follows here, I hope some readers may consider the reason for the expression in a different light, even if they disagree with the underlying rationale for the expression. Indeed, at the time, the commenter (Vimothy) to whom I responded here inquired whether or not I had made a mistake in presenting an expression that that seemed so oddly redundant. This is what I said:

.....

“ $S = I + (S - I)$ is not a mistake.

And rather than being a small error, it’s a critical analytical decomposition of private sector saving, most particularly in the context of interpreting the (sometimes ambiguous) MMT intended meaning of saving. Not understanding it can be the source of much confusion around MMT. The fact that you thought it was an error might hint

at some. Moreover, it's the saving algebra that encapsulates what Steve W. is driving at in his comment. That's partly why I started my opening comment with it.

It's an obvious identity/truth from the algebra alone, just as a self-referencing rearrangement of terms.

But it's much more than that in the context of deconstructing MMT's approach to the interpretation of saving.

Before getting to that interpretation, here is the national income accounting/algebra that gives background context:

$$C + I + G + (X - M) = C + S + T$$

$$(S - I) = (G - T) + (X - M)$$

That's one permutation of "sector financial balances", as a derivation of national income accounting.

That particular permutation says:

Private sector net financial asset accumulation = the government deficit plus the current account surplus.

This is the SFB formulation that defines NFA (actually the flow change in NFA) as the left hand side – it's the excess of private sector saving over the amount required to fund investment.

Private sector NFA is MORE than just the government deficit in an open economy. Only in a closed economy does it collapse to $(G - T)$ as you suggested. The always correct definition starts with $(S - I)$, not $(G - T)$.

Now, in parallel, but at the core of the relationship between private sector saving, investment, and "net financial asset" accumulation:

$$S = I + (S - I)$$

Just looking at the algebra, this is an obvious identity (or truth, really) just as a result of being a mere rearrangement of entirely equal terms. But it has considerable meaning in the context of how the pieces of the saving puzzle come together.

Using the earlier definition of net financial asset accumulation from the sector balances equation above:

Private sector saving = investment plus private sector net financial asset accumulation

That equation is the foundation algebra for illustrating the point Steve W. was making, in my view, as per my explanation above. I agree with SW's point, as per my

comment. And I also covered this same aspect (among many others) in recent comments under previous posts here at Steve R.'s site."

<http://www.asymptosis.com/how-accounting-constrains-economics.html#comment-3736>

.....

So that again is the explicit mapping of this equation to the 3 sector MMT SFB model, and its parent national accounting framework. And this also becomes relevant in my response to Warren Mosler's comments (further below) when he participated in an extended blog discussion on the same day that Professor Wray put out his own response.

Back to the Asymptosis comment stream, there is one more comment of mine that I wanted to document here:

.....

"You may be thinking of the NFA position of "non-government", which combines private and foreign sectors. THAT position is identically equal to the government deficit (or debt in stock terms). That's both a convenient and useful consolidation, that MMT defines as a high level conceptual reference point for the communication of its core message, about government as a marginal supplier of desired saving to non government, and that is a very valid point. But it can obscure what lies beneath.

EACH sector has its own NFA position. That's important, and again goes to the crux of the potential confusion around this issue.

Moreover, the household sector has its own NFA position, and it is VERY substantial, because it frees up the household savings analysis from the consolidated treatment of corporate liabilities and equities as negative financial assets. This is the crux of Steve Waldman's point. And the household sector position is VERY important in the interpretation of the Fed flow of funds analysis, which in itself is an essential element in the overall coherence of the subject matter."

<http://www.asymptosis.com/how-accounting-constrains-economics.html#comment-3741>

.....

So there a distinction is drawn between the intended 3 sector mapping for this equation and the alternative MMT 2 sector presentation. Again, $S = I + (S - I)$ is the same private sector S that appears in the MMT 3 sector financial balances model, which itself is derived from national income accounting. Moreover, I'm confident that I've specified this precise meaning of S on every occasion where I've engaged in extended discussion about it.

The exclusive application to the 3 sector model was also confirmed most recently on February 28 in the following MMR post (prior to the response of both MMT leaders), where I mapped the intended meaning of $S = I + (S - I)$ into a 3 sector graph that Paul Krugman used to make a point about saving and investment in the United States:

<http://monetaryrealism.com/paul-krugman-does-s-i-s-i/>

It couldn't be clearer. Paul Krugman's graphical illustration of $S = I + (S - I)$ is congruent with 3 sector model – the same one used by MMT in deriving the 3 sector financial balances model. Hence the title of the MMR post, “Paul Krugman does $S = I + (S - I)$ ”.

So those are the facts to the background of the recent blogosphere appearance of $S = I + (S - I)$.

Some who have been active in criticizing the form of the equation apparently were passive in their research into it. Those who have taken a strongly negative position haven't necessarily been paying attention to the subject they've been predisposed to dismiss. I have no interest in immediate persuasion or conversion on the matter. A number of commenters have noted the same tendency for the language and the meaning of the word “saving” to have been confused in the context of MMT's use of the SFB model (e.g. Waldman, JKH, Roche, Ramanan, Carney, and others). This is a shared observation. It is a noteworthy stylistic characteristic of MMT. The equation $S = I + (S - I)$ highlights that incongruity. The equation itself is not going away. It is what it is.

For my own part, I've also said little about any type of “desired” relationship between I and $(S - I)$ in explaining the meaning of the equation. Evidence for a trend relationship is a matter of recorded history. That aspect, while fundamental, is separate and beyond that of $S = I + (S - I)$ as a more basic clarification of language and logic. But there's no direct normative inference just from the equation $S = I + (S - I)$, in terms of desirable private sector financial behavior, consolidated or deconsolidated. As criticism, that allegation is mostly a straw man. However, a normative argument, using the form of the equation as an analytical point of measurement reference, becomes eminently arguable, a point which MMR is already picking up on. It is a second step.

Additional References

Here are Steve Waldman's fuller comments (excerpted) from the discussions at Steve Roth's Asymptosis blog, combined with an excerpt from Waldman's own Interfluidity post from April 7, 2011, originally critiquing MMT:

.....

<http://www.asymptosis.com/how-accounting-constrains-economics.html#comment-3725>

“It is perfectly possible to hold the international balance constant, have the government reduce debt, and have “people” save more. “People's” financial savings

consists of claims on firms and claims on government. If I perform some work for a firm that (however infinitesimally) increases the firm's real economic value, and I accept as payment a share of that firm's stock, I have performed the economic act of saving, and increased the net saving of "people" — of the household sector. Net private sector financial assets have not increased: my "savings" is the firms' obligation; the household sector's surplus is offset by the business sector's deficit. But much of what we call saving is exchanging real resources for claims on the private business sector. And as long as the private business sector doesn't entirely squander those real resources, that act contributes to macroeconomic S. If the private business sector does squander the resources, then while I still perceive my contribution as "saving", the value of macroeconomic $S = I$ does not increase, and my claim amounts to a transfer from other shareholders of the firm. But even in today's terrifyingly %\$&*-ed up world, people make a lot of productive contributions to private business in exchange for financial claims. The act of doing so increases $S = I$, but has no effect on "net private-sector financial assets" and requires no government accommodation."

.....
<http://www.asymptosis.com/how-accounting-constrains-economics.html>

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There is no "to the penny" sort of accounting relationship between household-sector financial saving and Government Issue of NFA ... but claiming "saving" is impossible as a matter of accounting without a government deficit is a bait and switch, a game played with definitions by rhetorical confusing household sector financial surplus with an aggregate private sector surplus. – [this section quoted in full, above]

It is perfectly fair, and quite possibly correct to argue that in the present economic environment, due to absence of demand and business-sector risk-aversion and broken household balance sheets, that household saving will not be accommodated by increased claims on expanding value in the business sector, and so the best way to repair those balance sheets is for the government sector to run a deficit. I very much support the use of government balance sheets to help the US household sector save. But that is because I think the other path will not work very well right now, not because as a matter of logic and accounting no other path is possible."

.....

<http://www.interfluidity.com/v2/1357.html>

“MMTers sometimes blur the distinction between “private sector net savings”, which is necessarily backed by public sector deficits or an external surplus, and household savings, which need not be. In doing so, MMTers rhetorically attach the positive normative valence associated with “saving” to deficit spending by government. This is dirty pool, and counterproductive. The vast majority of household savings is and ought to be backed by claims on real investment, mediated by the liabilities (debt and equity) of firms. There is no need whatsoever for governments to run deficits to support household saving. When household savings increases, an offsetting negative financial position among firms represents increase in the amount or value of invested assets, and is usually a good thing. Household savings is mostly a proxy for real investment, while “private sector net financial assets” refers to a mutual insurance program arranged by the state. It is a category error to confuse the two. Yet in online debates, the confusion is frequent. Saving backed by new investment requires no accommodation by the state. It discredits MMT when enthusiasts claim otherwise, sometimes quite aggressively and inevitably punctuated by the phrase “to the penny”.”

.....

Here are several examples of other commenters engaging along the same general theme:

Ramanan

<http://bilbo.economicoutlook.net/blog/?p=14867&cpage=1#comment-17990>

<http://www.winterspeak.com/2012/02/sii-s.html?showComment=1329803020437#c3534748001757804708>

Vimothy

<http://www.winterspeak.com/2012/02/sii-s.html?showComment=1330047253828#c8329360315348057105>

Игры рынка

<http://www.winterspeak.com/2012/02/sii-s.html?showComment=1331383698672#c6452927362919413780>

CP

<http://pragcap.com/what-happens-when-the-government-tightens-its-belt-part-2>

3.

BLOG DISCUSSION

W. MOSLER - MARCH 4, 2012

Two MMT leaders – Warren Mosler and Randall Wray – participated in the debate. Mr. Mosler offered his thoughts in an extended discussion at the winterspeak blog:

<http://www.winterspeak.com/2012/03/confused-about-mmr.html>

Much of the discussion concerned itself with the meaning of saving in the context of the MMT analytical framework. Mosler approached the question of the $S = I + (S - I)$ equation with scepticism. He noted that without further information, not much was to be said about it. He did have a question regarding the purpose of it.

As review, the equation $S = I + (S - I)$ is a decomposition of private sector saving S , as defined in the 3 sector SFB model and its parent national income accounting model. From one of my quoted comments at the Asymptosis blog:

“It’s an obvious identity/truth from the algebra alone, just as a self-referencing rearrangement of terms.

But it’s much more than that in the context of deconstructing MMT’s approach to the interpretation of saving.”

To answer Warren Mosler’s question directly, the purpose of $S = I + (S - I)$ is clarity of terminology, expression, and understanding. MMT may insist it has been clear on these issues all along. But even if that were the case, there is clearly a gap between that belief and the comprehension of those who are actively interested in the subject. Here there is evidence of considerable fog within the full discussion in which Mosler participated. His question is answered partly by the elephant in the room, which is the confused nature of the discussion itself. There was much speculation as to meaning of the S that was the subject of the discussion. Yet the correct S specification falls directly out of the standard 3 sector SFB model that MMT embraces and uses ubiquitously. It is for that reason that I’ve extracted a fairly lengthy sequence of comments from that discussion, including my own remarks along side.

Mosler asked about the public purpose of the $S = I + (S - I)$ expression. It has to do with clarity of exposition as a catalyst for clarity in discussion and debate. There needn’t be a perpetual process of blogosphere ground hog day discovery in the meaning of such terms as saving. These terms have been around for a long time. We all know that the sector approach is important to MMT. It should be important to everybody. But is it necessary to flirt with confusion of terms by adopting non-conventional twists in the meaning of saving?

Mr. Mosler was apparently unaware that $S = S + (S - I)$ had been specified as a 3 sector equation. This was documented (as summarized in section 2) and frequently referenced in lead up discussions over the month of February, 2012. At one point, informed by

another discussant that it was almost certainly an intended 3 sector application, Mosler maintained it had nevertheless been written as a 1 sector model. That is incorrect. I know that because I wrote it. Moreover, nobody is in a position to say otherwise about such an equation, without specific information supporting such a contention. There is nothing that precludes such an equation being specified as a 3 sector model, when it has been specifically designated to be so. The S in that equation is the 3 sector S, not the one sector S. As Neil Wilson noted in the discussion, it is meaningless even to consider such an equation in application to a 1 sector model. (The $(S - I)$ factor becomes identically zero in such a model.)

On a related issue, some have debated and did so on this occasion whether or not expenditure on investment constitutes spending absent corresponding saving at the macro level. If not, then $S = 0$ for the global economy. But if that were to be the case, then in the US for example the household sector would hold approximately \$ 40 trillion in net financial claims, constituting its cumulative saving in stock form. At the same time, the global economy would have no saving, the US as a whole would have dissaved approximately \$ 2 trillion. This is a truly chaotic porridge of saving mathematics. It is all wrong in my view. But there are indications that this is the intuitive preference of MMTers. Mosler alluded to this definition of saving as his preference. In my view, the correct definition of saving in terms of its relationship to investment is the one contained in the Harless piece and in the language used in my comment that John Carney used in his CNBC post. Moreover, the abandonment of the meaning of the term saving from any related expenditure on investment departs from the standard meaning adopted in economics.

And it's been noted that the conflation of the terms S and $(S - I)$ "works" if $I = 0$. It also "works" if the definition of saving in general is adjusted to completely exclude the notion that saving required to fund investment is not saving at all, but just another form of income spent as if on consumption, which means global saving must be zero. Mosler and some other MMTers seem to indicate a predisposition to this sort of interpretation. There seems to be a relaxed informality about flexibility of basic definitions and language use. This was Marc Lavoie's theme more broadly (see below). MMT's intuitive preference includes this sort of modification to the conventional definition of saving. And if that is the case, then it is no wonder that the net saving as the intuition for saving per se bubbles to the surface in the form of proactive language transformation and confusion. And when that is the case, it explains the issue that Waldman and others have observed.

Thus, the potential conflation of the meaning of saving and net saving may be connected to an accompanying maverick divorce of saving from investment. It is hard to know for sure. But all of this serves up dysfunctional language malleability. The distinction between the meaning of S and the meaning of $(S - I)$ in a multi sector model becomes desperately conflated with the S in a single sector model.

It is not possible to develop a coherent world measure of saving and investment by stipulating that global saving is identically zero. That is intuitively repulsive. It begs the question of additional motivation for the MMT SFB stylistic language emphasis. Is it any

surprise that there is ambiguity around what people perceive in the mixed language model of saving and net saving around that model, when what lies beneath is such an intuitive preference model? Intuitive preferences, if held, mold interpretation and language and logic and explanation, despite any protests to the contrary that “you see we really know what we’re talking about”. “I suspect they know what they’re talking about. But does anybody else understand or want to understand the same thing in such inconsistent terms?” Again, there are two components involved in the confusion. One component is the difference between saving and net saving as in the difference between S and $(S - I)$, and the other component is the actual definition of S itself. This is literally a conflation of two confusions.

Mosler raises the issue of “purpose” in his comments. The purpose is clarity of exposition. As far as the observed MMT conflation of the idea and language of saving, what’s not clear is what public purpose is served by such a thing. One might argue that effort toward precision and consistency would be beneficial to the rest of the community that is attempting to understand this subject on common ground, as a basis for shared comprehension and moving forward collectively in policy discussions.

This language theme can be taken much wider as it applies to MMT than just the use of the word “saving”. There is the larger realm of the way in which the monetary system is described by MMT. This broader scope has been the object of critical scrutiny in several recently published academic reports, including those of Marc Lavoie and Brett Fiebiger (see further below).

But apart from all this, Mr. Mosler offered some interesting remarks on the subject as a whole. The following sub-section includes some of those comments, along with others that preceded or followed, and my accompanying remarks and observations.

Again, the reference is here:

<http://www.winterspeak.com/2012/03/confused-about-mmr.html>

Selected comments are in quotation marks. Warren Mosler’s comments are preceded by his name. Otherwise, names have been omitted:

“Once again, it needs to be emphasized that one cannot derive substantive quantitative and causal conclusions about which transactions are or are not the backbone of some larger pool of transactions, or about which activities and operations do or do not “drive” the economy, simply by examining identities and accounting logic.”

The term “backbone” was used to emphasize the physicality and relative size of the outstanding investment stock, compared to private sector net financial assets, as noted earlier. Relative magnitudes in the US have been estimated and included in various comments posted in connection with this subject matter. Causal arguments exist, but are secondary to the intended purpose in using that particular term.

“In a state capitalist economy with a very large government, G might very well dwarf I and X and be driving the creation of real wealth.”

I don't know what “real wealth” means, but yes the inversion of the proportions might be possible in an MMT oriented counterfactual, perhaps. But that's not the case in the real world we have now.

$$S = I + G - T$$

Suppose the actual quantities instantiating the above equation are:

$$\text{\$7 Trillion} = \text{\$2 Trillion} + \text{\$6 Trillion} - \text{\$1 Trillion}.$$

In this economy, JKH's equation is still true, because it is a logical tautology:

$$S = I + (S-I)$$

But is I the backbone of S in this economy? Clearly not.”

Quite right, in terms of a counterfactual for relative magnitude; same point at above.

“Our own economy is not like the imaginary economy in the example I just gave, so private sector investment might be the “driver” of economic growth.”

Right

$$Y = C + I + G + X - M.$$

Does this now prove C is the backbone of Y? No. But it does point to a big elephant in the room that has been left out of the discussion.”

I wouldn't analogize C as the “backbone” of anything; perhaps “arms and legs” if one insists on pushing the analogy further, but I wouldn't.

“Contrary to Monsieur Say, people and firms don't typically produce things first, with no desire to consume the product themselves and no reliable information about whether someone else is eager to consume it.”

No dispute there, but we're exploring the nature of saving. And a key point here I think is that what MMT characterizes as a demand for net financial assets isn't really that at all. It's a demand for saving that at the margin can be satisfied at times by the government provision of net financial assets. The margin isn't the total, and the fact that there appears to be a demand met by net saving ex post shouldn't obscure the fact that there is an underlying demand for saving more generally, including the type of saving that matches to underlying investment in equal amount. The much larger element of total saving is the latter - at least on average and as measured through saving accruals that accumulate to stock form over time.

“MMTers could interpret this as you saying that the household sector is ultimately - for a lack of a better word - the owner of the means of production.”

That is factually correct. Net corporate wealth translates to household net worth. The household sector includes all wealth as it accrues to individuals (there may be some lower level statistical classification issues or data irregularities).

“The whole $S=I+(S-I)$ thing isn't some "gotcha" moment. It's a clarification that I think some MMTers are getting way too bent out of shape over”

Right; clear thinking and articulation are continuously desirable, not a one off “gotcha”.

“If during some period of time some group of people is devoting an increasing share of their income to the holding of money and other financial assets, and less to the purchase of consumption goods and capital goods, the question is what motives are causing them to do this, what effects on other aspects of economic activity do those motives have, and what policy changes or other systemic changes would or would not influence those motives.”

That’s a departure point for analytical investigation. But at the level of households and individuals, it has to do with the mix of I and $(S - I)$, not just a focus on $(S - I)$ alone.

“Isn't MMT the side that has insisted in focusing on "net saving" and $S-I$? It seems to me that this is a very common-sense use of the term "saving".

Common sense suggests S be defined the same way it is in the SFB model that includes both S and $(S - I)$, using the same definition of S as in the parent national income model. S is private sector saving. S and $(S - I)$ can't both be referred to as saving in any sensible use of language. Such is a fundamental contradiction in language and logic.

“SRW original criticism, made quite a while ago, was that MMTers sometimes confuse or conflate net saving with saving.”

Yes. While SRW was not the first to make this criticism, he did so most effectively.

“Now, it's fine if you wish to go with a new definition of saving - although, it would be nice if MMTers were more upfront about this - but what it implies from the point of view of macroeconomic relationships is totally incoherent. Do you think that aggregate saving and investment is possible? If the answer is "yes", then you need the proper definitions of the terms.”

Yes. My point, better said.

“You will of course have verified the particular definition given that your extensive education will surely have taught you that 'saving' is a humpty dumpty word in economics.”

The saving S in question, as it relates to $S = I + (S - I)$ is a very specific S , the same one used by MMT in its 3 sector SFB model.

“Therefore, $S = I$. Crystalline in its clarity.”

This Harless 1 sector model specification has absolutely nothing to do with the issue of how S is specified in $S = I + (S - I)$ when S refers explicitly to the S of the 3 sector SFB model ubiquitously invoked by MMT.

“I don't think the current national accounting convention that includes all capital expenditures under the category of "saving" is a basis for serious economic analysis at all. It's a strange terminological choice that, in my estimation, deliberately obscures economic reality by combining two very diverse economic activities under the same card in a three-card monte game. So when MMT highlights net national saving, that is $S-I$, and tends to use "saving" to refer to that rather than to gross national saving S , then I think MMT is on the side of both common sense and a clearer picture of economic reality.”

That's the view that snuffs out the very idea of global saving, as noted above. This seems to be an undercurrent of MMT intuition. But it is completely inconsistent with the 3 sector SFB specifications and definitions now commonly used by MMT, as derived from national income accounting.

“To side with Ramanan et al, the accounting identities are the accounting identities. We should stick with them and know what they are, but we just need to remember what they are not as well.”

They are what they are. If used at all, they should be used consistently, not as an option to be abandoned or distorted when convenient.

Enter Warren Mosler into the discussion:

<http://www.winterspeak.com/2012/03/confused-about-mmr.html?showComment=1330725000376#c2297923527988209342>

“Nominal savings are financial assets - like dollar balances, which are, functionally, tax credits. Real savings is deferred real consumption - like seed corn. You can have either one without the other. Also, I'm new to the $s=i + (s-i)$ thing. Doesn't $s-i=0$? So what does adding 'o' illuminate?”

I'm not a fan of that use of the term “nominal”. It's fraught with ambiguity of general meaning.

$(S - I)$ is zero identically only in a 1 sector model. This is not a 1 sector model.

From this point, it becomes clear in the discussion that there is obvious confusion within the ranks of MMT devotees on this general issue of saving. The first dozen comments or so indicate this fog starting here:

<http://www.winterspeak.com/2012/03/confused-about-mmr.html?showComment=1330758928267#c7584295359997143222>

It should be evident to those who paid attention to the original discussion of $S = I + (S - I)$, as it appeared prominently via the MMR blog and earlier, that we've been talking about S as it is defined in the MMT 3-SFB model and in national income accounting from which it is derived. (The Mike Norman blog, to its credit, did accurately track the development of $S = I + (S - I)$, under the scrutiny of Tom Hickey and colleagues.)

But only one MMT commenter seems to have considered it in this discussion:

“Warren, if $(S-I) = (G-T) + (X-M)$, then why would $S - I$ always be zero?”

Mosler:

<http://www.winterspeak.com/2012/03/confused-about-mmr.html?showComment=1330772480606#c1274356313869947411>

“If you keep it all nominal, $G - T =$ net financial assets of the non govt sector. That's the 2 sector model. But it begins with the one sector model, where $S = I$, and $S - I = 0$. In the two sector model, $S - I =$ domestic 'savings'/accumulation of nfa, and $G - T =$ Govt. 'savings'/ accumulation of nfa. And total savings of NFA = 0. Going to a 3 sector model, $X - M$ is just foreign savings, defined as net financial assets. So in that 3 sector model where $S - I$ is domestic holdings of financial assets only, and $X - M$ is non resident holdings only, the total domestic plus non resident = $(G - T)$. With sector analysis of 'inside money' the sectors add to 0. Expanding the number of sectors doesn't alter the 'fundamental maths' of the 1 sector model.”

Certainly, $S = I$ in the 1 sector model. That is trivial.

But such an identity carries over to a two sector model only if you precisely define S as that exact equivalence. For example, if you define government saving to be $(T - G)$ and non government saving to be $(Y - T - C)$, and define the sum of the two to be S , then $S = I$ in the 2 sector model.

But such a forced definition of S in a 2 sector model is a complete departure from the use of the same symbol as the standard definition S of private sector saving in the 3 sector model commonly used by MMT.

(Ironically, $S = I$ in such a 2 sector model only if it is recognized that government can save. Yet there is considerable MMT language even rejecting such a concept (e.g. Mitchell), and the same holds for the three sector view. It always struck me as bizarre that the MMT SFB methodology turned against the parent national accounts terminology, by denying legitimacy (in the form of MMT approval) to the idea that the government could save or dissave. This particular language policing seems to stem from the desire to emphasize the currency issuing power of the government and its associated capacity to generate unlimited quantities of “net financial assets”.)

Mosler:

“So $S = I + (S - I)$ is a 1 sector model identity, as there either is no X or M or G or T or it assumes that they equal 0 and therefore those sectors are of no consequence for this point of analysis? This all reminds me of the long history of thought including smith, ricardo, marshall, keynes, hayak, von mises, keynes, sraffa, lerner, friedman, lucas, modigliani, and all the rest who raised points of endless debate that get resolved via MMT.”

This includes the error already noted. This is not a one sector model; the variables S and I have clearly been specified as 3 sector variables, and this was documented repeatedly in lead up discussions. That documentation commenced formally at the Asymptosis blog, noted above, and was subsequently channelled via the MMR blog (and noted at the Mike Norman blog) and presumably monitored by MMT followers who gathered there. The S being used in $S = I + (S - I)$ is the same S that is used by MMT in its 3 sector financial balances model.

Mosler:

<http://www.winterspeak.com/2012/03/confused-about-mmr.html?showComment=1330775426729#c649875903057111131>

“It may not be what they are 'talking about' but what's written is a one sector model. Adding sectors is adding degrees of freedom to the model, and this model doesn't go there.”

It's not a one sector model. It would be useless in such a specific context, as $(S - I)$ is identically zero in that case. It was developed with specific reference to the 3 sector financial balances model used by MMT, and with S defined very specifically to have the same meaning as it does in that model.

The explicit connection between the equation and 3-SFB has already been explained numerous times, so there should be no need to repeat it. But here again is a summary of the direct relationship:

3-SFB:

$$(S - I) = (T - G) + (X - M)$$

Rearranging:

$$S = I + (T - G) + (X - M)$$

$$S = I + (S - I)$$

Where $(S - I)$ is substituted from the first equation above

This is a tautological decomposition of private sector saving, as it relates directly to the SFB model and the SFB parent national accounts framework. The equation in its crude form captures the two components of private sector saving – a component that offsets investment, and a residual net financial balance component. The 3 sector SFB MMT

model highlights an (S – I) component relating the private sector financial balance to those of the government and foreign sectors.

“Consolidation” of a 3 sector equation in more compact form doesn’t mean the 3 sectors have been eliminated. And it’s an equation, not a model. The equation can be used to make any argument that one wants to make of it, but the equation itself has no inherent model or ideological content. It is open source, and free to use, from that perspective, just as is SFB.

“Warren, specifically on the issue of saving, my take is that MMR agrees that (S-I) is a measure of net financial assets accumulation in the private sector, but they claim that it is not savings per se. Savings is "S", not (S-I).”

That’s right

“This is why MMR is particularly fond of this type of graphical representation, where I and S is treated separately: <http://monetaryrealism.com/paul-krugman-does-s-i-s-i/>”

Right

Mosler:

<http://www.winterspeak.com/2012/03/confused-about-mmr.html?showComment=1330798249422#c3372438147473102315>

“Definitions are always 'for further purpose' “

OK, but so are most things, I think.

But it’s a reasonable question, and I’m responding to it throughout this section.

Mosler:

“Also, the $s=i+(s - I)$ is a one sector model. Yes, it applies to multi sector models, but so do all one sector models, much like the one bank model also applies to multi bank universes, etc.”

It’s not a one sector model, as explained. It would be irrelevant as a one sector model, since (S – I) is identically zero in such a model.

Mosler:

“Nor can I be anything other than equal to S as a matter of accounting, whether the analysis is in nominal or in real terms.”

This is incorrect, when you acknowledge the specified private sector S as it’s used in MMT’s 3 sector SFB model, as documented above.

Mosler:

“In nominal terms it just means there is an asset and a liability, one side accounted for as savings and the other as investment.”

Actually, that’s not the correct accounting. Household net worth is not a financial claim and not a liability for the household unit.

Mosler:

“The best way to think of it is to think of savings as the accounting record of investment.”

I disagree it’s the best way to think of it. The accounting record of savings (stock) is the net worth or equity account. The accounting record of investment (stock) is the investment account. These accounts are on opposite sides of the balance sheet. See my discussion in section 1.

Mosler:

“So subdividing sectors can be a tool of discovery.”

"Private sector consolidation within SFB is not an indicator of saving per se" (me)

“Why do you care?”

I care pretty much for the reason you stated yourself, but in a more general way – subdividing saving can be a tool of discovery.

Mosler:

“For purposes of my analysis I focused on net financial assets, which are commonly also called 'savings' though 'savings' is clearly used in other ways at other times by others.”

This is representative of the flexible MMT approach to the meaning of the term “saving”.

It is apparent from this overall discussion that MMT devotees themselves seek clarity on this issue, so it’s hard to understand why MMT types would continue to supply language that confuses. On this issue, there is obvious confusion within MMT follower ranks. And at this point we might add that to ridicule $S = I + (S - I)$ because of its tautological appearance makes about as much sense as ridiculing SFB as a rearrangement of national income accounting, which is all it is.

Finally, in this discussion, “winterspeak” objected to my earlier definition of saving as income not spent on consumer goods. (Perhaps I should have specified that services are included as spending, although that wasn’t the objection.) The objection had something to do with the timing of consumption of apples or something like that. This is a lower level point. We know that economic and financial accounting is delineated in time periods, so the issue of crossing multiple time periods is well understood in the casting of definitions. Of course consumption as a flow refers to what is being consumed in the

current accounting period, because flow accounting is period specific. Stock accounting is point in time specific. And of course there are various options for delineating things like consumer durables as consumption or investment. And there are further issues of data and time classification. But this detail is not the stuff of the concept itself. We're interested here in categorizing the forest, not the trees. Andy Harless for example had the good sense to ignore this lower detail in his account of saving and investment.

I've noted the Andy Harless post on saving and investment several times. He is specific on constraining the sector structure for that model. It eliminates both government and foreign sector imbalances, which allows $S = I$. He avoids the sector complications inherent in the derivative MMT SFB model. And while much understanding flows from the Harless exposition, it has absolutely no explanatory power relative to the S specificity of the 3 sector model. And therefore it is insufficient in the same way relative to the equation $S = I + (S - I)$, which was written as it relates to the 3 sector model. The S used is the private sector saving S in a 3 sector model, not the consolidated single sector S that Harless uses.

The same blogger winterspeak more recently has developed some sort of trademark notation for HPM. This appears like some kind of functional notation that seems to conflate characteristics of asset, liability, and equity all at once. Look, this whole area is a matter of simple, straight forward double entry book keeping. When the government deficit spends, it creates incremental income and saving for the non government sector in the national accounts and micro accounts, ex post facto. That is an income statement phenomenon. The settling of funding accounts in HPM or Treasury bills and bonds is an entirely separate matter. It is represented correctly in a properly constituted flow of funds statement, with corresponding beginning and end of period balance sheets. One of the entries must be to a net worth or equity account for some agent. It is impossible for it to be otherwise. But HPM itself is an asset to whoever holds it, and does not in itself end up in this type of net worth or equity account.

This is an example of a more general methodological tendency for MMT to grasp at sections of double entry accounting and mold them into MMT specific accounting clusters with potentially ambiguous results. There's been a recent tendency for example to treat "NFAs" as if they were government distributed fruit baskets or something. "Net financial asset" is a generic accounting consolidation term, which existed long before MMT got hold of it. Its use as an accounting measure extends well beyond MMT's application of it in the government context. If one actually believes that NFA is only an MMT designated government item, it is little wonder that the natural household sector position in NFA has been submerged in common discourse on MMT blogs, with resulting confusion. See section 1.

4.

NEP BLOG

L. R. WRAY - MARCH 4, 2012

On March 1, 2012, John Carney of CNBC published a blog post that included an MMR blog comment of mine quoted in full. Carney's post is reproduced in its entirety below:

.....

<http://www.cnbc.com/id/46590791>

More on Saving (Note: This Gets Wonkish)

Over in the comments section of Monetary Realism, the **mysterious and ubiquitous commenter** JKH spells out how we should think about the concept of "saving."

Since this is central to the accounting identity dispute I was writing about yesterday, I thought it deserved to be reprinted in full here.

(JKH) "The correct economic definition of saving is disposable income not spent on consumer goods.

Individuals often save and deploy their saved income into financial assets such as stocks, bonds, and pension funds. (They may also invest saving in newly constructed residential real estate, which is separate from financial asset acquisition, of course.)

Such financial assets represent direct and indirect claims on corporations and governments.

The recent blogosphere kerfuffle about saving arose in part because MMT embraces the sector financial balances model (SFB), which features the consolidation of household and corporate sectors as a unified private sector. The model treats financial claims on corporations as negative financial assets for corporations, so the consolidated result is that household saving deployed in such financial assets makes a zero net contribution to private sector saving after counterparty corporate netting. At the margin, such deployment of funds becomes a net financial asset for the household, a net financial liability for the corporation, and a net financial asset wash for the private sector as a whole.

The private sector as a whole adds net financial assets when either the household or corporate sub-sectors deploy funds from saving into the acquisition of financial claims on either the government or foreign sectors. This can occur for example with the purchase of government bonds or foreign financial assets. Saving thus used can be identified as a particular subset of saving, but by no means does it account for saving per se.

Private sector consolidation within SFB is not an indicator of saving per se. Consolidation obscures the core underlying saving dynamic of the private sector.

All private sector saving can be condensed, in effect, to a measure of household saving alone — by projecting the cumulative value of corporate saving onto the household balance sheet. This occurs when household financial claims on the corporate sector are valued by the marketplace to reflect those underlying corporate saving changes. E.g., the value of stocks tends to increase when corporations save and invest in real assets. The issue there is one of valuation translation, rather than the conceptual correctness of corporate saving being reflected at the separate level of household balance sheets as well.

MMT alludes on occasion to a definitional change for saving that it deems desirable for purposes of delineating saving as portrayed in the sector financial balances model. It sometimes describes the act of deploying the proceeds of normally defined saving into physical asset investment as spending, without associated saving. This revised interpretation of saving treats spending on consumer and investment goods similarly, with zero associated saving under such a revised definition.

But on that basis, it would only be consistent to extend the implied revised definition of “non-saving” to include the use of normally defined saving proceeds to acquire financial assets. In either case, funds that have been saved according to the normal definition of saving have been “spent”, which would allow for consistent abandonment of the idea that saving has been the source of such spending. (Indeed, MMT has occasionally referred to central bank acquisition of financial assets and associated creation of reserves as “spending.”)

The problem here is that the correct definition of saving precisely specifies the passive act of not spending on consumer goods. It does not specify how the proceeds of such saving should be used, whether to acquire real or financial assets. Saving is described in proper accounting terms as funds sourced from income by virtue of being saved from income. The eventual deployment of that source of funds is described properly as a use of funds — whether such deployment and use occurs in the form of a bank deposit, a bond, a stock, newly produced residential real estate, or newly produced plant and equipment. The deployment or use of funds is separate from the act of saving itself.

In summary, the consolidated private sector account obscures, not only the view of saving as it materializes within a given accounting period in bifurcated fashion across household and corporate sectors separately, but also the view of total private sector saving as it is projected fully into the household balance sheet, when captured as a cumulative measure over a sequence of such accounting periods. As a result, the consolidated private sector presentation within the sector financial balances model obscures the measurement of the core component of saving.”

(Carney resumes.) A couple more thoughts to add.

If saving does not include households purchasing financial assets of the corporate sector, why should purchasing financial assets of the public sector count as saving? The attempt to exclude "investment" from saving just makes saving vanish altogether, if taken to its logical conclusion. If all you mean by "saving" is one sector accumulating claims on a different sector, then you aren't talking in ordinary language any more. You are probably confusing most of your listeners or readers, and if you do this over and over again, its fair to wonder if you are intentionally befuddling people.

The problem with constantly thinking in terms of a consolidated "private sector" is that it encourages you to skip over the most important economic dynamics, most of which take place within the private sector. Businesses get started, venture capitalists commit funds, people take out loans, and customers buy stuff with cash and credit — within the private sector. If all this just "nets out" to you and is therefore uninteresting, you aren't really doing economics at all. You are doing something else that may be interesting but it isn't economics. It isn't a new economic perspective or heterodox economics or any kind of economics at all."

.....

The comment quoted by Carney is here:

<http://monetaryrealism.com/paul-krugman-does-s-i-s-i/#comment-2046>

Professor Randall Wray published an NEP blog post on March 4, 2012 in response to Carney:

<http://www.neweconomicperspectives.org/2012/03/blog-39-mmt-for-austrians-disagreements.html>

Wray's response included remarks specific to three different things – my comment, Carney's remarks, and the underlying $S = I + (S - I)$ equation. Carney had used my MMR comment as support for a similar argument he was making in an earlier post. Wray responded to Carney's post, and separately as well to the entire $S = S + (S - I)$ debate, which he must have observed independently of the CNBC posts.

(The original post mistook my quote as Carney's words. That was corrected at one point. The original error has since reappeared.)

There is nothing in the quoted part of my comment that Wray questioned that is factually incorrect. The professor was apparently so agitated by the underlying $S = I + (S - I)$ equation that he attacked regardless of the neutrality of the verbal description.

Here are the supposedly offending passages:

JKH:

“The recent blogosphere kerfuffle about saving arose in part because MMT embraces the sector financial balances model (SFB), which features the consolidation of

household and corporate sectors as a unified private sector. The model treats financial claims on corporations as negative financial assets for corporations, so the consolidated result is that household saving deployed in such financial assets makes a zero net contribution to private sector saving after counterparty corporate netting....”

That’s entirely accurate. The standard 3 sector MMT SFM model consolidates the private sector as one. Wray resurrects an old blog that references a description of the internal deconsolidation of the private sector. But I have acknowledged the existence of such background work (see my comments quoted earlier from the Interfluidity discussion.) The point is that the standard MMT presentation is a 3 sector model, not a 4 sector one. And private sector deconsolidation is obscured in the 3 sector model, by construction. I doubt any MMTER will claim the 3 sector model is not the standard presentation, because the empirical evidence to the contrary is overwhelming.

JKH:

“The problem here is that the correct definition of saving precisely specifies the passive act of not spending on consumer goods. It does not specify how the proceeds of such saving should be used, whether to acquire real or financial assets. Saving is described in proper accounting terms as funds sourced from income by virtue of being saved from income. The eventual deployment of that source of funds is described properly as a use of funds — whether such deployment and use occurs in the form of a bank deposit, a bond, a stock, newly produced residential real estate, or newly produced plant and equipment. The deployment or use of funds is separate from the act of saving itself. In summary, the consolidated private sector account obscures, not only the view of saving as it materializes within a given accounting period in bifurcated fashion across household and corporate sectors separately, but also the view of total private sector saving as it is projected fully into the household balance sheet, when captured as a cumulative measure over a sequence of such accounting periods. As a result, the consolidated private sector presentation within the sector financial balances model obscures the measurement of the core component of saving.”

Again, this is entirely accurate and factual. The definition of saving is consistent with that used in the earlier Harless reference, and both are consistent with standard economic meaning of the term saving. And while I don’t know if MMT ever acknowledges income statement, balance sheet, and flow of funds as necessary constituents of fully coherent accounting, as indeed they are, the rest of what I wrote is perfectly accurate as well.

Wray quotes from MMP “blog # 4”:

“Of course, much of the debt issued within a sector will be held by others in the same sector. For example, if we look at the finances of the private domestic sector we will find that most business debt is held by domestic firms and households.”

That’s interesting, but it says nothing about how MMT handles the definition of saving for the private sector as a whole.

And he quotes from a 1998 book:

“To simplify we can assume that it is the household sector which saves and the business sector that invests; the net (inside) indebtedness of the business sector is exactly offset by the net (inside) financial wealth of the household sector. It is frequently the case that the household sector wishes to save more than the business sector wishes to invest.”

That’s interesting, but again says nothing about how MMT handles the definition of saving for the private sector as a whole. It only references the intra-sector decomposition of net saving – not the full composition of saving.

Wray’s resurrects yet another old blog as defense, although for what purpose I’m not sure.

Then, this is telling:

“To briefly summarize, at NEP we prefer to use the Godley sectoral balance approach, where he defined private sector saving as “net accumulation of financial assets” (NAFA), using the flow of funds data. Typically economists use the GDP equals national income equation where saving is defined as a residual: the net income received but not consumed (I’ll use it below in discussing the MMR approach). In theory these would lead to approximately the same result; in practice they do not because the NIPA accounts include imputed values. Godley preferred the flow of funds data but even they had to be carefully adjusted to ensure that every spending flow is actually financed and actually “goes somewhere” (ensuring “stock-flow consistency”). That is all quite wonky. My bigger point is that we can come up with alternative definitions of saving that would include unrealized capital gains as real and financial assets appreciate in value.”

This seals the case regarding MMT’s confused interpretation of the term “saving”. I don’t know if that correctly reflects what Godley does or not, but if private sector saving is defined that way it has nothing to do with the private sector saving S that’s cast in MMT’s own 3 sector financial balances model. S cannot identically equal $(S - I)$ unless I is identically zero, which is ridiculous.

For example, in a closed economy with a balanced budget, if the (alleged) Godley definition of private sector saving is combined with the explicit definition of private sector saving S in the 3 sector SFB equation, then saving must be identically zero, whatever the level of investment. It cannot be otherwise for the Godley and MMT SFB specifications of S to be consistent. And in the real world economy, any such consistency would force global $S = 0$. And this is the point of it all – such inconsistency in the use of the term “saving” is fundamentally misleading.

Remarkably, Wray just demonstrated the same conflation of saving and net saving in MMT language and logic that is at the heart of the issue in question, which I find flabbergasting in the circumstances. Furthermore, he suggests this is consistent with the NIPA definition of saving. The definition of saving (allegedly) attributed to Godley above

is not the same as NIPA defined saving at all. And the issue of imputed values or capital gains has nothing to do with the primary question. That is a secondary consideration having to do with the reconciliation of stocks and flows, not the outright confusion of flow definitions. It is a trees rather than a forest issue.

If this is not the five star version of the point that Steve Waldman makes, and the point that motivated the equation $S = I + (S - I)$, then I don't know what is.

Then, laughably, Wray writes the following:

“Three Sectors: $I + Def + NX = S$ ”

That's the same as:

$S = I + (S - I)$, where:

$(S - I) = (G - T) + (X - M) = Def + NX$

I've already developed that relationship at length.

Wray has just written the $S = I + (S - I)$ equation as it was developed, and as it has been explained in previous sections. He has defended the very equation that he spends the rest of his time ridiculing.

Preposterously, having just written out the actual equation used, Wray then says:

“Carney has adopted the amusing (nay, hysterical) and confused exposition over at MMR which rewrites the one sector model as ... $S = I + (S - I)$ ”

It is not a one sector model. Wray makes the same error as Mosler. See the previous section.

Wray says:

“Here is what the MMR folks claim about it:

Hence, our focus on $S=I+(S-I)$ with the emphasis on the idea that “the backbone of private sector equity is I, not Net Financial Assets.” The idea is not novel, but simply clarifies the understanding of the private sector component.”

He should have noticed the phrase “private sector component”. What does he think MMR means? Does he understand the meaning of the word component? Does he actually think this refers to a closed economy without a government? How could anyone pay attention to this and believe it refers to a one sector model?

I can tell you what “the MMR folks” are thinking. It's exactly in line with the documented form of the equation. You see, the MMR guys actually examined what was said about the equation when it was developed.

In Wray's next step, it is impossible to tell what he is trying to demonstrate, as it seems to be a confusion of made up symbols in combinations that nobody else would consider, combined with a reversion to a language of net saving that totally contradicts what he just claimed was NEP's definition of saving. The entire muddle is actually hard to believe.

He then degenerates into silly examples that include such dexterities as adding and subtracting infinity, etc., as permutations of the equation construction. If it is an earnest attempt at "exposing" something, the whole tirade only exposes a deficit in mathematical intuition. The equation is a decomposition of S into two parts, not a construction of S from random selections as portrayed by Wray.

All in all, the professor trots out numerous personal blog references, none of which addresses the issue, and all of which do nothing to repair the contradictory language and logic that is the actual issue.

Let's pause now for some elementary but needed repair of his logic.

Decomposition does not equate to meaninglessness. Those who dismissed the equation merely because it was an algebraic tautology might consider the following simple analogy:

The United States = California + (The United States minus California)

That reduces to:

The United States = The United States

Does that mean the first equation is meaningless?

The point of the first equation is not that it reduces to the second, but that it decomposes the second.

There may well be information that one is interested in for the United States, for California, and for the rest of the United States apart from California. That's seems like a reasonable investigation.

Apparently, according to the professor, such decomposition becomes meaningless, just because more than one such decomposition exists.

For example:

The United States = New York + (The United States minus New York)

According to the professor's logic, the fact that New York can be separated out for analysis as easily as California must imply that neither case of decomposition can be of interest or value to anybody.

In the case of the $S = I + (S - I)$ equation, is net saving of the private sector. MMT regularly uses the term “saving” to refer to that element. But at the same time, private sector “saving” is unambiguously defined as S , in the context of the national income model from which the MMT 3-SFB model is directly derived. So, the MMT stylistic habit of referring to $(S - I)$ as S , is obviously contradictory. It could only not be so if private sector S were identically equal to I , which is clearly not the case. To suggest that would deny the purpose of 3 sector decomposition in the first place. The puzzling question is why would MMT persist with this sort of conflicting language and meaning?

Decomposition is not trivial or meaningless simply because it becomes $X = X$ on consolidation. To adopt such a view is to adopt the view that analysis as a generic endeavor is useless and worthless, because after all this is the type of thing that analysis does. And to conclude that $X = Z + (X - Z)$ is useless because it always consolidates to $X = X$ is mathematically naive in the extreme. The idea that sets decompose into elements is at the foundation of mathematical analysis. I’m not surprised that some people would find the tautological expression of such decomposition curious, but to extend this to Wray’s type of response must indicate a total lack of interest in analysis or some agenda otherwise.

Moreover, the idea that an equation must be useless because people have considered it before is equally absurd. Do people simply not ever conceive of California as being a separate state and at the same time part of the United States? Do they ban further thought on such a perspective? Is it unthinkable to decompose a map of the United States ever again in such a fashion? Who actually thinks this way?

I find Warren Mosler’s reaction more interesting, because he acknowledged at least the potential for explanation, as opposed to shutting down the thought process with a defensively naive $X = X$ demonstration. The immediate purpose of $S = I + (S - I)$, to reconsider Mr. Mosler’s question here, was to add clarity to the discussion of saving, clarity that is obscured by terminological confusion. MMT, in focusing on private sector net saving, frequently transitions directly into the language of generic saving, to describe something that is only one part of private sector saving according to the definition of S in the 3 sector model. The strange case of the professor’s response is evidence of this in itself. Through SFB, MMT’s prime focus is net financial saving. Given this focus, there is no reason for MMT to draw particular attention to the amount of saving that funds the “ I ” component in $S = I + (S - I)$ as a result. This is the essence of the Waldman observation.

Somewhere along the line, I used the term “backbone of S ” to describe investment I . I’ve seen that interpreted in various places as if it is meant to imply some sort of causal requirement, in the sense that “horizontal” activity is pre-eminent to the point that “vertical” activity may not even be required. Nowhere has that been suggested by me or anybody from MMR. When I coined that phrase, the first thing that came to mind was literally the physical presence and stamina of a backbone. Investment I does represent physical investment for the most part, after all. Extending that metaphor, one could easily suggest that $(S - I)$ is something like a brain or a central nervous system. That’s not intended, but the intuition is optional for those who wish to exaggerate the strength

of the Keynesian mindset, perhaps. And I wasn't even referring to the generally accepted causality of the relationship between I and S in a single sector economy – i.e. the Harless type causality. The equation as specified doesn't apply to a single sector economy. Then, it really would be trivial, because $(S - I) = 0$ in a single sector economy. Conversely, if one recognizes and understands that the equation applies specifically to a 3 sector economy, as was documented from the start, then one should begin to suspect that there may be a non-trivial aspect to the meaning it is intended to depict. And that meaning is simply the exposition available from a particular decomposition of S, as the sum of private sector net saving and the amount of saving required to fund I.

Wray says:

“But MMRers ignore that as they jump to the conclusion that it is perfectly fine if the business sector's deficit exceeds the household sector's surplus—so the private sector taken as a whole is running a deficit.”

I'll let others from MMR speak for themselves, but this claim is ridiculous and false. And again it frames the issue in the context of $(S - I)$, without reference to I.

More false allegations are summarized by Cullen Roche here:

<http://monetaryrealism.com/things-we-never-said/>

In my own writing on this subject, I've actually not referred to causal or normative relationships that arise directly from this equation. The only thing I've done is refer to what common sense would observe as a typical stock relationship between outstanding investment and cumulative saving, as in the United States for example. My comments elsewhere include summary data from the US Fed Flow of Funds reports regarding such quantitative relationships. In particular, the “backbone I” description refers to the typical quantitative mix of I and $(S - I)$ in stock or flow terms; i.e. $(S - I)$ is dominated by I in trend terms. Volatility around trend exists over time, obviously.

The Harless article “Investment makes saving possible” explores causality between those two actions in a 1 sector context. That is a compatible but separate topic from the 3-sector specific equation itself. I've made no comment that draws any systematic inference from the equation $S = I + (S - I)$ to some consequence for desirable private sector financial behavior, consolidated or deconsolidated. This is mostly a straw man with respect to the reasoning behind the equation.

Wray makes other comments regarding John Carney and the MMR founders. I'm not going to respond to those.

The specific connection between MMT exposition and $S = I + (S - I)$ extends to more general fare. Other observers such as Marc Lavoie and Brett Fiebiger have drawn a wider net in capturing the peculiar nature of MMT's use of language in general. The use of “saving” is only one part of it.

Next up from Wray:

“OK, but JKH is also called “brilliant” so I’m not sure if that is meant as a compliment or a diss.”

This one deserves brevity of response:

It is churlish and ignorant.

Others have observed an MMT gene that could be related:

Professor Marc Lavoie:

“While criticisms and counter-criticisms are healthy in a scientific setting, neo-Chartalists occasionally seem to over-react to criticisms, blasting away even people that are essentially on their side.”

http://www.boeckler.de/pdf/v_2011_10_27_lavoie.pdf

There should be in principle a similar interest shared by MMR and MMT in advancing the broader public comprehension about modern monetary operations. Cullen Roche has been focused on the importance of such clear exposition, as far as MMR is concerned. Lavoie covers a larger frame of reference insofar as MMT is concerned, that of a confused language and logic in the description of modern monetary operations.

Brett Fiebiger directs a more technical laser at MMT in his paper:

http://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_251-300/WP279.pdf

There is much to be said later about the analysis contained in each of the Lavoie and Fiebiger papers. But in a broad sense, both papers are quite similar in that they seriously question the clarity of MMT exposition on monetary operations. Both papers allude to potentially misleading presentations in this regard, to which MMT retorts that this couldn’t be the case, that there is nothing to fix. And yet both papers cite a common complaint regarding accessibility in terms of clarity of the material. Importantly the point is made in both cases specifically and painfully with respect to student comprehension. This has to do with public purpose. Perhaps it isn’t quite sufficient for MMT to respond to those authors by saying “You don’t understand what we’re saying”.

It is ironic that a model – the MMT 3-SFB model - positioned as the centrepiece of a heterodox approach, feeds off input variables from conventional national income accounting, when those generally accepted definitions of measures of saving are then converted to different ones of MMT preference. That language conversion and the confusion it creates are at the heart of the issue here, at this specific level, and more generally. The question is why, not only because the communication dysfunction it creates, but because of the strangeness of whatever motivation might drive such inconsistency. The responses cited here show inconsistency even while attempting to defend against the perception of inconsistency. How they can be active users of the 3 sector SFB model and still confuse the language of S for the language of (S -I) is

extremely puzzling. It can't be in the public interest to be the provocateur of such language confusion. I concur with John Carney when he says "This is not Economics".

MMT does not have a monopoly on the understanding of monetary operations. It carves out its place under the pretence that it does. It does so at its own risk. The MMT map is not the territory. There are alternatives. Criticisms of a similar nature are too widespread and coincidental not to have a reliable grain of truth. There are too many comparable instances of blogging and academic objection, including those noted here. Surely it would be in the public purpose for MMT to discipline itself away from such a noted presentation style.