

# Steve Keen has lost his way in a Minsky Maze

By Jeff Eder

[TABS (taxing and borrowing precede government spending) = Reality] vs

[STAB (government must spend before taxing and borrowing can occur) = Half-baked theory]

“If you can’t explain it to a six-year-old, you don’t understand it yourself”

— Albert Einstein

Note: I will inject my comments in Arial Font 14 on Keen’s post last week.

Keen’s assertion that I do not understand double-entry bookkeeping is absurd and in the context of this argument a red herring. His painfully long article is a desperate attempt to convince himself that STAB is legitimate. Using Keen’s own word choice, if anything is a half-baked theory, it is STAB as critiqued in the following video.

<https://youtu.be/I2-6mhc2r5Q>

My objection to Keen’s position starts with his misuse of the English language. The oxymoron “Government spending creates money” which supports the fallacious MMT STAB belief. In reality, taxing and borrowing precede government spending (TABS) and are supported by actual data from the government along with affirmations from officials and documentation from the Treasury, the people that actually manage the government’s cash balance.

Instead of Godley tables and the fixation on double-entry bookkeeping Keen uses in attempting to explain government financing I use cash flows which are much easier to follow and more instructive.

<https://youtu.be/I4JeKawoZKM>

As I move down his article, I will point out the misrepresentations and errors Keen uses in attempting to shoehorn the fallacious MMT STAB narrative into government financing TABS.

A Little Knowledge is a Dangerous Thing

How true...

I owe enormous intellectual debts to Hyman Minsky and Augusto Graziani. But at one point, my "little knowledge" led me to believe, falsely, that they had both made a huge mistake in claiming that repaying debt destroyed money:

[Graziani](#): As soon as firms repay their debt to the banks, **the money initially created is destroyed**. (Graziani 1989)

Money is created as banks lend—mainly to business—and **money is destroyed as borrowers fulfill their payment commitments to banks**. (Minsky 1982)

This couldn't be right, I thought: surely once banks had created money, they wouldn't let it be destroyed? I considered cash loans in particular—surely the cash wasn't destroyed on receipt, but put back into the vault for relending? This is why the model of money in my *Debunking Economics* (Keen 2011) is of a cash-lending bank, and not a modern electronic banking system, where loans are simultaneously matched by direct payments into deposit accounts.

Then I developed *Minsky*, the monetary modelling software that I named in honour of Hyman Minsky. I came to really understand double-entry bookkeeping, and realised that **Minsky and Graziani were correct, and I was wrong**. These days, money is primarily the sum of private bank deposit accounts. When you show modern bank lending and bank debt repayment in a double-entry table, it's obvious that the former creates money, and the latter destroys it.

This points to a general rule about money creation and destruction: leaving aside cash loans, and direct government payments of cash to the non-bank public, **to create money, an operation must increase both the Assets and Liabilities (or short-term Equity) sides of the banking system's ledger**. Conversely, this means that operations that occur exclusively on either the Assets side or Liabilities & Equity side neither create nor destroy money.

Having made this mistake myself, I came to realise that understanding double-entry bookkeeping is the "Holy Grail" to understanding money, and therefore that **if someone makes claims about money that contradict double-entry bookkeeping (DEB for short), then they should be ignored, because they don't know what they are talking about**.

Nowhere do I contradict double entry bookkeeping, and as stated above is a red herring in the context of this argument.

One person who fits this bill today is the founder of [Progressive Money Canada](#), Jeff Eder. While he gets some parts of the money creation process right, he gets several others seriously wrong. This has led to an ongoing and fruitless dispute between Eder and advocates of Modern Monetary Theory.

None of my beliefs about money creation are unsupported when it comes to government financing. Here is some double-entry bookkeeping for Keen, see appendix tables 1&2

<https://img1.wsimg.com/blobby/go/ff93be0f-e4df-4288-8750-c2891b9cb7ea/downloads/BoC%20and%20Commercial%20banks%20create%20money%20for%20the%20.pdf?ver=1658328192936>

As far as MMT goes there is no disputing the feeble nature of the so-called STAB hypothesis.

<https://youtu.be/I2-6mhc2r5Q>

Eder's key contentions are:

That private banks create *all* the money in the economy (except for physical notes and coins),

Nowhere do I say all the money is created by commercial banks, albeit the majority is through the loans process.

- including the money spent by the government in excess of tax revenue and bond receipts: "The Government borrows money from commercial banks it has given the right to create money. That's right! the Federal Government has given commercial banks the right to create money through the issuance of loans, and then borrows that money back at a rate of interest to finance deficits and the interest on its national debt. Conceptually that is the same as if I had the power to create money and gave that power to you, then borrowed money from you at interest." (Eder, "[How Is Money Creation Related To Our National Debt?](#)"); and
- That the conventional belief that the government must "Tax and/or sell Bonds before it Spends"—which Kelton describes as **(TAB)S** in *The Deficit Myth*—is correct. MMT asserts that **(TAB)S** is false, and that the government "Spends first and Taxes And sells Bonds later"—**S(TAB)**, to use Kelton's acronym. (Kelton 2020: , pp. 27-29).

STAB is an unsupported assertion mainly based on skewed reasoning by Warren Mosler and then expanded on by Stephanie Kelton. The fact that Keen is quoting Kelton provides some insight into where he gets his conclusions from. For Keen and Kelton make the same mistake of looking at government financing as a one-time event that does not include time lags that account for tax collection, other revenue, and security sales by the federal government for government expenditure. Although Kelton is aware of these time lags, she simply ignores them when trying to sell the fallacious MMT STAB belief, as for Keen he has told me directly that the time lags don't matter!

I also critique Kelton's paper 244, the video provides some insight, but the meat is in the pdf supplements that accompany it.

<https://youtu.be/tYNIIT8M0fA>

Both these claims stem from Eder's failure to understand double-entry bookkeeping, and the dynamics of government financing.

Again, with the double entry red herring.

**Tell me you don't understand DEB, without saying "I don't understand DEB"**

Establishing that Eder doesn't understand double-entry bookkeeping is easy. The following quote is from his document [CRF.PDF](#) (which is attached to this post on Patreon—it's very difficult to find where documents are located on [his website](#)):

When the federal government runs a budget deficit, to make up the shortfall it issues securities, bonds and treasury bills. **When securities are first issued by the government, the BoC and commercial banks create new money the same way a commercial bank does when issuing a loan to you or me.** (Emphasis added)

This is completely wrong: the actions he notes don't create money, and are in no way comparable to how a commercial bank loan creates money—and it's easy to show this using double-entry bookkeeping.

**Keen is completely wrong, and the document already referred to comes from the Canadian Library of Parliament which shows how money is created for the government using double entry bookkeeping.**

<https://img1.wsimg.com/blobby/go/ff93be0f-e4df-4288-8750-c2891b9cb7ea/downloads/BoC%20and%20Commercial%20banks%20create%20money%20for%20the%20.pdf?ver=1658328192936>

In addition, Micheal Kumhof someone that Keen respects confirms these operations in an email exchange I had with him. “Whenever banks purchase any securities, they pay by creating new deposits” – Micheal Kumhof, it is also supported by other publications like Where Does Money Come From, Page 57 and Modernising Money, page 62

Figure 1 shows what bank loans and their repayment do. New loans add **Lend** dollars per year to the banking sector's Liabilities of *Deposit* accounts, and **Lend** dollars per year to the banking sector's Assets of *Loans*—thus creating both money and debt. Repayment of old loans remove **Repay** dollars per year from both bank Assets and bank Liabilities—thus destroying both money and debt.

Figure 1: Bank Loans create Assets and Liabilities simultaneously

Flows ↓ / Stock Vars →	Asset			Liability	Equity	A-L-E
	Reserves ▼	Bonds <sub>Banks</sub> ▼	Loans ▼	Deposits ▼	Equity <sub>Banks</sub> ▼	0
Initial Conditions	0	0	0	0	0	0
Make new Loans			Lend	Lend		0
Repay old Loans			-Repay	-Repay		0

Crucially, the general rule for money creation applies: **Lend** and **Repay** occur on both the Asset and the Liability side of the banking sector's ledger. Therefore, the former operation creates money, and the latter destroys it.

Figure 2 shows the operations that Eder says create money—the government issuing securities (selling them to Banks), and the Central Bank's bond purchases of bonds from private banks (which I presume is the point of him mentioning the BoC in that quote).

Wrong Steve, the operations that I claim create money include both the BoC and commercial banks acquiring security issues directly from the government. Not the BoC acquiring government securities from the secondary market???

***Both these operations happen only on the Asset side of the Banking Sector's ledger, and therefore do not create money.***

Incorrect, these operations happen on both sides of the primary banking sector's ledger. Banks do not purchase securities with existing reserves in the primary market as incorrectly shown in Keen's Fig. 2. New money is created in exchange for the securities as the following two screenshots confirm from the thrice referred to document from the Canadian Library of Parliament.

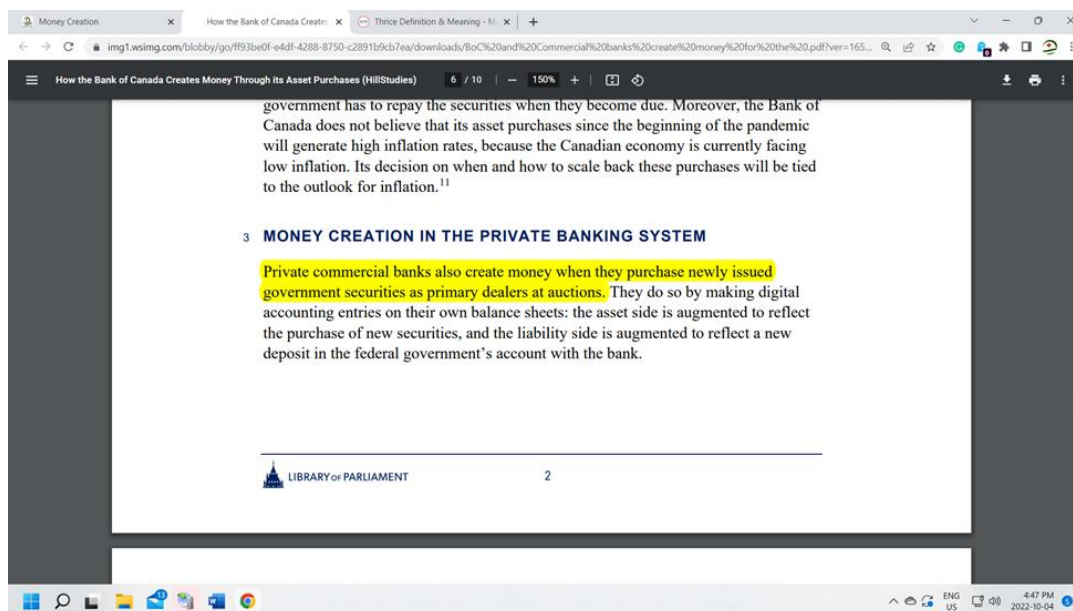


Table 2 illustrates how the balance sheets of a private commercial bank and a private entity are affected when that bank gives a new loan to the private entity.

**Table 2 – Money Creation in the Private Banking System**

Balance Sheet	Type of Entry	
	Asset	Liability
Private commercial bank	Loan to the private entity	Deposits created for the private entity
Private entity	Deposits at the commercial bank	Loan from the commercial bank

Note: When a private commercial bank provides a new loan to a private entity, it simultaneously records the value of the loan as an asset on its balance sheet and records the deposits created for the private entity as a liability on its balance sheet. On the balance sheet of the private entity, the deposits at the commercial bank are recorded as an asset and the loan from the commercial bank is recorded as a liability.

Source: Table prepared by the Library of Parliament.

Steve, you could convince me if you showed me data that proves primary dealers use existing reserves to purchase government securities upon initial issue. Do you have anything like that?

Figure 2: Treasury Bond sales to banks and Central Bank Bond purchases from banks

Flows ↓ / Stock Vars →	Asset			Liability	Equity	A-L-E
	Reserves ▼	Bonds <sub>Banks</sub> ▼	Loans ▼	Deposits ▼	Equity <sub>Banks</sub> ▼	O
Initial Conditions	0	0	0	0	0	0
Treasury sells Bonds to Banks	-Bonds	Bonds				0
Central Bank buys Bonds from Banks	Buy <sub>CB</sub>	-Buy <sub>CB</sub>				0

The government action which does create money, and which Eder misunderstands, is running a budget deficit, as shown in Figure 3.

Incorrect, and this is where Keen really falls off the rails. Figure 3 along with his text completely misrepresents what the deficit is and how it relates to money creation. The deficit does nothing in and of itself. The deficit is the projection of a shortfall in funding for government expenditure. Keen is either being purposely obtuse or actually believes this nonsense. Once a budget has been approved by parliament it is only then that the money creation process begins, a simple operational fact.

Figure 3: Running a Deficit as well as selling Bonds

Flows ↓ / Stock Vars →	Asset			Liability	Equity	A-L-E
	Reserves ▼	Bonds <sub>Banks</sub> ▼	Loans ▼	Deposits ▼	Equity <sub>Banks</sub> ▼	0
Initial Conditions	0	0	0	0	0	0
Government runs a deficit	Deficit			Deficit		0
Treasury sells Bonds to Banks	-Bonds	Bonds				0
Central Bank buys Bonds from Banks	Buy <sub>CB</sub>	-Buy <sub>CB</sub>				0

A deficit increases bank **Deposits**, which are Liabilities of the Banking Sector, and increases bank **Reserves** as well, which are Assets of the Banking Sector. Whatever Eder thinks is the causal sequence between taxes, bonds and deficits, deficits can't be omitted from working out how money is created by the government. **And it is the actual act of the deficit, not the taxation nor bond sales, which creates money.**

Incorrect, notice the backward use of language Keen employs “**And it is the actual act of the deficit**”. This is so silly, so MMTish, who could fall for this gibberish? The deficit in and of itself does nothing! As a result of a projected budget deficit, bonds are issued by the government to cover the shortfall of funds. A budget is tabled in Parliament, the amount of taxation and other revenue is calculated, once the amount of the deficit is determined, the appropriate amount of government securities are issued to cover the shortfall of funds for government spending. The proceeds of those securities sales enter the CRF for government spending. It is only then that the government can spend.

A generous interpretation of Eder's statement is that he is asserting that bank loans create money in one operation—the addition of **Credit** dollars per year to the money supply, as shown in the first line of Figure 4—whereas bond sales do it in two steps: **firstly**, bonds are sold, **then** the government creates money by using the proceeds of the bond sales to run a deficit. This proposition is illustrated by the second and third lines in Figure 4.

No, I do not assert this and figure 4 can be ignored. It can also be ignored for other reasons already given.

Figure 4: Comparing bank loans to the public to banks buying bonds from the Treasury

Flows ↓ / Stock Vars →	Asset			Liability	Equity	A-L-E
	Reserves ▼	Bonds <sub>Banks</sub> ▼	Loans ▼	Deposits ▼	Equity <sub>Banks</sub> ▼	0
Initial Conditions	0	0	0	0	0	0
Net Lending by banks			Credit	Credit		0
Government bond sales	-BondSales	BondSales				0
Government Deficit	Deficit			Deficit		0



Eder's assertion that operations **must** occur in this order stem from his very literal reading of Canadian law and regulations. In the quote below, CRF stands for "the Consolidated Revenue Fund (CRF), at the Bank of Canada":

The Federal Government raises funds in 3 ways, taxation, revenue from its Crown corporations, and by issuing securities. The proceeds from all 3 of these methods enters the CRF where a daily cash balance is maintained to meet the needs of Government spending. **Money must be in the CRF before the Federal Government can spend.** ([CRF.PDF](#); emphasis added)

Eder's assertion that "Money must be in the CRF before the Federal Government can spend" is completely true—and this supports MMT's **S(TAB)** perspective,

Is Keen reading what he is writing? On the one hand he is agreeing with me that money must be in the CRF before the Federal Government can spend, and on the other hand claims that it supports STAB.

rather than Eder's **(TAB)S**. Because in fact, sufficient funds **are** in the CRF before the deficit, as even a casual perusal of the Canadian Central Bank's data shows: as of September 2022 (the date of this post),

The fact that there are sufficient funds in the CRF are a result of taxing, other revenue, and borrowing, any money creation occurs before entering the CRF and supports TABS. Spending occurs only after funds enter the CRF opposite of STAB. Is Keen really that blind to this reality? Or is it something else?

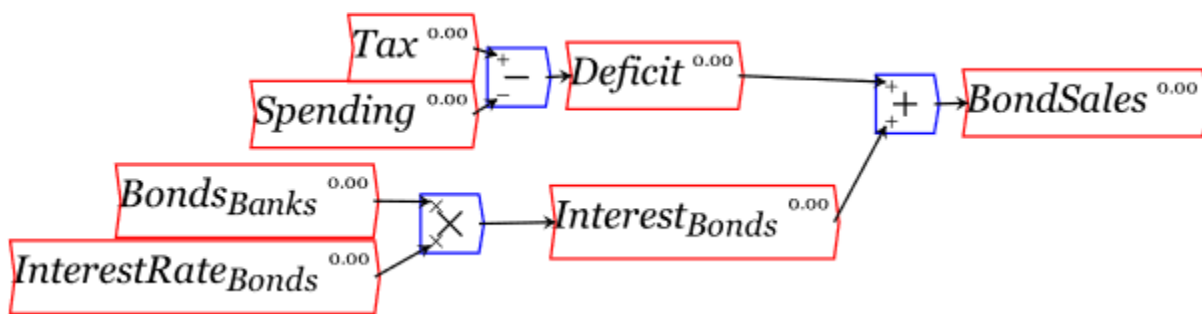
[the CRF has roughly 100 billion Loonies in it.](#)

Practically, the bureaucrats who enforce the laws that Eder focuses upon are following a simple rule:

I am focusing on the process which have provable sequential steps, not some ill-conceived belief in STAB.

given the net spending and interest-payment plans that the government currently has, issue sufficient bonds to cover this on a weekly (or even day-to-day) basis. Figure 5 shows this arrangement as a *Minsky* flowchart.

Figure 5: The bond sale planning process, shown as a Minsky flowchart





The requirements that Eder reads literally as meaning that spending (tomorrow) must be pre-financed by taxes or bond sales (today),

Correct!

in fact requires that [bond auctions at a given time are matched to the expenditure scheduled for that time.](#)

Correct! But this is not a simultaneous process, the shortfalls in funding for government expenditure are forecast, followed by security issues to cover that shortfall. Managing The Federal Governments Cash Balances is an excellent document that provides clear insight into the process. I have highlighted all the pertinent passages for ease of reference.

<https://img1.wsimg.com/blobby/go/ff93be0f-e4df-4288-8750-c2891b9cb7ea/downloads/managing%20the%20federal%20governments%20cash%20balances.pdf?ver=1658328191939>

This is already understood and acknowledged by MMT proponents. As Stephanie Kelton puts it in *The Deficit Myth*, where she describes reserves as "green dollars" and bonds as "yellow dollars",

For more than a hundred years, the government has chosen to sell US Treasuries in an amount equal to its deficit spending.

Correct again you are on a roll! However, when the US Treasuries are sold the proceeds of those sales go into the operating cash balance (OCB) of the Treasury's General Account (TGA) before the federal government spends. Government spending and money creation do not occur simultaneously! "Government spending creates money" - Keen

**DAILY TREASURY STATEMENT**  
Cash and debt operations of the United States Treasury  
Monday, October 3, 2022  
(Detail, rounded in millions, may not add to totals)

**TABLE I - Operating Cash Balance**

Cash Balance Details	Today	This month	This fiscal year
Treasury General Account (TGA) Opening Balance	\$ 635,994	\$ 635,994	\$ 635,994
Total TGA Deposits (Table II)	47,251	47,251	47,251
Total TGA Withdrawals (Table II (-))	52,273	52,273	52,273
Treasury General Account (TGA) Closing Balance	\$ 630,972	\$ 630,972	\$ 630,972

**TABLE II - Deposits and Withdrawals of Operating Cash**

Deposits	Today	This month to date	Fiscal year to date	Withdrawals	Today	This month to date	Fiscal year to date
Treasury General Account (TGA)	41,638	41,638	41,638	Treasury General Account (TGA)	0	0	0
Cash/TTD Receipts (Table I)	37	37	37	Corporation for Public Broadcasting	16	16	16
Dept of Agriculture (USDA) - misc	0	0	0	Defense Vendor Payments (DVT)	86	86	86
USDA - Commodity Credit Corporation	0	0	0	Dept of Agriculture (USDA) - misc	53	53	53
USDA - Federal Crop Insurance Corp Fund	41	41	41	USDA - Child Nutrition	13	13	13
USDA - Loan Repayments	25	25	25	USDA - Commodity Credit Corporation	89	89	89
Dept of Commerce (DOC)	79	79	79	USDA - Federal Crop Insurance Corp Fund	37	37	37
Dept of Energy (DOE)	52	52	52	USDA - Loan Payments	15	15	15
Dept of Health & Human Serv (HHS) - Misc	10	10	10	USDA - Other Farm Service	22	22	22
HHS - Medicare Receipts	0	0	0	USDA - Support Nutrition Assist Prog (SNAP)	1,089	1,089	1,089
HHS - Medicare Premiums	29	29	29	USDA - Support Nutrition Assist Prog (SNAP)	9	9	9
HHS - Customs and Certain Excise Taxes	544	544	544	Dept of Education (ED)	818	818	818
HHS - Fed Emergency Mgmt Agency (FEMA)	17	17	17	Dept of Energy (DOE)	104	104	104
HHS - Social Security	18	18	18	Dept of Health & Human Serv (HHS) - Misc	9	9	9
HHS - Transportation Security Admin (TSA)	5	5	5	HHS - Centers for Disease Control (CDC)	39	39	39
Dept of Housing & Urban Dev (HUD) - misc	70	70	70	HHS - Federal Hospital Insur Trust Fund	480	480	480
HUD - Federal Housing Admin (FHA)	0	0	0	HHS - Federal Supply Med Item Trust Fund	723	723	723
				HHS - Grants to States for Medicaid	468	468	468

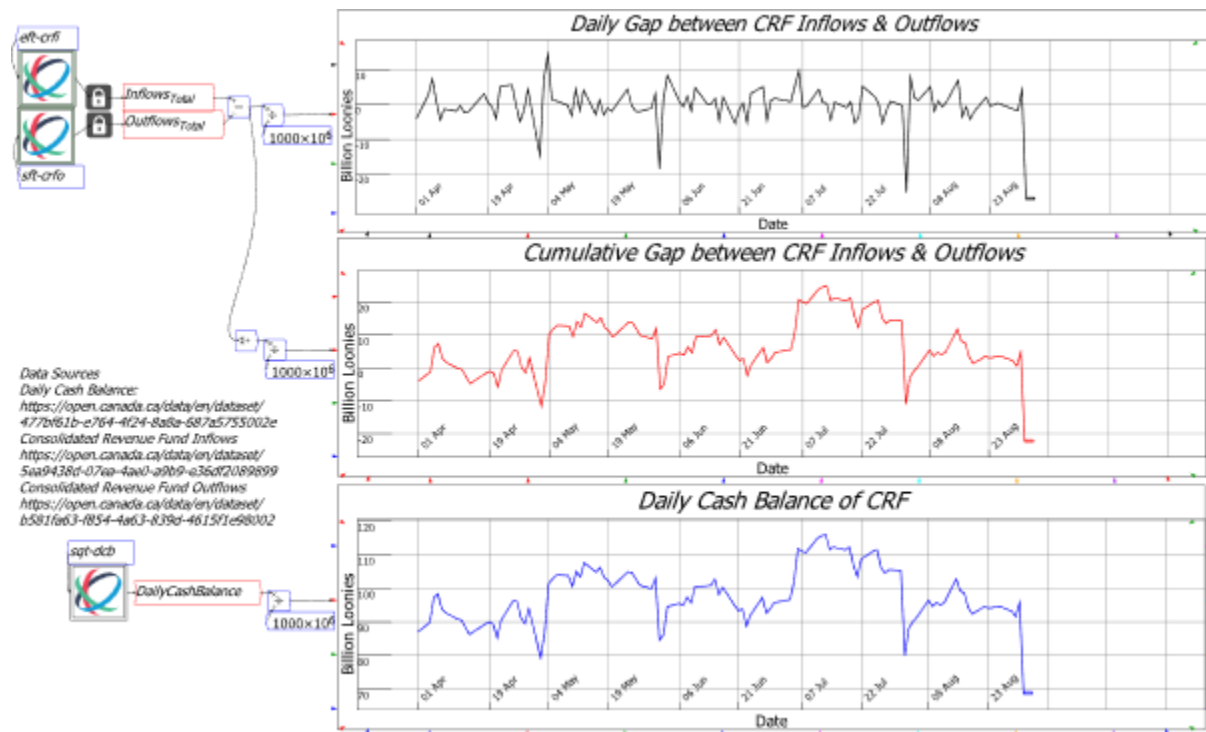
So, if the government spends \$5 trillion but only taxes \$4 trillion away, it will sell \$1 trillion worth of US Treasuries. What we call government borrowing is nothing more than Uncle Sam allowing people to transform green dollars into interest-bearing yellow dollars. (Kelton 2020, pp. 41-42)

Bond sales are planned well in advance, based on estimates of future expenditures and revenues, and the real-time matching isn't perfect—see Figure 5, which shows the gap between inflows and outflows, on a daily basis in the first plot, and cumulatively over the last six months in the second.

**But there is absolutely no chance that these mismatches will turn the CRF negative:** there is a huge buffer in the CRF itself, as the third plot in Figure 5 shows, which is roughly equal to [the entire 2021-22 deficit](#). So, Canada could run a deficit of the same scale again in 2022-23, without a single bond issue, and there would still be funds in the CRF.

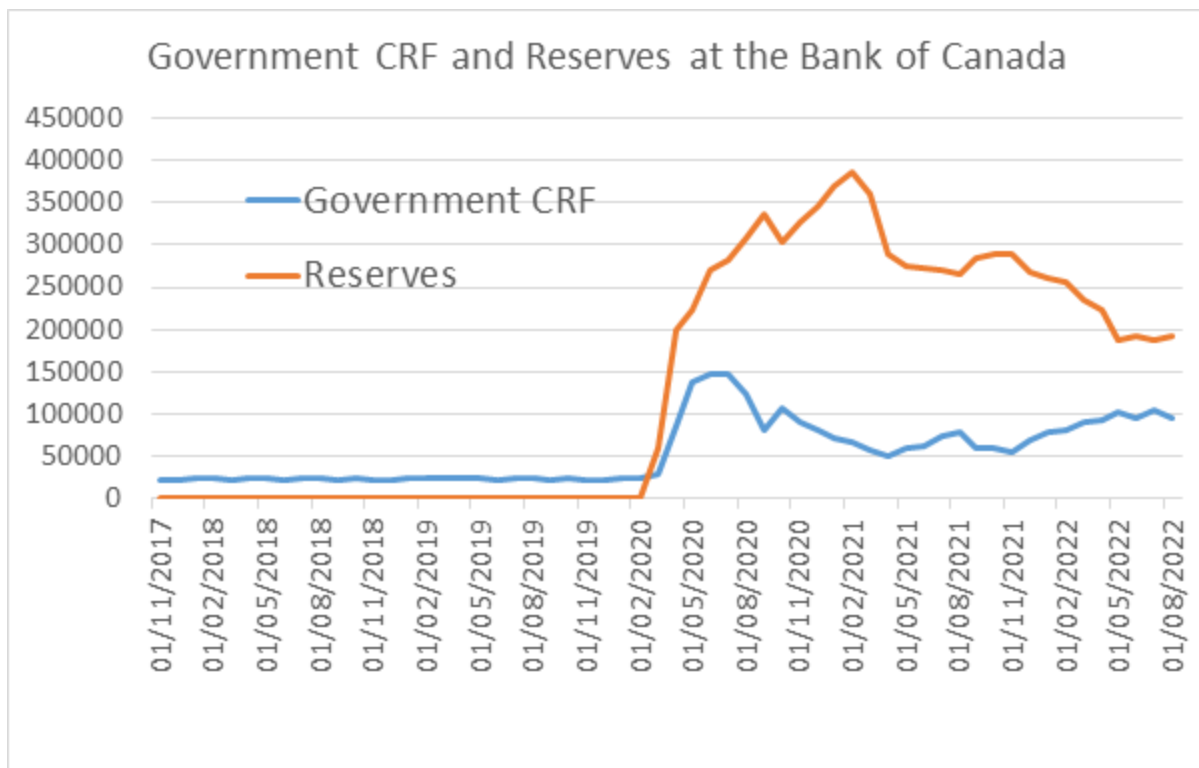
### Correct again! Which supports TABS

Figure 6: Inflows, Outflows, and the Daily Cash Balance of the Canadian Consolidated Revenue Fund (in Ravel©)



Furthermore, the Government could issue twice as many bonds as its deficit, and there would still be buyers, because the Reserve accounts of private banks at the Bank of Canada are currently twice as high as the Government's CRF. This is admittedly an extraordinary circumstance—normally Reserves are very close to zero. But it is nonetheless a situation that is quite sustainable: it's been going on for almost three years now.

Figure 7: The Government's account and Bank Reserves as Bank of Canada Liabilities



As Figure 4 illustrates, banks buy bonds from the government using their Reserves. This raises two important questions that Eder fails to ask: where do Reserves come from, and are they money?

Incorrect, refer to the document already provided:

<https://img1.wsimg.com/blobby/go/ff93be0f-e4df-4288-8750-c2891b9cb7ea/downloads/BoC%20and%20Commercial%20banks%20create%20money%20for%20the%20.pdf?ver=1658328192936>

#### **Reserves aren't Money, and Government Bonds aren't Debt**

In Canada, reserves are referred to as settlement balances and are used to settle interbank payments, money for banks. In the real-world government issue bonds are considered debt because the principal and interest must be paid back by the government if held by a private entity (bank, business, or person). If the BoC holds them, it is a different story.

Money is the sum of the Liabilities (plus short-term Equity) of the banking sector, plus cash. Reserves are on the Asset side of the banking sector's ledger, and they can't be spent in the same way that money can. You can buy anything that is for sale with money. In contrast, there's very little that banks can do with Reserves, apart from transfer them between each other, and buy government bonds with them. Since Reserves are not money, a better term for them is "funds".

The key question is, since the Banking Sector uses **Reserves** to buy Government Bonds, **where do they get these Reserves from—in other words, how are Reserves created?**

In the primary market (where the federal government initially issues securities) new money is created, refer to document already provided, I don't think I need to show the link anymore. Securities floating around in the secondary market is another discussion. Reserves or in BoC parlance Settlement Balances are created by the BoC.

Figure 7 lays out the operations that create and destroy Reserves in **(TAB)S** order—Taxation first, then bond sales, and finally government spending, and the payment of interest on bonds. **All these operations emanate from the government.**

Figure 8: The operations of Taxing, Bond Sales, Government spending & Bond Interest payments in **(TAB)S** order

Figure 8 can be completely ignored, as already established when primary dealers acquire newly issues bonds from the federal government new money is created. The bonds are not purchased with existing funds. Taxes (deposits at commercial banks) are collected and remain in the CRF for a short period of time and then re-enter the banking sector via spending, the money is not destroyed, rather it is recirculated.

Flows ↓ / Stock Vars →	<b>Banking Sector</b>					
	Asset			Liability	Equity	A-L-E
	Reserves ▼	Bonds <sub>Banks</sub> ▼	Loans ▼	Deposits ▼	Equity <sub>Banks</sub> ▼	0
Initial Conditions	0	0	0	0	0	0
Government Taxes	-Tax			-Tax		0
Treasury sells Bonds to Banks	-SellBonds	SellBonds				0
Central Bank buys bonds from Banks	BuyBonds <sub>CB</sub>	-BuyBonds <sub>CB</sub>				0
Government spends	Spending			Spending		0
Government pays interest on bonds	Interest				Interest	0

The negative entries for **Reserves** in Figure 5 are **Tax**, and **SellBonds**. The former destroys **Reserves** and **Deposits**, the latter swaps **Reserves** for Bonds of an equivalent value. The positive entries are **BuyBondsCB**, **Spending** and **Interest**. **BuyBondsCB** is financed by the Central Bank, Government **Spending** and **Interest** are financed by the Treasury.

Therefore, **the funds that the banks use to buy government bonds are created by the government itself.**

Incorrect! As already established in my comments.

It's sheer semantics to describe this as the government borrowing from the banks, and it's a failure of intellect to treat this—as both mainstream economists and Eder do—as equivalent to the private sector's borrowing from banks.

Steve, a finely crafted insult, good for you! Let's get back to the topic at hand. The semantics here are ultra important for they determine the start point of new money creation. Mainstream economists with all their short comings do get this one right.

Instead, it's an asset swap: the banks swap **Reserves**, which (normally) earn no interest, and can't be traded, for **Bonds**, which do earn interest, and can be traded.

Do I need to say it again, in the primary market, it is not an asset swap, new money is created.

Why do both parties take part in this swap? For the banks, it's a no-brainer: you swap a non-tradeable, non-income-earning asset for a tradeable, income-earning one. Here is a simple personal analogy for this situation:

Imagine that someone gives you \$1 million, but says that you can't do anything with it, because you're holding it in trust for other people. Bummer!

But then the same person says "You can use this \$1 million to buy bonds from me, on which I'll pay you 3% interest, and you can spend the interest income as you wish." Do you take the offer? You'd be an idiot not to! It turns a barren asset into one earning \$30,000 a year for you.

But are you lending \$1 million to the person who gave you the \$1 million in the first place? No way: you're converting his gift to you from a dead asset to a live one.

Therefore, the government isn't borrowing "money"—or even "funds"—from the private banks when it sells bonds to them. Instead, it's letting the private banks swap one asset,

**Reserves, which the government has created**, for another asset—**Bonds, which the government also creates**—that is more valuable to the banks.

Reserves (Settlement Balances) are created by the BoC, the BoC is not the government, a very important distinction. The BoC is the government's bank, however, it is also the commercial banker's bank, and one must know how the BoC differs from commercial banks and its separation of powers.

<https://progressivemoney.ca/our-central-bank>

The banks obviously gain from this transaction, but what does the government get out of it? There are two benefits for it, one operational, the other social.

The social benefit is that, as badly as they have behaved in terms of pumping private debt (Keen 1995), private banks also maintain the payment system that is fundamental to the operation of a capitalist

economy. It costs money to maintain this system: the bank accounts, the branches, the ATM machines, etc. Banks make some (a lot!) of money out of transaction fees, but these fees would be higher still if the banks only received non-income-earning Reserves because of government money creation. Interest-earning bonds compensate the banks, to some extent, for the costs of maintaining the payments system.

The operational benefit is that, without the bond sales, the Consolidated Revenue Fund would ultimately turn negative. Since the laws of Canada, and of almost all other countries, ban the Treasury from running an overdraft with the Central Bank, to conform with these laws, the Treasury must sell bonds to the banks. This, and not borrowing money from the banks to finance its spending, as Eder claims, is the primary function of government bond sales.

Incorrect, the primary function of federal government bond issues is to raise money to cover the projected shortfall of funds for government expenditure.

Statement by Nathalie Gauthier, Manager of Consultations and Communications Branch of the Department of Finance Canada, dated October 9, 2020:

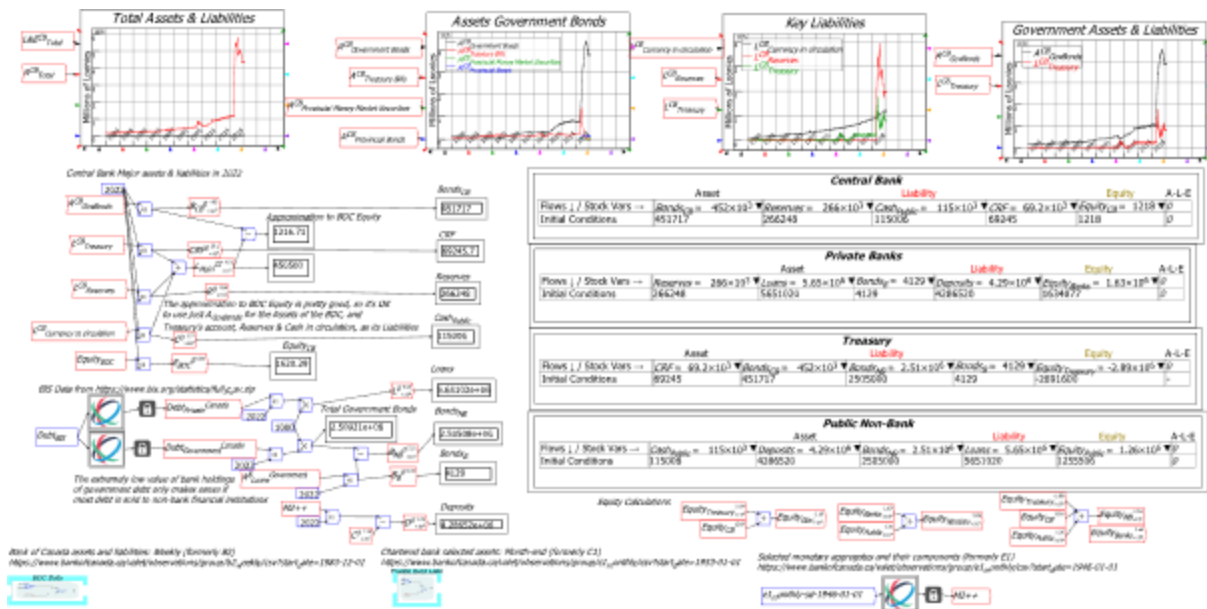
To make up the shortfall between the revenue and spending, the Government of Canada issues bonds and treasury bills to raise the necessary funds. The Bank of Canada, as the Government of Canada's fiscal agent, conducts auctions on behalf of the Government where these securities are sold. The funds raised through the sale of the Government of Canada securities flow into the Receiver General account. From there, these funds are used to finance program payments or extinguish obligations due.

All spending undertaken by the Government is financed in advance.

#### **The dynamic bottom line**

To see this properly, we have to see the entire financial system as an integrated whole—so I've built a simple Minsky model to illustrate the role of government bond sales. To keep this post focused on Canada, I've used a commercial extension to *Minsky* called *Ravel*© to extract data from the Bank of Canada and the Bank of International Settlements in 2022—see Figure 9.

*Figure 9: The Ravel© file collating monetary data from the Bank of Canada and the BIS*



This 2022 data then provides the initial conditions for a simple 8-Asset/Liability view of the financial dynamics of the Canadian economy. Those 8 Assets/Liabilities are:

1. The CRF (69 billion Loonies; BOC data);
2. Bonds owned by the Central Bank (451 billion; BOC data);
3. Bonds owned by private Banks (4 billion; BOC data—this seems very low, but it's what the BOC reports);
4. Bonds owned by NBFIs, other non-banks, non-Canadian buyers, etc. (implied by subtracting BOC data from BIS data);
5. Bank Reserves (226 billion; BOC data);
6. Bank Loans to the non-bank public (5651 billion; BIS data);
7. Bank Deposits of the non-bank public (4280 billion; BOC data); and
8. Cash held by the non-bank public (115 billion; BOC data)

Figure 10: The initial conditions for the model, based on 2022 Canadian Data



**Private Banks**

	Asset			Liability	Equity	A-L-E
Flows ↓ / Stock Vars →	Reserves ▼	Loans ▼	Bonds <sub>B</sub> ▼	Deposits ▼	Equity <sub>Banks</sub> ▼	0
Initial Conditions	266248	5651020	4129	4286520	1634877	0

**Central Bank**

	Asset		Liability		Equity	A-L-E
Flows ↓ / Stock Vars →	Bonds <sub>CB</sub> ▼	Reserves ▼	Cash <sub>Public</sub> ▼	CRF ▼	Equity <sub>CB</sub> ▼	0
Initial Conditions	451717	266248	115006	69245	1218	0

**Treasury**

	Asset			Liability		Equity	A-L-E
Flows ↓ / Stock Vars →	CRF ▼	Bonds <sub>CB</sub> ▼	Bonds <sub>B</sub> ▼	Bonds <sub>NB</sub> ▼	Equity <sub>Treasury</sub> ▼	0	
Initial Conditions	69245	451717	4129	2505000	-2891601	0	

**Non-Bank Public**

	Asset			Liability	Equity	A-L-E
Flows ↓ / Stock Vars →	Deposits ▼	Cash <sub>Public</sub> ▼	Bonds <sub>NB</sub> ▼	Loans ▼	Equity <sub>Public</sub> ▼	0
Initial Conditions	4286520	115006	2505000	5651020	1255506	0

The model focuses primarily on government money creation and bond mechanics (though the modelling of private money creation is enabled too). The top table in Figure 11 shows the transactions in the Banking sector. The next three tables show the consequences of these transactions for the other sectors in the model: the Central Bank, the Treasury, and the Non-Bank Public.

Incidentally, Godley and Lavoie argued that every financial transaction must appear four times: twice for each of perspectives of the two entities involved in a transaction (Lavoie and Godley 2006). But in fact, in a fully integrated view of a monetary system, every transaction has to appear between four and eight times, depending on how many intermediaries it passes through. Welcome to octuple-entry bookkeeping!

*Figure 11: The financial dynamics in this simple model*

### Private Banks

Flows ↓ / Stock Vars →	Asset			Liability	Equity	A-L-E
	Reserves	Loans	Bonds <sub>B</sub>	Deposits	Equity <sub>Banks</sub>	0
Initial Conditions	266248	5651020	4129	4286520	1634877	0
Net lending		Credit		Credit		0
Interest on bank loans				-Int <sub>Loans</sub>	Int <sub>Loans</sub>	0
Net government spending	Deficit			Deficit		0
Bond sales to Banks	-Sell <sub>Banks</sub>		Sell <sub>Banks</sub>			0
Bank Bond Sales to NBFIs			-Sell <sub>NBFIs</sub>	-Sell <sub>NBFIs</sub>		0
BOC buys bonds from Banks	Buy <sub>CB</sub> <sup>Banks</sup>		-Buy <sub>CB</sub> <sup>Banks</sup>			0
BOC buys bonds from NBFIs	Buy <sub>CB</sub> <sup>NBFIs</sup>			Buy <sub>CB</sub> <sup>NBFIs</sup>		0
Bond interest to Banks	Int <sub>Bonds</sub> <sup>Banks</sup>				Int <sub>Bonds</sub> <sup>Banks</sup>	0
Bond interest to NBFIs	Int <sub>Bonds</sub> <sup>NBFIs</sup>			Int <sub>Bonds</sub> <sup>NBFIs</sup>		0
Bank spending				Spend <sub>Banks</sub>	-Spend <sub>Banks</sub>	0

### Central Bank

Flows ↓ / Stock Vars →	Asset		Liability		Equity	A-L-E
	Bonds <sub>CB</sub>	Reserves	Cash <sub>Public</sub>	CRF	Equity <sub>CB</sub>	0
Initial Conditions	451717	266248	115006	69245	1218	0
Net government spending		Deficit		-Deficit		0
Bond sales to Banks		-Sell <sub>Banks</sub>		Sell <sub>Banks</sub>		0
Bond interest to Banks		Int <sub>Bonds</sub> <sup>Banks</sup>		-Int <sub>Bonds</sub> <sup>Banks</sup>		0
Bond interest to NBFIs		Int <sub>Bonds</sub> <sup>NBFIs</sup>		-Int <sub>Bonds</sub> <sup>NBFIs</sup>		0
Central Bank Bond purchases	Buy <sub>CB</sub> <sup>Banks</sup>	Buy <sub>CB</sub> <sup>Banks</sup>				0
BOC buys bonds from NBFIs	Buy <sub>CB</sub> <sup>NBFIs</sup>	Buy <sub>CB</sub> <sup>NBFIs</sup>				0

### Treasury

Flows ↓ / Stock Vars →	Asset			Liability		Equity	A-L-E
	CRF	Bonds <sub>CB</sub>	Bonds <sub>B</sub>	Bonds <sub>NB</sub>	Equity <sub>Treasury</sub>	0	
Initial Conditions	69245	451717	4129	2505000	-2891601	0	
Bond sales to Banks	Sell <sub>Banks</sub>		Sell <sub>Banks</sub>			0	
Central Bank Bond purchases		Buy <sub>CB</sub> <sup>Banks</sup>	-Buy <sub>CB</sub> <sup>Banks</sup>			0	
BOC buys bonds from NBFIs		Buy <sub>CB</sub> <sup>NBFIs</sup>		-Buy <sub>CB</sub> <sup>NBFIs</sup>		0	
Net government spending	-Deficit				-Deficit	0	
Bond interest to Banks	-Int <sub>Bonds</sub> <sup>Banks</sup>				-Int <sub>Bonds</sub> <sup>Banks</sup>	0	
Bond interest to NBFIs	-Int <sub>Bonds</sub> <sup>NBFIs</sup>				-Int <sub>Bonds</sub> <sup>NBFIs</sup>	0	
Bank Bond Sales to NBFIs			-Sell <sub>NBFIs</sub>	Sell <sub>NBFIs</sub>		0	

### Non-Bank Public

Flows ↓ / Stock Vars →	Asset			Liability	Equity	A-L-E
	Deposits	Cash <sub>Public</sub>	Bonds <sub>NB</sub>	Loans	Equity <sub>Public</sub>	0
Initial Conditions	4286520	115006	2505000	5651020	1255506	0
Net lending	Credit			Credit		0
Interest on bank loans	-Int <sub>Loans</sub>				-Int <sub>Loans</sub>	0
Net government spending	Deficit				Deficit	0
Bank Bond Sales to NBFIs	-Sell <sub>NBFIs</sub>		Sell <sub>NBFIs</sub>			0
Bond interest to NBFIs	Int <sub>Bonds</sub> <sup>NBFIs</sup>				Int <sub>Bonds</sub> <sup>NBFIs</sup>	0
BOC buys bonds from NBFIs	Buy <sub>CB</sub> <sup>NBFIs</sup>		-Buy <sub>CB</sub> <sup>NBFIs</sup>			0
Bank spending	Spend <sub>Banks</sub>				Spend <sub>Banks</sub>	0

The part of the model that Eder thinks is not acknowledged by MMT—and is an "Achilles Heel" of government debt financing under the current banking system as well—is shown in Figure 12: the Treasury selling bonds equivalent to the deficit, plus interest on bonds, to the banks.

Of course, the issuing of bonds is equivalent to the deficit. What Keen and Kelton get confused on is the process and the timing. On the one hand Kelton and Keen agree with me.

Reference copy from the above passages.

Start of copied text:

The requirements that Eder reads literally as meaning that spending (tomorrow) must be pre-financed by taxes or bond sales (today),

Correct!

in fact requires that [bond auctions at a given time are matched to the expenditure scheduled for that time.](#)

Correct! But this is not a simultaneous process, the shortfalls in funding for government expenditure are forecast, followed by security issues to cover that shortfall. Managing The Federal Governments Cash Balances is an excellent document that provides clear insight into the process. I have highlighted all the pertinent passages for ease of reference.

<https://img1.wsimg.com/blobby/go/ff93be0f-e4df-4288-8750-c2891b9cb7ea/downloads/managing%20the%20federal%20governments%20cash%20balances.pdf?ver=1658328191939>

This is already understood and acknowledged by MMT proponents. As Stephanie Kelton puts it in *The Deficit Myth*, where she describes reserves as "green dollars" and bonds as "yellow dollars",

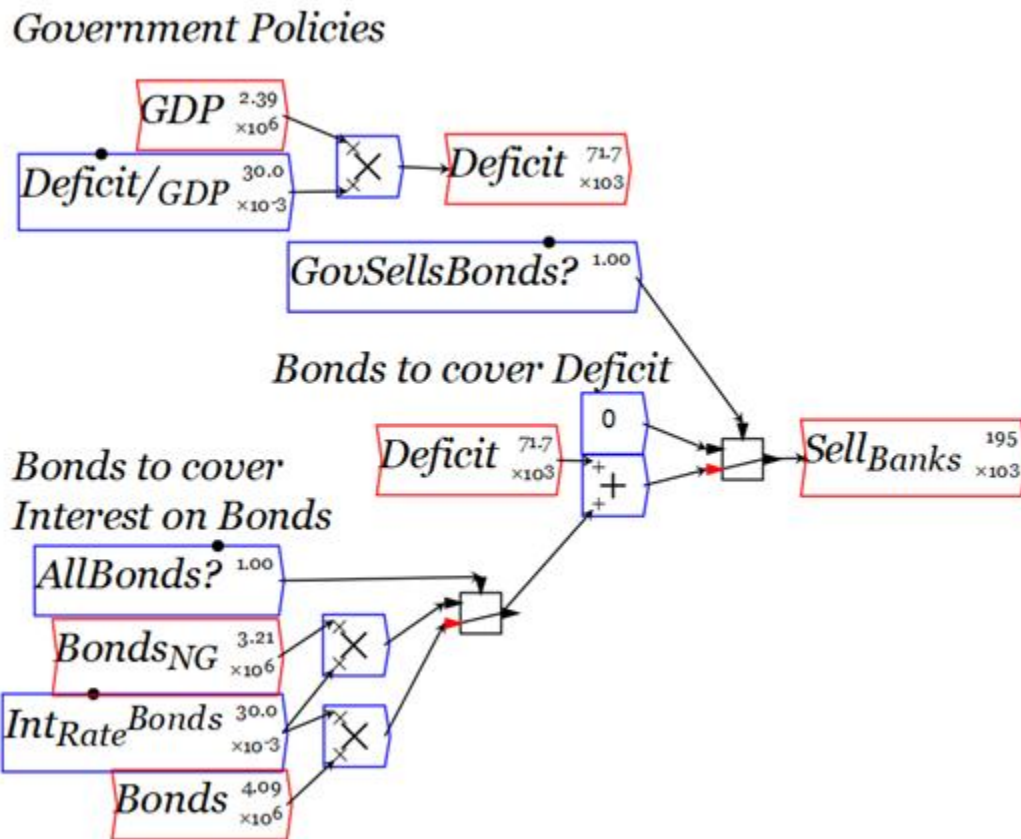
For more than a hundred years, the government has chosen to sell US Treasuries in an amount equal to its deficit spending.

Correct again you are on a roll! However, when the US Treasuries are sold the proceeds of those sales go into the operating cash balance (OCB) of the Treasury's General Account (TGA) before the federal government spends. Government spending and money creation do not occur simultaneously! ~~"Government spending creates money"~~ – Keen

End of copied text.

However, Keen creates a model that does not show the time lags between tax, other revenue, and securities issued from the federal government to cover any shortfalls for government expenditure. By doing this creates the illusion that all these events take place simultaneously and therefore allow the false impression that taxes are destroyed, and money is created instantly upon the government spending. This is completely false and feeds into the fallacious MMT STAB narrative.

Figure 12: Government issuing bonds equivalent to the Deficit plus interest on all existing bonds



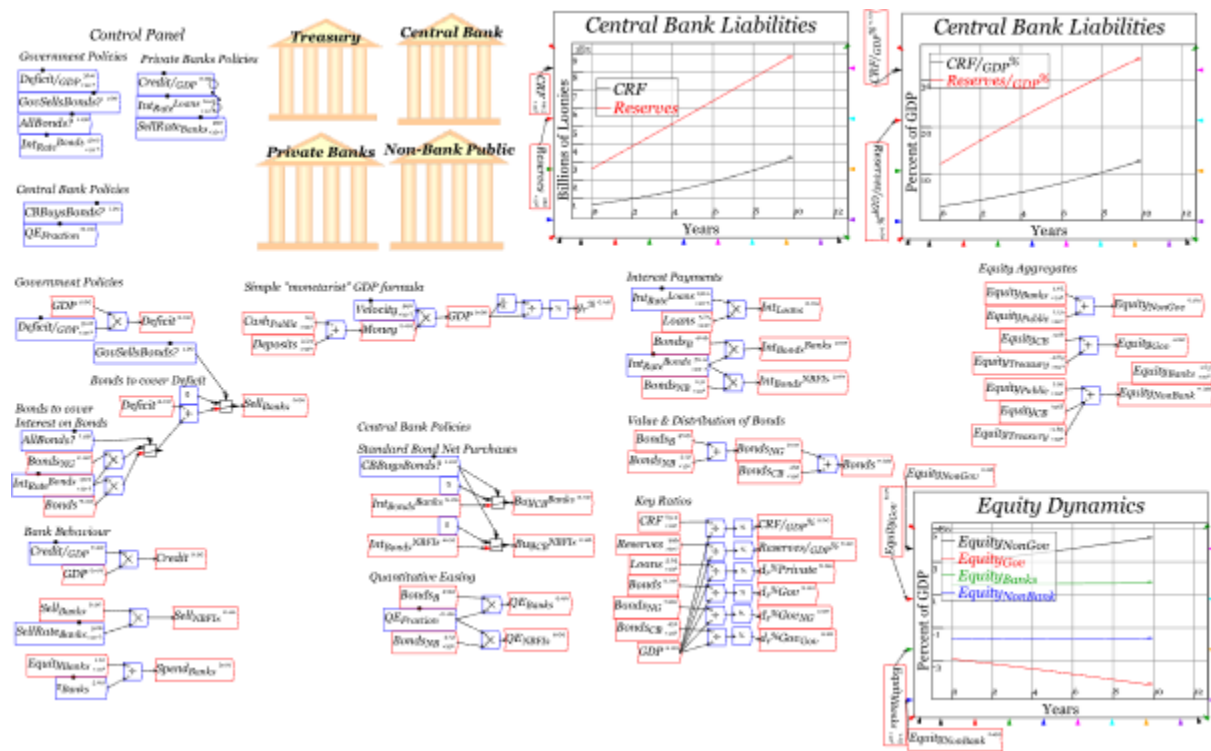
Not only is this actually acknowledged by MMT—as the quote from Stephanie Kelton indicates—it also is not an Achilles Heel, but a strength of the current system. As Figure 13 illustrates, the payment of interest on bonds actually creates Reserves (and adds to the CRF too, if the Central Bank net buys bonds from the banks and NBFIs).

The full (and still very simple) model is shown in Figure 13, in a run in which the Government runs a 3% of GDP deficit, issues bonds to cover the deficit and interest on all bonds (including those owned by the Central Bank, which the Treasury doesn't have to pay interest on—but given Central Bank

independence, the Treasury can't know in advance whether the Central Bank will keep its bonds, sell them all, or buy yet more in QE, etc.), and in which the Central Bank's net bond purchases were equal to the interest Treasury paid to Banks and NBFIs. Notice that these settings lead to **rising Reserves and a rising Consolidated Revenue Fund**.

There are many subtleties to the actual process of bond issuance and distribution that this simple model ignores (though a more sophisticated model could be built in Minsky fairly easily), but it indicates that what Eder and mainstream economists think is a problem for government finances is indeed a problem—but because it makes the **CRF** and bank **Reserves** rise too quickly! Interest payments on bonds add to bank Reserves, and the **CRF** rises because revenue from bond sales exceeds the outgoings (since some of the interest payments Treasury planned for weren't made because the Central Bank bought some of the bonds on the secondary market).

Figure 13: The full model showing 3% of GDP deficit, bond sales, and Central Bank bond purchases from Banks and NBFIs



Eder's concerns about government debt, and how deficits are financed, have the same root causes as the concerns of "Deficit Hawks" and mainstream economists: a failure to understand double-entry bookkeeping, and the fundamentals of the operation of a fiat currency.

I am very clear on my concerns about government debt and in Canada it is not a huge issue, unless you reside on the conservative right, or don't understand what our national debt is, or both.

<https://progressivemoney.ca/our-national-debt>

### Money Creating & Destroying Operations

Given the confusion that Eder's intervention has added to an already confused debate—

Here is a perfect example of projection, as you unnecessarily and incorrectly complicate the government financing process.

thanks to mainstream economists, who are one step worse than Eder, since he does understand private money creation—it's worth using the general rule about money creation and destruction to clarify what actions do and don't create (or destroy) money.

Leaving aside cash loans, and direct government payments of cash to the non-bank public, **to create money, an operation must increase both the Assets and Liabilities (or short-term Equity) sides of the banking system's ledger**. Conversely, this means that operations that occur exclusively on either the Assets side or Liabilities & Equity side neither create nor destroy money.

Already established, this is not an issue as I agree there must be an expansion of the balance sheet to create new money.

Applying this general insight clears up a lot of confusion about what does and doesn't create money. Figure 14 shows some significant actions that create or destroy money—with operations that create money shown in black, and those that destroy it in red:

- Bank loans create money, and repayment destroys it;
- Government spending creates money, and taxation destroys it;

Incorrect, and based on modelling that doesn't allow for time lags in money collection, creation, and distribution.

- Government deposits in government accounts with private banks creates money, and withdrawals destroy it;

Incorrect, government deposits in private banks do not create money. They are the result of redistributed taxes, other revenue from crown corporations, and the proceeds from securities issued by the federal government.

- Sales of bonds to non-bank financial institutions (NBFIs) destroy money, and sales by NBFIs to banks creates it;

Incorrect, in the first instance it is truly an asset swap, existing cash for the bond. In the second instance I am not entirely sure, it may be the case that banks create money when purchasing securities from NBFIs, I have no data to confirm or deny it.

- Government interest payments to banks and NBFIs create money;
- Quantitative Easing (the Central Bank buying bonds) with NBFIs creates money; and

The BoC does not deal directly with NBFIs, any transactions go through primary dealers representing NBFIs. The BoC creates settlement balances for primary dealers (mainly the large commercial banks) in exchange for government securities from the secondary market.

- Quantitative Tightening with NBFIs destroys it.

Again, the BoC does not deal directly with NBFIs although it would truly be an asset swap for the NBFIs. The NBFIs hands the bond over in exchange for the principal plus interest, and the bond is retired. There is a difference in how QT is implemented for High Value Payment System (HVPS) participants (Banks) and nonparticipants (households), however, this is beyond the scope of why I am here.

Figures 14 to 17 do not offer any further insight or relevance to this argument. My conclusion is located below Keen's reference page.

Figure 14: Operations that create and destroy money

Flows ↓ / Stock Vars →	Private Banks							
	Asset				Liability		Equity	A-L-E
	Loans	Reserves	Bonds <sub>B</sub>	Deposits <sub>P</sub>	Deposits <sub>G</sub>	Deposits <sub>NBFI</sub>	Equity <sub>Bank</sub>	Δ
Initial Conditions	0	0	0	0	0	0	0	0
New Loans	Lend			Lend				0
Repay Old Loans	-Repay			-Repay				0
Government spending		Spend		Spend				0
Government taxation		-Tax		-Tax				0
Government deposits		Deposit <sub>G</sub>			Deposit <sub>G</sub>			0
Government withdrawals		-Withdraw <sub>G</sub>			-Withdraw <sub>G</sub>			0
Bank bond sales to NBFIs			-Bond <sub>B</sub> <sup>NBFI</sup>			-Bond <sub>B</sub> <sup>NBFI</sup>		0
NBFI bond sales to Banks			Bond <sub>NBFI</sub> <sup>B</sup>			Bond <sub>NBFI</sub> <sup>B</sup>		0
Government interest payments to Banks		Int <sub>G</sub> <sup>B</sup>					Int <sub>G</sub> <sup>B</sup>	0
Government interest payments to NBFIs		Int <sub>B</sub> <sup>NBFI</sup>				Int <sub>B</sub> <sup>NBFI</sup>		0
Quantitative Easing with NBFIs		QE <sub>NBFI</sub>				QE <sub>NBFI</sub>		0
Quantitative Tightening with NBFIs		-QT <sub>NBFI</sub>				-QT <sub>NBFI</sub>		0

### Money or Asset Shuffling Operations

Conversely, Figure 2 lists economically significant transactions that don't create money, because they either:

- Shuffle money between bank liabilities, or
- Swap one form of bank asset for another



Figure 15: Operations that do not create or destroy money

Flows ↓ / Stock Vars →	<b>Banking Sector</b>							
	Asset		Liability		Equity	A-L-E		
	Reserves	Bonds <sub>B</sub>	Loans <sub>B</sub>	Households	Firms	Deposits <sub>G</sub>	Equity <sub>B</sub>	0
Initial Conditions	0	0	0	0	0	0	0	0
Loanable Funds Lending				-Lend <sub>LF</sub>	Lend <sub>LF</sub>			0
Loanable Funds Repayment				Repay <sub>LF</sub>	-Repay <sub>LF</sub>			0
Interest on Loanable Funds Loans				Int <sub>LF</sub>	-Int <sub>LF</sub>			0
Interest on Bank Loans					-Int <sub>L</sub>		Int <sub>L</sub>	0
Government purchases from Deposits					Buy <sub>G</sub> <sup>D</sup>	-Buy <sub>G</sub> <sup>D</sup>		0
Paying wages				Wages	-Wages			0
Paying dividends				Dividends	-Dividends			0
Consumption				-Consume	Consume			0
Bank spending					Spend <sub>B</sub>		-Spend <sub>B</sub>	0
Government Bond sales to banks	-Bond <sub>G</sub> <sup>B</sup>	Bond <sub>G</sub> <sup>B</sup>						0
Bank Bond sales to Government	Bond <sub>B</sub> <sup>G</sup>	-Bond <sub>B</sub> <sup>G</sup>						0
Central Bank bond purchases from banks	Bond <sub>CB</sub> <sup>B</sup>	-Bond <sub>CB</sub> <sup>B</sup>						0
Central Bank bond sales to banks	-Bond <sub>B</sub> <sup>CB</sup>	Bond <sub>B</sub> <sup>CB</sup>						0
Quantitative Easing with Banks	QE <sub>B</sub>	-QE <sub>B</sub>						0
Quantitative Tightening with Banks	-QT <sub>B</sub>	QT <sub>B</sub>						0

### My debts to Minsky and Graziani

I'll close by elaborating on my debts to Minsky and Graziani.

The former, with his "Financial Instability Hypothesis", provided the first cogent analysis and criticism of capitalism that made sense to me. I'd read lots of Neoclassical and Austrian paeans to and Marxist critiques of capitalism, all of which fell flat with me, because the former presumed that capitalism tended to equilibrium, while the latter saw a tendency to stagnation. Minsky, in contrast, argued that capitalism had a tendency to booms, and that debt finance and the boom's own dynamics were the causes of its periodic busts:

It follows that the fundamental instability of a capitalist economy is upward. The tendency to transform doing well into a speculative investment boom is the basic instability in a capitalist economy. (Minsky 1982, p. 67)

Having grown up in the boom years of the 1950s and 60s, Minsky's analysis resonated with me. I resolved to build a proper mathematical model of his hypothesis, and this launched my academic career (Keen 1995).

The lesser-known Augusto Graziani gave me the profound logical insight into money that enabled me to work out how to model its dynamics properly:

In order for money to exist, three basic conditions must be met:

- a) money has to be *a token currency* (otherwise it would give rise to barter and not to monetary exchanges);
- b) money has to be accepted *as a means of final settlement* of the transaction (otherwise it would be credit and not money);
- c) money must not grant privileges of seignorage to any agent making a payment.

The only way to satisfy those three conditions is to have payments made *by means of promises of a third agent*, the typical third agent being nowadays a bank. When an agent makes a payment by means of a cheque, he satisfies his partner by the promise of the bank to pay the amount due. Once the payment is made, no debt and credit relationships are left between the two agents. But one of them is now a creditor of the bank, while the second is a debtor of the same bank. This insures that, in spite of making final payments by means of paper money, agents are not granted any kind of privilege. For this to be true, any monetary payment must therefore be a *triangular transaction*, involving at least three agents, the payer, the payee, and the bank. (Graziani 1989, p. 3)

These insights enabled me to understand the dynamics of credit money creation, and they ultimately led to the development of my *Minsky* software.

*Minsky*, with its Godley Tables, is the first and only program to enforce the octuple-entry bookkeeping needed to understand how money is created, distributed, utilized, and destroyed. I recommend that anyone who wants to make **informed** comments on money creation download [Minsky](#) and [its manuals](#) and start learning how to use it.

**Appendix: Godley Tables using the accountant's DR & CR convention**

*Minsky* uses a simple + and – convention to label financial transactions, whereas accountants use the symbols **DR** and **CR** (Debit and Credit), with complicated rules about what is debited and what is credited. The accounting convention leads to a DR and CR pair on every line; *Minsky's* convention can lead to two pluses on one line (when the operation adds to Assets and Liabilities), or two minuses, as well as plus and minus pairs. I find *Minsky's* convention much easier to understand, but we also support showing transactions using DR and CR if desired.

Figure 16: Operations that create and destroy money

Flows ↓ / Stock Vars →	Private Banks							A-L-E
	Asset			Liability			Equity	
	Loans	Reserves	Bonds <sub>B</sub>	Deposits <sub>P</sub>	Deposits <sub>G</sub>	Deposits <sub>NBFI</sub>	Equity <sub>Bank</sub>	0
Initial Conditions	0	0	0	0	0	0	0	0
New Loans	DR Lend			CR Lend				0
Repay Old Loans	CR Repay			DR Repay				0
Government spending		DR Spend		CR Spend				0
Government taxation		CR Tax		DR Tax				0
Government deposits		DR Deposit <sub>G</sub>			CR Deposit <sub>G</sub>			0
Government withdrawals		CR Withdraw <sub>G</sub>			DR Withdraw <sub>G</sub>			0
Bank bond sales to NBFIs			CR Bond <sub>NBFI</sub>			DR Bond <sub>NBFI</sub>		0
NBFI bond sales to Banks			DR Bond <sub>NBFI</sub>			CR Bond <sub>NBFI</sub>		0
Government interest payments to Banks		DR Int <sub>G</sub> <sup>B</sup>					CR Int <sub>G</sub> <sup>B</sup>	0
Government interest payments to NBFIs		DR Int <sub>NBFI</sub>				CR Int <sub>NBFI</sub>		0
Quantitative Easing with NBFIs		DR QE <sub>NBFI</sub>				CR QE <sub>NBFI</sub>		0
Quantitative Tightening with NBFIs		CR QT <sub>NBFI</sub>				DR QT <sub>NBFI</sub>		0

Figure 17: Operations that do not create or destroy money

<b>Banking Sector</b>									
Flows ↓ / Stock Vars →	Asset			Liability			Equity	A-L-E	
	Reserves	Bonds <sub>B</sub>	Loans <sub>B</sub>	Households	Firms	Deposits <sub>G</sub>	Equity <sub>B</sub>	0	
Initial Conditions	0	0	0	0	0	0	0	0	
Loanable Funds Lending				DR Lend <sub>LF</sub>	CR Lend <sub>LF</sub>			0	
Loanable Funds Repayment				CR Repay <sub>LF</sub>	DR Repay <sub>LF</sub>			0	
Interest on Loanable Funds Loans				CR Int <sub>LF</sub>	DR Int <sub>LF</sub>			0	
Interest on Bank Loans					DR Int <sub>L</sub>		CR Int <sub>L</sub>	0	
Government purchases from Deposits					CR Buy <sub>G</sub> <sup>D</sup>	DR Buy <sub>G</sub> <sup>D</sup>		0	
Paying wages				CR Wages	DR Wages			0	
Paying dividends				CR Dividends	DR Dividends			0	
Consumption				DR Consume	CR Consume			0	
Bank spending					CR Spend <sub>B</sub>		DR Spend <sub>B</sub>	0	
Government Bond sales to banks	CR Bond <sub>G</sub> <sup>B</sup>	DR Bond <sub>G</sub> <sup>B</sup>						0	
Bank Bond sales to Government	DR Bond <sub>G</sub> <sup>G</sup>	CR Bond <sub>G</sub> <sup>G</sup>						0	
Central Bank bond purchases from banks	DR Bond <sub>CB</sub> <sup>B</sup>	CR Bond <sub>CB</sub> <sup>B</sup>						0	
Central Bank bond sales to banks	CR Bond <sub>B</sub> <sup>CB</sup>	DR Bond <sub>B</sub> <sup>CB</sup>						0	
Quantitative Easing with Banks	DR QE <sub>B</sub>	CR QE <sub>B</sub>						0	
Quantitative Tightening with Banks	CR QT <sub>B</sub>	DR QT <sub>B</sub>						0	

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## In Conclusion

Taxes and borrowing precede government expenditure (TABS) just as most people imagine it works.

Statement by Nathalie Gauthier, Manager of Consultations and Communications Branch of the Department of Finance Canada, dated October 9, 2020:

“To make up the shortfall between the revenue and spending, the Government of Canada issues bonds and treasury bills to raise the necessary funds. The Bank of Canada, as the Government of Canada’s fiscal agent, conducts auctions on behalf of the Government where these securities are sold. The funds raised through the sale of the Government of Canada securities flow into the Receiver General account. From there, these funds are used to finance program payments or extinguish obligations due.

**All spending undertaken by the Government is financed in advance.”**

Keen ignores the time lags between tax collection, other revenue, and securities issues from the federal government to cover the shortfalls for government expenditure. Creates a model where everything happens simultaneously then makes erroneous assumptions based on his false modelling. This belief originates with the fallacious MMT STAB hypothesis. Keen makes the same mistake as Kelton does in her 1998 working paper 244 Can Taxes and Bonds Finance Government Spending. By simultaneously viewing government spending with money creation, tax collection, and other revenue one can put the horse before the cart. However, both are aware of the time lags where Kelton simply ignores it when trying to sell the STAB hypothesis and Keen says the time lags don’t matter. How can Keen say that as he is making a time sensitive statement like “Government spending creates money” (implying government spending instantly creates money) is beyond me. Keen uses more verbal gymnastics to sell STAB, e.g. “***And it is the actual act of the deficit***”, the deficit is the projected shortfall in funding for government expenditure followed by security issues which cover that shortfall. I suspect Keen may have other motivation that keeps him parroting the STAB narrative, which I won’t get into here. Anyone who adopts the fallacious MMT STAB belief cannot be taken seriously when discussing government financing.

There are also other problems with so called MMT which can be researched on the Debunking MMT page.

<https://progressivemoney.ca/debunking-mmt>