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## Guest post: The helicopter can drop money, gather bonds or just fly away

**Guest writer** [Author alerts](#) Dec 12 2013 16:40 40 comments

*This a guest post by Stephanie Kelton, chair of the Department of Economics at the University of Missouri, Kansas City, who tweets under @stephaniekelton and Scott Fullwiler, associate professor of economics and James A. Leach chair in banking and monetary economics at Wartburg College.*

Paul Krugman pointed out in a recent post that whether a government finances itself through bond purchases, which are later bought by the Fed, or whether it prints money directly, makes no difference. The two are in effect the same. Some, however, still question this idea because they wrongly believe the Fed and the Treasury to be two separate entities. While this may be the case on paper, in reality they represent more of a married couple with a joint account than two separate entities.

To help explain, we've done some balance sheet exercises to show how it is that the ultimate outcome of bond-funded spending, whether QE supported or pure money printing, is the same.

Let's consider what happens when the government runs a deficit, selling bonds to offset the shortfall, while the Federal Reserve does QE.

Table 1 shows the following sequence of events: the T-bill sale, deficit spending, QE operation, Fed payment of interest on reserves (IOR), and then reduced Fed profits (as a result of IOR payments to banks) returned to the Treasury. In the final two rows shaded in green, we first sum up net changes to the parts of the balance sheet (the "total changes" row) and then add the total dollar-value change to each side of the balance sheet (the "total \$ change" row at the bottom).

**Table 1: Krugman's Case 1—Deficit with T-bill Sale and QE**

Private Sector		Banks		Dealer		Fed		Tsy	
Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq
		Res -10	Dep -10	Dep -10	Tbill +10		Res -10 Tsy Act +10	Tsy Act +10	Tbill +10
Dep +10	Eq +10	Res +10	Dep +10				Res +10 Tsy Act -10	Tsy Act -10	Eq -10
		Res +10	Dep +10	Dep +10	Tbill -10	Tbill +10	Res +10		
		Res +IOR	Eq +IOR				Res +IOR Eq -IOR		
							Tsy Act +(-IOR) Eq -(-IOR)	Tsy Act +(-IOR)	Eq +(-IOR)
Dep +10	Eq +10	Res +(10+IOR)	Dep +10 Eq +IOR			Tbill +10	Res +(10+IOR) Tsy Act +(-IOR)	Tsy Act +(-IOR)	Tbill +10 Eq -(10+IOR)
10+	10+	10+IOR	10+IOR	0	0	10+	10+	IOR-	IOR-

Because the Fed transfers (essentially) all of its profits to the Treasury, the actual transfer that would normally have occurred has been reduced by the quantity of IOR payments and is shown in the T-accounts as a negative IOR entry. Note also that the change in net financial equity of the non-government sector is necessarily the mirror image of that for the government sector, showing a positive IOR entry.

Now let's consider what happens when the government runs a deficit but does not sell bonds, instead financing all of its spending by "printing money" (i.e. with newly created base money).

Here we've assumed that the Fed provides the Treasury with an overdraft. This is currently not allowed by the Federal Reserve Act, which requires the Fed to make net purchases of Treasury debt in the "open market"—obviously a self-imposed constraint that has been lifted in the past and could be lifted again tomorrow if Congress chose to do so.

**Table 2: Krugman's Case 2—Deficit with No Bond Sale**

	Private Sector		Banks		Dealer		Fed		Tsy	
	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq
Govt Deficit w/o Bond sales	Dep +10	Eq +10	Res +10	Dep +10				Res +10	Tsy Act -10	Eq -10
								Tsy Act -10		
Overdraft at Fed							Tsy OD +10	Tsy Act +10	Tsy Act +10	Tsy OD +10
IOR			Res +IOR	Eq +IOR				Res +IOR		
								Eq +IOR		
Fed Profits to Tsy Reduced by IOR								Tsy Act +(-IOR)	Tsy Act +(-IOR)	Eq +(-IOR)
								Eq -(-IOR)		
Total Changes	Dep +10	Eq +10	Res +(10+IOR)	Dep +10			Tsy OD +10	Res +(10+IOR)	Tsy Act +10	Tsy OD +10
Total \$ Change	10+	10+	10+IOR	10+IOR	0	0	10+	10+	IOR-	IOR-

As can be seen from the accounts above, the end result is the same. There is virtually no macroeconomically significant difference between the Fed providing the Treasury with an overdraft versus the Fed owning the short-term debt of the Treasury—the Fed will return any interest it receives on the T-bill or the overdraft to the Treasury along with the rest of its profits.

Krugman makes pretty much the same point:

It doesn't take fancy analysis to make this point — just an acknowledgement that in financial terms, at least, the central bank is part of the government. The Fed, for example, remits the interest it earns on government debt to the government proper, keeping only that amount it needs for operations. So for the purpose of our analysis right now, we can use the term “the government” to include the central bank.

Given that the separation of the Fed and the Treasury is a mere political formality, an interesting though experiment would be to merge the accounts into a consolidated balance sheet, and then work through the scenarios again.

Here, consequently, we look at how such a consolidated balance sheet would deal with QE bond purchases:

**Table 3: Krugman's Consolidation for Case 1**

Private Sector		Banks		Dealer		Govt = Tsy + CB	
Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq
		Res -10	Dep -10	Dep -10			Res -10
				Tbill +10			Tbill +10
Dep +10	Eq +10	Res +10	Dep +10				Res +10
							Eq -10
		Res +10	Dep +10	Dep +10			Res +10
				Tbill -10			Tbill -10
		Res +IOR	Eq +IOR				Res +IOR
							Eq -IOR
Dep +10	Eq +10	Res +IOR	Dep +IOR				Res +(10+IOR)
							Eq -(10+IOR)
10+	10+	IOR+	IOR+	0	0	0	0

And now with money-printing:

**Table 4: Krugman's Consolidation for Case 2**

	Private Sector		Banks		Dealer		Govt = Tsy + CB	
	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq
Deficit	Dep +10	Eq +10	Res +10	Dep +10				Res +10
								Eq -10
IOR			Res +IOR	Eq +IOR				Res +IOR
								Eq -IOR
Total Changes	Dep +10	Eq +10	Res +IOR	Dep +IOR				Res +(10+IOR)
Total \$ Change	10+	10+	IOR+	IOR+	0	0	0	0

Which brings us to one of the central arguments of Modern Monetary Theory. When institutional formalities are removed and we look at the real mechanics of what's going on when the “the government” buys back its T-bill, it is as if it had never issued it in the first place.

Consequently, the fact that the government funds itself through bond sales serves a different purpose than one of pure financing.

Indeed, this is a point that has been shown by Kelton (then Bell) in this article, long before the Fed started doing QE (or running ZIRP): issuing bonds versus “printing money” doesn't matter because the government is the currency issuer, and so it obviously is not really “borrowing” even when it decides to issue Tbills.

But it does leave one question: why does a currency-issuing-government issue debt? Here again, consolidation helps us understand. Let's reconsider the third table but reorder the deficit and T-bill issue as in the table below:

Table 5: Consolidation with Deficit and Debt Issuance Reversed

	Private Sector		Banks		Dealer		Govt = Tsy + CB	
	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq
Deficit	Dep +10	Eq +10	Res +10	Dep +10				Res +10 Eq -10
Tbill sale			Res -10	Dep -10	Dep -10 Tbill +10			Res -10 Tbill +10
Interest on Tbill (itb)			Res +itb	Dep +itb	Dep +itb	Eq +itb		Res +itb Eq -itb
Total Changes	Dep +10	Eq +10	Res +itb	Dep +itb	Dep +(itb-10) Tbill +10	Eq +itb		Res +itb Tbill +10 Eq -(10+itb)
Total \$ Change	10+	10+	itb+	itb+	itb+	itb+	0	0

Here we see perhaps more clearly that the deficit creates reserves and deposits. Obviously this is an option available to a currency issuer without issuing debt first, whether via consolidation or via overdraft for the government’s Treasury to the government’s central bank if the government so allows.

But without IOR set at the targeted interbank rate, adding reserve balances causes the interbank rate to fall below the target rate, all the way to zero. The only alternative is to drain the reserve balances through sale of (in this case) Tbills if the government (or central bank if we aren’t consolidating) desires a positive interbank target rate. Thus, as Abba Lerner put it, the purpose of bond sales for a currency issuer isn’t “financing” but rather a desire that the public should hold bonds rather than reserve balances earning interest (i.e. IOR).

In other words, because there is no difference between bond- and money-financed government deficits in any of the three cases presented above, there is no reason for the government to sell bonds at all. We can stop today. No further increases in the debt and no unnecessary and counterproductive debt ceiling drama.

Furthermore, as Fullwiler later argued, there is no need for so-called coordination of monetary and fiscal policies for “money-financed deficits,” since this again operationally necessitates IOR at the central bank’s target rate (assuming the central bank’s target rate is above zero) which is the functional equivalent of simply issuing a T-bill in terms of the interest on the national debt. To illustrate this, Table 6 separates the Treasury and Fed while presenting all the transactions for such a scenario:

Table 6: Case 3 with Separate Treasury and Central Bank

	Private Sector		Banks		Dealer		Fed		Tsy	
	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq	Assets	Liabs/Eq
Tbill sale			Res -10	Dep -10	Dep -10 Tbill +10		Res -10 Tsy Act +10		Tsy Act +10	Tbill +10
Deficit	Dep +10	Eq +10	Res +10	Dep +10			Res +10 Tsy Act -10		Tsy Act -10	Eq -10
Interest on Tbill (itb)			Res +itb	Dep +itb	Dep +itb	Eq +itb	Res +itb Tsy Act -itb		Tsy Act -itb	Eq -itb
Total Changes	Dep +10	Eq +10	Res +itb	Dep +itb	Dep +(itb-10) Tbill +10	Eq +itb	Res +itb Tsy Act -itb		Tsy Act -itb	Tbill +10 Eq -(10+itb)
Total \$ Change	10+	10+	itb+	itb+	itb+	itb+	0		itb-	itb-

From the second to last row (total changes), the only difference between the above and our original money printing scenario (set out in the second table) is that interest on the T-bill in the former and IOR are the same as the Fed’s target rate in the latter. And of course, the T-bill and the Fed’s target rate will be very close via arbitrage.

What consolidation demonstrates is that the true significance of coordination is about how the central bank’s interest rate target will be achieved, not whether or not deficits are “money-financed.” With consolidation, “the government” has a choice to issue Tbills or to pay IOR—a choice that is for the purpose of achieving the interest rate target, not “financing.” When we consider separate fiscal and monetary authorities, now the two entities will coordinate how the interest rate target is achieved in the presence of deficits, or surpluses, for that matter, and this coordination can be necessary even at daily frequencies. This understanding of “coordination” is central to the paper by Kelton (then Bell) linked to above.

With the combination of QE and IOR at the target rate now in place, the Treasury has ceased its traditional role of aiding the Fed on a daily basis through its tax and loan accounts, although during the early stages of the crisis following Lehman’s collapse the Treasury used its Supplementary Financing Program to help the Fed drain some of the excess reserves created by the Fed’s various standing facilities beyond securities it would issue related to the deficit.

In our consolidated case, the Treasury is aiding the central bank in achieving the target rate by draining reserve balances.

Finally, if the Treasury were to receive a central bank overdraft as in the first money printing example but the central bank did NOT engage in QE, the Treasury would be inclined to issue bonds anyway so as to once mop that money up in a bid to influence rates. The alternative would be paying IOR on the private balances created to stop interest rates falling to zero or below. Another option would be for the central bank to issue its own securities or engage in reverse repos. Thus, the need for coordination to achieve the target interest rate exists even when the Treasury receives an overdraft from the central bank.

Of course, none of this means that a currency-issuing government *should* run large deficits, or that it always has an interest to do so. What it shows is that it can do so without worrying about bond vigilantes because the interest rate on the national debt for a currency-issuing government is either IOR—a policy rate—or the T-bill rate, which arbitrages with the policy rate. Splitting up the central bank

and Treasury doesn't change this, and neither does the self-imposed requirement that the Fed not provide the Treasury with overdrafts—which simply means that the Treasury can issue debt at *roughly* the Fed's target rate via Tbills.

Thankfully, Krugman is helping clear through decades of confused teachings in macroeconomics textbooks. While the US Treasury and the Federal Reserve are obviously separate institutions within the government, Krugman's analysis shows that it can be quite illuminating to look at the effects of their operations using a consolidated balance sheet. The main consequence is the knowledge that direct money printing would not provide a greater boost to the monetary base but that it would relieve the government from the practice of selling bonds altogether. In other words, the main advantages of direct money creation are political rather than economic.

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