

Treasury and the Central Bank – A Contingent Institutional Approach

Introduction

Fiscal policy includes federal spending on goods and services, taxing, and debt issuance. Monetary policy includes the management of a central bank that issues money claims to commercial banks, the Treasury, and the public. A sovereign state is responsible for fiscal and monetary policy, executed through treasury and central banking operations respectively.

Fiscal and monetary systems do not exist without specific institutional design. In this regard, there is a difference between the facts of actual institutional design, and conceptual distillations that infer hypothetical design. Any overall view of actual treasury and central banking operations should be portrayed accurately in this respect. For example, there is a difference between the consolidated view of separate Treasury and central bank institutions as they actually operate, versus the view of an implied but unstated counterfactual in the sense of a unified institution. The actual operation of separate institutions is not at all the same as that implied by a unified counterfactual institution.

For example, there is a difference between the actual case of a central bank both acquiring Treasury bonds and issuing currency, and the hypothetical case of a consolidated state entity that could in concept issue currency without being involved with bonds. The way in which we describe the real world of monetary operations should ensure the distinction between factual arrangements and such imagined ones. Such clarification is necessary for an accurate description of modern monetary operations. Conversely, confusing factual and hypothetical operations is a prescription for ambiguity and error in understanding this subject.

The phrase “currency issuer” has been popularized over the past several years in blogosphere discussion of fiscal and monetary operations. Although the term embeds a useful idea, it has become jargonized, with ambiguous inferences and murkiness of focus.

There are two general ways of looking at the idea of “currency issuer”:

First, there is the regular operational perspective, which describes institutional arrangements as a matter of going concern – arrangements which in the case of the USA for example have been put in place by Congress. In these arrangements, the US central bank is an operational currency issuer. It issues central bank notes, as well as liabilities in the form of bank reserves and US Treasury deposits, which are electronic variations of currency notes. The US Treasury is correspondingly an operational currency user, because it has a deposit account at the central bank for that purpose. (Treasury does issue coins, but their quantitative importance is relatively minor in the context of the full currency category.) On that basis, Treasury ranks *pari passu* operationally with the commercial banks, which have reserve accounts with the central bank. Treasury

practices the same cash management discipline that the banks do with their own reserve accounts. Treasury is expected to be an effective cash manager in the current system. Thus, the US Treasury is not a currency issuer at the operational level (except for coins), and this is an important point that has frequently been distorted in the use of the term as it applies to the USA.

Second, there is the contingent operational perspective. Using the USA as the example, Congress has the effective power to instruct the central bank and Treasury to do whatever it takes to ensure that the government can spend what has been approved by Congress, without regard to prevailing borrowing constraints or other rules, if such rules ultimately impede that responsibility under unusual conditions of financial stress. Normal operational constraints can in theory be swept aside by Congress at any time, if necessary. Existing modes of financial operation and existing institutional structure can be adjusted. Such changes can be made temporary or permanent. The range of potential remedies includes such actions as direct purchase of Treasury debt by the central bank or the recently proposed purchase of platinum coinage, with direct credit to the Treasury deposit account at the central bank in both cases. There are additional more radical institutional variations on this theme, discussed further below. Congressional power in this case is what distinguishes the US from Greece's inability to do the same thing with respect to its government spending. So the USA is a currency issuer because it has that full power over its operational monetary arrangements, and Greece is a currency user because it doesn't have it. In conjunction with the operational classifications above, we might say that the USA is a "strategic currency issuer" for the dollar and Greece is a "strategic user" of the Euro.

It is important that ambiguous jargon not cloud the description of the modern monetary system. Without more qualification, it is counterproductive to be using identical vocabulary (currency issuer) that at one time can be applied to a country (strategic) and at another time be applied to a central bank (operational). The USA is considered to be a currency issuer at the same time as the European Central Bank is considered to be a currency issuer. If the ECB is a currency issuer, why doesn't the Federal Reserve hold the same status? It does, of course. It is the primary operational currency issuer in the institutional arrangement in which the USA is the strategic issuer.

The operational nature of central banking is comparable as between Federal Reserve and ECB monetary operations. Both banks are currency issuers. But the contingent strategic perspective is remarkably different when measured in terms of relevant probabilities of the effectiveness of strategic or contingent action under financial stress, since prospects for the USA dealing with such circumstances are far more promising than the prospects for Greece in a comparable situation, notwithstanding comparable central banking actions that might be required in either case.

Treasury and the Central Bank – the USA example

The USA has separate Treasury and Federal Reserve institutions. They are separate in the sense of both policy responsibility and operational execution. The most obvious evidence for policy separation is that the Fed sets policy for the fed funds rate and Treasury sets policy for issuing debt. Some make the mistake of thinking that because the Fed and Treasury co-ordinate and exchange information on certain operational details, this suggests that the Fed is not independent. But this is not material to the

appropriate measure of Fed independence. The notion of independence applies to policy responsibility, not operational co-ordination that is mutually beneficial for the Fed and Treasury in the execution of their respective mandates. For example, the Fed is in regular contact regarding the Treasury's planned movement of funds between its Fed deposit account and the Treasury tax and loan accounts (TTL) sited at the commercial banks. But that has no bearing on the Fed's independence in setting monetary policy, including the target Fed funds rate. It is an information flow that helps with effective implementation of policy. Moreover, the Fed looks to the major commercial banks for comparable information regarding important cash flow items that may affect their reserve account positions.

Also, some think the fact that the Fed is accountable to Congress means the Fed is not independent. But the relevant context is the responsibility for monetary policy relative to fiscal policy. This obviously allows for fiscal information input when formulating appropriate monetary policy. As far as reports to Congress are concerned, the Fed Chairman is accountable for an explanation of how the Fed executes policy and operational responsibilities. But it isn't Treasury that the Chairman is accountable to.

It is important to be clear on the relevant scope for the definition of "currency" in the context of modern monetary operations. The term "currency" applies first to physical notes issued by the central bank. (It also applies to coins issued by Treasury, but this is a minor component in quantitative terms.) In a modern banking system, the idea of currency should apply as well to bank reserve balances at the central bank, since reserves are in effect an electronic substitute for physical notes. And for the same reason it should apply to Treasury's deposit balances with the central bank. They are also an electronic substitute for physical currency. (Treasury currently operates two such accounts at the Fed.) The central bank credits the Treasury account for incoming payment items cleared from bank reserves and debits it for items paid by Treasury to the banks. In a technologically primitive world, one might visualize commercial banks and Treasury settling such payments using central bank issued notes rather than electronic debits and credits.

Thus, the central bank issues notes, reserves, and government deposit balances as liabilities, and the public, the banks, and the Treasury make use of these notes and balances as a uniform category of currency issued by the central bank. Treasury is one of a number of operational currency users, and is not an operational currency issuer (except for coins).

Because the US Treasury is not an operational currency issuer, it obviously does not issue currency in conjunction with spending. It uses currency when it spends. There has been considerable confusion in some places on this point, extending to the characterization of government as an entity that issues currency as a result of spending. This is meaningless at the operational level, which is the level that is relevant to the act of government spending.

Treasury spending results in debits to its deposit account at the central bank. The payments it makes to banks in respect of negotiated items are credited to reserve account balances. These payments include direct payments made to banks, as well as those made to bank customers and subsequently reflected as credits to the reserve accounts of customers' banks. Thus, debits to Treasury's account are offset by credits to

bank reserve accounts. Accordingly, such transactions don't change the size of central bank liabilities and they don't change the quantity of currency issued by the central bank within the scope defined above. Treasury spending does not create new money or currency as defined. Conversely, Treasury does not redeem money or currency when the private sector makes tax payments to Treasury in respect of bill and bond purchases. Those transactions reflect debits to bank reserves and credits to Treasury deposits, which is a reclassification of balances within the relevant scope of currency usage.

It is helpful to classify the activity of central banks as between principal and agent transactions. Principal transactions are those in which the bank is operating on its own account. Agent transactions are those in which the bank is operating on behalf of customers. The central bank operates as an agent when clearing payments between different types of depositors, which include the commercial banks and Treasury. And because the commercial banks and Treasury are all in the position of using the services of the central bank in its agency capacity (and using the central bank's currency), none of them can logically be an issuer of the money that the central bank issues. An operational user cannot issue the currency of the operational issuer.

Commercial banks with reserve accounts at the Fed are, along with Treasury, operational currency users. They operate at the same level of money hierarchy as the US Treasury, with respect to accounts held at the Fed. In other words, the US Treasury operates in a similar way to US commercial banks with respect to the settlement of payments using the currency that the central bank issues.

Thus, Treasury spending does not create new money within the scope of currency as defined. It only changes the classification of money that already exists. Moreover, Treasury spending does not create money even in the form of bank reserve balances, at least not to any degree that could be considered meaningful. The possibility of net reserve creation at any point in time is limited to the gross balance of Treasury's deposit at the central bank at that time. Treasury could only "create" new bank reserves by spending that outstanding deposit balance down to zero. This is a fact because Treasury has no overdraft or other direct credit facility with the central bank. Moreover, a full drawdown of its central bank deposit balance could only be a one-time addition to new reserves. Moreover, the balances that do exist in the Treasury account at any point in time can only have been sourced originally (in regular operations) from bank reserves (as credits to Treasury and debits to banks), so that even any spot reduction of Treasury balances that appears to "create" new bank reserves is in fact only unwinding the already minimal cumulative "destruction" of bank reserve balances that have moved into the Treasury account net through past transactions. In that sense, the cumulative bank reserve "creation" power of Treasury is zero. Finally, Treasury as noted practices a disciplined approach to the maintenance of cash balances in its Fed account, such that its balances are minimized in normal times, according to efficient cash management practices, which indeed are comparable to corporate cash management practices. Thus, beyond the fact that the question of reserve "creation" by Treasury can be dismissed for logical reasons, the materiality and relevance of the question is moot, given the very low balances that Treasury maintains in normal practice. Thus, all in all, it is a non-starter to suggest that Treasury issues currency in any form (except for coins) in the context of the modern monetary system, whether that form is restricted to a narrow focus of bank reserves, or includes the more relevant scope of central bank notes, bank reserves, and

Treasury deposits.

We've referenced the routine transfer of funds between Treasury tax and loan accounts at the commercial banks and its account with the Fed. The Fed account is in effect the central point for Treasury's banking arrangements. Using the tax and loan accounts to best advantage, Treasury maintains a minimal positive account balance at the Fed for maximum cash management efficiency. This produces the corollary benefit of minimizing the potential disruption to aggregate bank reserve balances associated with Treasury cash management (More on this below).

The core component in the category of central bank issued currency is central bank notes. It's worth taking a brief moment to summarize central bank note operations.

The central bank issues notes on demand from the commercial banks. The banks pay for the notes as a debit to their reserve balances. The banks issue notes on demand to their customers. The customers pay for the notes as a debit to their deposit balances. Banks hold notes in inventory in order to be able to meet their customer demand. And central bank notes are a core component of bank reserves due to this customer demand.

Banks do not use notes to settle transactions between each other and with the government. That is the purpose of their reserve balances held at the central bank.

Accordingly, bank reserves in total consist of central bank issued notes as reserves with respect to public demand and central bank reserve balances with respect to interbank settlement requirements.

Reserve debits associated with commercial bank note purchases reduce system reserve levels. At the point of such reserve debit, the central bank balance sheet remains unchanged in size, with a decrease in reserve balances issued offset by an increase in notes issued. But the decrease in reserves issued will tend to put upward pressure on interest rates, other things equal. Therefore, in order to restore orderly interest rate and interbank payment system conditions, the central bank will replenish those reserves lost due to note issuance (This applies to the regular pre-2008 operation of the US monetary system, in which excess reserve balances were minimal). It has a variety of techniques for doing this, but the result is that the balance sheet will expand by the amount of reserves replenished. The net consequence is that the central bank balance sheet expands by the amount of the original note issuance, other things equal. Net notes issued trend upward over time with growth in the economy. Note growth is the primary driver of the central bank balance sheet growth over time in the standard operation of the monetary system.

The demand for notes by customers represents a desire to shift from commercial bank deposit balances to central bank notes. This is a natural occurrence over time, because the demand for highly liquid assets such as notes will tend to increase as the economy grows. As discussed, the central bank must create new reserves to replace those lost to pay for net notes issued. It creates those reserves by acquiring financial assets. If it acquires those assets from the portfolios of non-banks, then it obviously must induce those agents to sell those assets and hold bank deposits instead. That means that the task of restoring bank reserve levels typically involves restoring commercial bank deposit balances and balance sheet size to previous levels, other thing equal. Exceptions would be those cases where the central bank purchases financial assets from the banks

themselves, in which case commercial bank balance sheets experience a net reduction in size due to the deposit redemptions associated with currency issuance. The point is that in times of regular operation, the US central bank must “refund” the banks for their reserve loss either by causing the creation of new deposit liabilities or by swapping replacement bank reserves for existing bank assets. This note issuance dynamic as described is something that Paul Krugman appears to have missed in his discussion about banking with Steve Keen. Krugman seemed to suggest that currency withdrawal somehow caused deposits to escape the banking system altogether, when that is usually not the case in times of normal central bank operations.

Treasury’s deposit account at the Fed serves a cash management function not dissimilar to that for households and businesses. All of these agents spend from bank accounts that are debited in respect of outflows, with corresponding credits to payee accounts. Treasury doesn’t create money by spending any more than do households or businesses. In fact, households and businesses often enjoy the added flexibility of commercial bank overdraft privileges. In this case, they are able to spend from deposit accounts by creating temporary net debit positions. This creates new money, and banks’ balance sheets will expand by the size of the overdraft loan and the deposit credit created as a result. Treasury has no similar privilege in its banking arrangements with either the central bank or the commercial banks.

In addition to its agency role on behalf of depositing clients – the banks, Treasury, and the general public - the central bank also has a principal role in monetary operations, where it affects bank reserve levels and interest rate levels by lending and acquiring financial assets. This duality of principal and agent roles is a generic banking characteristic that the central bank shares with commercial banks. Both types of bank create deposits through asset expansion.

It is worth emphasizing that the Fed’s role with respect to the US Treasury is asymmetric. The Fed provides Treasury with a deposit account, but not a direct borrowing facility. Current rules demand that the Fed may purchase Treasury obligations such as bills and bonds in the open market, but it is not allowed to extend credit directly to Treasury, apart from rollover of amounts maturing on its balance sheet. While this restriction seems harsh relative to comparable private sector arrangements, the emphasis on the market participation channel is constructive at least in the sense that it is operationally beneficial for the Fed to be able to purchase those highly liquid obligations in the market that allow it to conduct its primary monetary responsibilities in such a way as to be able to influence the quantity and price of bank reserves as a market maker. Conversely, the quantity and price of currency notes that the Fed issues is customer demand determined in quantity, but price determined according to a contractually zero nominal interest rate.

As noted above, Treasury holds additional deposit accounts with the commercial banks. Tax and loan accounts constitute a feeder deposit system for the so-called Treasury general account at the central bank. These TTL accounts exist for two reasons. First, they are convenient in terms of Treasury’s large scale cash management operation. It is more effective for Treasury to gather funds locally and subsequently import them into the central account, which in turn is the focal point of most disbursements. Second, there is a corollary benefit in terms of enabling operational co-ordination with

central bank reserve management. The feeder system within the commercial banking deposit sphere operates at the same level of money hierarchy as other deposits with the commercial banks. Accordingly, transactions where money moves between private sector deposits with the commercial banks and TTL deposits have no effect on total system reserves. It is only net transfers between the feeder system and the central account that have a net reserve effect. Moreover, it is only when such net transfers are not offset by other Treasury disbursements (or receipts) from Treasury's central account that there is an ultimate net reserve effect due to total Treasury banking activity. And that ultimate effect is the one that impacts the reserve system on a fully netted basis, and is the one that the Fed takes into account in setting strategy to meet its daily operational target for the system reserve level. Thus, arrangements in total as between the feeder accounts and the central account help to minimize the potential disruption to system reserve distribution that excessive concentrations of Treasury balances and net activity through its central bank account might otherwise cause. This is a rational and desirable aspect of efficient and effective cash management by Treasury. It is comparable to the nature of the cash management effectiveness that the central bank expects in the case of commercial banks in the operation of their reserve accounts at the Fed. The entire arrangement is a matter of joint operational effectiveness, separate from the fact of the Fed's policy independence in setting the interest rate target itself.

Thus, Treasury is a depositor with both the central bank and the commercial banks, with a centralized account (two accounts currently) at the Fed and peripheral tax and loan accounts with the banks. It is an operational currency user and cash manager, making disbursements from and taking receipts into its bank deposit account(s). Large corporations have networks of comparable "feeder" deposit accounts that likewise connect to a central consolidation account.

Treasury and the Central Bank – Regular Operations

This section explores additional detail on how Treasury operates as a currency user, similar to the commercial banks:

The central bank creates reserves as a result of new lending or acquisition of new financial assets. In doing this, it acts as principal for its own account, rather than as clearing agent for depositor accounts. It changes the size of its balance sheet when it does this. By contrast, Treasury's own activity as a depositor/user of central bank issued currency has no effect on the size of the central bank balance sheet. Anything Treasury spends gets debited from its account and credited to commercial bank reserve accounts, with no net change in central bank liabilities. And any effect Treasury has on the distribution of money between its own balances and commercial banks reserves is fleeting and minimal, given Treasury's cash management discipline.

Treasury normally keeps its deposit balances at the Fed at stable minimal levels. Temporary skews between Treasury balances and bank reserve balances are soon reversed in the process of ongoing Treasury cash management. Thus, not only does Treasury not "create" net new CB liabilities in the process of spending, but it doesn't "create" new reserves of any consequence, particularly beyond the shortest of time periods. The cumulative effect amounts to a stable and minimal cash balance of Treasury at the Fed. Thus, any notion that Treasury creates currency, or money, or reserves by spending is simply not relevant to the facts and operations of the modern

monetary system.

Treasury issued bills and bonds don't logically belong in the same category of currency as Treasury deposits at the central bank (along with notes and bank reserves), simply because bills and bonds are not used as currency in the sense of being a regular payment medium in the settlement of transactions among the banks and Treasury. This characteristic is congruent with the institutional fact that bills and bonds are issued separately by Treasury and not by the central bank. Contrary to some stories, bills and bonds are not in fact comparable to accounts at the central bank in the actual monetary system that we have.

Central bank monetary policy implementation through interest rate control operates with marginal easing and tightening of money market conditions, based in part on how interest rates react to the distribution of bank reserve balances and Treasury balances. Within the full group of users, the composition of the set of agents that are involved in any momentarily skewed distribution is immaterial to the objective of interest rate control through operational monetary management. The relevant subset of any such skew may include or exclude Treasury balances on any particular day. The subset composition does not matter to the general objective of the central bank in ensuring an appropriate supply of reserves, in combination with Treasury deposits, for market clearing at desired interest rates. The bank attempts through its own actions to muffle the effect of any dislocation of deposit balances in the system, whether or not that dislocation involves Treasury balances. Treasury's involvement in certain net cash flows such as tax or bond settlements is only one type of dislocation in a system in which major commercial banks frequently experience disruptive cash flow patterns with resulting skewed cash distributions for various reasons, including their own temporary preferences or lack of same for liquidity. The functionality of the central bank in responding to such temporary distribution effects is in the same category of response, which is to take steps to temporarily offset such distribution effects through additional reserve issuance or withdrawal as necessary. Such response, using the conduit of reserve supply, is in effect a function of the totality of the reserve and Treasury deposit distribution and its effect on interest rates. In particular, there is nothing categorically different about required Fed intervention on auction settlement days, as it relates to the core operational responsibilities of the central bank in controlling the interest rate effect of reserve distribution. This broader perspective on distribution is consistent with defining the relevant category of central bank issued currency as including notes, bank reserves, and Treasury deposits.

Consider a simplified example involving two representative banks – Bank of America (BAC) and JP Morgan (JPM), in a situation that is representative of the reserve system as it regularly operated pre-2008. System excess reserves were normally minimal.

Suppose BAC makes a new Treasury bond issue payment of \$ 100 million to the Treasury general account at the Fed. Assume that its reserve balance at the Fed is zero at the time it makes the payment, and that as a result it goes into a daylight overdraft position with the Fed for \$ 100 million.

(It may also be possible for BAC to pay directly into TTL accounts, which would have no net effect on the quantity of system reserves or in this case BA's own reserve position. In fact, there are conflicting accounts of this process from those who tend to make an issue

of it in the context of neo-Chartalist themes and arguments that are premised on the assumption of extraordinary Fed provisioning of reserves for bond auction settlements. I'll use the simplified example as framed, because it goes to the issue of the Fed response when Treasury activity has an assumed net effect on system reserve supply. But I suspect that the full story here includes some combination of the types of transaction noted.)

Continuing with this core example, by the end of the day, BAC will have either covered that overdraft by raising market funds to offset it, or it will take a loan from the Fed. As part of that process, the Fed can do system repos during the day so that reserves are more readily available for BAC to cover its overdraft before the end of the day in that way. That is effective when excess reserves are otherwise minimal and binding and where there would otherwise be upward pressure on overnight rates. At the same time, Treasury may already have transferred funds between its central account and TTL accounts (in this example), in order to assist with reserve equilibration through its own cash management function. That would tend to mitigate market pressures that BAC would face in sourcing funds. Either way, such Fed actions increase the likelihood that BAC will be able to cover its position before the end of the day, without necessarily utilizing the Fed's lender of last resort (LLR) discount window facility.

Now as a second example suppose instead that BAC makes a private sector reserve account payment (for any reason) of \$ 100 million to JPM. Assume again that its reserve balance at the Fed is zero at the time it makes the payment and that it goes into a daylight overdraft position with the Fed for \$ 100 million. By the end of the day, BAC will have either covered that overdraft by raising market funds to offset it, or it will take a loan from the Fed. And, in the same way as with the bond auction settlement, the Fed can do system repos during the day if there is associated upward pressure on overnight rates. This increases the availability of reserves such that it is more likely that BA will be able to cover its position before the end of the day.

In either example, the Fed responds when there is upward pressure on the overnight rate. There's no difference in BAC's own requirement for reserves in those two situations – bond auction settlement payment versus private sector payment. And any difference in aggregate reserve supply may be complicated one way or the other by the nature of the reserve distribution across participants. In general, the Fed will respond to a “dislocation” in the distribution of reserves, whatever the source. The dislocation reflected in the simplified example is BAC's short position due to a payment it owes. It doesn't matter if it's paying Treasury or JPM (e.g. JPM may be late in utilizing its own reserve position, or the system may not clear all positions efficiently, etc.). If there is associated upward pressure on rates, the Fed will respond in the same way. And there are all sorts of reserve dislocation scenarios where the Fed will respond and the situation has nothing to do with net Treasury flows.

Treasury is as much a participant in the reserve system as BAC or JPM. Treasury and BAC and JPM all have cash management functions that are aimed at disciplined targeting of cash balances held in their deposit accounts at the Fed. They are all operational “currency users” with accounts at the Fed. Treasury's deposit account at the central bank serves the same functional purpose as a commercial bank reserve balance. The fact that it's not referred to as a reserve account is neither here nor there in terms

of understanding the functionality of the system. One may as well think of the Treasury account as just one more reserve account.

Thus, there is no fundamental difference between the central bank reserve facilitation that is required to accommodate BAC's payment of taxes or bond settlements to Treasury compared to the requirement for BAC's payment to JPM in an intra-private sector transaction. In other words, there is nothing special about the fact that the Fed supplies the reserves that enable tax and bond payments. It does the same thing for all payment activity that may be associated with unintended interest rate pressures.

Moreover, consistent with our earlier explanation, Treasury under prevailing institutional structure is expected to manage its cash position in an efficient and effective way, such that any temporary surplus balances will soon find their way back into bank reserve accounts by net expenditure or TTL transfer, where they will once again be called bank reserves. A fortiori, the fact that reserves transferred to Treasury for tax or bond payments become temporary balances not called reserves is a semantic non-issue. They may as well be called reserves, since they function under the same general framework of participants' cash management discipline as bank reserves.

In summary, the reason the Fed supplies extra reserves in either scenario described above is to respond to the general circumstance where reserve and Treasury deposit distribution as a whole becomes skewed to the point where some paying banks have lower balances than planned. That puts upward pressure on short term interest rates. The Fed supplies the appropriate level of reserves to enable all payments to be made at the target interest rate conditions – not just tax and bond payments. Some neo-Chartalists emphasize the uniqueness of Fed provisioning for tax and bond settlements. But there is no such uniqueness behind Fed operational motivation in the sense of the full category of currency users and the effect of their cash management behavior on interest rates. That the Fed may or may not supply extra reserves to enable tax and bond payments against the backdrop of interest rate targeting doesn't demonstrate anything of extraordinary relevance, because the same evidence and argument applies to payment circumstances more generally.

Treasury and the Central Bank - Contingent Operational Adjustments

The USA is a strategic currency issuer and the Fed is the corresponding operational issuer. As a strategic issuer, the USA has options in the form of contingent changes it can consider for operational arrangements. These potential changes run the gamut from adjusting the nature of permissible transactions within the existing institutional framework to more dramatic change for the institutional framework itself. This section examines some contingency adjustments of the first type. This phase could be labelled "contingent operational adjustments", corresponding to the set of functional adjustments that are possible while retaining the existing bifurcation of Treasury and the central bank as separate institutions.

The central bank balance sheet is the focal point of contingent operational adjustment. It consists of assets, liabilities, and equity capital. The nature of contingent adjustment can be classified according to these categories. The standard Federal Reserve balance sheet, pre-2008, included mostly Treasury bills and bonds as assets, notes and a small amount of bank reserves and government deposits as liabilities, and a modest portion

of equity capital. We have categorized the portfolio of notes, bank reserve balances, and government deposits as the relevant scope of central bank currency issuance. The essence of contingent operational adjustment lies in the expansion of the role of bank reserve balances.

The starting point for any adjustment is the existing set of arrangements in which Treasury maintains a deposit account with the central bank. It must manage this account as a currency user. It has no overdraft or other direct borrowing privileges with the central bank and must borrow to cover debits. The central bank can only purchase Treasury debt in the open market, apart from replacing maturing bonds that it holds at Treasury auctions.

Contingent operational adjustment can expand the role of bank reserves to more prominence in central bank financial intermediation. This expanded role has been significant in the financial crisis, through quantitative easing. The Fed has expanded its asset portfolio in various phases during the crisis to include larger holdings of Treasury bonds as well as holdings in categories of riskier assets. Additional bank reserves have been produced as a by-product. The way in which Fed balance sheet management has rolled out during the crisis is an example of contingent operational adjustment.

But there is more. Adjustment more generally can be viewed as the option of expanding the co-ordination of Treasury and central bank balance sheet management in any environment, crisis or not. The key element in all cases is that the result is inevitably expressed as an effect on the amount of bank reserves outstanding. And, as in the crisis, the concurrent expansion in financial intermediation may involve a buildup in any asset category that the central bank targets for expansion, in conjunction with a reserve increase. However, in the context of this essay, the asset category of focus will be the internal funding of Treasury by the central bank. Contingent operational adjustment in this sense entails broad techniques for using the central bank balance sheet as a more comprehensive funding conduit for Treasury expenditures.

There are two categories of operational adjustment. The central bank balance sheet ends up with an expanded bank reserve position as a liability either way, but there are two different routes to that that destination. Consider the general example of government expenditure in illustrating these two modes of adjustment:

The first mode of operational adjustment directly affects bank reserve accounts. The central bank purchases assets of various types with resulting credits to reserve accounts. As it pertains to central bank interaction with Treasury specifically, the typical transaction involves the purchase of bills and bonds already issued to finance Treasury expenditures. The payment for the Treasury securities then becomes additional bank reserves on final settlement at the central bank. This combination of new assets and reserves expands the central bank balance sheet and expands the measure of money supply broadly categorized as currency issued by the central bank. The central bank balance sheet expands ex post, relative to the Treasury expenditures that created the requirement for the original debt issuance under standard Treasury operations. The Treasury deposit account itself is unaffected. Quantitative easing undertaken during the financial crisis is a larger part of this category. Thus, this mode of operational adjustment affects money balances at the point of final settlement of earlier fiscal expenditure. It relaxes standard rules covering central bank credits to reserve balances,

by expanding the scope of related central bank asset activity. Quantitative easing (as well as so-called qualitative easing) during the financial crisis is the prime example.

The second mode of operational adjustment includes transactions by which the central bank credits the Treasury deposit account directly. This finances Treasury expenditures before those expenditures create additional bank reserves. This method may be considered *ex ante* to Treasury expenditure, as opposed to the *ex post* mode implicit in the first category of direct bank reserve credits. There are a number of different ways in which the central bank can credit Treasury balances directly:

First, the central bank can purchase Treasury bills and bonds directly from Treasury when first issued. That is only the case now up to the replacement of what is maturing on the central bank balance sheet.

Second, working more directly from the liability side of the balance sheet, the central bank can allow overdrafts in the Treasury account. That is currently prohibited. But if allowed, it becomes a variation on the first type, since an overdraft becomes a new loan to Treasury as opposed to a new bond purchased.

Third, the central bank can purchase newly issued Treasury coins (including large denomination platinum coins) and credit the Treasury account.

Fourth, the central bank also has the option of applying pressure on banks and investment dealers to purchase newly auctioned debt securities in exchange for the undertaking of required financing. This is a form of upfront but indirect financing of Treasury, using banks and dealers as conduits. However, the normal operation of the system does not assume that the bank will fund the dealers indefinitely in times of financial system stress. There is an understanding that dealers will provide bids at auctions, but forcing purchases under conditions of exaggerated and potentially damaging market risk is not the general intent of such agreements. Treasury would probably resort to other methods in such circumstances. And “failed auctions” are not impossible. Whatever the “normal” agreement is for dealers bidding on the auction, the case in which the government forces the dealers to buy them without any back-up customer demand seems extreme, and should be considered as an extraordinary intervention.

Finally, the most radical adjustment of this type is a credit to the Treasury deposit account, combined with a debit to the central bank equity capital account. Taken to the limit, this will produce a central bank capital account overdraft, so to speak (as opposed to a Treasury deposit account overdraft, which is a liquidity overdraft). This might be interpreted as crediting the Treasury account “*ex nihilo*” - except that “*ex nihilo*” is never quite that clean in the correct world of double entry book keeping. There is an offsetting entry, designed to track the net asset effect. Using this method, a sufficiently large credit to the Treasury account in this mode would inevitably result in negative equity capital for the central bank. Some claim that such “*ex nihilo*” equity adjustments to central bank capital don’t matter (in particular those who enjoy scoreboard analogies more than they do keeping score). But this is an inferior approach if the more general objective is coherence in financial analysis. Suffice to say that it amounts to declaring which measurements matter and which don’t, suggesting some sort of bias.

The capital debit adjustment type is the demarcation line between what we've classified as "contingent operational adjustment" and "contingent institutional unification" taken up in the next section. There is an upper bound of sorts in the form of the central bank capital position, beyond which the institutional effect becomes more comprehensive.

In summary, the central bank can convert outstanding conventional debt to reserves. Or, it can provide financing to the Treasury account directly - through direct acquisition of government debt or (platinum) coins, or by deposit account overdraft, or by debit to the equity capital account. Both modes entail expansion of bank reserves, either through ex post conversion of debt to bank reserves or ex ante money expansion of Treasury deposit balances. The former is a conversion to reserves of what has already been financed by debt in the regular way, while the latter finances Treasury balances prior to their conversion to reserves.

Contingent Institutional Reform - A Central Treasury Bank (CTRB)

The operational adjustments described in the preceding section describe ways in which the central bank can expand its balance sheet, with the objective of broadening its financial intermediation function through increased issuance of bank reserves. These methods of adjustment fall a step short of the more comprehensive mode of outright institutional reform. Such reform involves combining the Treasury and central bank into one entity, in such a way as to wrap the core banking function jointly around fiscal and monetary operations.

The most basic characteristic of banking applies to both commercial banks and their central banks. That is the capacity to issue money-type financial claims in conjunction with the acquisition of financial assets. Those financial assets acquired include for the most part new loans in the case of commercial banking, and Treasury obligations in the case of central banking. This sort of asset acquisition creates deposits in the case of commercial banking, and financial claims within the currency category in the case of central banking – notes, reserves, and Treasury deposits.

The primary channel of central bank money creation in regular mode consists of central bank notes and bank reserves. With contingent operational adjustment as described in the previous section, the bank reserve channel can be expanded through more aggressive open market operations that credit bank reserves directly, as well as through new methods of direct Treasury deposit crediting, which feeds subsequent bank reserve creation.

Debates about banking have been a regular feature of the economics blogosphere over the past few years. The recent discussion involving Paul Krugman and Steve Keen is an example of the interest in this subject. While examining that debate is not a primary purpose here, there is an important aspect of continuity between that discussion and the topic here. Paul Krugman seemed to reject the notion that banks create loans out of "thin air". His objection might have been partially alleviated by emphasizing that banks (central banks or commercial banks collectively) create both loans and deposits simultaneously in this "thin air" way. His concern in the case of commercial banking seemed to relate to the subsequent competition for those deposits, including their broader dissemination into the realm of non-bank financial institutions, with more complex patterns of financial system assets and liabilities. This seemed to be the

implication of his reference to a 1963 paper by James Tobin and William Brainard. But none of that negates the obvious fact of the dual creation of loans and deposits at origin, something that is true at the root of banking as a generic function. It applies to both central banks and commercial banks.

This basic loan/deposit creation dynamic of banking is normally limited to banking institutions as we know them – i.e. central banking or commercial banking. But it is possible to incorporate it in a hybrid bank concept resulting from a hypothetical institutional unification of Treasury and the central bank. This could take the form of a “Central Treasury Bank” (CTRB). The CTRB would be at once a Treasury spender and an operational currency issuer.

CTRB is at the top of the conceptual money hierarchy, the same as its CB predecessor. It has no need for a Treasury deposit account for clearing government payments. This allows CTRB the option of issuing currency as a function of spending. CTRB spends by crediting commercial bank reserve accounts – directly when paying banks and indirectly when paying their customers. It is at the stage of this defined institutional form that we might accurately make such statements as the government “neither has nor doesn’t have money”.

(Note - with respect to actual institutional arrangements today, the insistence by some that the terms “financing” and “funding” be avoided in the case of Treasury is entirely unnecessary. First, Treasury is not an operational currency issuer, so that in fact it DOES finance or fund its requirements in the usual sense of a cash management operation. Second, even if Treasury were issuing debt to replace its own reserve liabilities (and it doesn’t), financing or funding would be perfectly sensible language to describe the replacement of one liability with another. There is no need to place such restrictions on the use of reasonable language.)

At the same time, there is no operational reason why CTRB cannot hold the option of issuing bills and bonds. And with that we can say that Treasury bond issuance is as much a reserve drain as it financing. Furthermore, there is no reason why CTRB cannot hold the option of positioning bills and bonds in inventory for potential use in open market operations.

CTRB has a most interesting balance sheet. The fused institution has the basic characteristics of a bank, but with a mismatched balance sheet. The result can be visualized as fused, two tiered balance sheet, with the former central bank above and the former Treasury below. At the outset at least, the top liabilities include bank reserves and notes, and the bottom includes bill and bond debt. The former Treasury deposit account with the central bank is eliminated. The central bank capital position is gone as well, as it no longer serves any meaningful purpose as a measured, segregated institutional risk buffer.

The entire liability structure of the CTRB is now intra-convertible, in terms of the fluidity with which reserves, currency, bills, and bonds can be issued or redeemed according to a fused and seamless fiscal and monetary machine. Similarly, the gross asset strategy in terms of inventories of bills and bonds or otherwise is fully flexible under this institutional arrangement.

In any event, it should be clear that the resulting balance sheet (assuming typical dimensions for a cumulative government deficit) exhibits the net financial liability profile (NFL) of its Treasury predecessor.

Central bank equity capital in its original form plays the same role in absorbing risk that private sector bank capital does in the context of commercial banking. But that central bank equity capital position disappears on institutional unification with Treasury. This is because there is no longer a role for such an external measure of capital to absorb central bank risk on its own. The Treasury balance sheet in its original form includes no formal equity capital position. But the equity profile is implicitly negative, inverse to the net liability profile created by Treasury debt. With institutional unification, that implicit negative equity position is carried over, after netting out any assets previously held by the central bank but perhaps no longer held by the combined institution (e.g. a reduction in Treasury securities). The end result is that the new consolidated Treasury position resembles a bank with negative equity. It is a full operational currency issuer, crediting bank accounts as it spends, without any necessary cash management interface between Treasury and a separate central bank, as was previously the case. One can interpret the negative equity position as the benefit of being the currency issuer. An entity that manufactures liquidity doesn't need to be overly concerned about solvency, and the viability of a negative equity position reflects that fact.

The unified institution retains the original central bank note and bank reserve issuance function of the former central bank. And just as it now has the option rather than the requirement to issue bills and bonds, it has the option of holding an asset inventory of the same instruments for purpose of open market activity if so desired. These are all points of operational flexibility, which should be advantageous relative to lack of same. Most importantly, the unified institution now has the option of issuing bank reserves directly in exchange for the settlement of net government expenditure payments. That function replaces the old method whereby Treasury must borrow to fund a deposit account with a separate central bank.

Operational currency issuance is a central banking function in standard monetary operations, consisting of the emission of physical and electronic liabilities by the central bank. This is transformable into a CTRB issuance function as described here. From a policy perspective, such integration suggests additional flexibility in the potential for more intense co-ordination of fiscal and monetary policy.

Contingencies - The USA versus Europe

Finally, we briefly examine the difference between the monetary systems of the USA and Europe in the context of the contingent institutional paradigm.

The United States and Greece, for example, each conduct Treasury operations which are not fundamentally different with respect to the normal interaction between their Treasury functions and respective central banks. There IS a legitimate comparison between the US Treasury and the Greek Treasury in terms of regular Treasury operations. The Greek Treasury maintains a deposit account with its central bank, and manages the position of that account according to debits and credits to it. It has no direct credit support from the central bank, and must borrow to cover its deposit account expenditure debits with credits from taxes and borrowing. That pretty much

describes the operation of the US Treasury with respect to the Fed as well.

And there IS a legitimate comparison between the US Federal Reserve and the European Central Bank in terms of regular monetary operations. Although the techniques of asset intervention are different (the Fed acquires Treasury obligations; the ECB acquires commercial bank obligations), the essential use of central bank reserves in setting interest rate levels is fundamentally the same.

Thus, there IS a legitimate comparison between each central bank and its Treasury client(s) in the context of the standard institutional framework for fiscal and monetary operations.

So if these are basic operational equivalences, where are the differences and how should they be categorized in a paradigm of institutional contingencies?

First, by way of review, the USA is a strategic currency issuer and the Fed is the operational issuer. As a strategic issuer, the USA has viable options in the form of contingent changes it can consider for the Fed as its operational issuer, or for the full Treasury/Fed institutional arrangement on a more formal basis. Most of the preceding part of the essay covers the nature of this flexibility for a strategic currency issuer.

By contrast, Greece has no similar control over the contingent changes that might be considered in the case of the ECB. Therefore, while its normal operational use of ECB facilities is not dramatically different than that of the USA in the case of the Fed, Greece should be considered as a strategic user of the Euro.

As reflected in the difference in their strategic currency status, the difference between the US and Greece is the likelihood of implementing effective operational and/or institutional adjustment, when market conditions make it necessary for there to be so. We have seen how difficult that is to achieve in the case study of the European sovereign debt crisis. There is no Greek counterpart to a US Congress with ultimate power over its central bank and the capacity to make necessary changes in order to modify operational currency issuance.

The US Fed serves a single Treasury currency user, while the ECB serves a set of Treasury currency users. The strategic problem for Europe is that there is no coherent institutional mechanism that ensures the same sort of contingent strategic flexibility for each of Europe's Treasury users as there is in the case of the single US Treasury and Fed combination.

The flip side of the multi-Treasury set of European operational users is that they are using a single currency rather than multiple currencies. That is a material operational detail, but it does not negate the fundamental operational similarity of fiscal and monetary operations as between the USA and Greece. But the fact that Greece shares the Euro with other countries becomes an additional strategic challenge.

If contingent institutional capacity existed to convert the Greek Treasury function to currency issuer status, the shared Euro would be a secondary concern, because the capacity to force currency issuance through the banking system would make it unnecessary to ensure acceptance of Greek Treasury bonds. The issue of covering Treasury deposit debits with credits would be alleviated, because the Greek government would in effect become self-funding in that case, notwithstanding the shared Euro. It

would have appropriate institutional backing for the commitment to be able to use the banking function as either an LLR (lender of last resort) or ILR (issuer of last resort) for Greek government expenditures.

The following papers are excellent on fiscal/monetary operations:

The Monetary and Fiscal Nexus of neo-Chartalism: A Friendly Critical Look

Marc Lavoie

Department of Economics, University of Ottawa

October 2011

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

Modern Money Theory and the 'Real-World' Accounting of $M_1 < 0$:

The U.S. Treasury Does Not Spend as per a Bank

Brett Fiebiger

November 2011

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

Both papers are instructive on modern fiscal and monetary operations. They were also helpful to the formulation of the contingent institutional approach used in this essay, an approach that seeks to separate factual and counterfactual versions of fiscal and monetary operations.

JKH