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Government Cash Balances - Linkages with Liquidity

We have been releasing reports in the nature of primers on RBI's operations and accounts (Refer Guide to Weekly Statistical Supplement (WSS) (Part I and II) and RBI Balance Sheet and Liquidity Management). The idea behind these reports is to provide understanding on how certain data flows are captured and how should one be reading/ interpreting these data releases.

In our previous report (RBI Balance Sheet and Liquidity Management), we had taken a historical perspective on RBI's balance sheet. The report further explained how RBI's balance sheet can be understood from liquidity management purposes.

In this report, we expand this issue of liquidity further. We focus on a very important emerging factor of liquidity- Government cash balances with RBI.

I. Government Cash Balances and WMA

Government Cash Balances with RBI: Government of India maintains its cash balances as a deposit with RBI to manage fluctuations in its receipts and expenditures. This is a practice in most other central banks as well.

The government account is much like current account maintained by businesses with their respective banks. However it is just that government account is far more volatile because of the typical nature of government businesses. For instance, advance tax flows come to the government account in every quarter which leads to a sudden rise in the cash balances and the deposits with RBI. This tax collection is then spent over a period of time leading to balances swinging from one extreme to the other. This leads to huge volatility particularly in money markets (explained later).

The minimum balance required to be maintained by Government shouldn't be less than Rs.100 cr on Fridays and at the close of either the Government's or RBI's financial year. The minimum balance on any other working day is not less than Rs.10 cr. (State Governments maintain a separate account as well, but is not discussed here.)

These cash balances are reported in two RBI releases:

- RBI's Weekly Statistical Supplement: The first release is RBI's weekly statistical supplement (WSS). Table 1 of WSS reports Government cash balances with a one week lag. In Table 1 under RBI's Liabilities, there is an item called Deposits and within deposits we have a sub-category called Central Government. This deposit is cash balance of Government with RBI on closing Friday. As WSS reports government balances on Fridays, we see mandatory 100 Cr in quite a few weeks. This is maintained as cash with RBI.

- RBI's Money Market Development Report (MMDR: MMDR is the quarterly report on macroeconomic and monetary developments released a day before the monetary policy. The chapter on monetary and liquidity conditions reports "Government Surpluses with RBI". These are reported as monthly balances on the last Friday of the month. While comparing this with WSS figures, there are differences with balances reported in WSS (explained later). These additional balances are by convention not disclosed in WSS.

The reporting of these balances is being explored in joint consultations by RBI and the Government. The discussions are also taking place on whether the cash balances can be auctioned to the markets in case of large surpluses. This will lead to transparency over government balances and help understand and project changes in liquidity.

Ways and Means Advances: The government can be in deficit as well needing funds to manage its short-term mismatch between receipts and payments. For such purposes, government and RBI have set up a facility called Ways and Means Advances (WMA). The government uses the WMA window only if its cash balances with RBI have reached the minimum threshold of Rs. 100 Cr. WMA is a non-collateralized borrowing and RBI charges interest equal to Repo rate.

The time limit for WMA is 90 days but there is hardly a breach as WMA is like a rollover credit facility. For instance, say government takes a WMA of Rs 100 Cr today. Any inflow tomorrow will first go towards repaying WMA balances. Hence if there is an inflow of Rs 100 Cr tomorrow, WMA will become zero. The government can again take a WMA in the evening tomorrow which will become a new WMA. In this way, 90 days limit is hardly ever breached as there will always be cash inflows to settle WMA balances.

In order that WMA outstanding does not become excessive, a limit is specified. RBI and the Government in consultation fix a WMA limit depending on the anticipated flow of receipts and payments. If the borrowing is higher than WMA limit, there can be an overdraft for a period of ten days. The charge for overdraft is 2% above Repo rate. RBI can also trigger fresh floatation of market loans when the Government utilises 75 per cent of the WMA limit. Hence, in case the RBI in consultation with government feels mismatches will exceed WMA limits and overdraft needed for a longer time, the government can issue securities like Cash Management Bills and even revise T-Bill borrowings upwards from the budgeted amount.

Earlier, the limit was fixed in the beginning of the financial year separately for first half and second half of the financial year (except 2006-07 when WMA limit was specified for each quarter). In recent times, this planning period has been changed with limits being revised and being kept for a shorter period. For 2012-13, limits have been specified for first two quarters and for the remaining year will be specified in end of September.

The WMA limits have been revised from the earlier specified limits twice in 2008-09 and 2011-12 respectively. In 2008-09, the limit was fixed at Rs 6,000 Cr for H2 2008-09 but was raised to 20000 Cr for Q3 2008-09 and was kept to 6,000 Cr for Q4 2008-09. In 2011-12, WMA limit was fixed at Rs 10,000 Cr for H2 2011-12 but was revised to Rs 20,000 Cr for Q3 2011-12 and Rs 10,000 Cr for Q4 2011-12.

Both cash balances and WMA impact liquidity in money markets. If there is a sudden rise in cash balances it leads to liquidity/bank reserves shifting from money markets to government account. This tightens liquidity in markets leading to higher money market interest rates like Call, CBLO etc rising which in turn leads to higher funding costs for banks. RBI eases the liquidity situation by infusing liquidity via LAF Repo, Open Market Operations purchases or even lowering CRR.

In case there is a WMA, it is just the opposite with additional liquidity coming to the markets. This leads to lower Repo borrowings and less pressure on markets. As WMA is basically a temporary phenomenon, much of these changes are short lived. However, if the mismatch persists and Government ends up issuing CMBs and additional T-bills it absorbs liquidity from the markets.

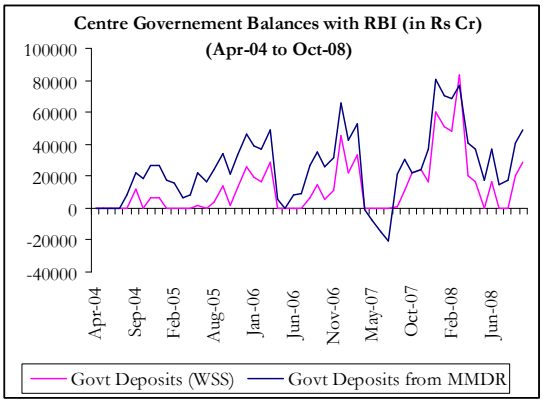
RBI officials have recently commented that liquidity situation has been volatile because of the "lumpiness" of government balances. Let us now see the trends in Government Cash Balances and WMA to understand the lumpiness of these flows.

II. Government Cash Balances and WMA Trends

We first analysed at the differences between balances reported in WSS and MMDR to understand the excess balances which are not disclosed in WSS. There are a couple of methodology issues to understand here:

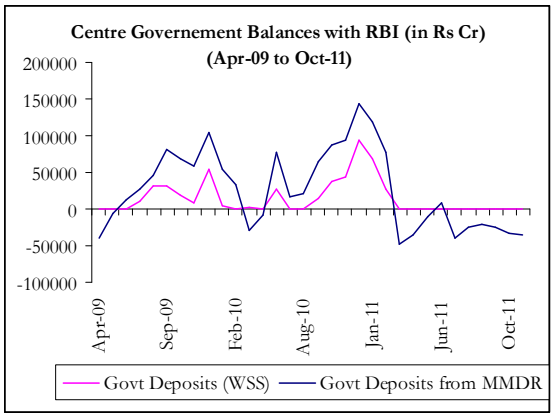
- MMDR reports government balances on the last Friday of the month. Hence we matched this MMDR data with WSS of last Friday on the respective month.
- We subtract Rs 100 Cr from Cash balances reported in WSS to get balances net of mandatory deposit.
- Whenever there is a WMA, MMDR simply reports a negative balance.
- The government surplus data in respective MMDRs is available from Apr-04 to Oct-11. However, data from Oct-08 to Mar-09 is not reported in MMDRs. So, we split our analysis based on two time periods. First is from Apr-04 to Oct-08 and second is from Apr-09 to Oct-11. Figure 1 and 2 looks at the cash balances from the two sources and Figure 3 and 4 shows the differences between MMDR and WSS reported balances.

Figure 1



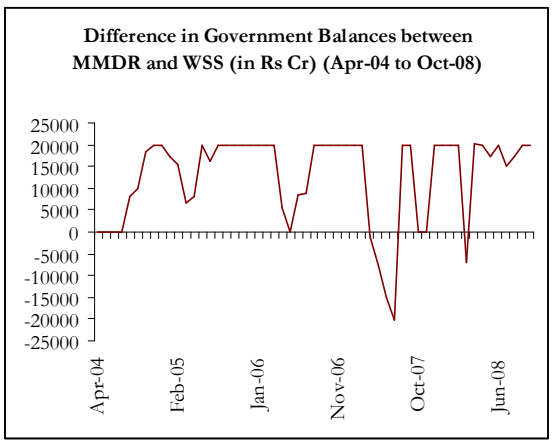
Source: RBI

Figure 2



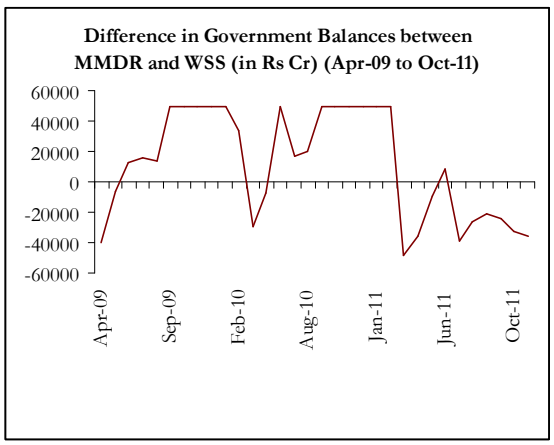
Source: RBI

Figure 3



Source: RBI

Figure 4



Source: RBI

The graphs clearly show the cash balances reported in MMDR are higher than those reported in WSS. However, there seems to be a ceiling on the undisclosed cash balances. Till Aug-09, the ceiling seems to be around 20,000 Cr and since then has been raised to Rs 50,000 Cr. We can say this as the difference between balances reported in MMDR and WSS does not cross Rs. 20,000 Cr till Sep-09 and Rs 50,000 Cr after Sep-09.

However, it is not necessary that the balances are always maintained equal to the ceiling level as is widely perceived by financial markets. Most people believe that if WSS reports cash balances of say Rs. 10000 Cr, the actual government balances with RBI are Rs. 60,000 Cr. But this is not the case as shown by Figure 2 where balances could be lower than Rs. 50,000 Cr (and lower than Rs 20,000 Cr earlier). However, one can just hypothesize that perhaps maximum balance with RBI on this reporting Friday is Rs. 60,000 Cr.

It usually works like this. Say the government has cash balances worth Rs. 10,000 Cr. Out of this, it keeps Rs 100 Cr as mandatory balance. The remaining 9,900 Cr can be shown as either cash in WSS or invested in government securities and not shown in WSS or it could be divided in a ratio of cash and investible security. However, say the balances are Rs 60,000 Cr then government can only invest a maximum of Rs 50,000 Cr in securities which is not shown in WSS. The remaining 10,000 Cr is kept as cash with RBI which is shown in WSS.

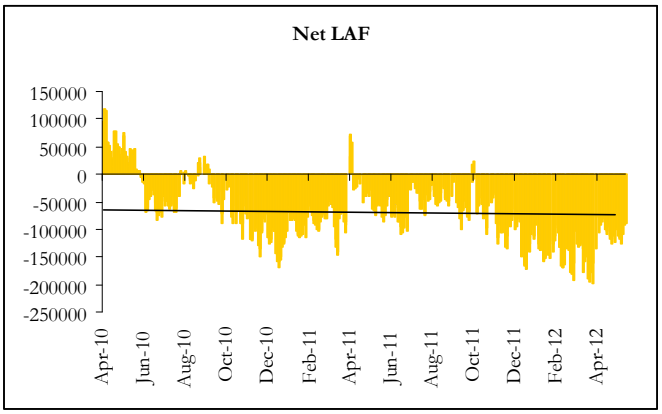
Thus there is no definitive information on the quantum of government balances available with RBI are at a point of time. We only know the end of the month balances reported by MMDR and it is possible that Government does maintain Rs 50,000 Cr on most of the other days. The undisclosed amount is like a sweep-in account with an upper limit of Rs. 50,000 Cr from which the government can withdraw funds any time.

Figure 3 and 4 also illustrate that government opting for WMA was fairly rare between Apr-04 to Oct-08. It has become more regular feature in recent times. This is in line with the recent challenges faced by the government with respect to its finances. Before 2008-09, there was hardly any usage of WMA window as fiscal deficit was trending lower and times were certain. Post-crisis, both high fiscal deficits and uncertain times have led to high volatility in government balances and WMA. This in turn has impacted the liquidity in money markets.

III. Impact on Liquidity: 2010-12

In this section, we will look at how Government Balances and WMA impacted market liquidity in the period 2010-12. This is because persistent tight liquidity has been a concern for most part of this time period. Liquidity was easy in the beginning of 2010-11 but tightened post May-10 and has remained tight since then barring a few days. Moreover, deficit liquidity has been above RBI's comfort zone of minus 1% of NDTL (Net Demand and Time Liabilities) for most of the trading days (roughly equal to Rs. 60,000 Cr).

Figure 5



The black line indicates RBI's comfort zone of -1% of NDTL
Source: RBI

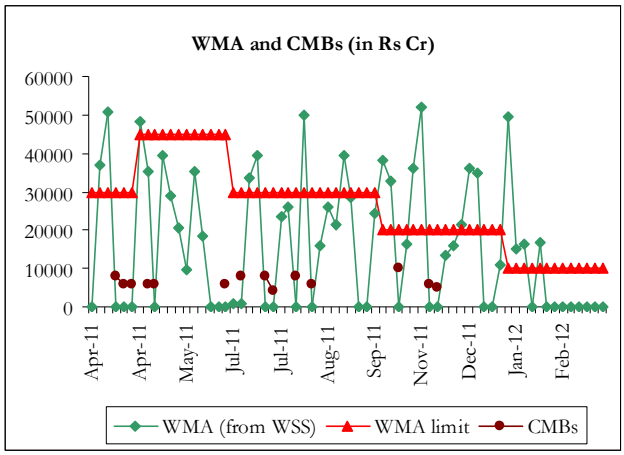
Based on our previous paper on liquidity (RBI Balance Sheet and Liquidity Management), we know there are two main drivers of liquidity– foreign flows and government balances. RBI responds to the changes in drivers of liquidity using its various tools like Liquidity Adjustment facility, CRR, Open Market Operations (OMO) etc. Hence if liquidity is in surplus, RBI absorbs liquidity using LAF Reverse Repo, increasing CRR etc. If liquidity is tight, RBI infuses liquidity using LAF Repo, lowering CRR and Purchasing securities using OMO etc.

In 2010-11, liquidity was tight mainly because of high government surpluses with RBI. The balances first increased in June-10 on account of windfalls received from auction of 3G spectrum. In Apr-10 and May-10, government was using WMA window and in Jun-10 the government had surplus balances worth Rs. 76,431 Cr. This led to tightening of the liquidity in markets. RBI shifted from absorption via LAF Reverse Repo in Apr-May 10 to infusing liquidity from Jun-10 onwards. The government surpluses remained high touching Rs 144,437 Cr in Dec-10 and then declined gradually to Rs 16,416 Cr in Mar-11. Hence, government surpluses played a key role in keeping liquidity tight in 2010-11.

In 2011-12, the story is different with government availing WMA for most of the time period. The government remained under pressure throughout the year which is reflected in WMA as well. Apart from WMA, government also issued Cash Management Bills worth Rs. 93,000 Cr in 2011-12 whenever WMA borrowing for the period became higher than the specified limit. As mentioned above, that RBI can trigger fresh issuances of government securities whenever the Government utilizes 75 per cent of the WMA limit. These securities could be both additional T-bills indicated in the issuance calendar and Cash Management Bills. If the mismatch is for a shorter duration then CMBs are issued. T-bills are a more structured borrowing and tweaking the calendar is only done if mismatches are for a more longer term.

Figure 6 shows how CMB issuances usually cluster around WMA borrowing exceeding or about to exceed the specified limit for the time period during the year. However, it is not necessary that whenever WMA exceeds the limit, a CMB will be issued as we can see in Figure 6. We do see in certain weeks in Nov-11 and one week in Jan-12 when WMA borrowing exceeds the limit but there were no CMB issuances.

Figure 6



Source: RBI

Table 1 analyses the T-bill issuances in the year indicated by the calendar vs. actual borrowed. It can be seen that in Q1, the actual borrowing via the T-bill route was higher than indicated in the calendar. This is the case in all the three T-bill maturities. In May-11, RBI revised the T-bill calendar increasing the size of issuances in the three maturities. In the rest of the year, the borrowing is as per the original calendar. Clearly, in Q1 the short term mismatches were persistent and aggravated as both CMBs and additional T-bills were issued. In Q2 and Q3, only CMBs were issued and there were no additional T-bill issuances.

Table 1: T-Bill Issuance Calendar vs. Actual 2011-12 (in Rs Cr)

		91 Days	182 Days	364 Days	Total	CMBs
1-Apr-11 to 30-Jun-11	Calendar	62000	12000	14000	88000	--
	Actual	90000	17000	20000	127000	38000
1-Jul-11 to 30-Sep-11	Calendar	91000	21000	18000	130000	--
	Actual	91000	20950	17742	129692	34000
1-Oct-11 to 31-Dec-11	Calendar	52000	24000	28000	104000	--
	Actual	52000	24000	28000	104000	25000
1-Jan-12 to 31-Mar-12	Calendar	1,00,000	28000	24000	1,52,000	--
	Actual	98841	28000	24000	150841	--

Source: RBI

The overall net borrowing via dated securities was much higher at Rs 4.36 lakh Cr than budgeted 3.43 lakh Cr. As most of this additional borrowing via dated securities was in the second half, the impact on liquidity was also in the second half. These together put additional liquidity pressure on the system as so much available liquidity was absorbed by the government. T-bills and CMBs absorbed liquidity in Q1 and additional borrowing in H2 2011-12.

Therefore, liquidity tightness in 2011-12 is on account of different factors in different time periods. In Q1 2011-12, persistent mismatches in government short-term finances does lead to tighter liquidity conditions than warranted. In H2 2011-12, factors for tight liquidity are higher government borrowing, slowdown in capital flows and RBI intervention in forex markets to prevent rupee depreciation. In H1, average liquidity borrowing under LAF was around Rs 45400 Cr and was within RBI's comfort zone of 1% of NDTL. However, in H2 average LAF borrowing is much higher at

around Rs. 1.14 lakh Cr indicating much tighter liquidity conditions because of multiple factors. This was followed by OMO purchases worth nearly Rs 1.3 lakh Cr and easing by CRR worth 125 bps infusing liquidity worth Rs 79,500 Cr in the system.

Only in middle of Mar-12, we see government balances turn into a high surpluses of around Rs 50,000-70,000 Cr as per WSS reporting. The final balances could be much higher based on above analysis. Hence, government surplus contributed to tight liquidity only towards year-end.

We have just begun 2012-13, but again the story seems to be similar to the one seen in 2011-12. In the six weeks data available so far, government has used WMA three times. Liquidity remains tight with net LAF Repo infusion of around Rs 1,00,000 Cr to Rs. 120,000 Cr. This is again on account of possible intervention by RBI and continuance of slowdown in capital flows. RBI has already announced three OMO purchase auctions in May-12 to further ease liquidity conditions.

IV. US Treasury Cash Management - Case Study

Paul Santoro of New York Fed released a research paper recently (The Evolution of Treasury Cash Management during the Financial Crisis). The paper explains how US Treasury in partnership with Fed managed to reduce volatility in Treasury cash balances. In late 1970s, US financial system faced similar problems as faced by Indian system of volatility in government balances held at the central bank.

Key officials from Treasury and Federal Reserve project daily liquidity before the opening of markets. US Treasury divides its cash balance in two types of accounts:

- Treasury General Account (TGA): This is the cash balance maintained at the Federal Reserve. The Treasury typically aimed to maintain a $5 billion balance in the TGA before the crisis. This is like the Indian Central Government's cash balances with RBI of Rs 100 Cr.
- Treasury Tax and Loan Note accounts (TT&L): This cash balance is maintained with banks. Under the TT&L program, banks can serve three purposes for the Treasury:
    - As a collector institution: Banks act as conduit for tax collection. It just collects taxes and passes to the Treasury.
    - As a retainer institution: Apart from collecting tax receipts, such institutions can retain a percentage of collected funds. The limits are specified by the institution and funds are pledged against sufficient collateral. Hence, if the closing balance is expected to be lower than target balance of $5 billion, Treasury calls for funds from both retainer and investor institutions to make up for the deficit.
    - As an investor institution: Apart from all functions of retainer institutions, this type also also accepts direct investments from the Treasury. If the estimated closing balance exceeds the target balance, surplus is invested with investor institutions backed by sufficient collateral..

The paper shows how this system has led to TGA remaining constant at $ 5 bn with hardly any volatility. However, there is large volatility in TT&L as Treasury manages the cash balances with the banking system. So, instead of parking all the tax funds with central bank there is continuous management of these funds to infuse (and absorb) funds in (from) the banking system. This illustrates how US Treasury and Fed reorganized the accounting system to minimize the volatility in Treasury cash balances held at Fed.

Post-crisis, this system has changed with Treasury not using TT&L account and keeping its balances in TGA alone. This is because Federal Reserve started paying interest on the bank reserves post-crisis. Hence if Treasury continued to maintain the balances with banks under TT&L, it would have increased the reserve balances of banks at Fed and required the Fed to pay interest on those reserve balances. This would have reduced Federal Reserve payments to the Treasury by more than what the Treasury could earn from the depositories.

The pre-crisis Treasury cash management system can certainly be looked into for applying it in Indian context. Case studies from other countries could also be explored to make our liquidity system better.

V. Conclusion

The above report is an attempt to look at the issue of role of Government balances in liquidity management function of RBI. Both the cash balances and persistent mismatches in government finances play a large role in absorbing liquidity from the markets. Apart from volatility in the balances, markets are even unsure of the overall amount as WSS does not report the complete balances. The monthly balances which were shown in MMDR (though with a huge lag) have also not been provided since Oct-11. Hence, much is still unknown on the true nature of Government balances.

The Government and RBI are discussing on the issue and implications of letting markets know of the total government balances with a smaller lag. They are even looking at the possibility of auctioning the surplus balances in case of days when there is large absorption of liquidity like advance tax flows. These disclosures will be very useful for the market participants as it will help understand the forthcoming trends in liquidity better. The policymakers can also release a research note like the one by New York Fed. This will help clarify the key concepts behind these accounting flows and provide more clarity to the market participants.

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