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Short Notes

The Behavior and Determinants of the Currency Deposit Ratio in Pakistan

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Introduction

Currency in circulation, notes and coins held outside banks, is the most liquid monetary aggregate.[2] Three fundamental questions related to the currency in circulation come to mind. First, what is the economic importance of currency in circulation? Second, what economic cost is incurred due to variation in currency in circulation, particularly when it is rising? Third, what are the important determinants of currency in circulation?

The economic importance of currency in circulation could be judged by its being an early indicator of the volume of transactions, expected path of future consumption and consequently the expected price dynamics depending on its share in money supply.[3] There are at least two economic costs of currency in circulation that need to be highlighted.[4] First, an increase in currency in circulation implies a decline in deposits and consequently a decrease in the availability of loanable funds for investment by restricting credit creation which is crucial for economic growth. Second, a rise in currency in circulation signals inflationary pressures.

The motivation of this note arises from recent significant increase in currency deposits ratio, which rose to 31.9 in FY11 from 28.6 in FY08 (see **Figure 1**).[5] In monetary policy perspective, abnormal movements in currency in circulation are important in developing countries as compared to developed economies because of the comparatively large share of currency in circulation in overall money supply (M2) and nominal gross domestic product (see **Table 1 and 2 in Appendix**).

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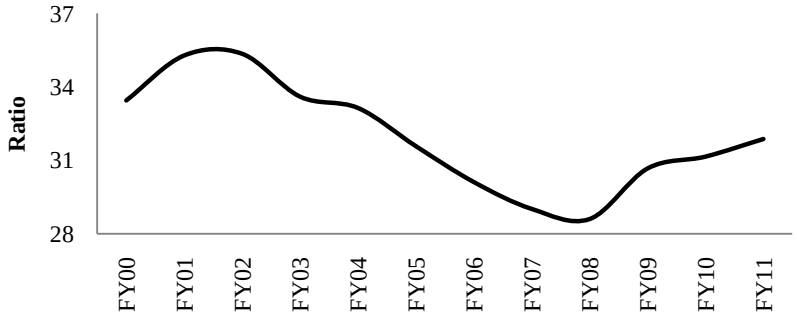
[2] Simwaka et al. (2006)
[3] Stavreski (1998)
[4] Simwaka et al.(2006)
[5] Based on data up to end November 2010.

Figure 1: Average Currency to Total Deposits Ratio



In this context, movement in currency in circulation is an important indicator for central banks that set monetary aggregates as an intermediate target. In the following section, we attempt to explain how withdrawal of currency takes place in balance sheet of the banking system.

The Balance Sheet Transactions of Currency Withdrawal

Table 1 illustrates the balance sheet transactions of currency withdrawal from a commercial bank and the central bank. It shows how withdrawal of currency involves balance sheet of a central bank through the channel of reserves. For instance, a depositor withdraws Rs100 from a commercial bank, both vault cash and the deposits of the bank declines by the same amount (see **Panel A**). However, if the bank replenishes its vault cash from the reserves maintained with the central bank by Rs100, its reserves with the central bank will decline thereby increasing vault cash and notes in circulation (see **Panel B** and **Panel C**). In case the currency comes back to the bank, both vault cash and deposits of the bank increase by the same amount (see **Panel D**). If the currency is returned to the central bank, vault cash and notes in circulation decline while commercial bank reserves with the central bank increases (see **Panel E** and **Panel F)**.

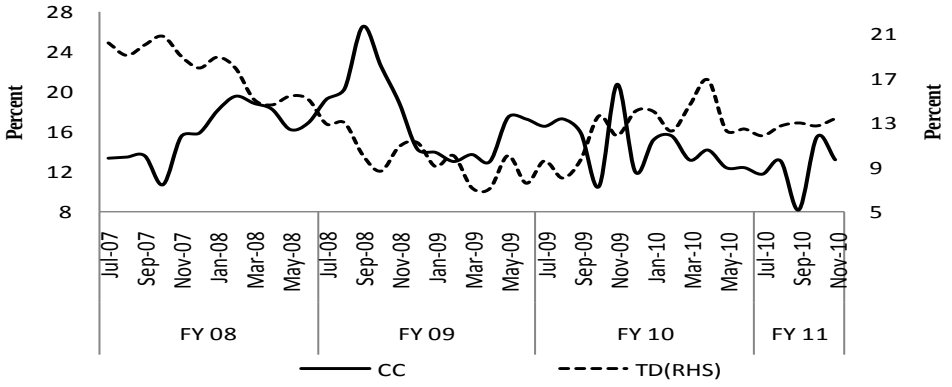
Table 1: Balance Sheet Transactions

A	
Commercial Bank	
Assets	liabilities
Vault Cash….-100	Deposits…..-100
B	
Central Bank	
Assets	liabilities
	Reserves (Commercial Bank)…-100
	Notes in Circulation….+100
C	
Commercial Bank	
Assets	liabilities
Vault Cash….+100	
Reserves with Central Bank…-100	
D	
Commercial Bank	
Assets	liabilities
Vault Cash….-100	Deposits…..+100
E	
Central Bank	
Assets	liabilities
	Reserves (Commercial Bank)…+100
	Notes in Circulation….-100
F	
Commercial Bank	
Assets	liabilities
Vault Cash….-100	Deposits…..+100
Reserves with Central Bank…+100	

Economic Costs of Currency in Circulation

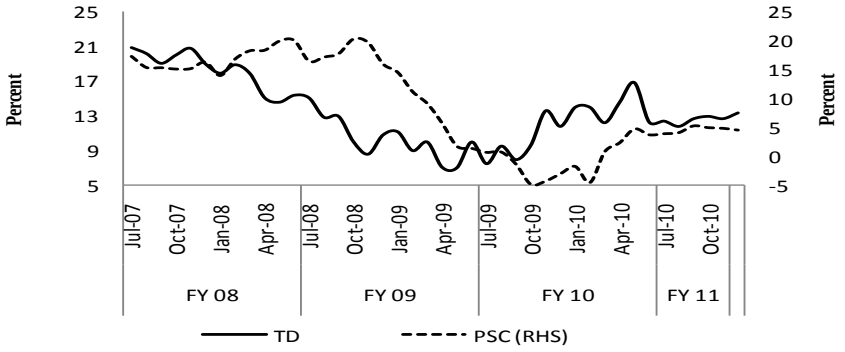
An increase in currency in circulation results in reduced deposits and thus loanable funds available with the banks, which in turn hurt economic growth. High volume of currency in circulation implies that deposits are being withdrawn from the banks which restrict banks' ability to meet private sector credit demand. This could be explained in **Figure 2** which exhibits a negative relationship between currency in circulation and t otal private sector deposits. It does explain that rising currency in circulation implies depletion of deposits, and vice versa.

Figure 2: YoY Growth in CC and Total Deposits



In this perspective, private sector credit and total private sector deposits should bear positive relationship because accumulation of deposits results in more supply of loanable funds and enhances banks' lending capacity. This relationship, in our case, is confirmed from **Figure 3** that displays positive relationship between private sector credit and the total private sector deposits, except for the period January 2008 to November 2008 when growth in credit accelerated despite decrease in deposit growth.

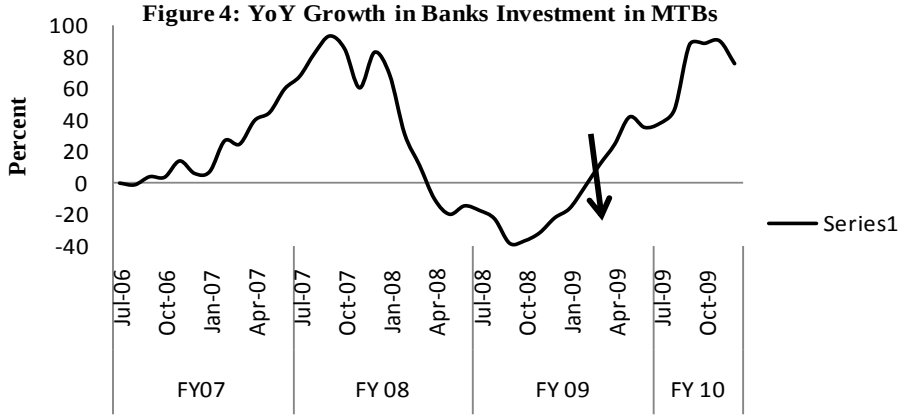
Figure 3: YoY Growth in Private Sector Credit and Total Deposits



The question that arises is: where did the funds come from to meet increasing private sector credit demand during this period? We could find the source of funds from **Figure 4**, which displays that the banks' investment in MTBs decelerated significantly from January 2008 to

October 2008 (see arrows). This shows that banks had sufficient funds from retirement of MTBs to meet increasing private sector credit demand.

Figure 4: YoY Growth in Banks Investment in MTBs

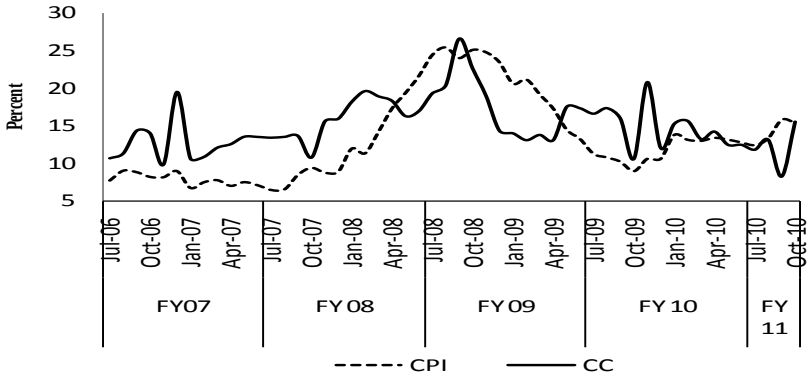


Determinants of Currency Deposit Ratio

Inflation

From a theoretical standpoint, rising inflation could be one of the factors influencing currency deposit ratio. Rising inflation means that economic agents need more money for economic transactions, which they finance through utilizing their savings (withdrawal of deposits) and thereby, currency in circulation increases in economy. This indicates a positive relationship between currency in circulation and inflation (see **Figure 5**).

Figure 5: YoY Growth in CC and CPI



Two observations are worth considering from the given figure. First, inflation and growth in currency in circulation both peaked in H1-FY09 and fell in inflation during H2-FY09, which was also followed by a decrease in currency in circulation. Second, during H1-FY09, growth in currency remained closed to inflation rate which could again be observed from January 2010 onwards.

Table 2 Granger Causality Test

Pairwise Granger Causality Test			
Sample : 1991M01-2010M01			
Lags: 2			
Null Hypothesis	Obs	F-Statistics	Probability
CPI does not Granger Cause CIC	227	4.39	0.01347
CIC does not Granger Cause CPI	---	13.58	2.7E-06

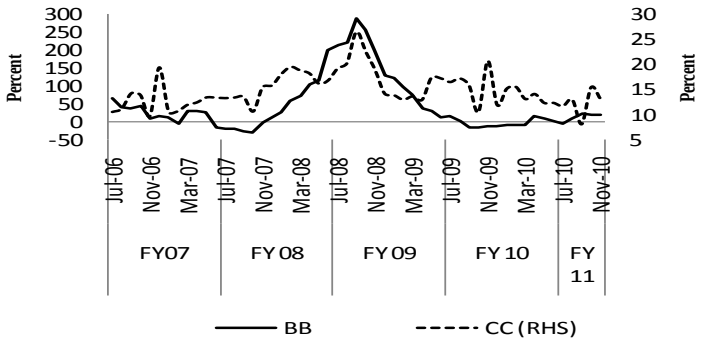
The relationship shown in **Figure 5** is further investigated by utilizing Granger causality test, which suggests that inflation causes currency in circulation to rise with the lag of two months. The causality test indicates that currency in circulation also impacts inflation (see **Table 2**). This suggests that inflation has been a key factor pushing up currency deposit ratio since FY09.

Government Budgetary Borrowings

Government budgetary borrowing from SBP and the scheduled banks is another important determinant of currency deposit ratio in Pakistan. Before we proceed to see the impact of budgetary borrowings on currency deposit ratio, it is pertinent to mention two prime sources of increase in currency in circulation. First, increase in currency comes from depletion of

bank deposits. The second source of currency in circulation is directly concerned with the government budgetary borrowing from the SBP which pumps extra currency into the system, thereby increasing currency deposit ratio. This is substantiated by a positive relationship between currency in circulation and the government budgetary borrowing from SBP (see **Figure 6**).

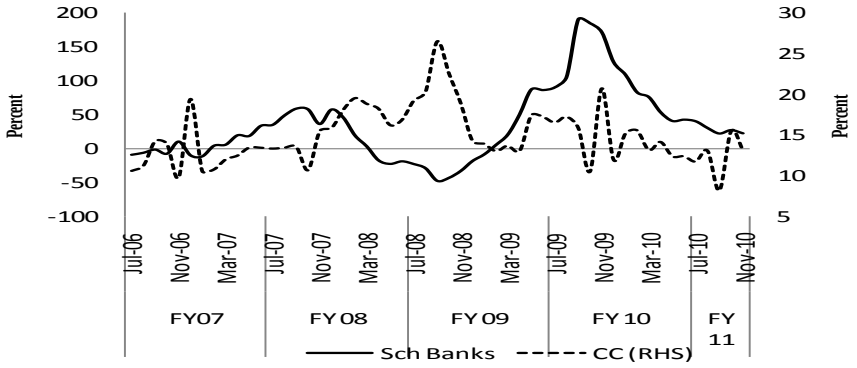
Figure 6: YoY Growth in CC and Budgetary Borrowing from SBP



As observed in the case of inflation, budgetary borrowing grew as high as 300 percent during FY09, the period when currency deposit ratio began to rise sharply. This suggests that budgetary borrowing has played a vital role in jacking up the currency deposit ratio. It is worth mentioning that the fresh currency injected in the system through borrowing from SBP remains in the system as budgetary borrowings is mainly retired through transfer of central bank surplus profit to the government and foreign debt receipts. This is evident from the fact that SBP transferred its profit worth Rs413.5 billion during 7th May 2007 to 31st December 2009 to the government and 68.5 percent retirement of MTBs was due to profit transfers during this period. This indicates that the larger part of SBP borrowings was retired through SBP profit, which ultimately increased currency in circulation because such mechanisms of MTB's retirement does not bring the currency back from the system.

In **Figure 6**, however, the relationship between budgetary borrowing and currency is completely broken during FY10 where growth in currency did not fall in line with SBP credit to the government. The possible explanation for such deviation from the stylized facts is the government borrowing (budgetary plus commodity operations) from scheduled banks which rose by 200 percent in FY10 causing pressure in currency circulation despite the remarkable slowdown in borrowing from SBP (see **Figure 7**). This analysis suggests that budgetary borrowing from the banking system is an important determinant of rising currency deposit ratio.

Figure 7: YoY Growth in CC and Budgetary Borrowing from Scheduled Banks



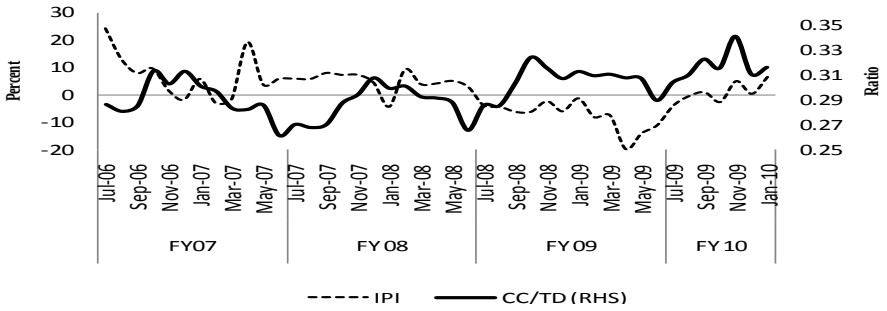
3. Economic Activity

Theoretically, economic activity may have both positive and negative impact on currency deposit ratio. The positive impact indicates that with increasing level of economic growth, income of the economic agents increases which in turn increases transactional demand for money, hence causing a rise in currency in circulation, and vice versa. The negative impact implies that when income of the economic agents increases on the back of improvement in economic activity, currency deposit ratio declines as economic agents tend to save more than consume, which increases bank deposits. On the other hand, when income declines due to a slowdown in economic activity, the currency deposit ratio moves upward as economic agents utilize their savings to meet economic transactions, which increases currency in the system and declines deposits.

In our case, the Industrial Production Index6 (IPI), which represents economic activity, bears negative relationship with currency in circulation (see Figure 8). The observation worth mentioning here is that in FY09, the period marked with sharp rise in currency deposit ratio, IPI growth turned negative and remained so during entire FY09, suggesting the rise in currency deposit ratio due to utilization of savings which caused depletion in bank deposits.

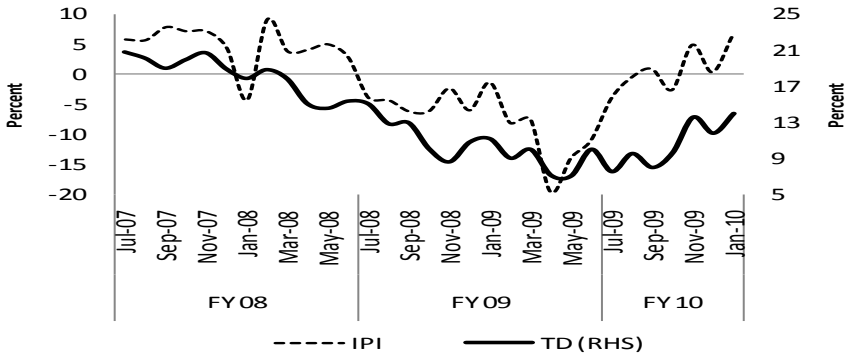
[6] Data of IPI is available up to Jan 2010.

Figure 8: YoY Growth in IPI and Currency to Total Deposits Ratio



The role of IPI could be further strengthening in explaining currency deposits ratio by observing the relationship between IPI and the total deposits. A positive association would authenticate that with rising levels of economic activity, economic agents save more which in turn increases banking system deposits and lowers currency deposits ratio. **Figure 9** confirms a positive relationship between IPI and the total deposits which suggests that economic activity is an important determinant of currency deposits ratio in Pakistan.

Figure 9: YoY Growth in IPI and Total Deposits



National Saving Schemes

National Saving Schemes (NSS) are the alternative products to bank deposits. If economic agents perceive NSS to be more profitable, then withdrawal of banking deposits could be fairly imagined which would influence currency deposits ratio. It is vital to mention that since computation of currency deposits ratio involves only private sector deposits,

investment in NSS will increase government deposits and hence, the currency deposit ratio will increase.

Figure 10 : Investment in NSS (Yearly Average) and Currency to Total Deposits Ratio

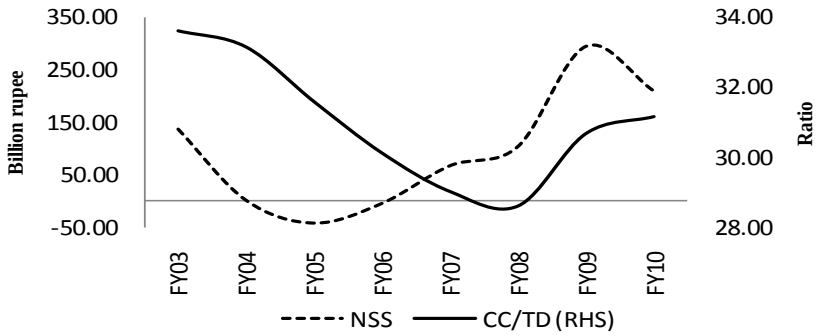
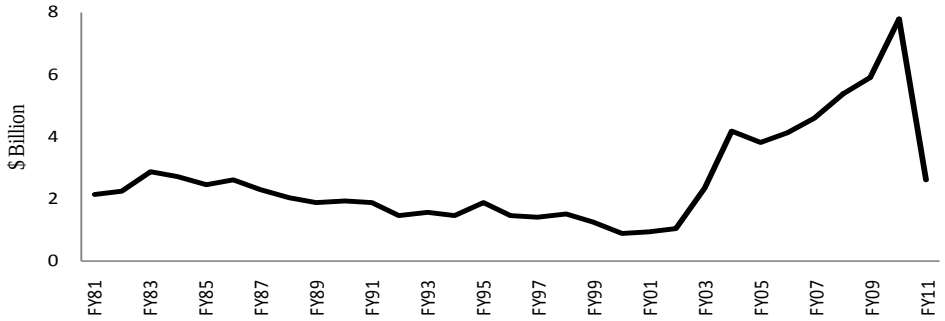


Figure 10 illustrates that rising investment in NSS since FY06 had no impact on currency deposit ratio till FY08. It may be because investment in NSS was not significant enough to influence currency deposit ratio. However, in FY09, investment in NSS rose sharply by Rs293.5 billion from Rs102.8 billion in FY08 due to increase in profit rates, up to 1.5 percent, with effect from 1st October 2008. As a result, the currency deposit ratio also increased sharply in the same period.

Remittances Inflow

In Pakistan, remittances are predominantly used to meet daily expenses such as food, clothing and healthcare; however, funds are also spent on building or improving housing, buying land, cattle, other durable consumer goods and the repayment of loans at the time of emigration. Remittances could be one of the factors to cause increase in currency deposit ratio during FY09. **Figure 11** shows that remittances started rising sharply in FY02, however, it did not impact currency deposit ratio in this period.

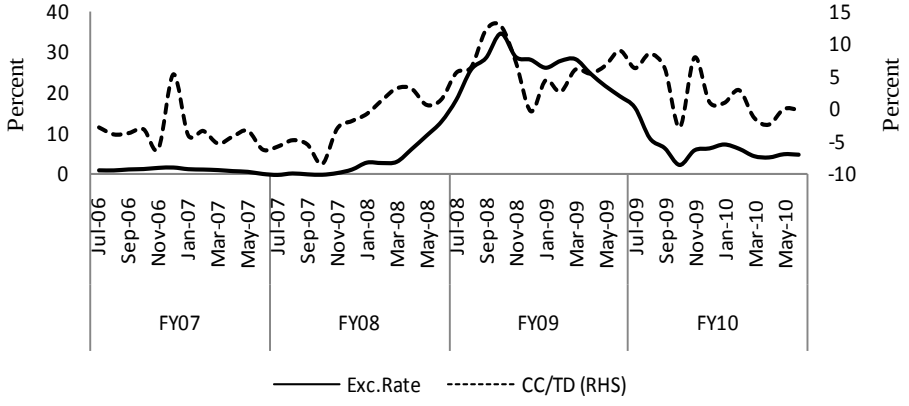
Figure 11 : Yearly Remittances Flow



One reason might be low and stable inflation during FY02 to FY07. Thus, currency in the system did not increase due to lower transactional demand for money. However, in FY09, when inflation was significantly high, increased inflow of remittances also caused increased currency in the system on the back of high transactional demand for money. This suggests that remittances inflow may also be an important determinant of pushing currency deposit ratio up due to the high inflation.

The movement in exchange rate also seems to influence currency deposit ratio (see **Figure 12**). However, there might be a case of reverse causality as increase in currency deposit ratio implies higher supply of domestic currency that leads to depreciation.

Figure 12: YoY Growth in Currency Deposits Ratio and Nominal Exchange Rate



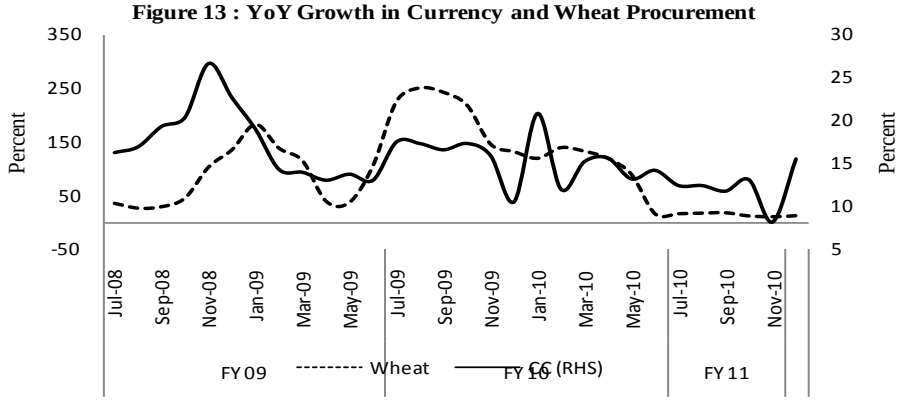
6. Withholding Tax on Cash Withdrawals

Through the Finance Act, 2005, Government imposed withholding tax effective from 1st July 2005 at 0.1 percent, under Section 231A of the Income Tax Ordinance 2001, on cash withdrawals from banks exceeding Rs25000, which was further increased to 0.2 percent from 27th June 2006. Imposition of such a tax might also have discouraged people from depositing money in the banks leading to an increased preference for holding cash and thereby an increase in currency in circulation.

7. Wheat Procurement

The wheat procurement has a substantial positive impact on the currency in circulation. As farmers are either indebted or their earning is at subsistence level, they withdraw the deposits received from the government against their supply of wheat. The other possible reason is the informal borrowing system in the rural areas and lesser role of financial services. As it is clear from the **Figure 13**, there is a positive association between growth in currency and growth in wheat procured. It can also be inferred that the procurement of wheat impacts currency deposit ratio.

Figure 13 : YoY Growth in Currency and Wheat Procurement



Empirical Estimation

The discussion of the economic determinants of currency deposits ratio is summarized in **Table 3**. Inflation, exchange rate, economic growth, interest rate are identified as core determinants of the currency deposit ratio; however, due to the crucial role of public sector borrowing in Pakistan, the government borrowing from the public, banking system, and SBP is also included as explanatory variables. The impact of wheat procurement is a seasonal phenomenon and the stock of procured wheat has been subject to structural shifts, therefore, seasonal dummies have been included to capture the impact of commodity operations. The following equation specifies the relationships of explanatory variables to the currency deposit ratio:

$$C/DD = f (NSS, PSBS, REMIT, ER, IPI, CPI)$$

Where, CC/DD=Currency in circulation to demand deposit ratio, NSS=Investment in National Saving Schemes, PSBS=Public sector borrowing from central bank and commercial banks, REMIT=Remittances, ER=Nominal exchange rate, IPI=Industrial production index, and CPI=Consumer price index

In order to analyze the trends in the dependent and explanatory variables, the statistical properties of the variables under considerations are presented in **Table 3 in Appendix**. In the logarithmic form, the variables concerned have positive mean except CC/DD ratio that has negative mean. The mean reversion property is also violated as the three stationarity tests show that almost all the variables are non-stationary. The commonly used ADF, PP and ADFGLS (that takes into account small sample properties), with optimal lags confirm that at log level the data is non-stationary. However, after differencing of the log forms, the mean converges towards zero and the series become stationary.

Due to statistical issues of stationarity, the difference in logarithmic form is taken for empirical analysis as given below. The optimal lags are selected from a maximum lags of 12, as we have monthly data.

Table 3: Summary of the Literature Review

Variables	Description and References	Results
Inflation	Zaki (1992), positive impact on C/DD	0.218
	Mukerjee and dadkhah (1988),positive impact on currency deposit ratio	0.712
Real GNP	Zaki (1992), negative impact on C/DD	0.012
	Mukerjee and dadkhah (1988),negative impact on currency deposit ratio	0.612
	Michael (2004), negative impact on C/DD	0.348
Interest rate on deposits	James and Elmus (1979),negaive impact on C/DD	0.028
Interest rate on other short-term assets	James and Elmus (1979),positive impact on C/DD	0.008
bank branches	Michael (2004), negative impact on C/DD	0.597
Exchange Rate	Michael (2004), negative impact on C/DD	0.054
Tax Rate	Michael (2004), negative impact on C/DD	0.225
Economic reform	Michael (2004), positive impact on C/DD	0.163
Financial Sector reforms	Michael (2004), negative impact on C/DD	0.098

$$\Delta \text{Log (CC/DD)} = \alpha_0 + \sum_{t=1}^{12} \Delta \text{Log } \alpha_1 \text{ (NSS)} + \sum_{t=1}^{12} \Delta \text{Log } \alpha_2 \text{ (PSBS)} + \sum_{t=1}^{12} \Delta \text{Log } \alpha_3 \text{ (REMIT)} + \sum_{t=1}^{12} \Delta \text{Log } \alpha_4 \text{ (ER)} + \sum_{t=1}^{12} \Delta \text{Log } \alpha_5 \text{ (IPI)} + \sum_{t=1}^{12} \Delta \text{Log } \alpha_6 \text{ (CPI)}$$

Endogeniety is observed to exist in the above equation from the overview of the stylized facts, as increase in prices leads to higher currency in circulation and vice versa. In the same manner, increase in economic activity and currency holding also exhibits causal relationships. Therefore, in order to avoid endogeniety issues, the explanatory variables are not incorporated contemporaneously and are instrumented by their lags. Diagnostic tests are performed to identify other problems—heteroscedasticity, serial correlation and ARCH. Furthermore, incorporation of 12 lags of each explanatory variable would cause the problem of over parameterization; therefore, general to specific approach is utilized and the insignificant lags are dropped from the equation.

The estimated equation after removing the insignificant lags, by keeping in view the standard error of regression, is as follows:

$$\Delta \text{ (Log (CC/DD))} = - 0.034 - 0.544D_1 - 0.109D_2 - 0.841D_3 - 0.22 \Delta \text{ (log (NSSt}_{-1})) + 0.34 \Delta \text{ (log (NSSt}_{-4})) + 0.45 \Delta \text{ (log (NSSt}_{-5})) + 0.24 \Delta \text{ (log (PSBS t}_{-3})) + 0.15 \Delta \text{ (log (PSBS t}_{-9})) + 0.035 \Delta \text{ (log (REMIT t}_{-4})) + 0.55 \Delta \text{ (log (ER t}_{-3})) + 0.27\Delta \text{ (log (ER t}_{-5})) - 0.67 \Delta \text{ (log (ER t}_{-8})) + 0.34 \Delta \text{ (log (ER t}_{-12})) + 0.13 \Delta \text{ (log (IPI t}_{-4})) + 0.097\Delta \text{ (log (IPI t}_{-8})) -$$

$0.08\ \Delta (\log (IPI\ t_{-9})) + 0.18\ \Delta (\log (IPI\ t_{-10})) - 0.14\ \Delta (Log (CC\ t_{-1}/DD\ t_{-1})) - 0.13\Delta (Log (CC\ t_{-5}/DD\ t_{-5})) + 0.14\ \Delta (Log (CC\ t_{-12}/DD\ t_{-12})) + 0.045\ Jan + 0.030\ Feb + 0.045\ Mar + 0.019\ May - 0.23D_4 + 1.32\ \Delta (\log (CPI\ t_{-3}))$

The four dummies are used to capture the intercept shifts in the deposits series that is mainly due to definitional changes. The four seasonal dummies of January, February, March and May have positive

Table4 : Diagnostic Statistics

R^2	0.74	S.E of regression	0.051
Adjusted R^2	0.7		2.17
Test	**Stat**	**Prob**	
Q (10)	10.34	(0.41)	
Q^2 (10)	4.99	(0.89)	
J-B	2.64	(0.266)	
L.M (2)	1.98	(0.14)	
ARCH (2)	0.19	(0.83)	

impact on currency deposit ratio. In the month of January, February and March, sugarcane and cotton crops are harvested; since these are cash crops, sale of these crops increases currency in circulation in the economy. The month of May indicates government procurement of wheat crop which causes currency in circulation to increase as the money is transferred from government deposits to wheat traders and ultimately into growers' hands.

Increase in NSS absorption is hypothesized to have a positive impact on the currency deposit ratio. However, according to the estimated equation, the increase in NSS is first financed by the currency holding due to an increase in the opportunity cost of holding money and afterwards with four and fifth months lags NSS is financed by deposits. Therefore, NSS has negative impact on the CC/DD ratio after one month and a positive effect in the latter months. Overall, NSS has a net positive impact on CC/DD. Public sector borrowing increases currency in circulation with the lags of the third and nine months. As perceived, remittances have a positive association with the lag of four months. The overall impact of exchange rate is also positive. Transactional demand for money is also observed as when growth increases, currency deposit ratio also increases. Inflation has a significant positive impact on CC/DD.

Diagnostic checking is satisfactory and the estimated equation has no issue of heteroscedasticity, serial correlation and ARCH (see **Table 4**).

Conclusions

The objective of this note was to investigate the factors behind significant increase in currency deposits ratio since FY09. Before investigating the factors, the note attempts to explain the balance sheet mechanism of withdrawal of currency from the banking system and the economic costs of increase in currency in circulation. In perspective of economic costs, the negative relationship between currency and total private sector deposits confirms that an increase in currency depletes deposits, which in turn hurts economic growth by restricting supply of loanable funds with the banks. From a theoretical standpoint, when we attempt to investigate determinants of currency deposits ratio through graphical analysis, inflation, government budgetary borrowing, industrial production index, investment in National Saving Schemes, remittances inflow, and wheat procurement are found to be the prominent factors behind increasing currency deposits ratio. The note also includes the econometric estimation of these factors.

Policy Recommendations:

Since the commodity operations lead to a rise in CC/DD ratio, the system of cash payment to the farmer against the procurement of agricultural commodities, especially wheat, needs to be changed. In order to motivate farmers about saving instruments, a small fraction (10-20%) of the payment should be in the form of saving certificates. This would result in transferring of liquidity burden from the banking system. In the similar way, during the encashment of remittances, the amount receiver should be educated regarding investing in government securities.

1. In order to motivate people to hold more deposits, the attractive and competitive rates should be offered on saving deposits. In order to boost the confidence in the commercial banks, the State Bank should advise the commercial bank to provide facilities to small deposit holders as well.
2. The steps should be taken to curtail excess demand and inflationary pressures in the economy by reducing the fiscal expenditure and monetary tightening. For instance, to stabilize the economy in case of any external shock such as increase in oil prices, the tightening stance should be called upon.
3. Excessive and volatile government borrowing from State Bank pumps fresh currency in the economy that results in higher CC/DD and inflationary expectations. Government borrowing from central bank should be smooth and normal.

4. In order to increase the tax net and reduce the size of informal economy, government needs to take appropriate actions and abolish the adhoc withholding tax on cash withdrawals of more than Rs25000.

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Appendix

Table 1: Percent Share of Currency in Circulation in Developed Countries

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
						as % of Nominal GDP				
Australia	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.7	3.8	3.8
Japan	12.3	13.3	14.4	14.7	14.6	14.9	15.0	16.6	17.0	18.0
Sweden	4.0	4.2	4.0	4.0	3.8	3.8	3.6	3.7	3.6	3.2
Switzerland	9.1	10.0	9.7	9.9	8.8	9.6	9.6	9.1	9.2	9.3
United Kingdom	2.5	2.5	2.5	2.5	2.6	2.6	2.4	2.6	2.7	3.0
USA	5.6	5.6	5.8	5.9	5.8	5.7	5.5	5.7	6.0	6.3
Average	**6.2**	**6.6**	**6.7**	**6.8**	**6.6**	**6.8**	**6.7**	**6.9**	**7.0**	**7.3**
						as % of Money Supply*				
Australia	6.1	5.7	5.5	5.2	5.0	4.9	4.7	4.1	4.0	3.7
Japan	9.5	10.8	10.4	10.4	10.3	10.4	10.6	11.8	11.6	11.3
Sweden	8.9	9.1	8.8	8.6	8.4	7.7	6.8	7.0	6.0	5.2
Switzerland	10.2	11.2	10.7	10.9	9.9	9.6	9.2	10.5	9.6	8.0
United Kingdom	2.7	2.7	2.6	2.4	2.3	2.2	2.1	2.2	2.0	2.0
USA	11.1	10.3	10.4	10.5	10.5	10.6	10.4	10.6	10.4	10.4
Average	**8.1**	**8.3**	**8.1**	**8.0**	**7.7**	**7.6**	**7.3**	**7.7**	**8.3**	**6.8**

Source: International Financial Statistics, March, 2011. * M2 excluding Ausralia (M3) and UK (M4)

Table 2: Percent Share of Currency in Circulation in Developing Countries

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
										as % of Nominal GDP
Pakistan	**10.8**	**10.3**	**11.1**	**11.8**	**11.6**	**11.1**	**11.3**	**11.6**	**21.6**	**23.7**
Brazil	2.4	2.5	2.9	2.5	2.7	2.7	3.0	4.0	4.0	4.1
Bagladesh	4.8	4.9	4.8	4.7	5.0	5.5	7.5	7.4	7.3	7.2
Chile	2.7	2.8	2.8	2.8	2.8	2.8	2.8	3.9	4.1	5.0
Peru	2.4	2.6	2.8	3.0	3.4	3.9	3.8	4.4	4.7	5.1
India	9.7	10.0	10.6	10.9	10.9	11.1	11.2	11.3	14.0	15.3
Average	**5.5**	**5.5**	**5.8**	**5.9**	**6.1**	**6.2**	**6.6**	**7.1**	**4.3**	**10.1**
										as % of Money Supply (M2)
Pakistan	**27.8**	**26.0**	**25.5**	**25.0**	**24.0**	**22.9**	**23.8**	**23.0**	**25.9**	**25.7**
Brazil	10.1	10.1	10.6	10.4	10.5	10.0	10.4	13.2	10.9	11.3
Bagladesh	13.9	13.2	12.2	11.7	11.8	12.2	14.7	15.2	14.8	13.5
Chile	5.4	5.8	5.9	6.3	6.1	5.8	5.6	7.1	6.9	7.9
Peru	7.5	8.0	8.7	10.0	12.4	13.4	13.9	14.4	13.7	14.8
India	24.9	23.8	23.1	23.8	23.5	23.8	22.7	18.5	14.6	14.6
Average	**14.9**	**14.5**	**14.3**	**14.5**	**14.7**	**14.7**	**15.2**	**15.2**	**11.6**	**14.6**

Source: International Financial Statistics, March, 2011.

Table 3: Descriptive Statistics and Unit Root Test at Level

				Log at Level			
	Mean	**Median**	**S.D**	**Skewness**	**ADF -Stat**	**ADFGLS-Stat**	**PP-Stat**
log (CC/DD)	-0.19	-0.04	0.45	-0.87	-2.49	-1.76	-2.72
log (NSS)	6.25	6.57	0.72	-0.46	-0.92	-1.01	-0.95
log (PSBS)	13.23	13.23	0.48	0.33	-1.30	-1.59	-1.36
log (REMIT)	5.28	5.04	0.71	0.32	-1.96	-1.37	-2.98
log (ER)	3.83	3.96	0.36	-0.49	-1.97	-1.51	-1.74
log (IPI)	4.80	4.70	0.35	0.25	-1.36	-0.22	-4.27
log (CPI)	4.54	4.58	0.41	-0.09	-2.00	-1.62	-1.21
							Log at difference
	Mean	**Median**	**S.D**	**Skewness**	**ADF -Stat**	**ADFGLS-Stat**	**PP-Stat**
Δlog (CC/DD)	0.00	0.00	0.10	-2.02	-3.98	-2.90	-18.31
Δlog (NSS)	0.01	0.01	0.02	3.51	-2.27	-1.43	-13.80
Δlog (PSBS)	0.01	0.01	0.40	0.08	-3.26	-1.79	-16.63
Δlog (REMIT)	0.01	0.00	0.18	0.26	-4.45	-1.19	-22.00
Δlog (ER)	0.01	0.00	0.01	2.30	-3.55	-3.40	-10.32
Δlog (IPI)	0.00	-0.01	0.10	0.28	-5.69	-0.64	-21.17
Δlog (CPI)	0.01	0.01	0.01	1.69	-2.19	-1.20	-12.62