Capturing Portfolio Flows Statistics – Purpose for Usage Matters[1]

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The purpose of this paper is to outline three traditions of collecting non-resident bond statistics in relation to its usage, employing South African data. The measurement of portfolio capital flows requires a well-functioning Securities Exchange and careful interpretation. The purpose for usage is a critical aspect of determining the data collection activity. Although this is relevant for both bonds and equities, this paper focuses on bonds. The bond market has many transaction types that can be confusing and perhaps, misleading, if care is not taken during analysis. The note begins by defining the South African bond market. Following this, various types of data collection and usage will be outlined. Thereafter, possible monetary policy confusions that may arise when using bond statistics incorrectly will be discussed before concluding.

Keywords: bond market, bond statistics, non-residents

1.   Introduction

Monetary policy makers in South Africa have traditionally been exposed to three types of non-resident bond statistics produced by the JSE Limited (stock exchange, also referred to as the JSE), Research Department (RSH) within the South African Reserve Bank (the Bank) and Financial Surveillance Department (FinSurv formerly Exchange Control). This would not necessarily be a problem if those three sets of numbers were the same, but they are not. Careful consideration and understanding of each set is therefore necessary to avoid forming incorrect opinions about the bond market.

The paper begins by defining the key attributes of the South African bond market in section 2. Section 3 outlines the various types of non-resident bond data collection methodologies and the intended usage of each data set. Thereafter, section 4 highlights possible monetary policy mistakes that may arise from using bond statistics incorrectly and section 5 concludes.

2.   Key attributes of the South African bond market

The South African bond market is located within the JSE, a licensed exchange. It executes and matches trades (transactions) in bonds, while the Share Transactions Totally Electronic (STRATE), as the Central Securities Depository for electronic settlement of all financial instruments in South Africa, effects the change of bonds ownership. STRATE is equivalent to the offshore Euro-clear. The bond market is dominated by national government bonds with 62 per

cent of the total amount in issue and non-residents are holding about 37 per cent of the market as at February 2013. During the same period, the market capitalisation of the bond market amounted to R1,9 trillion (about US$213 billion) and the annual liquidity ratio was 11,2 – down from 16,3 a year earlier. A selection of bond market statistics is shown in Figure 1.

Figure 1: Selected bond market statistics[1]

	# of bond transactions	Bond turnover (Consideration)	Average daily turnover	Annual liquidity ratio	Non-resident bond participation	Non-resident net purchases of bonds	Percentage of bonds held by non-residents	Total bonds listed	Total private bonds	Total auction of govt bonds	Market capitalisation
	Actual	R billion	R billion	Ratio	Per cent	R billion	Per cent	R billion	R billion	R billion	R billion
Jan-2012	30 369	1 813	86.4	14.3	10.8	5.9	29.1	1 397	325.4	10.1	1 512
Feb-2012	33 278	2 106	98.9	16.3	10.8	5.5	29.6	1 421	335.6	11.6	1 535
Mar-2012	34 615	2 117	100.8	16.4	9.2	9.2	29.2	1 450	347.5	12.4	1 552
Apr-2012	27 268	1 792	99.6	13.5	10.1	12.4	31.0	1 473	357.3	10.0	1 593
May-2012	36 123	2 259	102.6	16.5	10.0	-5.5	31.5	1 503	368.7	10.5	1 615
Jun-2012	33 815	2 329	110.2	16.6	9.7	21.7	32.0	1 526	370.6	12.4	1 661
Jul-2012	40 314	2 710	123.2	18.4	10.2	12.5	33.3	1 547	373.8	13.7	1 730
Aug-2012	32 179	2 050	94.3	13.6	10.6	7.3	32.8	1 570	377.9	12.4	1 756
Sep-2012	32 504	2 160	120.0	14.5	10.9	9.0	33.3	1 583	377.9	11.6	1 768
Oct-2012	43 444	2 583	115.3	17.3	10.9	3.1	35.2	1 611	389.6	13.0	1 794
Nov-2012	31 839	2 152	97.8	14.2	11.5	4.1	35.0	1 639	399.5	12.4	1 825
Dec-2012	21 997	1 202	66.8	7.9	12.4	3.4	35.9	1 653	402.3	5.7	1 863
Jan-2013	32 217	2 022	93.6	12.7	10.9	3.5	36.3	1 664	402.3	9.7	1 864
Feb-2013	31 436	1 765	85.4	11.2	11.4	4.3	36.9	1 684	406.7	11.6	1 890

[1]Non-resident numbers refer to RSH data, see Section 3 below.

There are several types of bond trades, including:

- *Free-of-value* – transfers of ownership with no known payment involved.

- *Options exercised* – trades at a yield outside the daily prices or yield ranges and are entered into for various outstanding maturities.

- *Structured deal (contract)* – structured on the basis of a trade in another asset that may result in a bond being traded at a yield that may be outside the daily price or yield ranges. This kind of instrument is similar to an asset-backed swap.

- *Standard (also spot)* – vanilla trade matched on trade day irrespective of settlement date.

- *Repurchase transactions (repo's)* – two individual but linked transactions entailing a buy and a sell. Ownership is transferred with each transaction.

As depicted in Figure 2, the largest and by far the most preferred trade type was standard transactions. The year 2012 was however exceptional as all-time net purchases of bonds were recorded. Bonds were the most preferred investment instrument by non-residents on account of (1) the higher yields that existed in South Africa in comparison with other markets and (2) the inclusion of South African bonds in Citi bank's World Global Bond Index, among the main reasons.

Figure 2: Non-residents' net bond transactions by trade type
R millions

Year	Free-of-value	Options exercised	Structured deals	Standard	Repo's
2005	-3 613	1 373	-135	-8 182	118
2006	5 874	5 196	6 201	24 720	-7 667
2007	-2 482	1 930	4 474	5 945	742
2008	18 225	831	-9 444	-15 421	-3 299
2009	14 262	5 362	-27 746	26 726	-3 100
2010	7 314	9 448	-21 026	57 007	-775
2011	4 443	7 274	-12 297	47 664	-5 057
2012	3 218	350	-5 246	93 516	-3 248
2013 to Mar	1 378	0	-5 269	14 144	-342

(-) net sales and (+) net purchases

3.   Non-resident bond statistics collection methodologies and usage

There are three key methodologies used to collect non-resident bond statistics in South Africa. For the purposes of this paper, the entity collecting the data is used as reference to the type of data. These are the JSE data, RSH data and FinSurv data. These statistics types differ fundamentally and it is imperative to understand the reasons for the differences in order to interpret the data correctly. Figure 3 shows the different data sets and discrepancies as collected by the various entities.

Figure 3: Non-residents' net bond purchases
R billions

2012 to 2013	JSE	RSH	FinSurv
January	5.9	5.9	4.5
February	5.4	5.5	7.8
March	7.4	9.2	3.7
April	12.9	12.4	17.1
May	-6.3	-5.5	10.1
June	21.3	21.7	13.2
July	13.0	12.5	18.5
August	8.5	7.3	6.0
September	8.4	9.0	11.1
October	4.2	3.1	28.5
November	2.6	4.1	4.3
December	2.0	3.4	15.9
January	3.2	3.5	1.8
February	3.8	4.3	11.3

The JSE data are sourced from STRATE on a daily basis. The data entail on-market details of all matched deals, excluding free-of-value trades. On-market transactions are bond trades that are

reported on the JSE trade reporting system (Nutron) and settled on a net basis. Normally, non-resident trades with residents are captured on Nutron and not on STRATE's offshore trade system. Matched trades are all the valid transactions that have buying and selling counterparties. Generally, all matched trades have to be included in the calculation and can only be excluded if a matched deal is modified through an equal and opposite deal. The bond trades statistics therefore do not necessarily reveal cross-border flows.

The purpose of the JSE bond data is to show changes in bond ownership and bond investor sentiment. The data are also utilised to calculate yields in the bond market. Developments in the data set should support bond holdings and cross-border flow statistics.

The RSH data are also sourced from STRATE on a daily basis. The data entail on-market details of all matched deals, including free-of-value trades. The RSH data have all the transaction details such as the transaction type, economic sectors of the trading parties and country of non-resident market from which the offshore counterparty is participating. Note that this is probably different from country of non-resident participants.

The purpose of the RSH data is to show changes in bond ownership and bond investor sentiment. Developments in the data set should support bond holdings and cross-border flow statistics. For economic policy purposes – including understanding the impact of such bond flows on the exchange rate, the RSH data should be adjusted further for balance of payments purposes[3]. Otherwise, further investigations and assessments must be made on the data before pronouncing on cross-border flows.

The FinSurv data are sourced from the Cross-Border Foreign Exchange Transaction Reporting System (CBFETRS) on a daily and monthly basis. The data entail both on-market and off-market transactions by authorised dealers excluding free-of-value trades. Off-market transactions are bond trades that are not concluded on the JSE trading system. These transactions are normally reported by the seller or the buyer to the relevant participant for settlement through the central securities depository. Off-market transactions can sometimes be concealed. For example, if the transacting parties are both offshore and are using the same settlement bank, then the settlement bank may change the beneficial holding status of the bond in its own records without necessarily channelling this information to STRATE for recording.

The purpose of the FinSurv data is to track and monitor cross-border flows, including money flows pertaining to bond transactions. Such transactions were traditionally authorised by the Bank under exchange control regulations before.

These three data types differ because of the following basic reasons:
- *Different data sources* – the data collected is a combination of on-market and off-market data on the one hand and either including or excluding free-of-value trades on the other.

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[3] In terms of the Balance of Payments Manual

- *Compilation methodology* – the different data sets do not necessarily show off-market trades separately to allow for comparison. Furthermore, cross-border flows are hard to identify from the reported on-market statistics.

- *Reporting lags* – on-market data are available on a fairly frequent and quick basis while data reported by authorised dealers on CBFETRS may lag by up to two days after settlement on STRATE.

- *Completeness of trades* – a comparison, for example, of RSH and JSE data sometimes reveals that not all trades are included in the compilation of the statistics. RSH has built-in counters to ensure the completeness of downloads.

4.   Unintended monetary policy mistakes arising from bond statistics misuse

Monetary policy makers have a big influence on decisions taken by economic agents. As such, an incorrect interpretation of bond statistics may lead to undue and probably misleading pronouncements by policy makers. A good example is attempting to tie exchange rate movements to bond flows. Not only is this difficult given the nature of on-market transactions, but there is a myriad of factors that cause movements in the exchange value of the rand, ranging from social and political events to global economic factors. Another example is equating on-market bond numbers to inflows of funds from bond trades. The fact that non-residents are increasing their ownership of bonds, as shown in Figure 1, does not necessarily reveal actual cross-border flows, but can certainly be used as an indication of a probability of such flows taking place.

5.   Conclusion

Three sets of non-resident bond data are available in the South African environment. These data sets are probably irreconcilable due to differences in data sources, compilation methodologies, reporting lags and completeness of trades. The RSH non-resident data are however complete, relevant, reliable and timely. The compilation process is extremely robust and facilitates detailed analysis of the bond market. For monetary policy formulation therefore, it will be useful to utilise the RSH data adjusted for balance of payments purposes to assess cross-border flows. The unadjusted RSH and JSE data do not necessarily reflect absolute cross-border flows, but should rather be used to assess changes in ownership of bonds and market sentiment.

6. References

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