

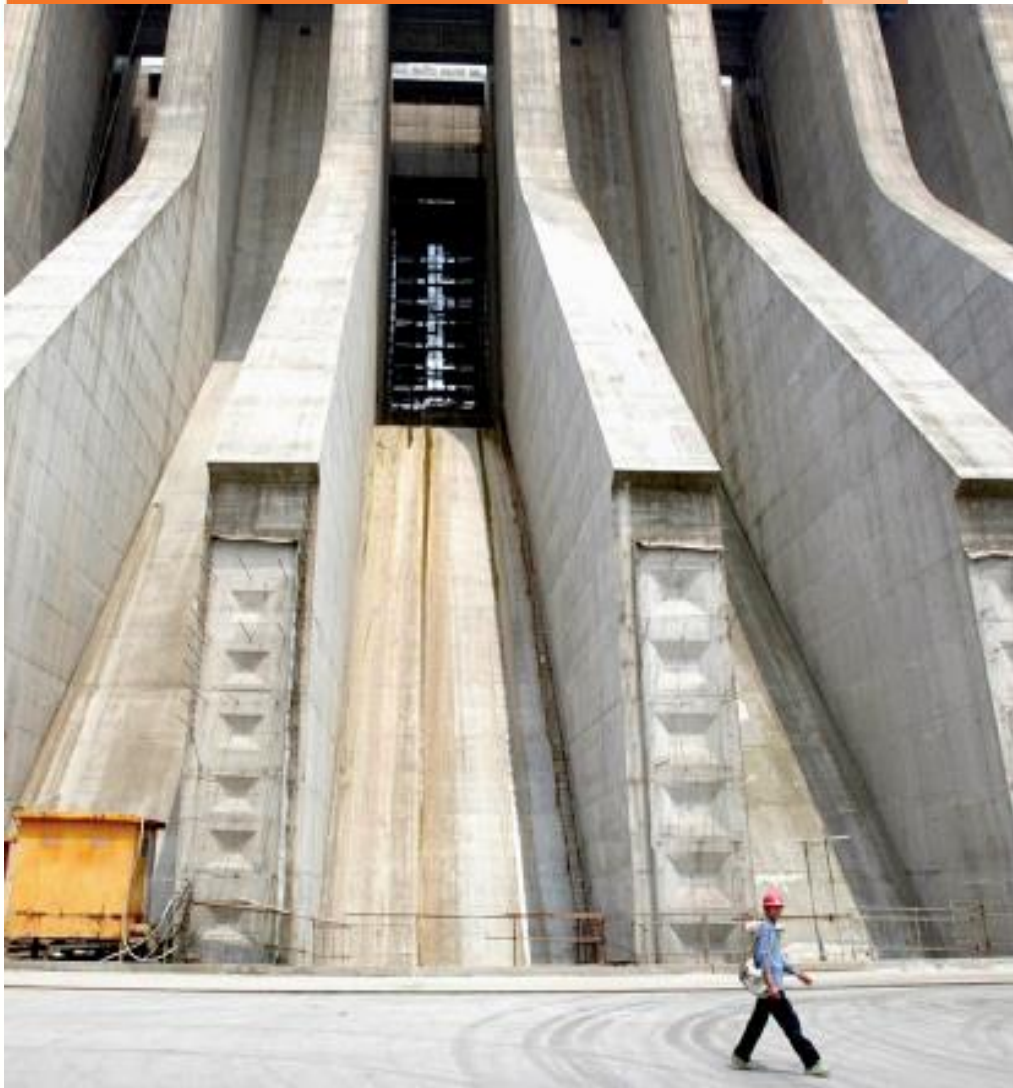
*The Auditor General
National Audit Office of
Malawi*

Final analytics report:

*Reconstruction of the Malawian Government
Cashbook for purposes of further investigation*

15 May 2015

Confidential





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Mr S.D.L Kamphasa
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15 May 2015

Dear Mr Kamphasa

**FINAL ANALYTICS REPORT:
RECONSTRUCTION OF THE MALAWIAN GOVERNMENT CASHBOOK FOR PURPOSES
OF FURTHER INVESTIGATION**

We have pleasure in providing you with our final report regarding the current status of the reconstruction of the Government of Malawi's Cashbook for purposes of further investigation.

We confirm that this final report and the findings herein are for the exclusive use of the National Audit Office of Malawi. No other party, whether referred to herein or not, is entitled to rely on any of the findings, views or opinions revealed in this final report without our prior written consent.

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Should you wish to discuss any aspect contained in this final report, please do not hesitate to revert to me on telephone number +27 12 429 0400 or email: lionel.vantonder@za.pwc.com.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Lionel van Tonder', with a long horizontal stroke extending to the right.

Lionel van Tonder
Director

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1. Terms and abbreviations

The following abbreviations and terminology, unless otherwise stated, have been used in this report. The words in the first column have the meanings stated opposite them in the second column.

Table 1: Terms and abbreviations

Term / Abbreviation	Interpretation
AG	Auditor General of Malawi
BE	Database with prefix “BE” refers to current databases that are active
Epicor	Is the database software on which IFMIS operates or the platform on which the IFMIS operates supplied by Soft-Tech
FTS	Forensic Technology Solutions
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GOM	Government of Malawi
IFMIS	Integrated Financial Management Information System
MDA	Government Ministries, Departments and Agencies
MK	Malawian Kwacha
NULL	Nothing has been found
PwC	PricewaterhouseCoopers Advisory Services (Pty) Ltd
Soft-Tech	Soft-Tech Consultants Ltd
SQL	Structured Query Language
SQL Server	Database platform used by the Government of Malawi
SQL Server Transaction Log	Audit history stored for a database record
VT	Database with prefix “VT” refers to databases that have been archived

2. Scope

- 2.1 For purposes of this final report, we will differentiate between the two PwC teams as follows:
- “PwC Malawi”, referring to the local PwC Malawi team in Malawi, appointed under a separate contract by the Auditor General of Malawi (AG), to provide assistance pertaining to the reconstruction of the Cashbook system and identifying possible “red flags”; and
 - “PwC Forensics”, referring to PwC South African team appointed by the AG to assist in providing forensic investigative services based on potential “red flags” emanating from the procedures performed by the PwC Malawi team.

- 2.2 As per the original mandates from the AG, PwC Malawi was responsible for the reconstruction of the Cashbook and the identification of possible “red flags”. As per the original mandate from the AG, PwC Forensics will investigate the “red flags” identified by PwC Malawi.

At a very early stage of the investigation it became clear that in order to secure all available electronic data, it will be necessary to image the electronic media containing the relevant data. PwC Malawi did not have the capacity to image electronic media.

- 2.3 In view of the above, the PwC Forensic team travelled to Malawi on a number of occasions to image the servers under the control of Soft-Tech Ltd. (Soft-Tech) located at the Accountant General’s office in Lilongwe, Malawi.
- 2.4 During these visits the PwC Forensics team *inter alia* met with the AG, Assistant AG and Mr Edwin Rodin-Brown (Consultant appointed by GIZ) to discuss certain aspects surrounding the investigation. During one of these visits the AG and a representative of GIZ informed us of the following:
- The AG wants PwC Forensics to try and recover the lost Cashbook data for the period preceding July 2010, through the imaging of the servers located at the Accountant General’s office. We managed to image the mentioned servers, and tried to recover all available data;
 - The AG requested PwC Forensics to identify the individuals who worked on the Integrated Financial Management Information System (IFMIS). The allegation is that the persons whose name appeared on the user logs are not the actual person who worked on the system. It is alleged that the users shared their user names and passwords. Note: This aspect will be addressed as part of our investigation into specific transactions and will not be addressed in this report;
 - The AG further mentioned that the system could have been accessed remotely, so PwC Forensics need to look at ways of identifying if the manipulation of the system was done remotely. Note: According to the consultant from Soft-Tech this was possible. To date, no further investigation has been made into this allegation;
 - The AG gave the instruction that all the desktops and/or laptops that were used by IFMIS users be secured and not to be used. Note: To date, no desktops and/or laptops have been imaged. If necessary, this will be done as part of our investigation into the possible “red flags”;
 - The AG requested PwC Forensics to perform a complete review of the treasury funding system. (The allegation is that the system was circumvented in order to afford government departments additional funding.) Note: This aspect will also be covered by our investigation into specific transactions and will not be addressed in this report; and
 - The AG further mentioned that there is a possibility that the full Back-ups of the servers might be kept at Soft-Tech which is located in Tanzania. Note: There is no longer a necessity to access the Back-ups of the servers as we managed to image the SQL server in Malawi.

- 2.5 We managed to image the electronic data and we informed the AG that we have all the available electronic data in order to reconstruct the Cashbook, identify “red flags” and proceed as suggested by the AG.
- 2.6 We agreed with the AG that we will provide details of the following transaction criteria as part of the reconstruction procedures:
- a) All payments greater than or equal to 1 million Malawian Kwacha (“MK”) as reflected on the Cashbook;
 - b) Total number of payments with a value greater than or equal to MK 1 million on Cashbook;
 - c) Total value of payments with a value greater than or equal to MK 1 million on Cashbook;
 - d) All payments with a value greater than or equal to MK 1 million recorded in the bank statement, with no corresponding Cashbook entry identified;
 - e) Total number of payments greater than or equal to MK 1 million recorded in the bank statement, with no corresponding Cashbook entry identified;
 - f) Total value of payments greater than or equal to MK 1 million recorded in the bank statement, with no corresponding Cashbook entry identified;
 - g) All payments greater than or equal to MK 1 million recorded in the bank statement, with no corresponding Cashbook entry, but corresponding cheque stub details identified;
 - h) Total number of payments greater than or equal to MK 1 million recorded in the bank statement, with no corresponding Cashbook entry, but corresponding cheque stub details identified;
 - i) Total value of payments greater than or equal to MK 1 million recorded in the bank statement, with no corresponding Cashbook entry, but corresponding cheque stub details identified;
 - j) All payments greater than or equal to MK 1 million where only cheque stub details were identified;
 - k) Total number of payments greater than or equal to MK 1 million where only cheque stub details were identified;
 - l) Total value of payments greater than or equal to MK 1 million where only cheque stub details were identified;
 - m) All payments greater than or equal to MK 1 million where only the bank statement record was identified;
 - n) Total number of payments greater than or equal to MK 1 million where only the bank statement record was identified;
 - o) Total value of payments greater than or equal to MK 1 million where only the bank statement record was identified;
 - p) Variance in number of Bank Statement payments *versus* the number of Cashbook entries, *per annum*;
 - q) All cheques matched between Bank Statement and Cheque Stub information;
 - r) Total number of cheques matched between Bank Statement and Cheque Stub information;
 - s) Total value of cheques matched between Bank Statement and Cheque Stub information;
 - t) All cheques matched between Cheque Stub information and Bank Statements;
 - u) Total number of cheques matched between Cheque Stub information and Bank Statements;
 - v) Total value of cheques matched between Cheque Stub information and Bank Statements;
 - w) Number of Bank Statement transactions matched by Epicor’s cheque reconciliation application;
 - x) Potential duplicate cheques on the Bank Statement with different transaction dates; and
 - y) Cheques issued *versus* Cheques Stub table information *versus* Bank Statements.

3. Sources of information, detailed analysis and findings

Bank Statement Information

- 3.1 During December 2014 we received electronic bank statements for the period January 2009 to April 2012 (in Excel and text format) for the “MDA” accounts from the Reserve Bank of Malawi (“The Reserve Bank”). The “MDA” accounts relate to internal Reserve Bank accounts, which refer to 848 different internal account numbers. At the time of this report, it could not be confirmed whether these “MDA” accounts included transactions for State Residence, Defence Force or Regional Treasuries. A list of these “MDA” accounts is attached hereto as “**Appendix 001 – MDA Accounts**”. Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.
- 3.2 These bank statements were imported into a SQL Server database in order to analyse bank statement transactions.
- 3.3 On receipt of these bank statements we noted that many of the bank statements contained payments for which no corresponding cheque or payment number was provided and therefore deemed inconsistent and incorrect. As a result we requested all bank statements, with the relevant cheque numbers, from the Reserve Bank for the six consolidated bank accounts extracted from the Government of Malawi Treasury database “BE001”. These six consolidated accounts (all ministry payments pass through these accounts) are as follows:

Table 2: Consolidated Bank Accounts

Epicor Reference	Consolidated Bank Account	Description
11:14	13006161114	Salaries
20:86	300616208601	Recurrent cash
20:87	300616208701	Deposit Cash
20:88	300616208801	Statutory Expenditure
20:89	300616208901	Advances Cash Account
20:90	300616209001	Development Cash Account

- 3.4 The Reserve Bank could not provide the bank statements, as requested, specifically relating to the aforementioned six consolidated bank accounts, but rather provided us the bank statements, in Excel and text format, for the “MDA” accounts.
- 3.5 We were advised by the Reserve Bank, upon receipt of the abovementioned MDA accounts (for the accounts in Table 2), that this was a complete set of accounts for the period 1 January 2009 to 31 December 2013.
- 3.6 Bank statements for the period 1 January 2014 to 31 December 2014 were collected from the Accountant General’s office. These banks statements were an electronic, day by day, extract obtained from the Reserve Bank which Epicor uses to reconcile the Cashbook to bank statements on a daily basis. The Epicor platform is the main IFMIS (“Integrated Financial Management System”) system that administers all financial processing for the GOM.

- 3.7 Upon receipt of the aforementioned bank statements, these bank statements were imported into a SQL Server database. We removed duplicate bank statement files provided, by analysing the number of transactions and the value of all transactions per file, in order to establish a complete and unique set of bank statement files. We further performed a data cleansing exercise to determine the completeness of the information provided by removing account balances and other irrelevant header, footer and cheque prefix information that appeared on the bank statements.
- 3.8 Upon completion of the aforementioned exercise, we identified that bank statements for May 2012 were missing and that the statements for December 2013 only contained transactions for 31 December 2013.
- 3.9 These aforementioned missing bank statements were requested and the Reserve Bank provided us with additional data.
- 3.10 The data received was again data cleansed and analysed, by looking at the payments and payment trends day by day for May 2012 and December 2013, to determine the completeness of the information. We again identified that the December 2013 statements only reflected transactions for 31 December 2013 and not for the rest of the month. Although this outstanding data was requested, it was not received at the time of issuing this final report.
- 3.11 All electronic bank statement information is supplied to the Accountant General, on a daily basis, and loaded into IFMIS for reconciliation to the Cashbook. We analysed the aforementioned information in the reconciliation table to our cleansed bank statement files (refer to paragraph 3.7). We identified a number of instances where we are able to reconcile transactions using the cleansed bank statement files, but where it appears that IFMIS has not been able to reconcile these transactions. A sample of such transactions is detailed below in Table 3.

Table 3: Cleansing of cheque numbers on Bank Statements

Bank Statement			Reconciliation			Cash Book			
Cheque #	PwC Cleaned Cheque #	Debit Amount	Cheque #	Reconcile Flag	Amount	Cheque #	Amount	Reconcile flag	Void Flag
gvcq193088	193088	507,000	gvcq193088	o	507,000	193088	507,000	o	o
gvcq041865	41865	233,000	gvcq041865	o	233,000	41865	233,000	o	o
gvcq051264	51264	100,000	gvcq051264	o	100,000	51264	100,000	o	o
Gvcq195352	195352	60,000	Gvcq195352	o	60,000	195352	60,000	o	o
gvcq051382	51382	64,409.82	gvcq051382	o	64,409.82	51382	64,409.82	o	o

- 3.12 A total of 8,165 electronic bank statements files were received and imported into a SQL Server database.
- 3.13 From these bank statements 1,788,295 unique bank statement payments with cheque numbers were identified. This was important to link the payments by way of cheque numbers to the Cashbook. Payments on the bank statement where cheque numbers were not identified are attached hereto as “**Appendix 002 – Bank Statement debit records without Cheque number**”. Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.
- 3.14 As mentioned, in order to cast the “net” as wide as possible, the AG and supported by a GIZ Consultant, requested that our efforts be focused on payments greater than or equal to the value

of MK 1 million. In addition, on request from the AG, payments greater or equal to MK 10/20/50/100 million for each section have also been included in the Appendixes.

- 3.15 Of the aforementioned 1,788,295 unique cheque records we identified 174,819 unique cheque records with an amount greater than or equal to MK 1 million. These unique cheque records were identified based on the following criteria:
- Cheque number cannot be null;
 - It must be a debit transaction;
 - Debit amount cannot be zero; and
 - The transaction date must be between 1 January 2009 to 31 December 2014.
- 3.16 We further requested RBM to provide a list of all cheques issued for the period January 2009 to December 2014. These lists were provided in cheque number batches, per account, in an electronic format in Excel.

Data extracted from the Epicor server

- 3.17 A forensic image was created of the Central Payment System server hosting Epicor related database information as pointed out by Soft-Tech staff. From this forensic image, all available GOM Financial Management System data was extracted from the central payment system. It was indicated to us that State Residence and the Malawi Defence Force have separate payment systems. Similarly, Regional Treasury Cashiers only started using the central payment system in the second quarter of 2014, and therefore data prior to the second quarter of 2014 for Regional Treasury Cashiers was not included in the analysis. Soft-Tech, however, confirmed the databases we acquisitioned to the relevant ministries. Please see an extract from table 4 below confirming records in the cashbook for the Malawi Defence Force and State Residences up until 2013:

Table 4: State Residences and Malawi Defence Force Database Names

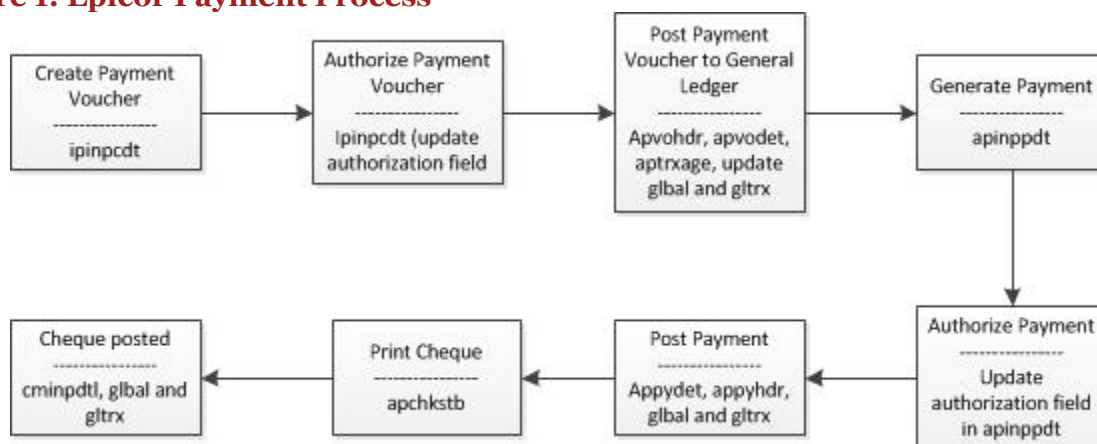
DB Name	Ministry Name	Min Date in Cashbook	Max Date in Cashbook
BE050	State Residences	28/07/2010	07/07/2013
VT050	State Residences	25/11/2005	02/07/2010
BE101	Malawi Defence Force	02/07/2010	14/04/2013
VT101	Malawi Defence Force	12/11/2005	02/07/2010

- 3.18 We further noted that each ministry's data was stored in an individual SQL Server 2000 database, which resides on one physical server.
- 3.19 Financial data for the period ending April 2010 was archived as "old data" and stored in databases with the prefix 'VT'. The data created subsequently to April 2010 is stored in databases with a prefix of 'BE'.
- 3.20 We imported these databases into a SQL Server in order to analyse all the data and noted that certain database files could not be imported. As a result backups of these databases were obtained with the assistance of Soft-Tech and also imported into the SQL server.
- 3.21 In total, 229 databases were extracted into a SQL Server. 109 of the 229 databases were 'VT' databases and were successfully imported, covering the period 1 January 2009 to 30 April 2010. The remaining 120 databases were 'BE' databases and were imported covering the period 1 May 2010 to 31 December 2014.

- 3.22 Of these 229 databases, 6 databases had a suffix of ‘_1’. During our interview with Soft-Tech, they confirmed, without elaborating on what exact problems occurred, problems had occurred with these databases, and that a “rollback” (to revert back to an earlier date) was performed. We consolidated the aforementioned databases containing suffixes with further relevant database that did not contain this suffix in order to have complete data available for analysis.

Consolidation of Cashbook

- 3.23 The GOM Cashbook system is maintained and recorded on the Epicor IFMIS system. Each of the separate ministries’ Cashbook data is stored in individual SQL Server 2000 databases on this system.
- 3.24 The analysis and consolidation of 56 individual ministries’ data, which in turn relates to 229 (120 new and 109 archived) databases, were performed in order to adequately reconstruct the Cashbook.
- 3.25 Each of the aforementioned 229 databases, except for 9 databases, were linked to a ministry name and confirmed by Soft-Tech. The 9 databases which could not be linked to a specific ministry is listed below. For the purpose of this report, the below listed database names will be regarded as the ministry name.
- a) BE011
 - b) BE012
 - c) BE013
 - d) BE014
 - e) BE015
 - f) BE277
 - g) BE300
 - h) VT300
 - i) BE490
- 3.26 Soft-Tech provided information (as detailed in Figure 1 below) to explain the full cycle relating to the “Epicor” payment process. The associated database tables are also reflected in this diagram.
- 3.27 It is important to note that the Cheque Stub table (apchkstb) contains only a posted and printed flag for cheques that have been posted to the Cashbook (cminpdtl). The Cashbook contains a flag for voided cheques in instances where cheques have been voided.

Figure 1: Epicor Payment Process

- 3.28 Based on the analysis of the payment process, we identified the following database tables, as outlined in the table below. These table names correlated with the payment process as detailed in Figure 1 above.

Table 5: Identified Epicor Database Tables

Table Name	Types of Information contained in tables
Ipinpcdt	Un-posted Payment Voucher/ Invoice
Apvohdr	Payment Voucher/ Invoice
Apvodet	Payment Voucher line items
Aptrxage	Payment Voucher
Glbals	General Ledger table holding balances
Gltrxs	All general ledger transactions
Apinppdt	Un-posted Payments
Appyhdr	Payments table
Appydet	Payment Line Items
Apchkstb	Cheques Stub table
Cminpdtl	Table holding Cashbook entries
Aptrxtyp	Table holding Transaction Type Description

- 3.29 We identified that the Epicor database tables are prefixed with specific characters. We regarded the following prefixes applicable to our investigation:
- ap – Accounts Payable;
 - ar – Accounts Receivable;
 - cm – Cash Management; and
 - gl – General Ledger.
- 3.30 Soft-Tech advised that the cheque stub information (“apchkstb”) is the most complete set of cheque data that was posted. Therefore, based on the information gathered from our interviews with Soft-Tech, we *inter alia* made use of the cheque stub information to reconcile the bank statements to the Cashbook. We noted that the beneficiary details do not appear in the cheque stub table. The beneficiary data only appears in the Cashbook and on the physical cheque itself.

- 3.31 We further noted that for each cheque record in the Cashbook, a '4111' transaction exists and according to the 'aptrxtyp' table relates to Cash Disbursement's. Furthermore, if a cheque is reversed, two additional transactions, '4112' and '4121' is found. According to the 'aptrxtyp' table the aforementioned '4112' transaction relates to Payment adjustments and '4121' transactions relate to Voided Checks. In order to calculate the total debits found on the Cashbook, records with a transaction type of '4111' is used. In order to calculate the credits found on the Cashbook, records with a transaction type of '4112' is used. Records with a transaction type of '4121' have no effect on the total value of credits, and are therefore disregarded from all calculations. As an example table 6 shows these aforementioned '4111', '4112' and '4121' records for a reversed cheque number '00135661'.

Table 6: Cashbook Cheque transaction records example

Transaction Type	Transaction Type Description	Cheque Number	Date	Amount	Void Flag
4111	Cash Disbursement	00135661	15/07/2010	38,800,887	1
4112	Payment Adjustment	00135661	15/07/2010	-38,800,887	1
4121	Void Checks	00135661	15/07/2010	0.00	0

- 3.32 Based on the bank statement, cheque stub information and Cashbook data extracted from Epicor, we performed the following analysis in order to reconstruct the Cashbook and identify potential irregular transactions or "red flags":

Table 7: Analysis performed

Analysis Performed
<ul style="list-style-type: none"> All Payments greater than MK 1m on the Cashbook Number of all payments greater than MK 1m on the Cashbook Value of all payments greater than MK 1m on the Cashbook
<ul style="list-style-type: none"> All Payments greater than MK 1m, on Bank Statement not on Cashbook Number of all Payments greater than MK 1m, on Bank Statement not on Cashbook Value of all Payments greater than MK 1m, on Bank Statement not on Cashbook
<ul style="list-style-type: none"> All payments greater than MK 1m, on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table Number of all payments greater than MK 1m, on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table Value of all payments greater than MK 1m, on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table
<ul style="list-style-type: none"> All payments greater than MK 1m where only Cheque Stub details are present Number of all payments greater than MK 1m where only Cheque Stub details are present Value of all payments greater than MK 1m where only Cheque Stub details are present
<ul style="list-style-type: none"> All payments greater than MK 1m where we only have Bank Statement records Number of all payments greater than MK 1m where we only have Bank Statement record Value of all payments greater than MK 1m where we only have Bank Statement record
<ul style="list-style-type: none"> Number of Banks Statement Transactions versus Number of Cashbook entries per annum Value of Banks Statement Transactions versus Number of Cashbook entries per annum
<ul style="list-style-type: none"> Matched cheques between Bank Statement and Cheque Stub table Matched cheques between Cheque Stub table and Bank Statement
<ul style="list-style-type: none"> Number of Bank Statement Transactions matched by Epicor cheque reconciliation application Potential duplicate cheques on Bank Statement with different transaction date
<ul style="list-style-type: none"> Cheques issued versus Cheques Stub table versus Bank Statements

3.33 The findings in respect of each of the aforementioned sections are discussed separately below.

All Payments greater than MK 1m on the Cashbook

3.34 The table below is a summary, by year, of all payment records above MK 1 million, as reflected in the Cashbook. The aforementioned payment records were extracted based on the following filters:

- Cheque voided flag is not equal to '1' (cancelled cheque);
- Transaction types equal to 4111 (Cash Disbursements) and 4112 (Payment Adjustment)
- Date range is between 1 January 2009 to 31 December 2014; and
- Value of payment is greater or equal to MK 1,000,000.

Table 8: Payments greater than MK 1m on the Cashbook

Year	Total Count of Payments on Cashbook	Total Count of Payments >= MK 1 million on Cashbook	% of Count of payments >= MK 1m on Cashbook	Total Value of Payments on Cashbook	Total Value of Payments >= MK 1m on Cashbook	% of Value of Payments >= MK 1m on Cashbook
2009	154,208	12,393	8.04%	111,995,173,633.90	90,821,139,405.11	81.09%
2010	153,710	15,475	10.07%	137,796,550,959.40	115,286,440,858.10	83.66%
2011	205,705	19,094	9.28%	174,439,724,310.88	147,930,306,440.01	84.80%
2012	215,729	22,159	10.27%	252,364,887,168.64	222,437,228,051.68	88.14%
2013	149,769	23,181	15.48%	252,529,659,743.79	229,494,553,423.36	90.88%
2014	127,954	23,950	18.72%	344,074,939,709.08	322,368,433,932.14	93.69%
Total	1,007,075	116,252	11.54%	1,273,200,935,525.69	1,128,338,102,110.40	88.62%

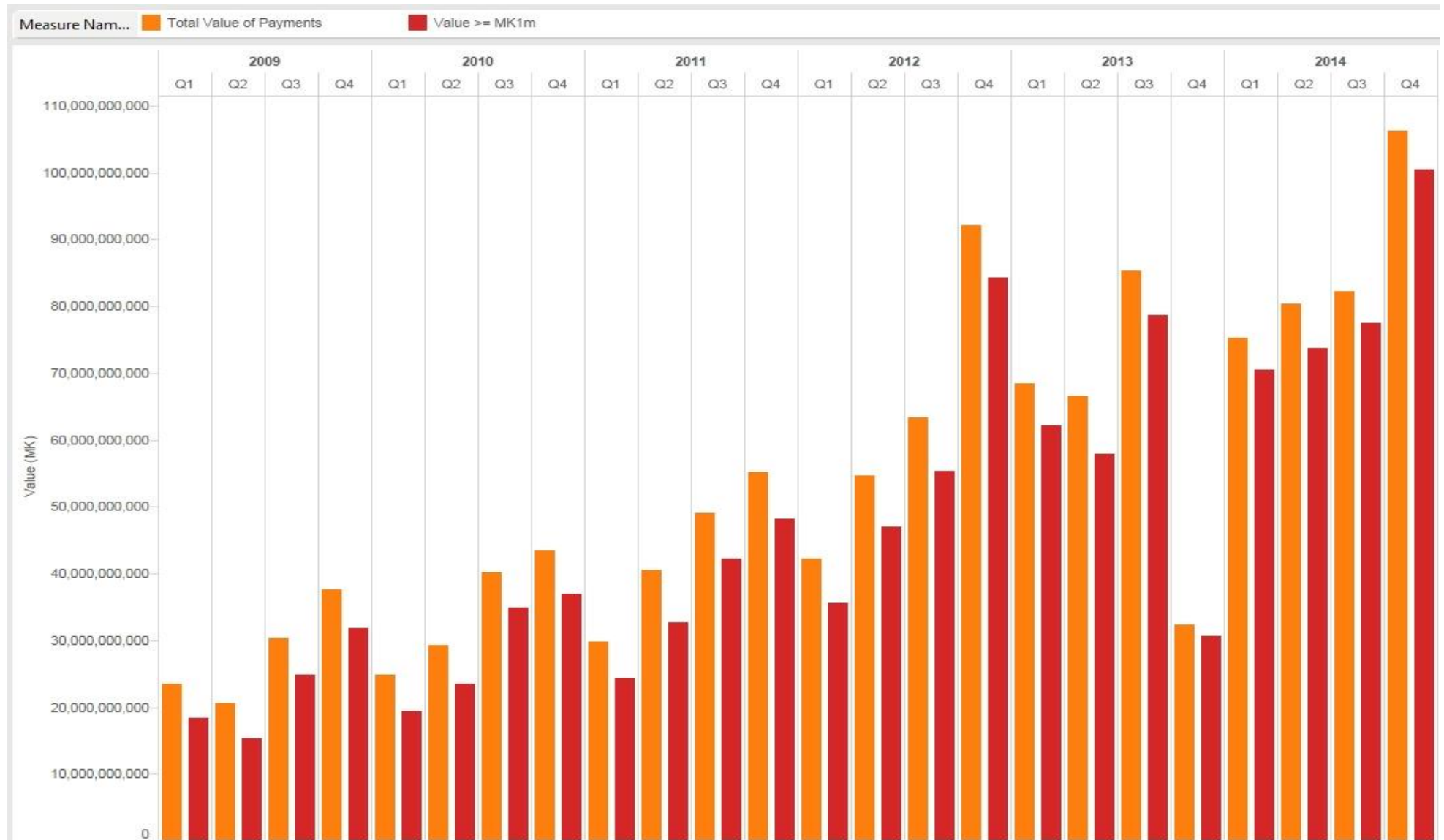
3.35 The total count of payments used in this analysis, was calculated by taking the total number of 4111 (Cash Disbursement) transaction types and deducting the 4112 (Payment Adjustment) transaction types and also the voided cheques to determine a net count and value of all payments, less cancelled cheques and cheque reversals.

3.36 The number of payments made during the period 1 January 2009 to 31 December 2014 totalled 1,007,075. From these 1,007,075 payment records, 116,252 are payments greater than or equal to MK 1 million. These payments therefore equate to 11.54% of the total number of payments made.

3.37 The total value of all payments for the period 1 January 2009 to 31 December 2014 amounts to MK 1,273,200,935,525.69. Of the MK 1,273,200,935,525.69, the total value of payments greater than or equal to MK 1 million amounts to MK 1,128,338,102,110.40. Payments equal to or in excess of MK 1 million therefore equate to 88.62% of the total payments made.

3.38 The detailed transactions for the aforementioned findings are attached hereto as “**Appendix 003 – All Payments greater than MK 1m**”. Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.

3.39 The graph below details all the payments greater than MK 1 million grouped by the quarter every year. From the graph below, the majority of payments equal to or greater than MK 1 million were affected in the fourth quarter of 2014 with the second highest number of payments agreeing to this criteria occurred in the fourth quarter of 2012.

Figure 2: Payments greater than MK 1m per quarter

All Payments greater than MK 1m, on Bank Statements and not on Cashbook

- 3.40 The table below depicts all payments above MK 1 million where we have a payment, with a cheque number, on the Bank Statement which does not have a corresponding cheque entry on the Cashbook.
- 3.41 The aforementioned payments are retrieved from the consolidated bank statements and matched to the Cashbook on the cheque number and the value of the payment. The following filters were applied to the dataset:
- The transaction date on the bank statement was between 1 January 2009 to 31 December 2014;
 - The cheque number field on the bank statement should not be empty;
 - There should be an amount value in the debit or credit field on the bank statement;
 - The debit field value on the bank statement must be greater or equal to MK 1,000,000.00;
 - If the debit field has a corresponding credit entry on the bank statement, this credit was taken into account as part of the analysis; and
 - Cheque posted flag is equal to '1'.

Table 9: All Payments greater than MK 1m, on Bank Statement not on Cashbook

Year	Total Count of Payments on Bank Statement >= MK 1m	Total Count of Payments >= MK 1 million not in Cashbook	% of Count of Payments >= MK 1 million not in Cashbook	Total Value of Payments on Bank Statement >= MK 1 million NETT	Total Value of Payments >= MK 1 million not in Cashbook NETT	% of Total Value of Payments >= MK 1 million not on Cashbook
2009	17,408	4,767	27.38%	111,848,542,677.07	21,313,307,081.36	19.06%
2010	21,612	6,589	30.49%	141,897,942,009.91	28,328,853,131.59	19.96%
2011	20,908	3,156	15.09%	156,491,259,027.68	17,471,657,523.17	11.16%
2012	37,964	2,144	5.65%	386,966,058,157.88	13,403,642,873.96	3.46%
2013	54,254	9,838	18.13%	554,043,042,583.44	122,220,115,627.86	22.06%
2014	22,673	2,545	11.22%	263,988,043,028.38	14,859,314,815.34	5.63%
Total	174,819	29,039	16.61%	1,615,234,887,484.36	217,596,891,053.28	13.47%

- 3.42 The total count of payments used in the bank statement analysis, was calculated by taking the total number of debit transactions and deducting the corresponding credit transactions to determine a net count and value of payments.
- 3.43 Similarly, the total count of un-matched payments in the Cashbook, was calculated by taking the total number of debit transactions not matched to bank statements and deducting the corresponding bank statement credit transactions to determine a net count and value of all un-matched cashbook records.

- 3.44 As listed in the table above, the total number of payments above MK 1 million on the bank statement during the period 1 January 2009 and 31 December 2014 amounts to 174,819. Of these 174,819 payments, 29,039 could not be reconciled to the Cashbook. This identifies that 16.61% of payments reflected on the consolidated bank statement table above MK 1 million could not be reconciled to the Cashbook.
- 3.45 As listed in the table above, the total value of payments above MK 1 million on the bank statement during the period 1 January 2009 to 31 December 2014 amounted to MK 1,615,234,887,484.36. Of MK 1,615,234,887,484.36, MK 217,596,891,053.28 could not be reconciled to the Cashbook. This equates to 13.47% of the value of payments reflected on the consolidated bank statement table above MK 1 million which could not be reconciled to the Cashbook.
- 3.46 The detailed transactions for the aforementioned findings are attached hereto as “**Appendix 004 – All Payments greater than MK 1m, on Bank Statement not on Cashbook**”. Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.

All Payments greater than MK 1m, on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table

- 3.47 In our interviews with Soft-Tech, it was confirmed that the flow of information will allow a processed cheque to move through the Cheque Stub table (for printing), and allow for posting of this cheque. At that point a “posted_flag” indicator within the Cheque Stub table will be updated to reflect a value of “1”.
- 3.48 The table below depicts all payments greater than or equal to MK 1 million with a cheque number on the Bank Statement, as well as a corresponding entry on the Cheque stub table, but does not have a corresponding entry on the Cashbook.
- 3.49 The aforementioned payments are retrieved from the consolidated bank statement and matched to the cheque stub table on the cheque number and the value of the payment.
- 3.50 These matched payments are then further matched to the Cashbook on the cheque number and the value of the payment to identify missing Cashbook entries where we have corresponding cheque stub entries and bank statement payments. The following filters were applied to the dataset:
- The payment date on the bank statement is between 1 January 2009 to 31 December 2014;
 - The cheque number field on the bank statement should not be empty;
 - There should be an amount value in the debit or credit field on the bank statement;
 - The debit field value on the bank statement must be greater or equal to MK 1,000,000.00; and
 - If the debit field has a corresponding credit entry on the bank statement, this credit was taken into account as part of the analysis.

Table 10: All Payments greater than MK 1m, on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table

Year	Total Count of Payments on Bank Statement >= MK 1 million	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	% of Count of Payments >= MK 1 million not on Cashbook but on Cheque Stub	Total Value of Payments on Bank Statement >= MK 1 million	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	% of Value of Payments >= MK 1 million not on Cashbook but on Cheque Stub
2009	17,408	90	90	0.52%	111,848,542,677.07	248,105,166.35	0.22%
2010	21,612	797	780	3.69%	141,897,942,009.91	2,280,214,110.43	1.61%
2011	20,908	634	634	3.03%	156,491,259,027.68	2,256,074,816.18	1.44%
2012	37,964	134	132	0.35%	386,966,058,157.88	670,484,939.10	0.17%
2013	54,254	415	275	0.76%	554,043,042,583.44	5,754,873,436.74	1.04%
2014	22,673	5	-	0.02%	263,988,043,028.38	88,221,338.17	0.03%
Total	174,819	2,075	1,911	1.19%	1,615,234,887,484.36	11,297,973,806.97	0.70%

- 3.51 The total count of payments used in the bank statement analysis, was calculated by taking the total number of debit transactions and deducting the corresponding credit transactions to determine a net count and value of payments.
- 3.52 Similarly, the total count of un-matched payments in the Cashbook, was calculated by taking the total number of debit transactions not matched to bank statements and deducting the corresponding bank statement credit transactions to determine a net count and value of all un-matched cashbook records.
- 3.53 As listed in the table above, the total number of payments above MK 1 million on the bank statement during the period 1 January 2009 to 31 December 2014 amounts to 174,819. Of these 174,819 payments, 2,075 payments have corresponding entries on the cheque stub table but no corresponding entries on the Cashbook. Of these 2,075 payments, 1,911 payments have a posted flag and a printed flag equal to '1' on the cheque stub table but no corresponding entries on the Cashbook. This identifies that 1.19% of payments reflected on the consolidated bank statement table, equal to or greater than MK 1 million, for which cheque stub information and bank statement information is available but where no corresponding Cashbook records could be identified.
- 3.54 As listed in the table above, the total value of payments above MK 1 million on the bank statement during the period 1 January 2009 and 31 December 2014 is MK 1,615,234,887,484.36. From this MK 1,615,234,887,484.36, MK 11,297,973,806.97 related to payments with corresponding cheque stub information which are not reflected in the Cashbook but are in the bank statement. Payments equal to or in excess of MK 1 million therefore equate to 0.70% of records reflected on the consolidated bank statement table, which have cheque stub information but no corresponding Cashbook records.

- 3.55 The 1,911 cheques that were posted, that are not reflected in the Cashbook indicate a control weakness in IFMIS. It was further noted that 160 cheques had a “printed_flag” of “1”, indicating that the cheque had been printed, but a “posted_flag” of “0”. This indicates that users have the ability to print cheques without the cheque being posted to the Cashbook or voided.
- 3.56 The detailed transactions for the aforementioned findings are attached hereto as “**Appendix 005 – All Payments greater than MK 1m, on Bank Statement not on Cashbook on Cheque Stub Table**”. Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.

All payments greater than MK 1m where Cheque Stub details are present and with no corresponding Cashbook entries and also no corresponding Bank Statement payments identified

- 3.57 The table below depicts all payment records greater than or equal to MK 1 million where a cheque entry on the cheque stub table exists with no corresponding Cashbook entry and also no corresponding bank statement payment.
- 3.58 The aforementioned cheque stub entries are retrieved from the cheque stub table and matched to the Cashbook on the cheque number and the value of the payment to determine entries on the Cashbook that could not be matched.
- 3.59 These un-matched entries identified on the Cashbook are then further matched, using the cheque stub entry information, against the bank statement payments to determine whether these un-matched Cashbook entries had corresponding bank statement payments.
- 3.60 The following filters are applied to the dataset:
- The entry date as per the cheque stub table reflects an entry date between 1 January 2009 to 31 December 2014;
 - The value of ‘amount paid’ field on the cheque stub table must be greater or equal to MK 1,000,000.00; and
 - Cheque posted flag is equal to ‘1’.

Table 11: All payments greater than MK 1m where only Cheque Stub details are present

Year	Total Count of Payments >= MK 1 million on Cheque Stub Table	No Bank Statement and no Cashbook Record	No Bank Statement and no Cashbook Record with posted flag = 1	% of Count of Payments >= MK 1 million with no Bank Statement and no Cashbook Record	Total Count of Payments >= MK 1 million on Cheque Stub Table	No Bank Statement and no Cashbook Record	% of Value of Payments >= MK 1 million with no Bank Statement or Cashbook Record
2009	12,846	23	12	0.18%	93,489,355,867.27	72,775,211.84	0.08%
2010	16,713	45	35	0.27%	123,731,464,011.81	179,104,586.52	0.14%
2011	20,117	84	75	0.42%	154,394,531,776.29	239,373,751.84	0.16%
2012	22,725	9	5	0.04%	226,709,788,427.90	183,795,712.70	0.08%
2013	23,515	17	2	0.07%	539,621,626,471.41	120,977,154.73	0.02%
2014	20,276	33	-	0.16%	270,618,730,391.33	256,418,440.02	0.09%
Total	116,192	211	129	0.18%	1,408,565,496,946.01	1,052,444,857.65	0.07%

- 3.61 As listed in the table above the total number of entries greater than or equal to MK 1 million on the cheque stub table for the period 1 January 2009 to 31 December 2014 are 116,192. From these 116,192 entries, 211 are entries greater than or equal to MK 1 million with no corresponding Cashbook entries and also no corresponding bank statement payments. This equates to 0.18% of entries in excess of MK 1 million reflected on the cheque stub table, with no corresponding Cashbook entry and also no corresponding bank statement payment. From these 211 entries, 129 are entries with a posted flag equal to '1' and equates to 0.11%.
- 3.62 As listed in the table above the total value of entries greater than or equal to MK 1 million on cheque stub table for the period 1 January 2009 and 31 December 2014 is MK 1,408,565,496,946.01. Of this MK 1,408,565,496,946.01, MK 1,052,444,857.65 is the value of entries above or equal to MK 1 million. This equates to 0.07% of payments in excess of MK 1 million reflected on cheque stub table, with no corresponding Cashbook entry and also no corresponding bank statement payment. Of the MK 1,052,444,857.65, MK 454,342,180.54 is the value of entries with a posted flag equal to '1' and equates to 0.03%.
- 3.63 The detailed transactions for the aforementioned findings are attached hereto as "**Appendix 006 – All Payments greater than MK 1m where we only have cheque stub details**". Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.

All payments greater than MK 1m where we only have Bank Statement records

- 3.64 The table below depicts all payment records above MK 1 million where a payment, with a cheque number, exists on the Bank Statement but no corresponding entry on the cheque stub table.
- 3.65 The aforementioned bank statement payments are retrieved from the consolidated bank statements and matched to the cheque stub table on the cheque number and the value of the

payment to determine payments on the bank statement that did not have corresponding cheque stub entries.

3.66 The following filters were applied to the dataset:

- a) The payment date on the bank statement is between 1 January 2009 to 31 December 2014;
- b) The cheque number field on the bank statement should not be empty;
- c) There should be an amount value in the debit field on the bank statement or on the credit side of the bank statement;
- d) The debit field value on the bank statement must be greater or equal to MK 1,000,000.00; and
- e) If the debit field has a corresponding credit entry on the bank statement, this credit was taken into account as part of the analysis.

Table 12: All payments greater than MK 1m where we only have Bank Statement records

Year	Total Count of payments on bank statement >= MK 1m	Total Count of payments on bank statement >= MK 1m with no Chq Stb Record	% of Count of Payments >= MK 1m with no Chq Stb Record	Total Value of Payments on bank statement >= MK 1m	Total Value of Payments on bank statement >= MK 1m with no Chq Stb Record	% of Value of Payment >= MK 1m with no Chq Stb Record
2009	17,408	4,677	26.87%	111,848,542,677.07	21,065,201,915.01	18.83%
2010	21,612	5,792	26.80%	141,897,942,009.91	26,048,639,021.16	18.36%
2011	20,908	2,522	12.06%	156,491,259,027.68	15,215,582,706.99	9.72%
2012	37,964	2,010	5.29%	386,966,058,157.88	12,733,157,934.86	3.29%
2013	54,254	9,423	17.37%	554,043,042,583.44	116,465,242,191.12	21.02%
2014	22,673	2,540	11.20%	263,988,043,028.38	14,771,093,477.17	5.60%
Total	174,819	26,964	15.42%	1,615,234,887,484.36	206,298,917,246.31	12.77%

3.67 The total count of payments used in the bank statement analysis, was calculated by taking the total number of debit transactions and deducting the corresponding credit transactions to determine a net count and value of payments.

3.68 As listed in the table above the total number of payments, greater than or equal to MK 1 million, on the bank statement during the period 1 January 2009 to 31 December 2014 is 174,819. Of these 174,819 payments, 26,964 are payments greater than or equal to MK 1 million that are only found on the Bank Statements. This identifies that 15.42% of payments reflected on the consolidated bank statements, with cheque numbers, are greater than or equal to MK 1 million and are found on the Bank Statements with no corresponding cheque stub information.

3.69 As listed in the table above the total value of payments greater than or equal to MK 1 million found on the bank statement during the period 1 January 2009 to 31 December 2014 is MK 1,615,234,887,484.36. Of this MK 1,615,234,887,484.36, MK 206,298,917,246.31 is the total value of payments greater than or equal to MK 1 million that is only found on the Bank Statements. This identifies that 12.77% of the value of payments reflected on the consolidated bank statements, with cheque numbers, are over MK 1 million and are found on the Bank

Statements with no corresponding cheque stub information.

- 3.70 The detailed transactions for the aforementioned findings are attached hereto as “**Appendix 007 – All Payments greater than MK 1m where we only have Bank Statement Records**”. Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.

Total number of payments as reflected in the Bank Statements versus the total number of Cashbook entries per annum

- 3.71 The table below depicts the total number and total value of all bank statement payments versus all Cashbook entries per annum.
- 3.72 The bank statement payments below were calculated by totalling the number of payments and totalling the value of all payments reflected in the bank statements.
- 3.73 The Cashbook entries below were calculated by totalling the number of entries and totalling the value of all entries reflected in the cashbook.
- 3.74 The following filters were applied to the datasets:
- The payment date on the bank statement is for 1 January 2009 to 31 December 2014;
 - The cheque number field on the bank statement should not be empty;
 - If the debit field has a corresponding credit entry on the bank statement, this credit was taken into account as part of the analysis;
 - There should be an amount value in the debit or credit field on the bank statement;
 - The ‘*date applied*’ field on the cashbook is for 1 January 2009 to 31 December 2014;
 - Cheque voided flag is not equal to ‘1’ (cancelled cheque); and
 - Transaction types equal to 4111 (Cash Disbursements) and 4112 (Payment Adjustment); and
 - No thresholds were applied.

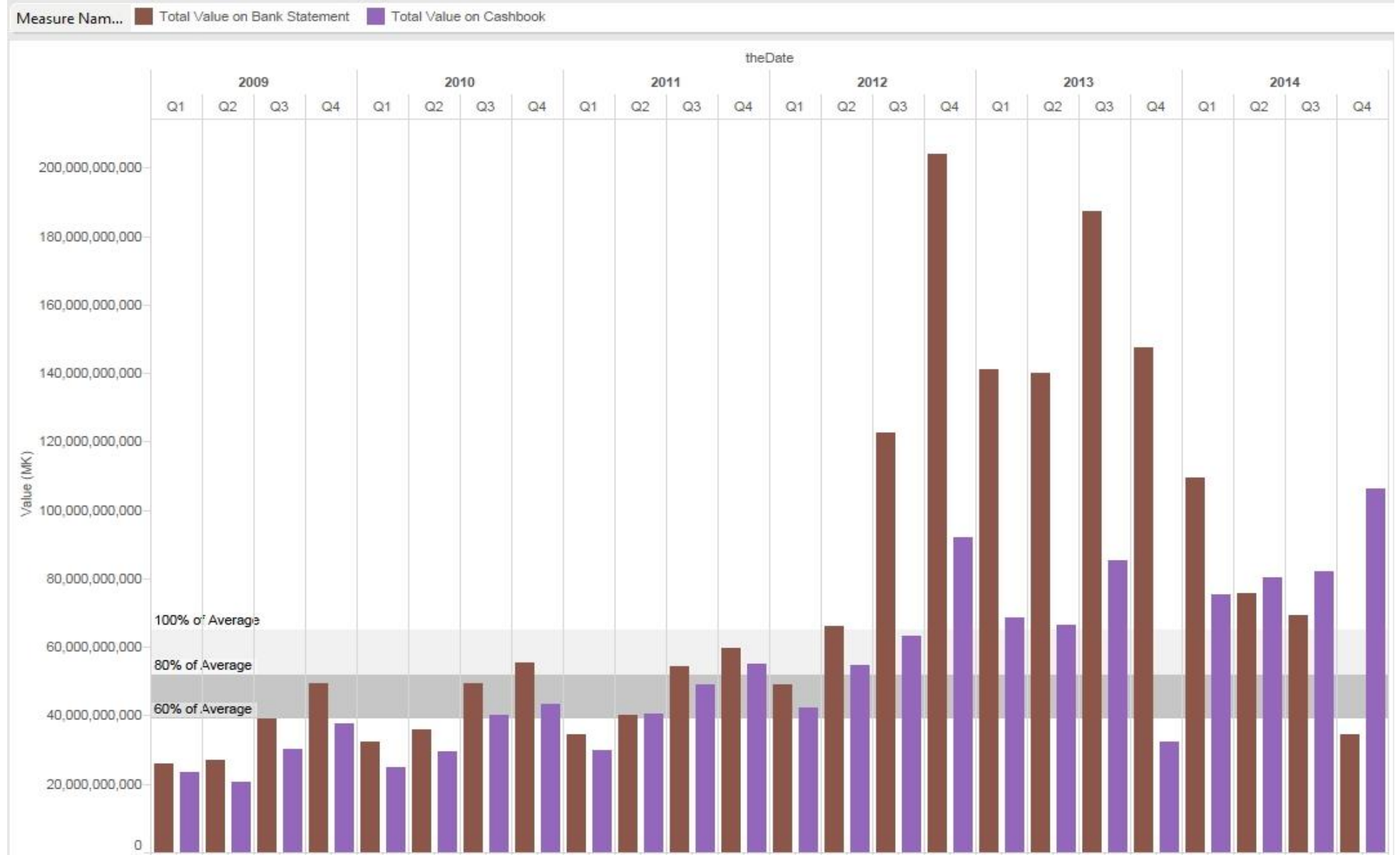
Table 13: Total Number of payments as reflected in the Bank Statements versus the total number of Cashbook entries per annum

Year	Total Count of Bank Statement Payments	Total Count of Cashbook Payments	% Total Count of Cashbook Payments	Total Value of Bank Statement Payments	Total Value of Cashbook Payments	% Total Value of Cashbook Payments
2009	243,639	154,208	63.29%	141,408,004,946.18	111,995,173,633.90	79.20%
2010	244,145	153,710	62.96%	172,977,405,765.41	137,796,550,959.40	79.66%
2011	281,826	205,705	72.99%	188,775,148,292.05	174,439,724,310.88	92.41%
2012	425,471	215,729	50.70%	442,088,230,964.40	252,364,887,168.64	57.08%
2013	429,478	149,769	34.87%	616,175,974,424.31	252,529,659,743.79	40.98%
2014	163,736	127,954	78.15%	289,015,011,644.01	344,074,939,709.08	119.05%
Total	1,788,295	1,007,075	56.31%	1,850,439,776,036.36	1,273,200,935,525.69	68.81%

- 3.75 The total count of payments used in the bank statement analysis, was calculated by taking the total number of debit transactions and deducting the corresponding credit transactions to determine a net count and value of payments.

- 3.76 The total net count of Cashbook payments are calculated by taking the total number of '4111' (Cash Disbursement) transaction types and deducting the total number of '4112' (Payment Adjustment) transaction types. The total net value of Cashbook payments are calculated by taking the total value of '4111' (Cash Disbursement) transaction types and deducting the total value of '4112' (Payment Adjustment) transaction types.
- 3.77 As illustrated in the above table, it is important to note the variances in the number and value of the bank statement payments, versus the Cashbook.
- 3.78 The total number of bank statement payments during the period 1 January 2009 to 31 December 2014 is 1,788,295. The total number of payment entries on the Cashbook for the period 1 January 2009 to 31 December 2014 is 1,007,075. As such 781,220 transactions are not accounted for in the Cashbook.
- 3.79 The total value of payments on the bank statement during the period 1 January 2009 to 31 December 2014 amounted to MK 1,850,439,776,036.36. The total value of Cashbook entries during the same period amounted to MK 1,273,200,935,525.69, this amounts to a shortfall of MK 577,238,840,510.67 of payments reflected on the bank statements, but not on the Cashbook. This amounts to 31.19% of the value of payments not reflecting in the cashbook. Based on the aforementioned it appears that the majority of transactions not appearing in the Cashbook are transactions greater than or equal to MK 1 million. (Refer Table 9).
- 3.80 As per the table above a variance of 43.69% exists between the number of bank statement payments and the number of Cashbook entries within the same period. This variance needs to be further investigated before a complete reconstruction of the Cashbook (from the bank statement payments) would be possible.
- 3.81 The detailed transactions for the aforementioned findings are attached hereto as "**Appendix 008 – Number of bank statement transactions versus number of Cashbook entries per annum**". Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.
- 3.82 The graph below details the number of Bank Statement payments *versus* the number of Cashbook entries per quarter. From the graph below, the majority of payments on the bank statement were affected in the fourth quarter of 2012 with the second highest number of payments on the bank statement agreeing to this criteria occurred in the third quarter of 2013. The majority of payments on Cashbook were affected in the fourth quarter of 2014. The second highest number of entries on the Cashbook agreeing to this criteria occurred in the fourth quarter of 2012.

Figure 3: Number of Bank Statement Transactions versus Number of Cashbook entries per quarter.



Matched cheques between Bank Statement and Cheque Stub Table

- 3.83 The table below depicts all payments on the bank statement with a corresponding entry on the cheque stub table.
- 3.84 The aforementioned payments are retrieved from the consolidated bank statement and matched to the cheque stub table on the cheque number and the value of the payment.
- 3.85 The following filters is applied to the dataset:
- The payment date on the bank statement is for 1 January 2009 to 31 December 2014;
 - The cheque number field on the bank statement should not be empty;
 - There should be an amount value in the debit field on the bank statement or on the credit side of the bank statement;
 - If the debit field has a corresponding credit entry on the bank statement, this credit was taken into account as part of the analysis.
 - Cheque voided flag is not equal to '1' (cancelled cheque); and
 - Transaction types equal to 4111 (Cash Disbursements) and 4112 (Payment Adjustment).

Table 14: Matched cheques between Bank Statement and Cheque Stub table

Year	Total Count of Payments on Bank Statement	Total Count of Payments on cheque stub matched	% of Count of Payments matched
2009	243,639	141,263	57.98%
2010	244,145	143,356	58.72%
2011	281,826	182,683	64.82%
2012	425,471	200,043	47.02%
2013	429,478	139,853	32.56%
2014	163,736	92,513	56.50%
Total	1,788,295	899,711	50.31%

- 3.86 The total count of payments used in the bank statement analysis, was calculated by taking the total number of debit transactions and deducting the corresponding credit transactions to determine a net count and value of payments.
- 3.87 Similarly, the total count of matched payments to the Cheque Stub table, was calculated by taking the total number of debit transactions matched to bank statements and deducting the corresponding Cashbook voided transactions to determine a net count and value of all matched Cheque Stub records.
- 3.88 As listed in the table above, the total number of payments, with cheque numbers, on Bank statement during the period 1 January 2009 to 31 December 2014 totalled 1,788,295. From these 1,788,295 payments, 899,711 payments were matched to the cheque stub table. Thus, 50.31% of payments can be reconciled to the bank statement.
- 3.89 The detailed transactions for the aforementioned findings are attached hereto as “**Appendix 009 – Matched cheques between bank statement and cheque stub**”. Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.

Matched cheques between Cheque Stub Table and Bank Statement

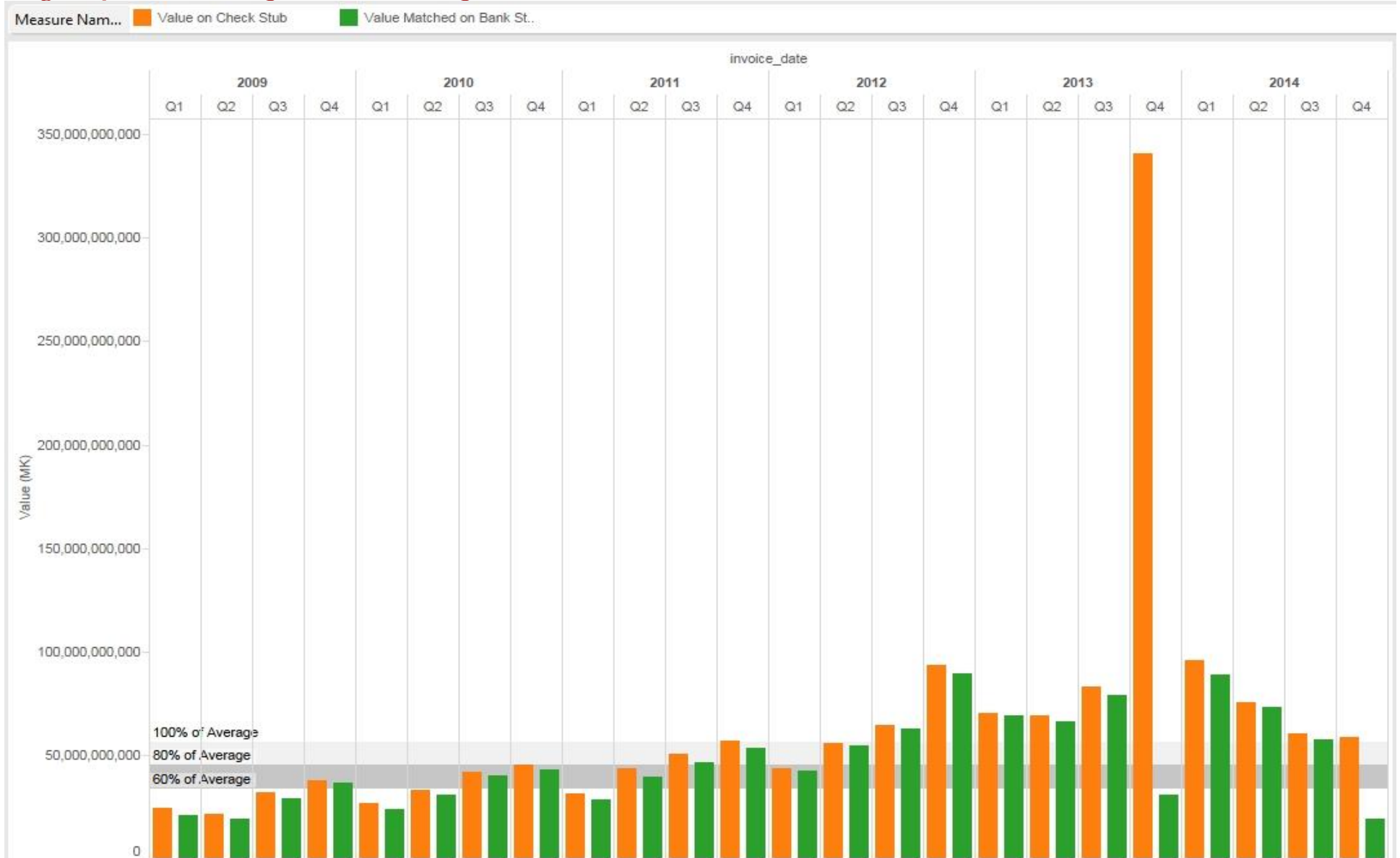
- 3.90 The table below depicts all entries on the cheque stub table that has a corresponding payment on the bank statement.
- 3.91 The aforementioned entries are retrieved from the cheque stub table and matched to the bank statements on the cheque number and the value of the payment.
- 3.92 The following filters were applied to the dataset:
- The transaction date of the entry in the cheque stub table is for 1 January 2009 to 31 December 2014;
 - The cheque number field on the bank statement should not be empty;
 - There should be an amount value in the debit field on the bank statement or on the credit side of the bank statement;
 - If the debit field has a corresponding credit entry on the bank statement, this credit was taken into account as part of the analysis;
 - Cheque voided flag is not equal to '1' (cancelled cheque); and
 - Transaction types equal to 4111 (Cash Disbursements) and 4112 (Payment Adjustment).

Table 15: Matched cheques between Cheque Stub Table and Bank Statements

Year	Total Count of Payments on Cheque Stub	Total Count of Payments on Bank Statement matched	% of Total Count of Payments matched	Total Value of Payments on Cheque Stub	Total Value of Payments on Bank matched	% of Total Value of Payments matched
2009	158,771	146,452	92.24%	115,067,913,916.63	105,626,393,747.21	91.79%
2010	160,733	148,718	92.52%	147,098,993,495.01	137,259,775,087.36	93.31%
2011	217,573	192,439	88.45%	181,908,360,102.50	167,708,429,440.75	92.19%
2012	224,631	210,581	93.75%	257,232,193,942.54	248,895,581,554.43	96.76%
2013	152,835	142,883	93.49%	562,984,220,167.46	245,784,472,975.95	43.66%
2014	123,192	98,458	79.92%	291,093,418,608.12	239,085,156,458.22	82.13%
Total	1,037,735	939,531	90.54%	1,555,385,100,232.26	1,144,359,809,263.92	73.57%

- 3.93 The total count of payments used in the bank statement analysis, was calculated by taking the total number of debit transactions and deducting the corresponding credit transactions to determine a net count and value of payments.
- 3.94 Similarly, the total count of matched Cheque Stub information to Bank Statement payments, was calculated by taking the total number of debit transactions matched to bank statements and deducting the corresponding Cashbook voided transactions to determine a net count and value of all matched Cheque Stub records.
- 3.95 As listed in the table above the total number of entries on cheque stub table for the period 1 January 2009 to 31 December 2014 is 1,037,735. Of these 1,037,735 entries, 939,531 entries match to payments on the consolidated bank statement. This identifies that 90.54% of entries reflected on the cheque stub table reconcile to the bank statements.

- 3.96 As listed in above table the total value of entries on the cheque stub table for the period 1 January 2009 to 31 December 2014 is MK 1,555,385,100,232.26. Of this MK 1,555,385,100,232.26, MK 1,144,359,809,263.92 is the total value of entries that match to payments on the consolidated bank statement. This identifies that 73.57% of the total value of the entries reflected on the cheque stub table reconcile to the bank statements.
- 3.97 These variances will need to be further investigated, before a complete reconstruction of the Cashbook from the bank statement would be possible.
- 3.98 The detailed transactions for the aforementioned findings are attached hereto as “**Appendix 010 – Matched cheque stub to bank statement**”. Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.
- 3.99 The graph below details the number of cheque stub entries matched to the bank statement payments per quarter. From the graph below, the majority of entries on cheque stub table were affected in the fourth quarter of 2013 with the second highest number of payments on the bank statement (agreeing to this criteria) occurred in the first quarter of 2014. Further, the majority of entries on the cheque stub table were affected in the fourth quarter 2012 whilst the second highest number of payments occurred in the first quarter of 2014.

Figure 4: Matched cheques between Cheque Stub Table and bank Statement

Number of Banks Statement Transactions matched by Epicor cheque reconciliation application

- 3.100 The current reconciliation process that takes place on a daily basis from the Epicor platform, runs in the form of a third party application that has been developed, specifically to perform this reconciliation, by Soft-Tech. We requested the source code from Soft-Tech, to further understand how this process is executed, but our request was not granted.
- 3.101 The table below depicts all bank statement payment records imported into the 'gt_bnrc_bnkdt_u' table. According to Soft-Tech, the aforementioned 'gt_bnrc_bnkdt_u' table contains all the bank statement transactions imported from the electronic bank statements which the GOM receives to consolidate payments on the bank statement and payments created in the Epicor system.
- 3.102 The following filters were applied to the dataset:
- The transaction dates of the entries mentioned in table 16 is for the period 2010 to 2014;
 - All entries must have a debit amount; and
 - The 'reconcile_flag' is equal to 'o'. The 'o' indicates that a transaction has not been reconciled and the value '1' indicates that a transaction had been reconciled.

Table 16: Number of Bank Statement Transactions matched by Epicor cheque reconciliation application

Year	Total Count of Payments	Total Count of Payments not reconciled	% of Count not reconciled	Total Value of Payments	Total Value of Payments not reconciled	% of Value not reconciled
2010	56,787	12,195	21.47%	85,702,916,568.35	32,992,765,414.24	38.50%
2011	181,570	8,408	4.63%	172,328,944,328.35	20,720,742,872.50	12.02%
2012	194,870	37,712	19.35%	255,696,943,254.21	93,287,952,153.92	36.48%
2013	183,505	114,864	62.59%	371,141,780,804.35	249,818,517,438.75	67.31%
2014	104,215	12,670	12.16%	328,883,496,770.02	109,042,814,961.84	33.16%
Total	720,947	185,849	25.78%	1,213,754,081,725.28	505,862,792,841.25	41.68%

- 3.103 As listed in the above table the total number of entries in the 'gt_bnrc_bnkdt_u' table is 720,947. Of these 720,947 entries, 185,849 entries were not reconciled.
- 3.104 As listed in the above table, the total value of the entries reflected in the 'gt_bnrc_bnkdt_u' table amounted to MK 1,213,754,081,725.28. Of this MK 1,213,754,081,725.28, a total value of MK 505,862,792,841.25 was not reconciled. This revealed that 41.68% of payments reflected in the 'gt_bnrc_bnkdt_u' table, since the reconciliation process was implemented, could not be reconciled.
- 3.105 The detailed transactions for the aforementioned findings are attached hereto as "**Appendix 011 – Number of bank statement transactions matched by Epicor reconciliation application**". Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.

Potential duplicate Cheques on Bank Statement with different transaction date

- 3.106 As part of the analysis, we set out to determine whether there are potential duplicated payments reflected on the bank statements. Before performing this analysis, we removed duplicate bank statement files provided, by analysing the number of transactions and the value of all transactions per file, in order to establish a complete and unique set of bank statement files. We further performed data cleansing to isolate a complete set of the information by removing account balances and other irrelevant header, footer and cheque prefix information that appeared on the bank statement.
- 3.107 The table below shows five examples of potential duplicate cheques found on the Bank Statement that had been processed on different dates. The aforementioned cheques records were extracted based on the following filters:
- The cheque number field on the bank statement should not be empty;
 - There should be an amount value in the debit field on the bank statement or on the credit side of the bank statement;
 - If the debit field has a corresponding credit entry on the bank statement, the cheque number was excluded from the analysis; and
 - Cheques with the same cheque number, amount and transaction dates, that differs by 30 days or less, were flagged.

Table 17: Potential duplicate cheques on Bank Statement with different transaction date

Date	Cheque No	Debit
27/12/2012	003685	3,200,000.00
22/01/2013	003685	3,200,000.00
14/02/2014	030360	2,420,000.00
18/02/2014	030360	2,420,000.00
02/04/2014	042205	85,000.00
01/04/2014	042205	85,000.00
24/06/2014	053780	15,000.00
09/06/2014	053780	15,000.00
27/12/2012	025966	753,008,768.15
22/01/2013	025966	753,008,768.15

- 3.108 We noted over 20,000 occurrences of duplicate cheque numbers in the analysis. As this indicator seems un-reasonably high, it would possibly indicate that similar transactions were posted days apart in error. Please note that this would affect the matching of cashbook to bank statement, and create a variance between the number of cheques matched by the analysis.
- 3.109 As an example, cheque '003685' with an amount of '3,200,000.00' as illustrated in the above table, shows two bank statement records with the same value and cheque number recorded on different days. The first bank statement record found for cheque number '003685' indicates the transaction date as the 27/12/2012 and can be found on the bank statement received with the filename '0013006160078_20121201.txt', as depicted below in figure 5.

Figure 5: Bank Statement 0013006160078_20121201.txt extract with potential duplicate cheque

Line	Account	Amount	Reference	Bank	Date	Transaction Type
11129	0013006160078	-441192.62	-82175345842.67	MK	2012/12/27	002840, DEBIT
11130	0013006160078	-987512	-82176333354.67	MK	2012/12/27	002843, DEBIT
11131	0013006160078	-2489466.20	-82178822820.87	MK	2012/12/27	002355, DEBIT
11132	0013006160078	-3200000	-82182022820.87	MK	2012/12/27	003685, DEBIT
11133	0013006160078	-4123468.66	-82186146289.53	MK	2012/12/27	006911, DEBIT
11134	0013006160078	-7137000	-82193283289.53	MK	2012/12/27	003338, DEBIT
11135	0013006160078	-11516000	-82204799289.53	MK	2012/12/27	003337, DEBIT
11136	0013006160078	-1000000000	-83204799289.53	MK	2012/12/27	001135, DEBIT
11137	0013006160078	-1330	-83204800619.53	MK	2012/12/27	007319, DEBIT
11138	0013006160078	-1340.54	-83204801960.07	MK	2012/12/27	003847, DEBIT
11139	0013006160078	-7875	-83204809835.07	MK	2012/12/27	000328, DEBIT
11140	0013006160078	-157465	-83204967300.07	MK	2012/12/27	001949, DEBIT

The second bank statement record found for cheque number '003685' indicates the transaction date as the 22/01/2013 and can be found on the bank statement received with a filename '0013006160078_20130101.csv', as depicted below in figure 6.

Figure 6: Bank Statement 0013006160078_20130101.csv extract with potential duplicate cheque

Line	Account	Amount	Reference	Bank	Date	Transaction Type
7639	13006160078	-11516000	-96242193999	MK	22/01/2013	3337 DEBIT
7640	13006160078	-3354269.46	-96245548268	MK	22/01/2013	963371 DEBIT
7641	13006160078	-3200000	-96248748268	MK	22/01/2013	3685 DEBIT
7642	13006160078	-2700915.33	-96251449184	MK	22/01/2013	963374 DEBIT
7643	13006160078	-20000	-96251469184	MK	22/01/2013	963228 DEBIT
7644	13006160078	-250889.88	-96251720074	MK	22/01/2013	26892 DEBIT
7645	13006160078	-987512	-96252707586	MK	22/01/2013	2843 DEBIT
7646	13006160078	-7137000	-96259844586	MK	22/01/2013	3338 DEBIT
7647	13006160078	-496618.66	-96260341204	MK	22/01/2013	963369 DEBIT
7648	13006160078	-365000	-96260706204	MK	22/01/2013	1.60851E+13 DEBIT
7649	13006160078	-255000	-96260961204	MK	22/01/2013	1.60851E+13 DEBIT

- 3.110 The detailed transactions for the aforementioned findings are attached hereto as “**Appendix 012 - Cheques from Bank Statement with duplicate cheque numbers on different dates**”. Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.

The Cheques issued versus Cheques Stub table versus Bank Statements

- 3.111 RBM provided a list of all cheques issued, for the period January 2009 to December 2014, in an electronic format. As part of the analysis, we set out to determine whether all cheque numbers issued could be found on the cheque stub table and/or on the bank statement.
- 3.112 Using the cheque number batch ranges provided, we created a sequential cheque numbering list and compared this sequential cheque number list to the cheque stub table and the bank statements.
- 3.113 The aforementioned cheques were extracted based on the following filters:
- Cheque date of the cheques issued should be later than 1 January 2009;
 - Date on the cheque stub table entry should be later than 1 January 2009; and
 - Transaction date on bank statement entry should be later than 1 January 2009.
- 3.114 We noted that 98.19% of the cheques in the cheque batches provided of cheques issued by RBM could be matched to either the cheque stub table or the bank statement. Therefore our analysis indicates that 11,311 (1.79%) cheques of the batch of cheques provided, which were issued by RBM, could not be matched to either the cheque stub table and/or the bank statement.
- 3.115 We then set out to analyse cheque numbers as reflected on the bank statement or cheque stub table for any potential variances to the cheque batches provided that were issued by RBM. We noted that only 66.65% of cheques found on either the cheque stub table or bank statement could be matched to the cheque batches provided by RBM. This indicates that 306,596 (33.35%) cheques found on either the cheque stub table or bank statement, could not be found on the cheque batches of cheques issued by RBM. The result of this test could be due to the number of cheques reflecting on the bank statement or cheque stub table is greater than the number of cheques in the cheque batches provided by RBM.
- 3.116 The detailed transactions for the aforementioned findings are attached hereto as “**Appendix 013 - Cheque List**”. Due to the volume of detail, appendices could not be attached to this report. All appendices will be provided to you on digital media.

4. Conclusions

- 4.1 The nature of data provided did not contain elements through which a transaction could be identified as unique in relation to a particular ministry for a particular account. Hence, transactional information could not always be accurately mapped to specific ministries and related accounts which may have resulted, in certain instances, in inflated amounts and search results.
- 4.2 Epicor is the GOM IFMIS and is administered by Soft-Tech.
- 4.3 Financial data for the period ending April 2010 was archived as “old data” and stored in databases with the prefix ‘VT’. The data created subsequently to April 2010 is stored in databases with a prefix of ‘BE’.
- 4.4 The GOM Cashbook system is maintained and recorded on the Epicor IFMIS system. Each of the separate ministries’ cashbook data is stored in individual SQL Server 2000 databases on this system.
- 4.5 A total of 8,165 bank statements were received from the Reserve Bank of Malawi. These statements were consolidated and imported into a database table for comparison against ministry data. We noted 1,788,295 unique records, with cheque numbers, for the period 1 January 2009 to 31 December 2014. From these 1,788,295 unique records, 174,819 are greater than or equal MK 1 million. As per the request of the AG, the amount of MK 1 million was used as a minimum amount pertaining to our search criteria.
- 4.6 A total of 116,252 payments above MK 1 million were identified within the Cashbook, totalling MK 1,128,338,102,110.40 for the period 1 January 2009 to 31 December 2014. Tables 18 to 23 shows the top 5 payments greater than MK 1m on the Cashbook per ministry and per year.

Table 18: Payments greater than MK 1m on the Cashbook for 2009

Ministry	Total Count of Payments on Cashbook	Total Count of Payments >= MK 1 million on Cashbook	% of Count of Payments >= MK 1m on Cashbook	Total Value of Payments on Cashbook	Total Value of Payments >= MK 1m on Cashbook	% of Value of Payments >= MK 1m on Cashbook
Financial Intelligence Unit	22	22	100.00%	96,196,147.00	96,196,147.00	100.00%
Road Fund Administration	202	168	83.17%	6,378,695,957.41	6,365,870,996.16	99.80%
Subvented Organisations	1,256	570	45.38%	12,296,566,065.36	12,078,853,973.11	98.23%
Unforeseen Expenditure	34	14	41.18%	153,165,573.78	146,531,067.30	95.67%
Compensation and Refunds	746	130	17.43%	6,771,350,895.97	6,658,038,728.90	98.33%

Table 19: Payments greater than MK 1m on the Cashbook for 2010

Ministry	Total Count of Payments on Cashbook	Total Count of Payments >= MK 1 million on Cashbook	% of Count of Payments >= MK 1m on Cashbook	Total Value of Payments on Cashbook	Total Value of Payments >= MK 1m on Cashbook	% of Value of Payments >= MK 1m on Cashbook
Financial Intelligence Unit	24	24	100.00%	167,629,907.00	167,629,907.00	100.00%
Unforeseen Expenditure	15	15	100.00%	1,018,377,720.44	1,018,377,720.44	100.00%
Road Fund Administration	333	319	95.80%	13,252,636,670.21	13,246,011,468.59	99.95%
Subvented Organisations	1,449	564	38.92%	12,187,542,448.98	11,918,064,594.34	97.79%
Malawi Electoral Commission	8	3	37.50%	8,184,765.97	6,617,591.97	80.85%

Table 20: Payments greater than MK 1m on the Cashbook for 2011

Ministry	Total Count of Payments on Cashbook	Total Count of Payments >= MK 1 million on Cashbook	% of Count of Payments >= MK 1m on Cashbook	Total Value of Payments on Cashbook	Total Value of Payments >= MK 1m on Cashbook	% of Value of Payments >= MK 1m on Cashbook
Financial Intelligence Unit	28	28	100.00%	145,429,770.00	145,429,770.00	100.00%
Road Fund Administration	276	268	97.10%	13,246,807,051.09	13,241,310,904.56	99.96%
Unforeseen Expenditure	13	12	92.31%	386,718,271.98	386,164,671.98	99.86%
Malawi Electoral Commission	179	57	31.84%	173,064,964.41	145,855,278.00	84.28%
Subvented Organisations	1,691	517	30.57%	14,051,481,822.85	13,802,647,242.66	98.23%

Table 21: Payments greater than MK 1m on the Cashbook for 2012

Ministry	Total Count of Payments on Cashbook	Total Count of Payments >= MK 1 million on Cashbook	% of Count of Payments >= MK 1m on Cashbook	Total Value of Payments on Cashbook	Total Value of Payments >= MK 1m on Cashbook	% of Value of Payments >= MK 1m on Cashbook
Road Fund Administration	271	266	98.15%	13,832,516,903.23	13,829,302,917.18	99.98%
Financial Intelligence Unit	28	27	96.43%	149,440,527.00	149,040,527.00	99.73%
Malawi Electoral Commission	252	89	35.32%	334,161,950.14	298,242,433.86	89.25%
Unforeseen Expenditure	204	68	33.33%	1,646,159,212.52	1,606,118,796.02	97.57%
Local Development Fund	75	23	30.67%	6,536,802,474.36	6,518,873,668.92	99.73%

Table 22: Payments greater than MK 1m on the Cashbook for 2013

Ministry	Total Count of Payments on Cashbook	Total Count of Payments >= MK 1 million on Cashbook	% of Count of Payments >= MK 1m on Cashbook	Total Value of Payments on Cashbook	Total Value of Payments >= MK 1m on Cashbook	% of Value of Payments >= MK 1m on Cashbook
Financial Intelligence Unit	20	20	100.00%	197,404,881.84	197,404,881.84	100.00%
Road Fund Administration	100	99	99.00%	7,299,077,936.78	7,298,548,613.91	99.99%
Local Development Fund	78	42	53.85%	4,629,789,724.10	4,617,335,337.38	99.73%
Malawi Electoral Commission	256	111	43.36%	497,117,964.79	470,860,563.82	94.72%
Pensions and Gratuities	7,922	3,088	38.98%	16,215,480,216.94	14,044,467,789.31	86.61%

Table 23: Payments greater than MK 1m on the Cashbook for 2014

Ministry	Total Count of Payments on Cashbook	Total Count of Payments >= MK 1 million on Cashbook	% of Count of Payments >= MK 1m on Cashbook	Total Value of Payments on Cashbook	Total Value of Payments >= MK 1m on Cashbook	% of Value of Payments >= MK 1m on Cashbook
Road Fund Administration	50	50	100.00%	3,458,538,076.91	3,458,538,076.91	100.00%
Financial Intelligence Unit	23	23	100.00%	232,267,497.85	232,267,497.85	100.00%
Unforeseen Expenditure	26	21	80.77%	947,845,132.69	946,086,132.69	99.81%
Pensions and Gratuities	7,029	3,338	47.49%	21,324,465,319.29	19,752,314,325.23	92.63%
Malawi Electoral Commission	284	126	44.37%	775,873,807.45	746,719,182.64	96.24%

- 4.7 We further noted that there were 29,039 payments above MK 1 million on the bank statements which could not be reconciled to the Cashbook for the period 1 January 2009 and 31 December 2014, totalling MK 217,596,891,053.28. This amounts to 13.47%.
- 4.8 We further noted 2,075 payments, on the consolidated bank statement with a value of over MK 1 million for the period 1 January 2009 to 31 December 2014, in the cheque stub table but not on the cashbook. The total value of these payments is MK 11,297,973,806.97. Tables 24 to 29 shows the top 5 of all payments greater than MK on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table per ministry and per year.

Table 24: Top 5 of All Payments greater than MK 1m, on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table for 2009

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Agriculture & Food Security	40	40	132,178,400.00	132,178,400.00
Accountant General	25	25	54,338,362.40	54,338,362.40
Compensation and Refunds	10	10	19,986,561.80	19,986,561.80
Office of Vice President	5	5	18,056,169.35	18,056,169.35
Ministry of Health	3	3	8,749,124.89	8,749,124.89

Table 25: Top 5 of All Payments greater than MK 1m, on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table for 2010

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Pensions and Gratuities	296	296	479,888,455.43	479,888,455.43
Lands & Natural Resources	177	177	728,858,616.06	728,858,616.06
Agriculture & Food Security	158	158	573,186,729.29	573,186,729.29
Accountant General	57	56	129,474,300.00	120,474,300.00
Youth Development & Sports	17	17	32,391,348.40	32,391,348.40

Table 26: Top 5 of All Payments greater than MK 1m, on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table for 2011

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Lands & Natural Resources	226	226	651,804,452.79	651,804,452.79
Pensions and Gratuities	149	149	285,171,427.58	285,171,427.58
Women & Child Development	86	86	198,819,533.62	198,819,533.62
Local Government & Rural Development	58	58	328,684,679.70	328,684,679.70
Accountant General	41	41	98,831,041.91	98,831,041.91

Table 27: Top 5 of All Payments greater than MK 1m, on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table for 2012

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Agriculture & Food Security	78	78	108,084,903.08	108,084,903.08
Local Government & Rural Development	40	40	526,958,869.20	526,958,869.20
Foreign Affairs	12	12	30,000,000.00	30,000,000.00
Office of Vice President	3	3	3,261,865.40	3,261,865.40
Irrigation & Water Development	1	0	2,179,301.42	-

Table 28: Top 5 of All Payments greater than MK 1m, on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table for 2013

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Agriculture & Food Security	140	140	227,769,198.56	227,769,198.56
Local Government & Rural Development	73	66	1,099,635,200.02	1,089,574,705.62
Tourism, Wildlife & Culture	41	30	1,609,118,876.72	585,025,223.52
Malawi Defence Force	36	-	140,368,000.50	-
Malawi Police Service	33	-	160,127,421.80	-

Table 29: Top 5 of All Payments greater than MK 1m, on the Bank Statement that does not reflect on the Cashbook but is reflected on the Cheque Stub table for 2014

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Malawi Police Service	2	-	2,000,000.00	-
Education, Science & Technology	2	-	82,346,018.17	-
Pensions and Gratuities	1	-	3,875,320.00	-

4.9 A total of 211 payments were identified above MK 1 million for the period 1 January 2009 to 31 December 2014, where only the cheque stub records were found totalling MK 1,052,444,857.65. Tables 30 to 35 shows the top 5 of all payments greater than MK 1m where only Cheque Stub details are present per ministry and per year.

Table 30: All payments greater than MK 1m where only Cheque Stub details are present for 2009

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Pensions and Gratuities	9	-	42,731,562.14	-
Accountant General	7	7	13,019,550.00	13,019,550.00
Agriculture & Food Security	4	4	11,499,400.00	11,499,400.00
Malawi Police Service	2	-	4,265,322.07	-
Compensation and Refunds	1	1	1,259,377.63	1,259,377.63

Table 31: All payments greater than MK 1m where only Cheque Stub details are present for 2010

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Pensions and Gratuities	23	16	53,879,489.22	25,636,780.40
Malawi Police Service	5	5	48,145,360.00	48,145,360.00
Agriculture & Food Security	4	4	6,376,503.34	6,376,503.34
Accountant General	3	2	38,110,436.00	36,610,436.00
Lands & Natural Resources	3	3	16,611,920.29	16,611,920.29

Table 32: All payments greater than MK 1m where only Cheque Stub details are present for 2011

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Lands & Natural Resources	38	38	97,871,179.99	97,871,179.99
Pensions and Gratuities	15	15	30,648,145.00	30,648,145.00
Ministry of Health	7	-	33,638,564.23	-
Accountant General	6	6	14,295,941.67	14,295,941.67
Youth Development & Sports	5	5	15,209,600.00	15,209,600.00

Table 33: All payments greater than MK 1m where only Cheque Stub details are present for 2012

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Local Government & Rural Development	4	4	45,337,918.56	45,337,918.56
Ministry of Health	2	-	10,288,773.76	-
Agriculture & Food Security	1	1	1,450,000.00	1,450,000.00
Education, Science & Technology	1	-	2,316,838.43	-
Treasury	1	-	124,402,181.95	-

Table 34: All payments greater than MK 1m where only Cheque Stub details are present for 2013

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Agriculture & Food Security	11	-	35,752,849.36	-
Ministry of Health	4	-	44,740,980.85	-
Local Government & Rural Development	1	1	19,761,723.07	19,761,723.07
Tourism, Wildlife & Culture	1	1	20,721,601.45	20,721,601.45

Table 35: All payments greater than MK 1m where only Cheque Stub details are present for 2014

Ministry Name	Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Not on Cashbook, but on Cheque Stub with Posted Flag = 1	Total Value of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Value of payments Not on Cashbook, but on Cheque Stub with Posted Flag = 1
Education, Science & Technology	20	-	177,612,143	-
Agriculture & Food Security	3	-	24,955,697	-
Environmental and Climate Change	2	-	4,827,214	-
Malawi Police Service	2	-	8,388,600	-
Treasury	2	-	3,738,388	-

- 4.10 We further noted 26,964 payments greater than or equal to MK 1 million for the period 1 January 2009 to 31 December 2014 where only bank statement records were present. The total value of these 26,964 aforementioned payment records is MK 206,298,917,246.31. (This amounts to 12.77%).
- 4.11 The total number of payments on the bank statements was compared to the total number of payments on the Cashbook for the period 1 January 2009 to 31 December 2014. We identified that a variance of 43.69% exists between the number of bank statement transactions and the Cashbook transactions.
- 4.12 Our analysis identified that of the 1,788,295 payments, as reflected on the bank statement, 899,711 payments match to the cheque stub table. This equates to 50.31% of the number of payments being matched.
- 4.13 Our analysis identified that 1,037,735 payments were found on the cheque stub table during the period 1 January 2009 to 31 December 2014. Of the aforementioned 1,037,735 payments, 939,531 payments match on the consolidated bank statement table. The value of these 939,531 matched payments is MK 1,144,359,809,263.92. Tables 36 to 41 shows the top 5 cheques matched between the Cheque Stub and the Bank Statement table per ministry and per year.

Table 36: Matched cheques between Cheque Stub Table and Bank Statements for 2009

Ministry Name	Total Count of Payments on Cheque Stub	Total Count of Payments on Bank Statement matched	Total Count of Payments on Bank Statement unmatched	Total Value of Payments on Cheque Stub	Total Value of Payments on Bank matched	Total Value of Payments on Bank Statement unmatched
Education, Science & Technology	17,717	16,325	1,392	11,524,179,348.78	10,576,676,885.77	947,502,463.01
Malawi Police Service	9,652	8,347	1,305	6,308,905,067.96	4,548,332,225.06	1,760,572,842.90
Ministry of Health	11,399	10,295	1,104	11,142,740,044.82	10,331,769,408.87	810,970,635.95
Agriculture & Food Security	13,877	12,893	984	17,412,878,064.32	17,039,648,376.57	373,229,687.75
Pensions and Gratuities	9,214	8,367	847	6,139,470,855.36	5,452,679,335.27	686,791,520.09

Table 37: Matched cheques between Cheque Stub Table and Bank Statements for 2010

Ministry Name	Total Count of Payments on Cheque Stub	Total Count of Payments on Bank Statement matched	Total Count of Payments on Bank Statement unmatched	Total Value of Payments on Cheque Stub	Total Value of Payments on Bank matched	Total Value of Payments on Bank Statement unmatched
Ministry of Health	13,717	12,420	1,297	16,323,513,813.26	14,839,457,406.67	1,484,056,406.59
Education, Science & Technology	16,978	15,798	1,180	13,641,718,633.40	13,155,480,568.81	486,238,064.59
Malawi Defence Force	10,457	9,499	958	6,434,376,139.27	6,167,022,189.30	267,353,949.97
Pensions and Gratuities	9,644	8,749	895	8,712,263,915.80	8,170,898,899.40	541,365,016.40
Agriculture & Food Security	13,382	12,499	883	25,038,460,161.87	23,919,555,899.66	1,118,904,262.21

Table 38: Matched cheques between Cheque Stub Table and Bank Statements for 2011

Ministry Name	Total Count of Payments on Cheque Stub	Total Count of Payments on Bank Statement matched	Total Count of Payments on Bank Statement unmatched	Total Value of Payments on Cheque Stub	Total Value of Payments on Bank matched	Total Value of Payments on Bank Statement unmatched
Education, Science & Technology	32,353	29,000	3,353	32,209,418,048.02	30,014,052,908.20	2,195,365,139.82
Agriculture & Food Security	23,447	20,502	2,945	27,456,322,287.31	26,787,865,385.86	668,456,901.45
Ministry of Health	21,830	18,888	2,942	19,944,575,574.36	18,248,782,148.28	1,695,793,426.08
Pensions and Gratuities	13,539	11,643	1,896	10,205,060,706.40	9,340,887,986.54	864,172,719.86

Ministry Name	Total Count of Payments on Cheque Stub	Total Count of Payments on Bank Statement matched	Total Count of Payments on Bank Statement unmatched	Total Value of Payments on Cheque Stub	Total Value of Payments on Bank matched	Total Value of Payments on Bank Statement unmatched
Lands & Natural Resources	9,233	7,528	1,705	5,054,038,487.61	4,648,532,135.90	405,506,351.71

Table 39: Matched cheques between Cheque Stub Table and Bank Statements for 2012

Ministry Name	Total Count of Payments on Cheque Stub	Total Count of Payments on Bank Statement matched	Total Count of Payments on Bank Statement unmatched	Total Value of Payments on Cheque Stub	Total Value of Payments on Bank matched	Total Value of Payments on Bank Statement unmatched
Agriculture & Food Security	26,194	23,612	2,582	46,135,592,369.80	41,948,426,493.62	4,187,165,876.18
Ministry of Health	21,150	19,011	2,139	27,519,366,882.36	26,478,062,084.26	1,041,304,798.10
Education, Science & Technology	34,919	32,907	2,012	41,113,162,371.32	40,161,800,010.07	951,362,361.25
Pensions and Gratuities	12,139	11,240	899	13,844,961,237.84	13,459,488,398.11	385,472,839.73
Malawi Police Service	9,516	8,743	773	11,628,834,777.03	12,046,643,644.27	-417,808,867.24

Table 40: Matched cheques between Cheque Stub Table and Bank Statements for 2013

Ministry Name	Total Count of Payments on Cheque Stub	Total Count of Payments on Bank Statement matched	Total Count of Payments on Bank Statement unmatched	Total Value of Payments on Cheque Stub	Total Value of Payments on Bank matched	Total Value of Payments on Bank Statement unmatched
Ministry of Health	17,946	15,971	1,975	342,002,823,998.39	31,191,302,808.90	310,811,521,189.49
Agriculture & Food Security	20,821	18,938	1,883	37,968,180,321.66	37,105,243,290.81	862,937,030.85
Education, Science & Technology	23,030	21,405	1,625	49,276,868,206.99	48,293,654,700.93	983,213,506.06
Pensions and Gratuities	8,553	8,072	481	16,880,215,659.14	16,464,663,870.22	415,551,788.92
Office of President & Cabinet	9,216	8,824	392	7,248,612,825.83	7,191,918,977.24	56,693,848.59

Table 41: Matched cheques between Cheque Stub Table and Bank Statements for 2014

Ministry Name	Total Count of Payments on Cheque Stub	Total Count of Payments on Bank Statement matched	Total Count of Payments on Bank Statement unmatched	Total Value of Payments on Cheque Stub	Total Value of Payments on Bank Statement matched	Total Value of Payments on Bank Statement unmatched
Agriculture & Food Security	13,564	10,568	2,996	73,213,650,915.66	49,929,576,066.83	23,284,074,848.83
Education, Science & Technology	18,455	15,749	2,706	51,781,307,430.18	47,428,703,288.77	4,352,604,141.41
Ministry of Health	11,759	9,510	2,249	34,020,309,111.99	29,285,313,415.90	4,734,995,696.09
Pensions and Gratuities	6,984	5,490	1,494	17,859,213,146.93	14,244,159,241.87	3,615,053,905.06
Office of President & Cabinet	8,094	6,748	1,346	5,485,377,039.43	4,325,538,207.67	1,159,838,831.76

- 4.14 Our analysis identified 720,947 payments on the 'gt_bnrc_bnkdt_u' table, used by the IFMIS cheque reconciliation application. Of the aforementioned 720,947 payments, 185,849 payments have a reconciled flag value of '0'. The value of these 185,849 payments is MK 505,862,792,841.25.
- 4.15 Our analysis further identified that there was potential duplicate cheques on the Bank Statement with different transaction dates.
- 4.16 Our analysis identified that 98.19% of the cheques issued could be matched to either the cheque stub table or bank statement. Our analysis further identified that 66.65% of cheques found on either the cheque stub table or bank statement, could be matched to the cheques issued table.
- 4.17 Detection of forcefully deleted transactions and associated users can only be accomplished through a thorough analysis of the SQL server transaction logs. It should be noted that the SQL Server transaction logs do not exist prior to March 2010. Based on such a review being a time consuming exercise, this analysis has not been performed to date. We did however, as an example, set out to attempt to recover one database, for Agriculture & Food Security, with the relevant transaction logs. Below is an example of one transaction: For this transaction we have no cash book records (as indicated as part of the red flag analysis), but we were able to recover the following information from the SQL transaction logs:

Cheque No. 672642					
Payment No.	Vendor No.	Table	Operation	Amount	Date
DISB0000087	VN004102	apchkstb	INSERT	1,110,000	22/07/2010 12:03
DISB0000087	VN004102	appyhdr	INSERT	1,110,000	22/07/2010 12:06
DISB0000087	VN004102	cm inpdtl	INSERT	1,110,000	22/07/2010 12:06
DISB0000087	VN004102	cm inpdtl	DELETE	1,110,000	22/03/2011 08:46
DISB0000087	VN004102	cm inpdtl	INSERT	1,110,000	22/03/2011 08:46
DISB0000087	VN004102	cm inpdtl	DELETE	1,110,000	06/05/2011 17:51

It was noted that this particular transaction was first created on the 22/07/2010 and was posted to the cash book on the same day (as reflected in tables “apchkstb”, “appyhdr” and “cminpdtl” on 22/07/2010 in the table above). This transaction reflects on the bank statement on 27/07/2010. The same transaction was then deleted on the 22/03/2011, re-inserted on the same day and then lastly deleted on the 06/05/2011. As we have not fully investigated why this record was modified months after being paid and subsequently deleted, it should be noted that unless a valid reason exists for this transactional history, this could indicate possible control weaknesses or security vulnerability within IFMIS and / or its database.

- 4.18 We set out to summarise our analysis to, where possible, identify the number of red flag occurrences per ministry, per year. This summary includes the results per ministry, per year for each section of this report where it was possible to identify red flags per ministry. For each section of the report, we determined the average red flag occurrence rate by taking into account the number of possible red flags in comparison to the number of transactions a particular ministry would process. Where a particular ministry peaked above the average red flag occurrence rate, we ranked the particular ministry as “high risk” for that specific section of the report. We then added the number of times that a particular ministry was flagged as “high risk” in order to identify the list of ministries that contain the most number of red flags. The tables below illustrates every ministry, per year and the section of the report that they rank as “high risk” (red) and / or “medium risk” (yellow).

Table 42: Matched cheques between Cheque Stub Table and Bank Statements for 2009

2009	Risk	% of Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	% of Total Count of Payments >= MK 1 million with no Bank Statement and no Cashbook Record	% Total Count of Payment on cheque stub reconciled to Bank Statement	% Total Count of Payments reconciled to Cheque Stub and Bank Statement	Above Average Indicator of the Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Above Average Indicator of Cheque Stub Records with no Cashbook Record	Above Average Indicator of Total Count of Payment on cheque stub unmatched to Bank Statement	Above Average Indicator of the Total Count of Payments unmatched Cheque Stub and Bank Statement
Accountant General	●	5.80%	1.62%	81.00%	84.70%	✓	✓	✓	✓
Administrator General	●			82.19%	93.15%	✗	✗	✓	✗
Agriculture & Food Security	●	3.84%		88.95%	92.91%	✓	✗	✓	✗
Compensation and Refunds	●	6.76%	0.68%	85.71%	88.82%	✓	✓	✓	✓
Economic Planning & Development	●			88.92%	90.79%	✗	✗	✓	✓
Education, Science & Technology	●			87.67%	92.14%	✗	✗	✓	✓
Financial Intelligence Unit	●			91.67%	91.67%	✗	✗	✗	✓
Justice & Constitutional Affairs	●			85.42%	89.45%	✗	✗	✓	✓
Labour	●			90.25%	91.89%	✗	✗	✗	✓
Law Commission	●			87.26%	90.17%	✗	✗	✓	✓
Local Government Finance Committee	●			87.33%	90.97%	✗	✗	✓	✓
Malawi Police Service	●			85.67%	86.48%	✗	✗	✓	✓
Ministry of Health	●	0.16%		85.18%	90.31%	✗	✗	✓	✓
National Assembly	●			90.59%	92.08%	✗	✗	✗	✓
National Statistical Office	●			50.00%	66.67%	✗	✗	✓	✓
Office of Vice President	●	9.26%		89.81%	91.35%	✓	✗	✗	✓
Pensions and Gratuities	●	0.22%		87.65%	90.81%	✗	✗	✓	✓
Road Fund Administration	●			85.10%	86.54%	✗	✗	✓	✓
State Residences	●			88.14%	91.26%	✗	✗	✓	✓
Treasury	●			88.77%	92.54%	✗	✗	✓	✗

Table 43: Matched cheques between Cheque Stub Table and Bank Statements for 2010

2010	Risk	% of Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	% of Total Count of Payments >= MK 1 million with no Bank Statement and no Cashbook Record	% Total Count of Payment on cheque stub reconciled to Bank Statement	% Total Count of Payments reconciled to Cheque Stub and Bank Statement	Above Average Indicator of the Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Above Average Indicator of Cheque Stub Records with no Cashbook Record	Above Average Indicator of Total Count of Payment on cheque stub unmatched to Bank Statement	Above Average Indicator of the Total Count of Payments unmatched Cheque Stub and Bank Statement
Accountant General	●	11.78%	0.41%	86.72%	90.37%	✓	✓	✓	✓
Agriculture & Food Security	●	11.37%		89.12%	93.40%	✓	✗	✓	✗
Compensation and Refunds	●	11.27%		80.20%	83.17%	✓	✗	✓	✓
Dept of Human Resource Management & Devt	●			87.02%	92.94%	✗	✗	✓	✗
Education, Science & Technology	●	0.56%		88.58%	93.05%	✗	✗	✓	✗
Energy & Mines	●			84.88%	87.53%	✗	✗	✓	✓
Financial Intelligence Unit	●			85.71%	89.29%	✗	✗	✓	✓
Foreign Affairs	●			88.20%	91.42%	✗	✗	✓	✓
Home Affairs & Internal Security	●	1.25%		88.66%	92.30%	✗	✗	✓	✓
Information & Civic Education	●			87.75%	91.31%	✗	✗	✓	✓
Lands & Natural Resources	●	30.15%		89.81%	92.52%	✓	✗	✗	✓
Law Commission	●			88.92%	93.11%	✗	✗	✓	✗
Legal Aid	●			87.76%	90.68%	✗	✗	✓	✓
Malawi Defence Force	●	1.46%		89.57%	90.84%	✗	✗	✗	✓
Malawi Police Service	●	0.58%		91.23%	91.90%	✗	✗	✗	✓
Mines Department	●	39.39%	3.03%	89.01%	91.14%	✓	✓	✓	✓
Ministry of Health	●	0.33%		85.22%	90.54%	✗	✗	✓	✓
National Assembly	●	0.36%	0.36%	94.31%	95.19%	✗	✓	✗	✗
National Audit Office	●	8.00%		87.01%	91.19%	✓	✗	✓	✓
Office of Vice President	●	12.04%		84.80%	87.56%	✓	✗	✓	✓
Pensions and Gratuities	●	12.93%		84.29%	90.72%	✓	✗	✓	✓
Persons with Disability & Elderly	●	14.29%		91.00%	93.01%	✓	✗	✗	✗
Road Fund Administration	●			76.40%	78.50%	✗	✗	✓	✓
Tourism, Wildlife & Culture	●	1.36%		89.29%	91.62%	✗	✗	✗	✓
Treasury	●	0.41%		88.77%	91.76%	✗	✗	✓	✓
Youth Development & Sports	●	17.35%	2.04%	91.71%	95.21%	✓	✓	✗	✗

Table 44: Matched cheques between Cheque Stub Table and Bank Statements for 2011

2011	Risk	% of Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	% of Total Count of Payments >= MK 1 million with no Bank Statement and no Cashbook Record	% Total Count of Payment on cheque stub reconciled to Bank Statement	% Total Count of Payments reconciled to Cheque Stub and Bank	Above Average Indicator of the Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Above Average Indicator of Cheque Stub Records with no Cashbook Record	Above Average Indicator of Total Count of Payment on cheque stub unmatched to Bank Statement	Above Average Indicator of the Total Count of Payments unmatched Cheque Stub and Bank Statement
Accountant General	●	6.20%	0.91%	85.87%	88.18%	✓	✓	✗	✓
Agriculture & Food Security	●	0.13%		81.65%	87.44%	✗	✗	✓	✓
Compensation and Refunds	●			76.06%	76.06%	✗	✗	✓	✓
Education, Science & Technology	●			82.24%	89.64%	✗	✗	✓	✗
Energy & Mines	●			82.54%	85.70%	✗	✗	✓	✓
Geological Survey	●			69.15%	76.12%	✗	✗	✓	✓
Human Rights commission	●			79.96%	83.83%	✗	✗	✓	✓
Irrigation & Water Development	●	1.30%	0.87%	87.59%	91.49%	✗	✓	✗	✗
Judiciary	●			83.31%	91.36%	✗	✗	✓	✗
Lands & Natural Resources	●	37.05%		77.65%	81.53%	✓	✗	✓	✓
Legal Aid	●			77.68%	80.98%	✗	✗	✓	✓
Local Government & Rural Development	●	13.43%		88.67%	92.15%	✓	✗	✗	✗
Local Government Finance Committee	●			83.67%	87.57%	✗	✗	✓	✓
Malawi Defence Force	●			85.71%	87.21%	✗	✗	✗	✓
Malawi Police Service	●	0.98%		72.10%	76.18%	✗	✗	✓	✓
Mines Department	●	15.38%		88.35%	93.99%	✓	✗	✗	✗
Ministry of Health	●			81.55%	86.52%	✗	✗	✓	✓
National Statistical Office	●			72.79%	78.68%	✗	✗	✓	✓
Nutrition, HIV/AIDS & National Aids Comm	●			80.80%	84.06%	✗	✗	✓	✓
Office of Vice President	●	12.31%	3.08%	89.78%	90.67%	✓	✓	✗	✗
Pensions and Gratuities	●	6.85%		81.36%	86.00%	✓	✗	✓	✓
Persons with Disability & Elderly	●	7.79%	1.30%	87.96%	90.72%	✓	✓	✗	✗
Prisons Services	●			84.96%	88.07%	✗	✗	✗	✓
Public Prosecution & State Advocate	●			85.71%	87.74%	✗	✗	✗	✓
Registrar General	●			80.00%	92.78%	✗	✗	✓	✗
Subvented Organisations	●			83.72%	86.94%	✗	✗	✓	✓
Tourism, Wildlife & Culture	●	14.29%	1.06%	90.17%	94.03%	✓	✓	✗	✗
Transport, Public Works & Housing	●	0.96%	0.96%	89.76%	93.80%	✗	✓	✗	✗
Women & Child Development	●	39.45%	0.92%	85.57%	91.08%	✓	✓	✗	✗
Youth Development & Sports	●	17.65%	5.88%	88.82%	91.08%	✓	✓	✗	✗

Table 45: Matched cheques between Cheque Stub Table and Bank Statements for 2012

2012	Risk	% of Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	% of Total Count of Payments >= MK 1 million Bank Statement and no Cashbook Record	% Total Count of Payment on cheque stub reconciled to Bank Statement	% Total Count of Payments reconciled to Cheque Stub and Bank Statement	Above Average Indicator of the Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Above Average Indicator of Cheque Stub Records with no Bank Statement and no Cashbook Record	Above Average Indicator of Total Count of Payment on cheque stub unmatched to Bank Statement	Above Average Indicator of the Total Count of Payments unmatched Cheque Stub and Bank Statement
Administrator General	●		85.15%	88.53%	✗	✗	✓	✓	
Agriculture & Food Security	●	3.96%	84.58%	90.14%	✓	✗	✓	✓	
Education, Science & Technology	●		84.90%	94.24%	✗	✗	✓	✗	
Energy & Mines	●		91.03%	92.76%	✗	✗	✗	✓	
Environmental and Climate Change	●		87.57%	91.51%	✗	✗	✓	✓	
Foreign Affairs	●	2.90%	89.44%	91.25%	✓	✗	✗	✓	
Geological Survey	●		75.11%	85.41%	✗	✗	✓	✓	
Immigration	●		85.89%	93.44%	✗	✗	✓	✓	
Justice & Constitutional Affairs	●		89.68%	91.80%	✗	✗	✗	✓	
Local Development Fund	●		89.16%	89.16%	✗	✗	✗	✓	
Local Government & Rural Development	●	9.59%	90.87%	94.33%	✓	✗	✗	✗	
Local Government Finance Committee	●		88.96%	95.89%	✗	✗	✓	✗	
Malawi Electoral Commission	●		83.61%	83.95%	✗	✗	✓	✓	
Malawi Police Service	●		89.37%	91.88%	✗	✗	✗	✓	
Ministry of Defence	●		89.27%	92.38%	✗	✗	✗	✓	
Ministry of Health	●		82.49%	89.89%	✗	✗	✓	✓	
National Statistical Office	●		82.68%	88.40%	✗	✗	✓	✓	
Office of Vice President	●	1.89%	89.28%	91.63%	✓	✗	✗	✓	
Ombudsman	●		87.38%	89.85%	✗	✗	✓	✓	
Pensions and Gratuities	●		90.24%	92.59%	✗	✗	✗	✓	
Prisons Services	●		87.83%	89.73%	✗	✗	✓	✓	
Public Service Commission	●		85.47%	89.59%	✗	✗	✓	✓	
Registrar General	●		81.91%	89.89%	✗	✗	✓	✓	
State Residences	●		87.62%	92.14%	✗	✗	✓	✓	
Unforeseen Expenditure	●		84.48%	85.34%	✗	✗	✓	✓	

Table 46: Matched cheques between Cheque Stub Table and Bank Statements for 2013

2013	Risk	% of Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	% of Total Count of Payments >= MK 1 million with no Bank Statement and no Cashbook Record	% Total Count of Payment on cheque stub reconciled to Bank Statement	% Total Count of Payments reconciled to Cheque Stub and Bank Statement	Above Average Indicator of the Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Above Average Indicator of Cheque Stub Records with no Bank Statement and no Cashbook Reco	Above Average Indicator of Total Count of Payment on cheque stub unmatched to Bank Statement	Above Average Indicator of the Total Count of Payments unmatched Cheque Stub and Bank Statement
Accountant General	●	2.61%		93.53%	94.76%	✓	✗	✗	✗
Administrator General	●			91.42%	93.30%	✗	✗	✓	✓
Agriculture & Food Security	●	6.09%		87.77%	90.96%	✓	✗	✓	✓
BE490	●			93.10%	93.42%	✗	✗	✗	✓
Director of Public Procurement	●			91.50%	92.97%	✗	✗	✓	✓
Education, Science & Technology	●			92.01%	92.94%	✗	✗	✗	✓
Geological Survey	●			86.10%	92.51%	✗	✗	✓	✓
Human Rights commission	●			89.21%	92.40%	✗	✗	✓	✓
Immigration	●			89.97%	91.00%	✗	✗	✓	✓
Information & Civic Education	●			91.47%	93.00%	✗	✗	✓	✓
Irrigation & Water Development	●	1.93%		95.09%	97.06%	✓	✗	✗	✗
Judiciary	●			90.83%	93.27%	✗	✗	✓	✓
Justice & Constitutional Affairs	●	4.48%		94.44%	96.02%	✓	✗	✗	✗
Labour	●	3.57%		95.93%	98.43%	✓	✗	✗	✗
Legal Aid	●			85.25%	91.71%	✗	✗	✓	✓
Local Development Fund	●			86.67%	86.67%	✗	✗	✓	✓
Local Government & Rural Development	●	24.41%		88.81%	89.16%	✓	✗	✓	✓
Local Government Finance Committee	●			86.10%	92.28%	✗	✗	✓	✓
Malawi Defence Force	●	13.09%		96.35%	96.35%	✓	✗	✗	✗
Malawi Electoral Commission	●			87.01%	89.29%	✗	✗	✓	✓
Malawi Police Service	●	7.28%		95.55%	96.97%	✓	✗	✗	✗
Ministry of Health	●	0.47%		86.46%	88.99%	✗	✗	✓	✓
National Audit Office	●			77.52%	79.26%	✗	✗	✓	✓
National Statistical Office	●	31.25%		82.74%	91.88%	✓	✗	✓	✓
Office of President & Cabinet	●	2.02%		93.09%	95.75%	✓	✗	✗	✗
Office of Vice President	●			90.88%	92.77%	✗	✗	✓	✓
Ombudsman	●			84.82%	85.33%	✗	✗	✓	✓
Pensions and Gratuities	●	0.06%		90.65%	94.38%	✗	✗	✓	✗
Persons with Disability & Elderly	●			88.91%	91.09%	✗	✗	✓	✓
Public Service Commission	●			85.31%	88.94%	✗	✗	✓	✓
Registrar General	●			80.00%	82.50%	✗	✗	✓	✓
State Residences	●			84.34%	84.34%	✗	✗	✓	✓
Tourism, Wildlife & Culture	●	18.89%	0.46%	98.06%	98.28%	✓	✓	✗	✗
Treasury	●	4.03%		95.60%	96.07%	✓	✗	✗	✗
Unforeseen Expenditure	●			92.86%	92.86%	✗	✗	✗	✓
Women & Child Development	●			90.66%	96.44%	✗	✗	✓	✗

Table 47: Matched cheques between Cheque Stub Table and Bank Statements for 2014

2014	Risk	% of Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	% of Total Count of Payments >= MK 1 million with no Bank Statement and no Cashbook Record	% Total Count of Payment on cheque stub reconciled to Bank Statement	% Total Count of Payments reconciled to Cheque Stub and Bank Statement	Above Average Indicator of the Total Count of Payments >= MK 1 million not on Cashbook, but on Cheque Stub	Above Average Indicator of Cheque Stub Records with no Bank Statement and no Cashbook Reco	Above Average Indicator of Total Count of Payment on cheque stub unmatched to Bank Statement	Above Average Indicator of the Total Count of Payments unmatched Cheque Stub and Bank Statement
Accountant General	●			69.80%	78.54%	✗	✗	✓	✓
Administrator General	●			68.67%	72.06%	✗	✗	✓	✓
Agriculture & Food Security	●			71.61%	77.91%	✗	✗	✓	✓
Anti-Corruption Bureau	●			66.69%	82.36%	✗	✗	✓	✗
BE490	●			74.39%	79.78%	✗	✗	✓	✓
Compensation and Refunds	●			71.82%	75.08%	✗	✗	✓	✓
Dept of Human Resource Management & Devt	●			70.55%	77.50%	✗	✗	✓	✓
Director of Public Procurement	●			65.88%	74.25%	✗	✗	✓	✓
Economic Planning & Development	●			78.38%	79.44%	✗	✗	✗	✓
Education, Science & Technology	●	0.05%		83.44%	85.34%	✓	✗	✗	✗
Energy & Mines	●			66.45%	72.98%	✗	✗	✓	✓
Foreign Affairs	●			73.41%	79.35%	✗	✗	✓	✓
Home Affairs & Internal Security	●			68.22%	76.12%	✗	✗	✓	✓
Human Rights commission	●			69.28%	83.48%	✗	✗	✓	✗
Immigration	●			79.09%	79.22%	✗	✗	✗	✓
Industry, Trade & Private Sector Devt	●			69.39%	75.89%	✗	✗	✓	✓
Information & Civic Education	●			67.70%	70.09%	✗	✗	✓	✓
Judiciary	●			78.48%	78.48%	✗	✗	✗	✓
Justice & Constitutional Affairs	●			72.16%	83.39%	✗	✗	✓	✗
Labour	●			77.64%	77.74%	✗	✗	✗	✓
Lands & Natural Resources	●			74.00%	75.93%	✗	✗	✓	✓
Law Commission	●			73.93%	80.91%	✗	✗	✓	✗
Local Development Fund	●			34.29%	34.29%	✗	✗	✓	✓
Local Government & Rural Development	●			73.53%	77.33%	✗	✗	✓	✓
Malawi Police Service	●	0.34%		73.92%	76.57%	✓	✗	✓	✓
Ministry of Defence	●			70.18%	75.28%	✗	✗	✓	✓
National Assembly	●			75.45%	75.50%	✗	✗	✗	✓
National Audit Office	●			73.88%	82.08%	✗	✗	✓	✗
Nutrition, HIV/AIDS & National Aids Comm	●			67.24%	72.94%	✗	✗	✓	✓
Office of President & Cabinet	●			75.09%	83.37%	✗	✗	✓	✗
Office of Vice President	●			67.91%	68.11%	✗	✗	✓	✓
Pensions and Gratuities	●	0.03%		70.40%	78.61%	✓	✗	✓	✓
Prisons Services	●			71.59%	80.51%	✗	✗	✓	✗
Public Prosecution & State Advocate	●			68.12%	77.98%	✗	✗	✓	✓
Public Service Commission	●			70.78%	80.09%	✗	✗	✓	✗
Registrar General	●			75.14%	75.14%	✗	✗	✗	✓
Transport, Public Works & Housing	●			79.01%	79.24%	✗	✗	✗	✓
Treasury	●			71.39%	81.06%	✗	✗	✓	✗
Unforeseen Expenditure	●			71.43%	71.43%	✗	✗	✓	✓
Women & Child Development	●			62.27%	68.37%	✗	✗	✓	✓

5. Recommendations

- 5.1 The aforementioned variances identified pertaining to the reconciliation of bank statement transactions to Cashbook transactions need to be further investigated.
- 5.2 The daily reconciliation performed on the Epicor system, matching electronically received bank statements to the previous day's Cashbook, needs to be reviewed. This is a potential control weakness and more comprehensive controls need to be architected to identify possible irregular transactions or "red flags" as they occur.
- 5.3 It is recommended that the variances of the number of transactions on the bank statement versus the number of payments on the Cashbook be reviewed and that the daily reconciliation of Cashbook to bank statement process be reviewed.
- 5.4 It should be considered to recover all deleted and/or modified database records in order to reconstruct the Cashbook. This is only doable for the period following March 2010 as no SQL transactional log files existed before then. This will however be an extremely lengthy and complex exercise, as you need to work through millions of transaction logs to further understand the movements of the database. The complexity of this task justifies a separate submission which we will do if required.
- 5.5 The following is an example of some of the "red flags" you would be able to potentially identify by looking at SQL transactional log files:
 - a) Suppliers created on one day but deleted either the same day or deleted the following day;
 - b) Users created on one day but deleted either the same day or deleted the following day;
 - c) Payments (appyhdr) created and deleted on the same day;
 - d) Invoices (aptrxage) created and deleted on the same day; and
 - e) Voucher (apvohdr) created and deleted on the same day.
- 5.6 The aforementioned anomalies should be further investigated to identify the extent of the suspected irregular transactions.