LGFA
NEW ZEALAND
LOCAL GOVERNMENT
FUNDING AGENCY

LGFA Risk & Compliance Update 2017



12 June 2017

What is going to be covered today:

- Performance against identified LGFA core risks.
- Balance sheet risk.
- Market risk.
- Credit risk.
- Liquidity risk.
- Treasury policy limits and Compliance.
- The LGFA Risk Assurance Program.
- Business Continuity Plan.
- LGFA Internal Audit Program.

LGFA Core Risks 2016 and 2017

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- At the beginning of each year LGFA management and the Audit and Risk Committee review and identify the key risks that the LGFA will be exposed too going forward.

- Key risks identified for 2016 included:

Business Continuity Risk	Council Credit Default Risk
Reputational Risk	Liquidity Risk
Vendor Risk	Data Integrity
Full Tender Failure Risk	Key Person Risk
LGFA Ratings Risk	Higher Value Execution Risk

- At the start of 2017 the following risks were also added to the core risks lists, these included Balance Sheet Risk and Cyber Risk

LGFA Performance against core risks

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- Business Continuity: The major business interruption event in 2016 was the Kaikoura earthquake.
- Reputational Risk: There was no negative publicity or actions that impacted on the LGFAs reputation during 2016. In addition to this a number of presentations and relationship visits were completed to maintained and enhanced the LGFAs reputation.
- Vendor Risk: There were no business disruptions or negative impact on LGFAs performance or reputation as a result of the service providers and IT suppliers that were used by LGFA.
- Full Tender Failure: The LGFA has conducted 10 bond tenders and 12 bill tenders since June 2016. All tenders have experienced strong interest and there were no tender failures.
- LGFA Ratings Risk: LGFA securities are rated by both Fitch and Standard and Poor's. Fitch affirmed LGFAs AA+ credit rating with a stable outlook in Nov16. Standard and Poor's affirmed LGFAs AA+/A-1+ foreign currency long term / short term outlook in October 2016.
- Council Credit default risk: There were no council defaults observed in 2016. LGFA reviews the fundamental balance sheet strength of local councils on an annual basis and conducts a number of relationship visits to mitigate the risk of default.

LGFA Performance against core risks

- Liquidity Risk: There were no liquidity events during 2016. The LGFA had sufficient funds in place to meet all settlement and payment obligations.
- Data Integrity: There were no operational errors, cyber events or third party incidents that compromised LGFA data or information during 2016.
- Key Person Risk: The LGFA completed all business processes and functions during 2016 without any significant disruptions. As a team of seven people LGFA acknowledges its exposure to key person risk and we continue to upskill and cross train staff in key areas as required.
- Higher Value Execution Risk: There were no settlement or payment errors made during 2016. The LGFA successfully settled all market transactions, payments and coupon flows with no execution errors.

LGFA Balance Sheet Risk

The LGFA Balance Sheet is made up of:

- Liquid Assets Portfolio (Cash, Deposits, Discountables, Bonds)
- Borrower Notes (Fixed rate and floating rate)
- Council loans (Fixed and floating)
- LGFA Bills (3month and 6 month maturities)
- LGFA Bonds
- Swaps

LGFA – Balance Sheet Growth and Change

LGFA Balance Sheet Growth and Change					
			Volume	Mix	Weighted Yield
Assets	May-16	Fixed Rate loans to Councils	1,214,940,474	20%	4.52%
Assets	May-16	Floating Rate loans to Councils	4,945,500,000	80%	3.07%
		Total	6,160,440,474		
Liabilities	May-16	LGFA Fixed Rate Bonds	6,040,000,000	96%	4.34%
Liabilities	May-16	LGFA Treasury Bills	225,000,000	4%	2.46%
		Total:	6,265,000,000		
			Volume	Mix	Weighted Yield
Assets	May-17	Fixed Rate loans to Councils	1,460,579,817	19%	4.24%
Assets	May-17	Floating Rate loans to Councils	6,101,500,000	81%	2.77%
		Total:	7,562,079,817		
Liabilities	May-17	LGFA Fixed Rate Bonds	7,315,000,000	95%	4.19%
Liabilities	May-17	LGFA Treasury Bills	350,000,000	5%	2.09%
		Total:	7,665,000,000		

Key Points:

- Balance Sheet Assets increased by $1.4bn
- Of the $1.4bn increase in Council loans, $1.15bn were floating rate loans.
- Fixed to floating mix for Asset loans remained approx. 80% floating and 20% fixed
- LGFA Issuance remained constant approx. 95% Bonds and 5% short term LGFA Bills

Balance Sheet Risk - Key Changes & Impact

- The $1.15bn of new floating rate borrowing is due to councils:
    1. Using the bespoke lending facility – borrow on any day to any maturity date.
    2. Refinancing of council loans that mature in Dec 2017.

- During 2016 the mismatch of cashflows between assets and liabilities increased due to the council uptake of the bespoke lending facility.

- The increased floating rate assets also increases LFGA rate setting risk, as a larger volume of the book now rolls over every 90days.

- Hence, the outlook for the 90 day bill rate becomes more important in regards to Net Interest Income (NII).

90Day BKBM - History and Short Term Outlook

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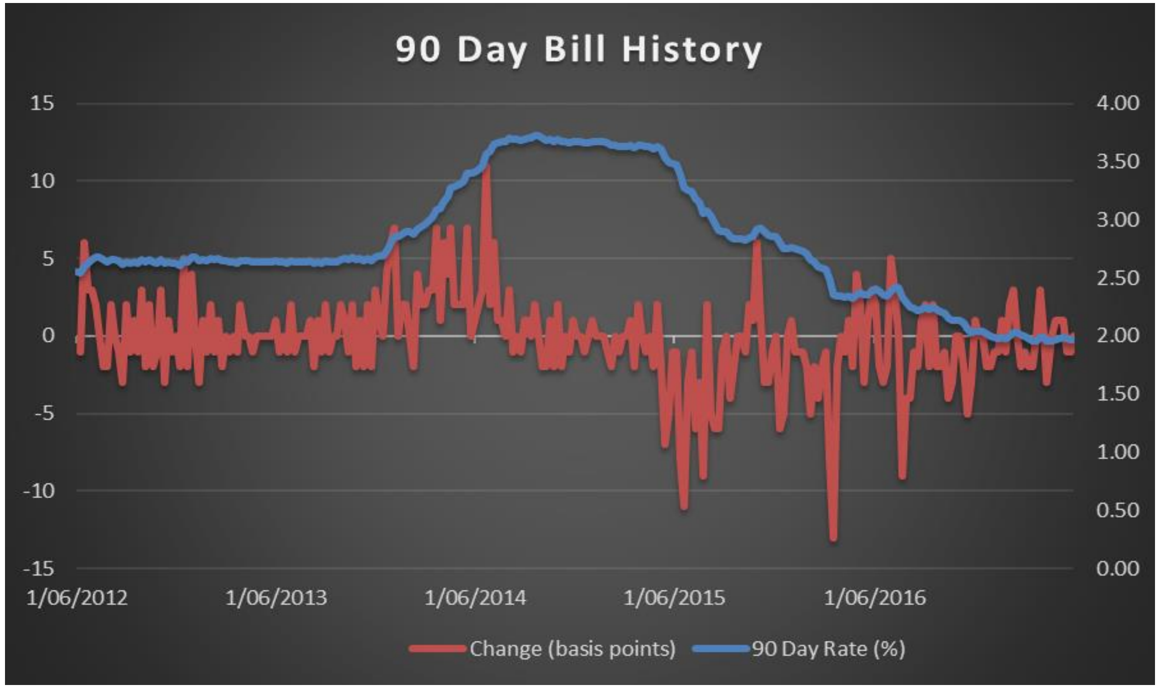
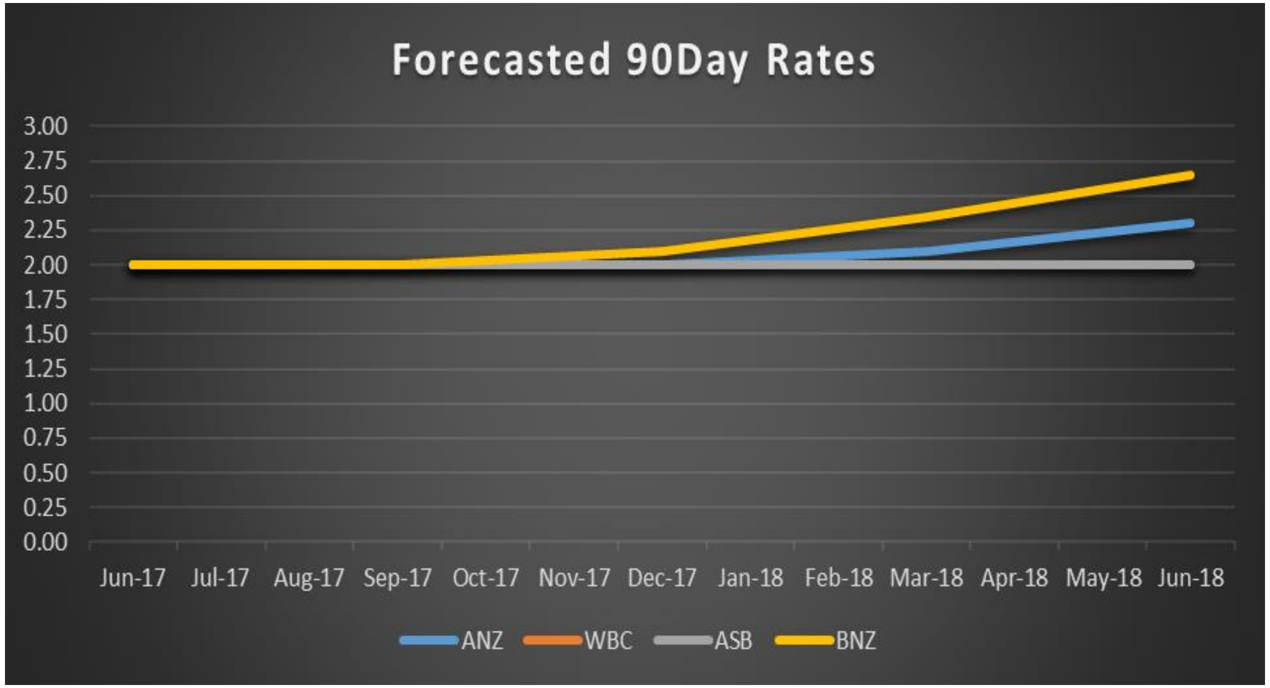


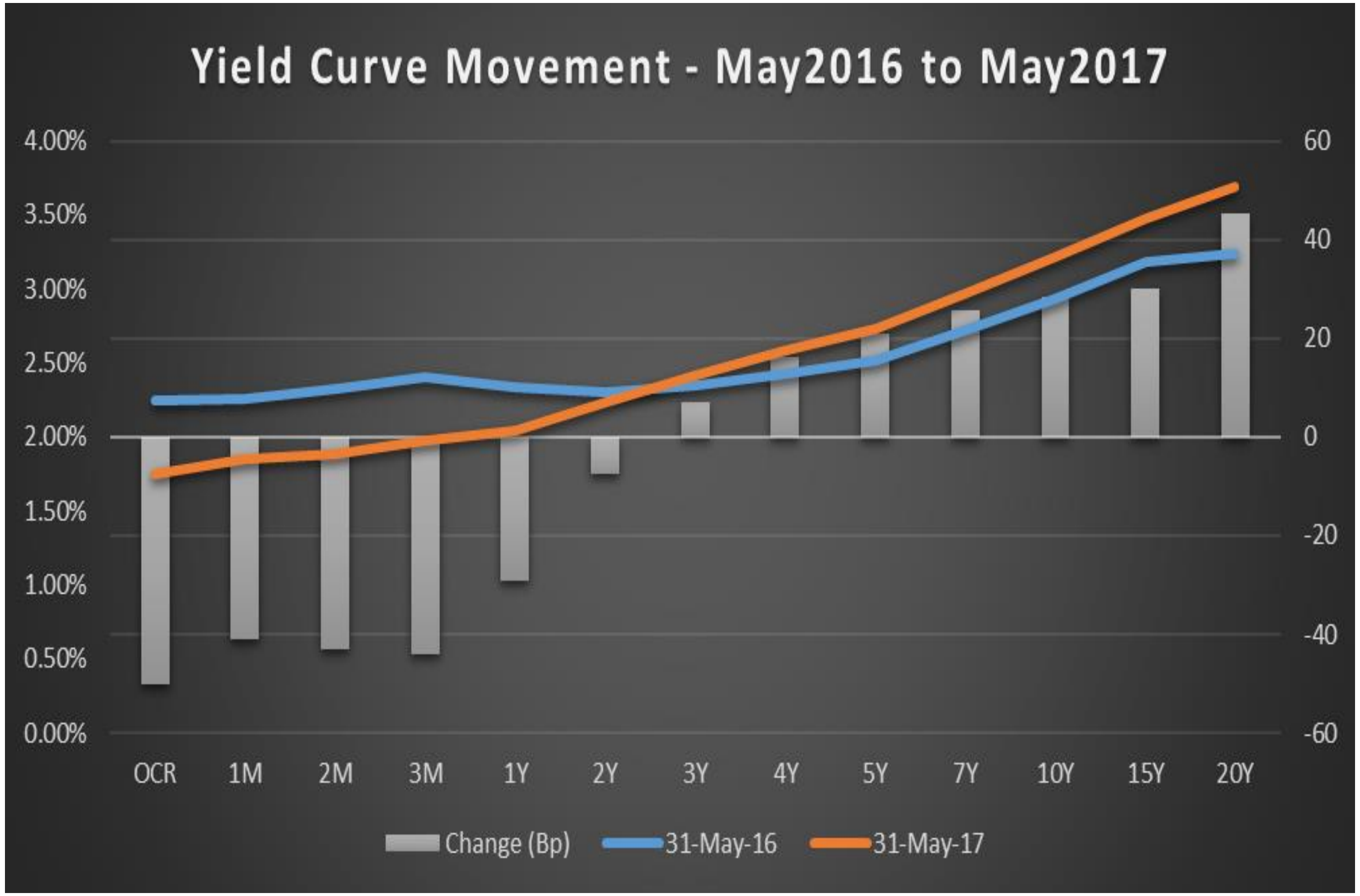


	Jun-17	Sep-17	Dec-17	Mar-18	Jun-18
ANZ	2.00%	2.00%	2.00%	2.10%	2.30%
WBC	2.00%	2.00%	2.00%	2.00%	2.00%
ASB	2.00%	2.00%	2.00%	2.00%	2.00%
BNZ	2.00%	2.00%	2.10%	2.35%	2.65%

- Monetary Policy expected to remain Accommodative for a considerable period of time.
- RBNZ stance remains Neutral.

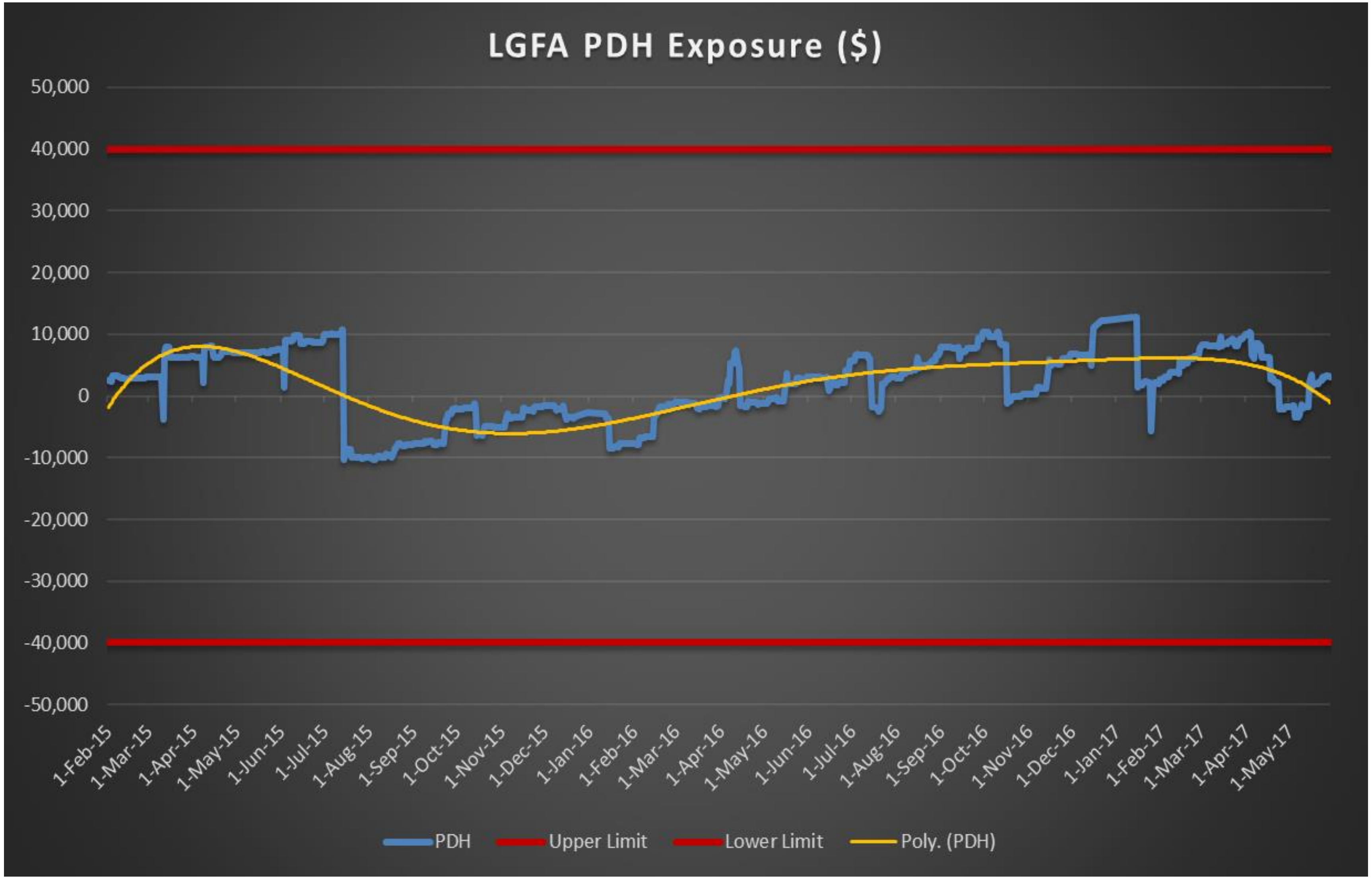
Yield Curve Risk

	OCR	1M	2M	3M	1Y	2Y	3Y	4Y	5Y	7Y	10Y	15Y	20Y
31-May-16	2.25%	2.26%	2.32%	2.41%	2.34%	2.31%	2.35%	2.42%	2.52%	2.72%	2.93%	3.18%	3.24%
31-May-17	1.75%	1.85%	1.89%	1.97%	2.05%	2.23%	2.42%	2.59%	2.73%	2.97%	3.22%	3.48%	3.69%
Change (Bp)	-50	-41	-43	-44	-29	-7.5	7	16.3	21	25.8	28.5	30	45.25



- OCR reduced by 50 basis points.
- Short end rates have reduced by approx. 40bps.
- 2s/5s steepened from 21bps to 50bps.
- 2s/10s steepened from 62bps to 99bps.

Market Risk - VaR and PDH



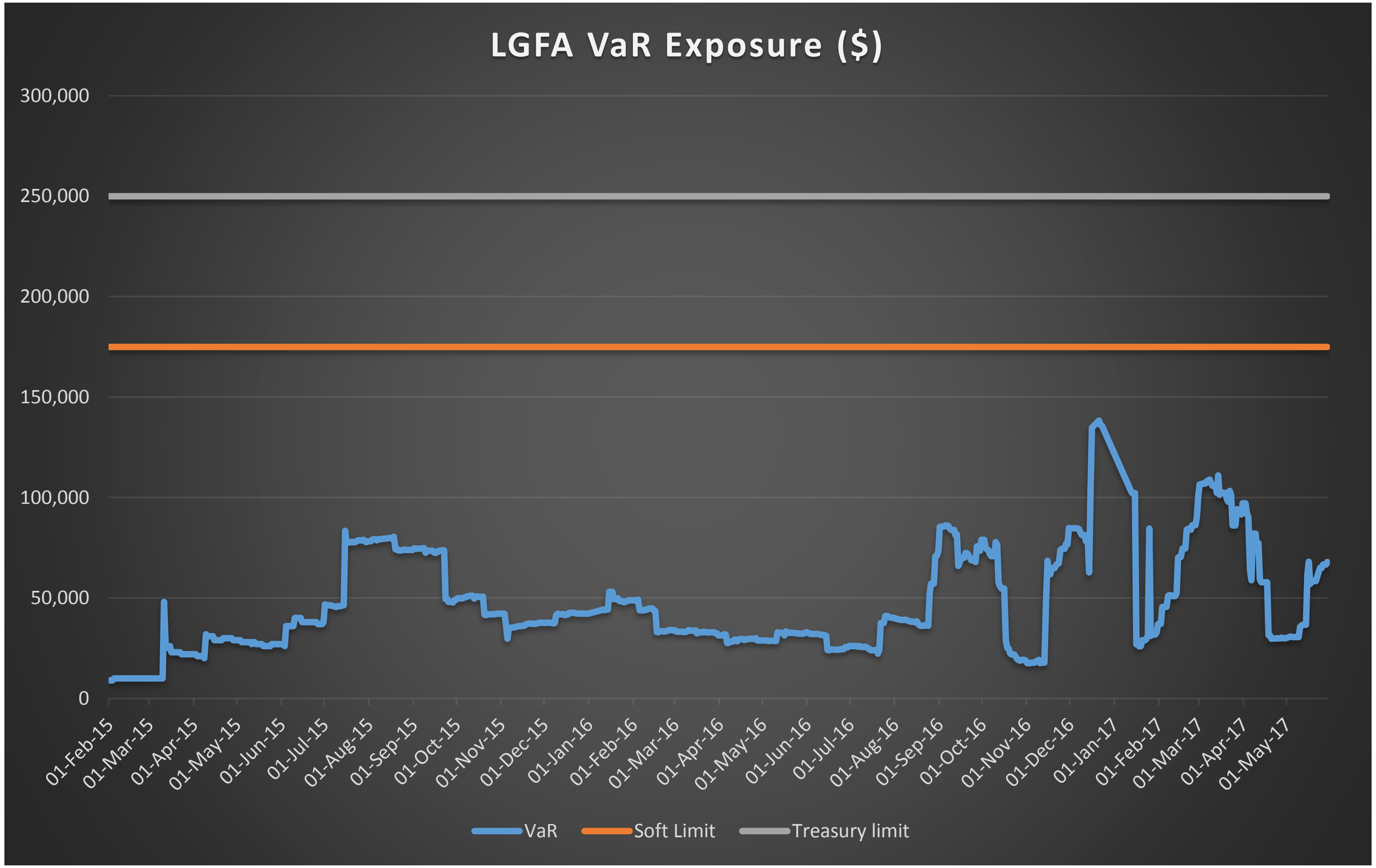
PDH measures the basis point sensitivity of the Balance Sheets exposure to interest rate risk.

The average PDH exposure between has not changed significantly over 2016, despite the strong balance sheet growth.

PDH exposure has remained well within limit over 2016.

PDH is reported and reviewed daily. Also reported to the Board monthly and noted in the CEO report at LGFA Board meetings.

Market Risk – VaR and PDH



Average VaR June 15 to May 16 was $46,184
Average VaR June 16 to May 17 was $55,848
21% Increase in VaR Utilisation

VaR is more volatile when you compare the profile over 2016 relative to 2015.

Increased volatility in VaR reflects:

1. The fall in short term rates and the steepening of the long end of the swaps curve.
2. The increased volume and timing mismatch that resulted from the increased utilisation of the bespoke lending facility.

VaR exposure remains well within the Board approved Soft limit and the Treasury policy limit.

VaR is reported and reviewed daily. VaR exposures are reported to the Board monthly and also noted in the CEO Report at LGFA Board meetings.

LGFA Credit Risk – Credit Quality & Default Risk

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Long Term Credit Rating		Moody's	S&P	Fitch
Highest Quality / Extremely Strong		Aaa	AAA	AAA
High Quality / Very Strong		Aa	AA	AA
Upper medium grade / Strong		A	A	A
Medium Gade		Baa	BBB	BBB
Predominantly Speculative		Ba	BB	BB
Speculative, low grade		B	B	B
Poor to default		Caa	CCC	CCC
Highest Speculations		Ca	CC	CC
Lowest Quality		C	C	C
In payment default - questionable value			D	RD & D

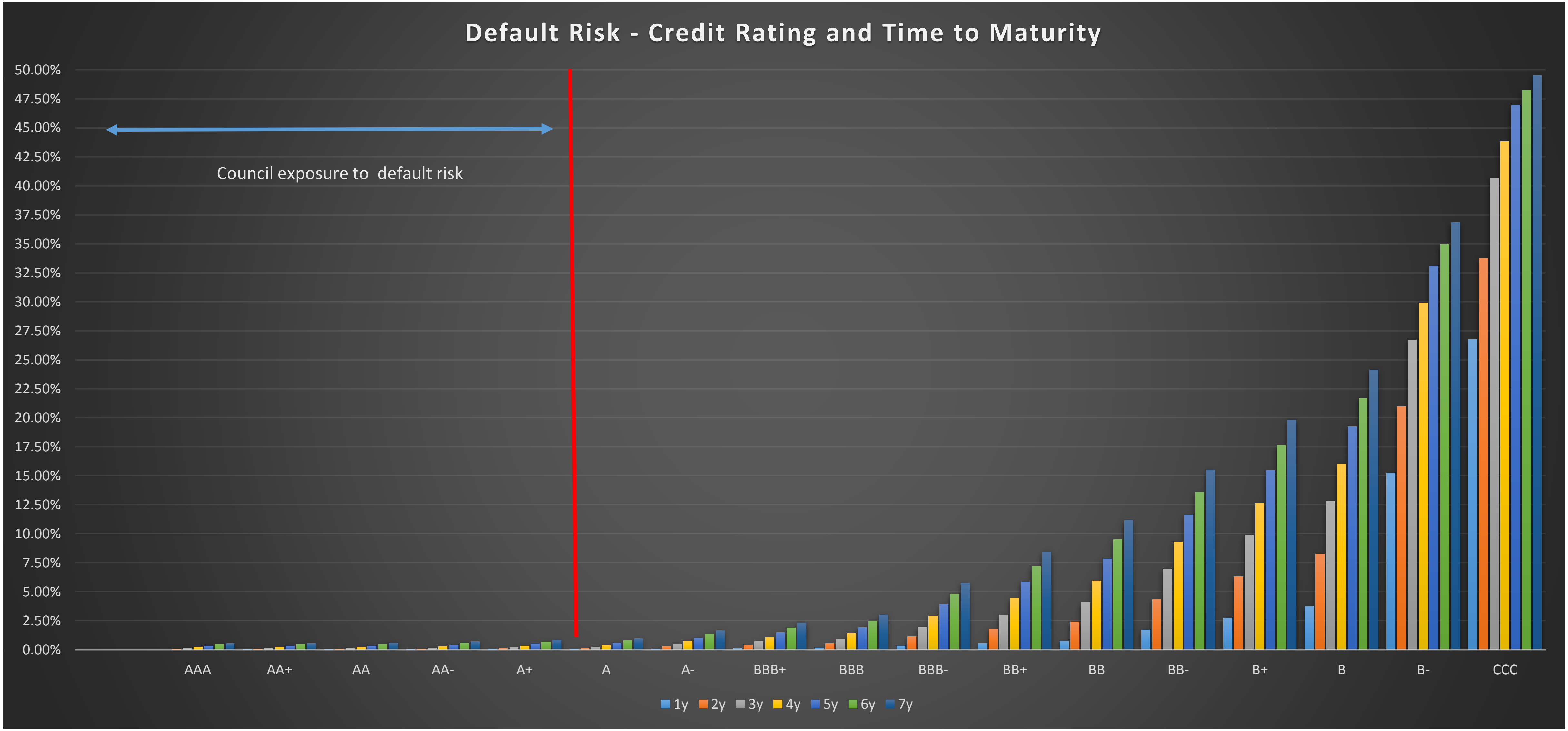
Credit Rating	$millions	Lending (%)
AA	$3,669.6	48.70%
AA-	$817.8	10.80%
A+	$2,169.7	28.80%
Unrated	$881.5	11.70%

Increasing Default Risk

Incresing Default Risk

Rating / Term	1y	2y	3y	4y	5y	6y	7y
AAA	0.00%	0.07%	0.13%	0.24%	0.35%	0.44%	0.53%
AA+	0.01%	0.07%	0.13%	0.24%	0.35%	0.45%	0.55%
AA	0.02%	0.08%	0.13%	0.24%	0.34%	0.46%	0.57%
AA-	0.03%	0.10%	0.17%	0.30%	0.42%	0.56%	0.71%
A+	0.05%	0.13%	0.22%	0.36%	0.49%	0.67%	0.84%
A	0.06%	0.16%	0.26%	0.42%	0.57%	0.78%	0.98%
A-	0.10%	0.29%	0.48%	0.75%	1.02%	1.34%	1.65%
BBB+	0.14%	0.42%	0.69%	1.09%	1.48%	1.90%	2.33%
BBB	0.18%	0.55%	0.91%	1.42%	1.93%	2.47%	3.00%
BBB-	0.36%	1.16%	1.96%	2.93%	3.90%	4.81%	5.72%
BB+	0.54%	1.78%	3.02%	4.44%	5.87%	7.16%	8.45%
BB	0.72%	2.40%	4.07%	5.96%	7.84%	9.51%	11.17%
BB-	1.73%	4.35%	6.97%	9.31%	11.64%	13.57%	15.50%
B+	2.75%	6.31%	9.88%	12.66%	15.45%	17.64%	19.82%
B	3.76%	8.27%	12.78%	16.02%	19.25%	21.70%	24.15%
B-	15.27%	21.00%	26.73%	29.92%	33.11%	34.97%	36.83%
CCC	26.78%	33.73%	40.68%	43.82%	46.96%	48.24%	49.51%

Credit Risk



Default Risk - Credit Rating and Time to Maturity
50.00%
47.50%
45.00%
42.50%
40.00%
37.50%
35.00%
32.50%
30.00%
27.50%
25.00%
22.50%
20.00%
17.50%
15.00%
12.50%
10.00%
7.50%
5.00%
2.50%
0.00%
Council exposure to default risk
AAA
AA+
AA
AA-
A+
A
A-
BBB+
BBB
BBB-
BB+
BB
BB-
B+
B
B-
CCC
1y
2y
3y
4y
5y
6y
7y

Credit Risk – Utilisation and Compliance

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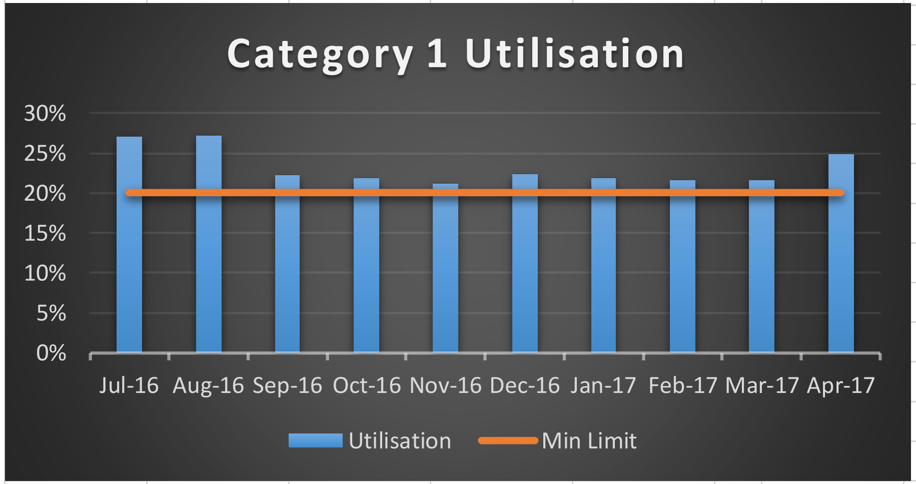

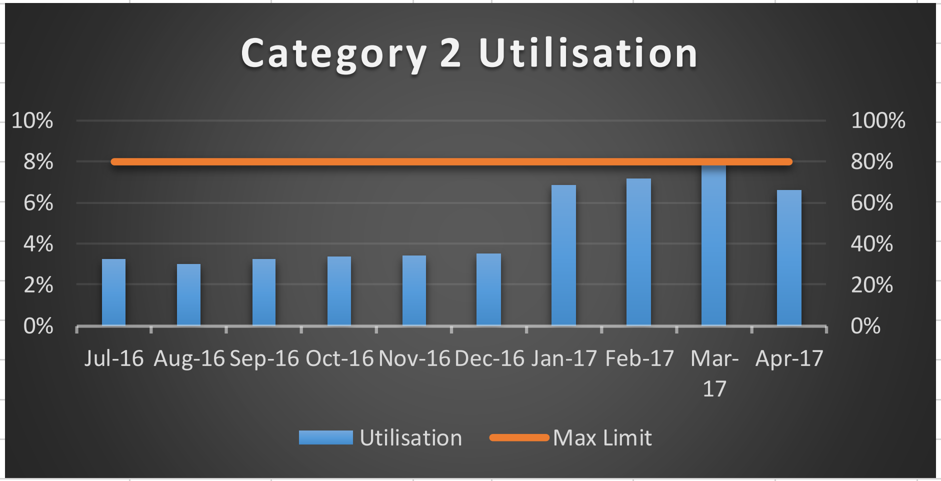

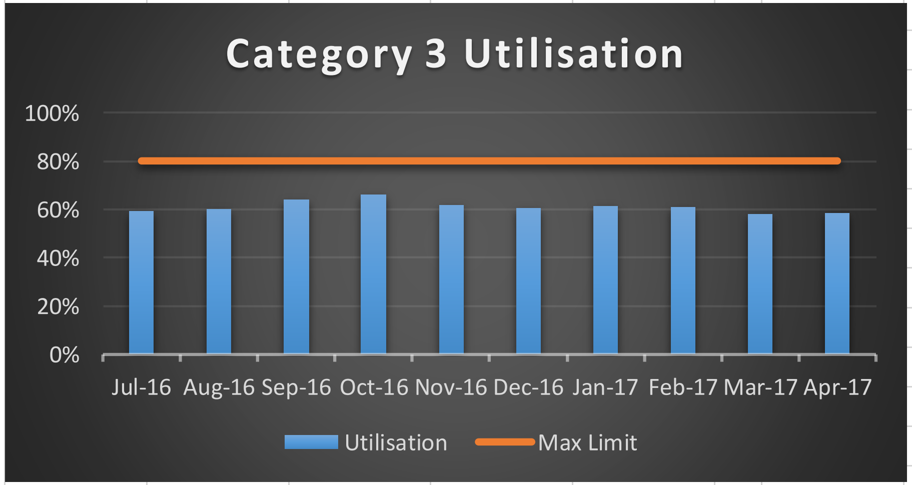

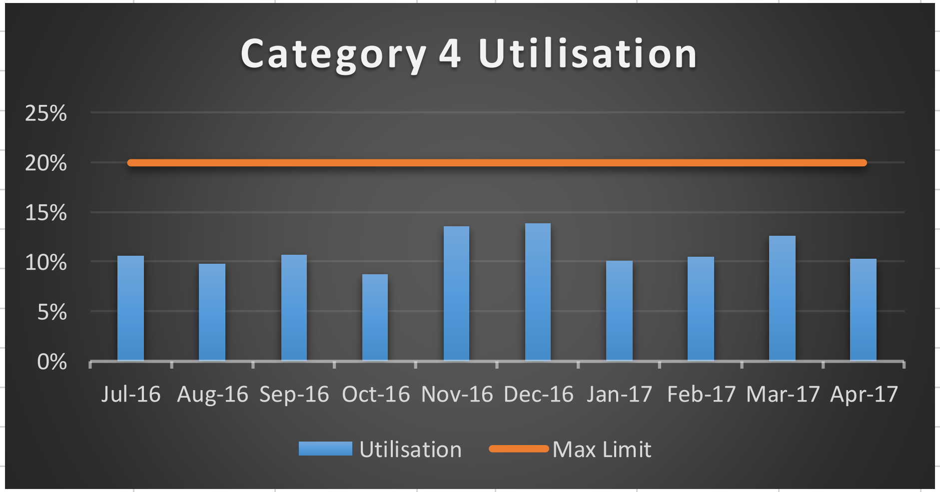

Categories one to four measure the credit exposure for non council exposures.

Cash and Liquid Assets portfolio.

All credit exposures remain within credit category limits.

Credit exposures are reported and reviewed daily. Exposures are reported to the Board monthly.

Liquidity Risk

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- The main factors to note regarding liquidity risk include:
  - The refinancing of the LGFA 2017 Bond maturity.
  - The utilisation of the DMO liquidity facility has been increased from $400m to $500m
  - Improved the measurement of daily liquidity risk

- Liquidity risk is that LGFA has sufficient high quality assets to meet its payment obligations over a set period of time.

- Liquidity risk is important part of the Basel Accords, Basel 3 introduced the concept of the Liquidity Coverage Ratio (LCR).

- LCR = (High Quality liquid Assets) / (Net cash outflows over a 30day stress period)

High Quality Assets		Cash Outflows
Cash		Maturities
Liquid Asset Portfolio		Coupon & Interest
DMO Liquidity Facility		Other Payments
Receivables		Opex

Liquidity Risk

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- LGFA now measures its Liquidity risk on a cashflow basis with the LCR measured over a 30day period, 90day period and 1year period.

- LCR is measured and reviewed daily against the approved treasury policy limits.

One Month Liquidity				Three Month Liquidity				One Year Liquidity		
Date	LCR	Limit		Date	LCR	Limit		Date	LCR	Limit
3/04/2017	426%	120%		3/04/2017	276%	110%		3/04/2017	128%	110%
7/04/2017	276%	120%		7/04/2017	232%	110%		7/04/2017	126%	110%
13/04/2017	393%	120%		13/04/2017	262%	110%		13/04/2017	128%	110%
21/04/2017	495%	120%		21/04/2017	328%	110%		21/04/2017	129%	110%
28/04/2017	631%	120%		28/04/2017	365%	110%		28/04/2017	130%	110%
1/05/2017	631%	120%		1/05/2017	364%	110%		1/05/2017	130%	110%
5/05/2017	577%	120%		5/05/2017	330%	110%		5/05/2017	129%	110%
12/05/2017	357%	120%		12/05/2017	265%	110%		12/05/2017	126%	110%
18/05/2017	905%	120%		18/05/2017	437%	110%		18/05/2017	130%	110%
25/05/2017	970%	120%		25/05/2017	445%	110%		25/05/2017	130%	110%
30/05/2017	934%	120%		30/05/2017	442%	110%		30/05/2017	130%	110%
Average	600%	120%		Average	341%	110%		Average	129%	110%

Compliance and Treasury Policy Limits

Policy	Limit	Jun 16	Jul 16	Aug 16	Sep 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17	May 17
One month Liquidity Monitor	>120%	G	G	G	G	G	G	G	G	G	G	G	G
Three Month Liquidity Monitor	>110%	G	G	G	G	G	G	G	G	G	G	G	G
Twelve Month Liquidity Monitor	>110%	G	G	G	G	G	G	G	G	G	G	G	G
Council Exposure (any 12 month period)	<10% of Balance Sheet	G	G	G	G	G	G	G	G	G	G	G	G
Liquidity Buffer	>110%	G	G	G	G	G	G	G	G	G	G	G	G
Partial Differential Hedge (PDH) / Interest Rate Gap Report	$40,000	G	G	G	G	G	G	G	G	G	G	G	G
Value at Risk (VaR)	$250,000	G	G	G	G	G	G	G	G	G	G	G	G
Council Maturity (any 12 month period)	$100m or 33% of borrowing from LGFA	G	G	G	G	G	G	G	G	G	G	G	G
Funding Largest Council Exposure	>100%	G	G	G	G	G	G	G	G	G	G	G	G
Foreign Exchange Exposure	Nil	G	G	G	G	G	G	G	G	G	G	G	G
NZDMO Facility Utilisation	Report monthly	G	G	G	G	G	G	G	G	G	G	G	G
Counterparty Credit Limits	80% of Portfolio $75m Counterparty (category 3)	G	G	G	G	G	G	G	G	G	G	G	G
Auckland Council Exposure (proportion of total Council exposure)	<40%	G	G	G	G	G	G	G	G	G	G	G	G
Balance Sheet Maturity Mismatch	<15% of Balance Sheet	G	G	G	G	G	G	G	G	G	G	G	G
Authorising Treasury transactions	Two approvers, one signature	G	G	G	G	G	G	G	G	G	G	G	G

All approved treasury compliance limits are:

- Measured, monitored and reviewed daily.
- Monthly Compliance Report which is distributed to all LGFA staff and directors.
- Noted as a standard agenda item at LGFA Board meetings.

LGFA Risk Assurance Program

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- The LGFA Risk Assurance Program was agreed with the LGFA Audit and Risk Committee in early 2017. The purpose of the program is to improve the risk culture of the organisation.

- The program ensures that LGFA Staff are aware of the principles that need to be followed for:
  - Health and Safety
  - Code of Ethics
  - Security
  - Gifts and Entertainment
  - Basic Cyber Security Controls

- All information is delivered to staff by email.

Business Continuity Planning – Kaikoura Earthquake

- On the 14th November Wellington experienced a 7.5 magnitude earthquake and as a result LGFA staff were not able to access LGFA's City Chambers Premises.

- Busy time for LGFA
  - Mark was away in Canada
  - Settlements of Bond Tender 42
  - Wellington based staff distributed across the region.

- <u>BCP Preparedness</u>
- With the CEO in Canada, Neil as CFO took on the leadership role, checking that all Wellington based LGFA staff were safe. The CEO, Chairman of the Board and LGFA directors were kept informed.
- Daily communication was maintained using Yammer, email and mobile phones.
- All LGFA staff were able to work remotely from home with full access to all LGFA information and systems.

BCP Continued….

- Bond Tender 42 was successfully settled by Operations Manager (approx $170m bonds and loans)
- All back office processing was completed successfully, this included,

  Council on lending transactions, rate setting of council loans and swaps, settlement of interest receipts, payments, settlement of liquidity transactions, settlement of bond lending transactions.

- Front Office operations were completed as normal out of the Auckland office.
- All Risk reporting completed as usual.
- Alternative office accommodation and setting up staff workstations was completed.
  - LGFA is still operating out of its temporary office accommodation space.

- Key Factors and lessons learnt from the earthquake:
  - Clear leadership from management was crucial.
  - Clear and regular communication with LGFA staff.
  - Policy of taking laptops home each evening and cloud computing technology meant all systems and information were available to all staff remotely through a secure VPN gateway.

BCP Testing Program

- LGFA has now developed a BCP testing program. This includes simulating a set of typical business interruption events that could occur and ensuring that the organisation can function in such situations.

- All results and lessons learnt are reported to the LGFA Audit and Risk Committee.

LGFA Internal Audit Program

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- The LGFA Internal Audit Program was established in early 2016. The purpose of the Internal Audit function is to evaluate, test and improve the effectiveness of LGFA's risk management practices, internal controls and governance processes.
- The Internal Audit program is based on a series of internal audit testing scripts that were developed by EY and covered the following business areas:
    1. Tender Operations and the issuance of debt securities
    2. On-lending and investment operations
    3. The settlement and processing of transactions
    4. Operational overhead processing
    5. Information technology controls and security
    6. Compliance and governance within the risk framework
    7. Business Continuity

Key Achievements for 2016 included: Internal Audit Charter, Internal Audit plan, Internal Audit reports are presented to and reviewed by the LGFA Audit and Risk Committee.

Internal Audit – Key Highlights

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Key highlights from the first year of Internal Audit include:

- A high proportion of testing scripts have been completed with the results showing that internal controls and processes are operating satisfactorily.

- A number of process improvements were identified and implemented.

- LGFA staff have accepted Internal audit as a function within the organisation and provided valued feedback and information as required.

- LGFA senior management have been supportive and provided feedback on Internal audit findings and recommendations which have sent a strong message that risk management, controls and processes are valued within the organisation.

Summary

- LGFA experienced above average balance sheet growth over the year which Increased our exposure to floating rate assets, over a period where short term interest rates declined and the swaps curve steepened.

- PDH and VaR utilisation remained conservative and well within approved treasury policy limits.

- Credit utilisation remained conservative and well within approved treasury policy limits.

- Main liquidity risk for the year is the refinancing of the LGFA 2017 maturity. DMO liquidity facility utilisation increased from $400m to $500m and we have improved out liquidity risk measurement so that it reflects the Basel 3 guidelines.

- No Breaches of approved treasury compliance limits

- LGFA Risk Assurance Program has been introduced to promote the culture and values of the organisation.

- BCP plan was tested and performed well.

- Established the LGFA Internal Audit function.