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Calculating the liquidity buffer requirement

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1 Introduction

The liquidity buffer requirement is the peak cumulative day on day net cash flow over a 3 month period considering wholesale, retail, off-balance sheet and intra-day cash flows.

In case the firm has asset put-backs with third parties and OTC derivatives, the impact of a downgrade trigger should also be considered.

2 How to calculate the liquidity buffer requirement?

To arrive at the liquidity buffer requirement the firm should do the following:-,

a) Part A: Calculate the base requirement, which is the peak cumulative day on day flow out to three months from FSA047 and FSA048 reports.
b) Part B: Apply the multiplier factors (scalar multiplier and glide-path multiplier) and fixed add-ons provided in the firms' Individual Liquidity Guidance (ILG).

The detail of how to calculate the buffer requirement is provided in the following sub-sections.

2.1 PART-A: Calculating the base requirement

The ILAA base requirement is calculated as follows (cumulative day on day):-

1) **Wholesale requirement** - Net cumulative wholesale funding position day on day after applying appropriate roll-over assumptions (capped at zero so that the net wholesale component can only result in a buffer requirement)
PLUS
2) **Retail requirement** –impact of the immediate (on the first working day) withdrawal of the firms entire retail deposits across all maturity bands, after applying roll over assumptions
PLUS
3) **Off-balance sheet requirement** – impact of off-balance sheet inflows and outflows across all the periods after applying roll over assumptions.
PLUS
4) **Intra-day requirements** – the peak intra-day collateral used for settlement and clearing for the prior period
PLUS
5) **Downgrade requirement** – impact of downgrades by 1 notch and 2 notch on asset put-backs, conditional liabilities, contingent liabilities and OTC derivatives after applying appropriate roll over assumptions

Base requirement = Wholesale requirement + Retail requirement + Off-balance sheet requirement + Intra-day requirement + Downgrade trigger requirement

The base requirement is arrived at by calculating the peak cumulative day on day net flow over a three month period. The wholesale requirements calculation is cumulative day on day for three months. However, for all the other requirements, the sum of the amounts across all the maturity bands is calculated and the resultant amount is assumed to flow out/in on the first working day.

2.2 PART-B: Applying the fixed add-on, scalar multiplier and glide-path multiplier to the base requirement

The final buffer requirement is then calculated by combining the base requirement and fixed add-on[1] then multiplying the result with the "scalar" multiplier and the "glide-path" multiplier. It is our understanding that the actual values to be used for the "scalar" multiplier and "fixed add-on" will be provided in the firms' ILG. The glide-path multiplier is set by the firm and is it should be clearly outlined in the Individual Liquidity Adequacy Assessment (ILAA) document.

Liquidity buffer requirement = (Base requirement + Fixed Add-on) * Scalar multiplier * glide-path multiplier

As per FSA's 'Calibration Statement' issued on 18th November 2010, it is up to individual firms to define their glide-path. This is because the FSA does not want to tighten quantitative standards ahead of the new international standards outlined under the Basel III rules.

2.3 Inflow and Outflow recognition

The inflow and outflow recognition is based on the rollover and benchmark assumptions provided in the generic "Annex to the Individual Liquidity Guidance letters (Calculation of Liquidity Buffer)" and the 'Liquidity Metric Monitor' documents published by the FSA on 16th April 2010.

The inflow and outflow percentages for each category are listed below:-

2.3.1 Wholesale requirements

	Row	Row description	<=2weeks	>2weeks <=3months
			Inflow % recognised	
Inflow	21	Lending to UK credit institutions	100%	100%
	22	Lending to non-UK credit institutions	100%	100%
	23	Own account security cash flows	100%	100%
	26	Reverse repo (items reported in lines 7 and 8)	100%	100%
	27	Reverse repo (items reported in lines 10 and 11)	100%	100%
	28	Reverse repo (items reported in lines 13, 14 and 15)	100%	100%
	29	Reverse repo (items reported in line 16)	100%	100%
	30	Reverse repo (items reported in lines 9, 12 and 17)	100%	100%

[1] Fixed add-on: Is a fixed additional amount that may be provided in the firm's ILG letter. As per the FSA's LMM this Fixed add-on element is combined with the Base requirement before applying the scalar multiplier and glide-path multiplier.

	Row	Row description	<=2weeks	>2weeks <=3months
Outflow			**Rollover % recognised**	
	35	Repo (items reported in lines 7 and 8)	0%	90%
	36	Repo (items reported in lines 10 and 11)	0%	75%
	37	Repo (items reported in lines 13, 14 and 15)	0%	75%
	38	Repo (items reported in line 16)	0%	75%
	39	Repo (items reported in lines 9, 12 and 17)	0%	30%
	40	Primary issuances - senior securities	0%	40%
	41	Primary issuances - dated subordinated securities	0%	25%
	42	Primary issuances - structured notes	0%	60%
	43	Covered bonds	0%	25%
	44	Group entities	0%	0%
	45	UK credit institutions	0%	40%
	46	Non-UK credit institutions	0%	35%
	47	Governments, central banks and supranationals	0%	40%
	48	Non-credit institution financials	0%	40%
	49	Non-financial large enterprises - Type A	0%	50%
	50	Conditional liabilities pre-trigger contractual profile	0%	75%
	51	SSPE liability cash flows	0%	40%
	52	Non-financial large enterprises - Type B[2]	77.5%	77.5%
	53	SME deposits[3]	77.5%	77.5%
	56	Client / brokerage free cash	25%	N/A
	57	Principal FX cash flows (including currency swaps)	FX markets closed	FX markets open

The key exclusions from this list is inflow arising from the lending to group entities (i.e., lending to group entities are considered to be evergreen).

2.3.2 Retail requirements

	Row	Row description	Across all maturity bands
			Outflow % recognised
Outflow	54	Retail deposits - Type A[4]	20%
	55	Retail deposits - Type B[5]	10%

The entire outflow across all the maturity bands is considered and multiplied by the outflow factor. It is also assumed that the entire amount will be immediately withdrawn (on the first working day). No retail inflows are considered while calculating the retail requirements.

[2] The deposits are treated as if they are withdrawn on the first working day of the <2 weeks, 1 month and 3 month buckets.
[3] Same derivation logic as provided in the above footnote.
[4] Retail deposits across all the maturity bands are added and shown as an outflow on the first working day.
[5] Same derivation logic as provided in the above footnote.

2.3.3 Off-balance sheet requirements

	Row	Row description	Across all maturity bands
			Inflow % recognised
Inflow	58	Committed facilities received	100%
Outflow			**Outflow % recognised**
	59	Secured facilities provided - liquidity buffer securities	N/A
	60	Secured facilities provided - other securities	25%
	61	Unsecured facilities provided - credit institutions	100%
	62	Unsecured stand-by facilities provided - firm's SSPEs	N/A
	63	Unsecured stand-by facilities provided - entities other than credit institutions and firm's SSPEs	50%
	64	Unsecured facilities provided by firm's SSPEs to third parties	12.5%
	65	Unsecured facilities provided - entities other than credit institutions	10%
	66	Overdraft and credit card facilities provided	5%
	67	Pipeline lending commitments	75%
	68	Contingent obligations to repurchase assets financed through third parties	
	69	Other commitments and contingent facilities provided	10%

2.3.4 Intra-day requirements

	Row	Row description	Across all maturity bands
			Outflow % recognised
Outflow	4	Prior period's peak intra-day collateral used for UK settlement and clearing systems	100%
	5	Prior period's peak intra-day collateral used for settlement and clearing systems outside the UK	100%

2.3.5 Downgrade trigger requirement

	Row	Row description	1 notch downgrade	2 notch downgrade
			Impact %	
Outflow	70	Asset put-backs from third party vehicles	100%	100%
	71	Conditional liabilities	100%	100%
	72	Over the counter (OTC) derivative triggers	100%	100%
	73	Other contingent liabilities	100%	100%

3 How to calculate the firm's available liquidity buffer?

The firm must have an adequate liquidity buffer, day on day out to 3 months (cumulative), after netting out (day on day) any liquid asset buffer securities that are maturing within the three month period. The liquidity buffer available should be greater than or equal to the liquidity buffer requirement calculated in the previous section.

The data from the FSA047 and FSA048 can be used to calculate the firm's current liquidity buffer based on the flow assumptions outlined in the table below:-

Row	Row description	Inflow % assumed
6	Liquid asset buffer-eligible securities[6]	100%
18	Designated money market funds [7]	100%
19	Liquid asset buffer-eligible central bank reserves and deposits	100%
78	Liquid asset buffer-eligible securities (held under re-hypothecation right)	100%
25	Reverse repo (items reported in line 6)	100%
34	Repo (items reported in line 6)	100%

Note that the available liquidity buffer is calculated based on the clean market to market value of the securities.

4 References

1) Annex to the Individual Liquidity Guidance letters (Calculation of Liquidity Buffer)
2) FSA's Liquidity Metric Monitor
3) FSA's calibration Statement – provides guidance about the flight path
4) Basel III – Liquidity key changes

[6] The unencumbered position of all liquid buffer eligible securities (positive number) is considered as the starting position. Any maturing buffer securities within the 3 month period are then subtracted from the unencumbered position.
[7] Only applicable for simplified ILAS firms

5 Katalysys contact information

For additional information about the new FSA liquidity regime or to develop an internal liquidity monitoring process please contact:

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Katalysys (www.katalysys.com) specialises in delivering solutions and consulting services to the financial services industry in UK. We have assisted our clients in building liquidity risk management framework, FSA liquidity reports, reconciliation of the liquidity reports to the balance sheet and developing liquidity metrics for monitoring and tracking liquidity risk.

6 Glossary of terms

FSA	Financial Services Authority
ILAA	Individual Liquidity Adequacy Assessment
ILG	Individual Liquidity Guidance
OTC	Over The Counter
SME	Small and Medium Enterprise
SSPE	Securitisation Special Purpose Entity
SLRP	Supervisory Liquidity Review Process