APPENDIX 21A: Sources and Uses of Funds Statement, Bank of America, June 2013

Bank of America Corporation and Subsidiaries
Consolidated Statement of Cash Flows

	Six Months Ended June 30	
(Dollars in millions)	**2013**	**2012**
Operating activities		
Net income	**$ 5,495**	$ 3,116
Reconciliation of net income to net cash provided by operating activities:		
Provision for credit losses	**2,924**	4,191
Gains on sales of debt securities	**(525)**	(1,152)
Fair value adjustments on structured liabilities	**80**	3,376
Depreciation and premises improvements amortization	**813**	910
Amortization of intangibles	**550**	640
Net amortization of premium/discount on debt securities	**655**	1,055
Deferred income taxes	**884**	159
Originations and purchases of loans held-for-sale	**(40,128)**	(22,876)
Proceeds from sales, securitizations and paydowns of loans held-for-sale	**43,871**	22,411
Net (increase) decrease in trading and derivative instruments	**41,218**	(11,664)
Net (increase) decrease in other assets	**25,281**	(7,564)
Net increase (decrease) in accrued expenses and other liabilities	**(9,595)**	9,835
Other operating activities, net	**1,073**	(1,167)
Net cash provided by operating activities	**72,596**	1,270
Investing activities		
Net decrease in time deposits placed and other short-term investments	**5,778**	3,654
Net increase in federal funds sold and securities borrowed or purchased under agreements to resell	**(4,244)**	(14,933)
Proceeds from sales of debt securities carried at fair value	**61,564**	46,974
Proceeds from paydowns and maturities of debt securities carried at fair value	**46,652**	31,757
Purchases of debt securities carried at fair value	**(88,615)**	(99,693)
Proceeds from paydowns and maturities of held-to-maturity debt securities	**5,055**	2,451
Purchases of held-to-maturity debt securities	**(10,556)**	(2,608)
Proceeds from sales of loans and leases	**5,480**	664
Purchases of loans and leases	**(12,439)**	(3,338)
Other changes in loans and leases, net	**(13,237)**	29,853
Net sales (purchases) of premises and equipment	**(98)**	74
Proceeds from sales of foreclosed properties	**604**	1,744
Proceeds from sales of investments	**2,117**	1,483
Other investing activities, net	**(353)**	(238)
Net cash used in investing activities	**(2,292)**	(2,156)
Financing activities		
Net increase (decrease) in deposits	**(24,478)**	2,184
Net increase (decrease) in federal funds purchased and securities loaned or sold under agreements to repurchase	**(60,650)**	71,050
Net increase in short-term borrowings	**15,739**	2,718
Proceeds from issuance of long-term debt	**25,174**	14,181
Retirement of long-term debt	**(29,433)**	(85,134)
Proceeds from issuance of preferred stock	**1,008**	661
Redemption of preferred stock	**(5,535)**	—
Common stock repurchased	**(1,003)**	—
Cash dividends paid	**(954)**	(966)

Excess tax benefits on share-based payments	12	13
Other financing activities, net	(13)	59
Net cash provided by (used in) financing activities	(80,133)	4,766
Effect of exchange rate changes on cash and cash equivalents	(2,095)	(265)
Net increase (decrease) in cash and cash equivalents	(11,924)	3,615
Cash and cash equivalents at January 1	110,752	120,102
Cash and cash equivalents at June 30	**$ 98,828**	$123,717

APPENDIX 21B: New Liquidity Risk Measures Implemented by the Bank for International Settlements

During the financial crisis, many depository institutions (DIs) struggled to maintain adequate liquidity. Indeed, extraordinary levels of liquidity assistance were required from central banks in order to maintain the financial system. Even with this extensive support a number of DIs failed or were forced into mergers. Recognizing the need for DIs to improve their liquidity risk management and control their liquidity risk exposures, the Bank for International Settlement's Basel Committee on Banking Supervision developed two new regulatory standards for liquidity risk supervision. The standards are intended to "enhance tools, metrics, and benchmarks that supervisors can use to assess the resilience of banks' liquidity cushions and constrain any weakening in liquidity maturity profiles, diversity of funding sources, and stress testing practices."[11] The two new liquidity ratios to be maintained by DIs are the liquidity coverage ratio (beginning in 2015 and to be fully implemented in 2019) and the net stable funds ratio (to be implemented in 2018).

Liquidity Coverage Ratio. The LCR is intended to ensure that DIs can survive a severe liquidity stress scenario for at least 30 days. The LCR will be reported to DI supervisors monthly starting in 2015.

$$\text{Liquidity coverage ratio} = \frac{\text{Stock of high-quality liquid assets}}{\text{Total net cash outflows over the next 30 calendar days}} \geq 100\%$$

The stock of high-quality liquid assets (the numerator of the LCR) is defined as follows:

- Liquid assets must remain liquid in times of stress (i.e., are convertible into cash at little loss of value and can be used at the central bank discount window as collateral).
- The liquid assets must be "unencumbered."
- Liquid assets are divided into level 1 and level 2; the level 1 amount has no cap, the level 2 amount is capped at 40 percent of total liquid assets.

$$\begin{aligned}
\text{Level 1} &= \text{Cash} + \text{Central bank reserves} + \text{Sovereign debt} \\
\text{Level 2A} &= \text{Mortgage-backed securities that are government guaranteed} \\
&\quad + \text{Corporate bonds (plain vanilla) rated at least AA}- \\
\text{Level 2B} &= \text{Residential mortgage-backed securities that are not government guaranteed} \\
&\quad + \text{Lower rated corporate bonds (plain vanilla)} + \text{Blue chip equities}
\end{aligned}$$

- A minimum 15 percent "haircut" has to be applied to the value of each level 2 asset.
- Level 2B may not account for more than 15 percent of a bank's stock of high-quality liquid assets.
- Level 2 assets may not in aggregate account for more than 40 percent of a bank's stock of high-quality liquid assets.

11. International Framework for Liquidity Risk Measurement, Standards and Monitoring, Bank for International Settlements, December 2009. **www.bis.org**

TABLE 21–14 Cash Outflows and Inflows Used in the Liquidity Coverage Ratio

Cash outflows included in the LCR:

- Retail deposits = Stable + Less stable
  Stable = Deposits covered by deposit insurance (receive a minimum run-off factor of 3 percent)
  Less stable = Deposits not covered by deposit insurance (receive a minimum run-off factor of 10 percent)
- Retail deposits with maturity > 30 days and no early withdrawal (0 percent run-off factor)
- All unsecured wholesale funds with < 30 days maturity (i.e., callable by funds provider) (100 percent run-off factor)
- Secured funds backed by level 1 assets (0 percent run-off factor), backed by level 2 assets (15 percent run-off factor)
- Loss of funding on commercial paper if maturity < 30 days (100 percent run-off factor)
- All debt maturing within 30 days (100 percent run-off factor)
- Loan commitment (draw-down) factors:
  (a) 5% draw-downs on committed credit and liquidity facilities to retail and small business customers
  (b) 10% draw-downs on committed **credit** facilities to nonfinancial corporate, sovereign and central banks, public sector entities, and multilateral development banks
  (c) 30% draw-downs on committed **liquidity** facilities to nonfinancial corporate, sovereign and central banks, public sector entities, and multilateral development banks
  (d) 40% *draw-downs on committed credit and liquidity facilities to other legal entities.* These entities include financial institutions (including banks, securities firms, and insurance companies), conduits and special purpose vehicles, and fiduciaries beneficiaries
- Cash outflows related to operating costs (0 percent run-off factor)

Cash inflows included in the LCR:

- Include only inflows for sources where no default is expected in next 30 days
- There is a 75 percent cap on inflows meeting outflows so DIs do not just rely on inflows for liquidity
- Assume that no lines of credit on other banks can be drawn on (0 percent inflow)
- Assume 100 percent inflow received on wholesale loans and 50 percent inflow on retail loans from counterparties
- 100 percent inflow on known derivative payments

Total net cash outflows (the denominator of the ratio) is defined as:

$$\text{Total } net \text{ cash outflows over the next 30 calendar days} = \text{Outflows} - \text{Min (inflows; 75\% of outflows)}$$

Cash outflows and inflows are defined in Table 21–14. Table 21–15 presents the template provided by the Bank for International Settlements used to calculate the LCR.

TABLE 21–15 Illustrative Template for the LCR

Item	Factor (to be multiplied against total amount)
Stock of High-Quality Liquid Assets	
A. Level 1 Assets:	
Cash	100%
Qualifying marketable securities from sovereigns, central banks, public-sector entities, and multilateral development banks	100%
Qualifying central bank reserves	100%
Domestic sovereign or central bank debt in domestic currency	100%
Domestic sovereign debt for non-0% risk-weighted sovereigns, issued in foreign currency	100%

continued

TABLE 21–15 Illustrative Template for the LCR *continued*

Item	Factor (to be multiplied against total amount)
B. Level 2 Assets:	
Sovereign, central bank, and PSE assets qualifying for 20% risk weighting	85%
Qualifying corporate bonds rated AA- or higher	85%
Qualifying covered bonds rated AA- or higher	85%
Calculation of 40% cap of liquid assets	Maximum of 2/3 of adjusted Level 1 assets that would exist after an unwind of all secured funding transactions.
Total value of stock of highly liquid assets	
Cash Outflows	
A. Retail Deposits:	
Demand deposit and qualifying term deposits with residual maturity or notice period within 30 days	
• Stable deposits	Minimum 5% (additional categories to be determined by jurisdiction)
• Less stable retail deposits	Minimum 10% (additional categories to be determined by jurisdiction)
Term deposit with residual maturity greater than 30 days with a withdrawal with a significant penalty, or no legal right to withdraw	0% (or higher rate to be determined by jurisdictions)
B. Unsecured Wholesale Funding:	
Funding from:	
Stable small-business customers	Minimum 5% (additional categories to be determined by jurisdictions)
Less stable small-business customers	Minimum 10% (additional categories to be determined by jurisdiction)
Legal entities with operational relationships	25% of deposits needed for operational purposes
• Portion of corporate deposits with operational relationships covered by deposit insurance—same treatment as for retail demand deposits	
Cooperative banks in an institutional network	25% of the qualifying deposits with the centralized Institution
Nonfinancial corporates, sovereigns, central banks, and PSEs	75%
Other legal entity customers	100%
C. Secured Funding:	
Secured funding transactions backed by Level 1 assets, with any counterparty	0%
Secured funding transactions backed by Level 2 assets, with any counterparty	15%
Secured funding transactions backed by assets that are not eligible for the stock of highly liquid assets, with domestic sovereigns, domestic central banks, or domestic public-sector entitles as a counterparty	25%
All other secured funding transactions	100%
D. Additional Requirements:	
Liabilities related to derivative collateral calls related to a down-grade of up to 3 notches	100% of collateral that would be required to cover the contracts in case of up to a 3-notch downgrade
Market valuation changes on derivatives transactions	Treatment determined by supervisors in each jurisdiction
Valuation changes on posted collateral securing derivative transactions that is comprised of non-level 1 assets	20%
ABCP, SIVs, conduits, etc.:	
Liabilities from maturing ABCP, SIVs, SPVS, etc.	100% of maturing amounts and 100% of returnable assets
Asset-backed securities (including covered bonds)	100% of maturing amounts

TABLE 21–15 Illustrative Template for the LCR *continued*

Item	Factor (to be multiplied against total amount)
Currently undrawn portion of committed credit and liquidity facilities to:	
• Retail and small-business clients	5% of outstanding credit and liquidity lines
• Nonfinancial corporates, sovereigns and central banks, and PSEs; credit facilities	10% of outstanding credit lines
• Nonfinancial corporates, sovereigns and central banks, and PSEs; liquidity facilities	100% of outstanding liquidity lines
• Other legal entity customers, credit and liquidity facilities	100% of outstanding credit and liquidity lines
Other contingent funding liabilities (such as guarantees, letters of credit, revocable credit and liquidity facilities, derivative valuations)	Treatment determined by supervisors in each jurisdiction
Any additional contractual outflows	100%
Net derivative payables	100%
Any other contractual cash outflows	100%
Total Cash Outflows	

EXAMPLE 21–4 Calculation of the Liquidity Coverage Ratio

OneBank has the following balance sheet (in millions of dollars).

Assets		Liquidity Level	Liabilities and Equity		Run-off factor
Cash	$ 10	Level 1	Stable retail deposits	$ 95	3%
Deposits at the Fed	15	Level 1	Less stable retail deposits	40	10
Treasury securities	100	Level 1	Unsecured wholesale funding from:		
GNMA securities	75	Level 2A	Stable small business deposits	100	5
Loans to A-rated corporations	110	Level 2A	Less stable small business deposits	80	10
Loans to B-rated corporations	85	Level 2B	Nonfinancial corporates	50	75
Premises	15		Equity	45	
Total	$410			$410	

Cash inflows over the next 30 days from the bank's performing assets are $5 million.

The liquidity coverage ratio for OneBank is calculated as follows:

Level 1 assets = $10 + $15 + $100 =		$125
Level 2A assets = ($75 + $110) × 0.85 = $157.25	Capped at 40% of Level 1 = $125 × 0.40 =	50
Level 2B assets = $85 × 0.85 = $72.25	40% cap on Level 2 assets already met	
	Stock of highly liquid assets	$175

Cash outflows:		
Stable retail deposits	$95 × 0.03 =	$ 2.85
Less stable retail deposits	$40 × 0.10 =	4.00
Stable small business deposits	$100 × 0.05 =	5.00
Less stable small business deposits	$80 × 0.10 =	8.00
Nonfinancial corporates	$50 × 0.75 =	37.50
Total cash outflows over next 30 days		$57.35
Total cash inflows over next 30 days		5.00
Total net cash outflows over next 30 days		$52.35

Liquidity coverage ratio = $175m/$52.35m = 334.29%. The bank is in compliance with liquidity requirements based on the LCR.

Net Stable Funding Ratio. The NSFR ratio will be reported to DI supervisors quarterly starting in 2018.

$$\text{NSFR} = \frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} > 100\%$$

Available stable funding (the numerator of the ratio) includes:

- Bank capital
- Preferred stock with a maturity > 1 year
- Liabilities with maturities > 1 year
- The portion of retail deposits and wholesale deposits expected to stay with the bank during a period of idiosyncratic stress

The available amount of stable funding (ASF) is calculated by first assigning the value of a DI's equity and liabilities to one of five categories as presented in Table 21–16 below. The amount assigned to each category is multiplied by an ASF factor. The total ASF is the sum of the weighted amounts.

Required stable funding (the denominator of the ratio) is measured using supervisory assumptions on the characteristics of the liquidity risk profiles of a DI's assets, off-balance-sheet exposures, and other selected activities. The required amount of stable funding is calculated as the sum of the value of the on-balance-sheet assets held and funded by the DI, multiplied by a specific required stable funding (RSF) factor assigned to each particular asset type, plus the amount of off-balance-sheet (OBS) activities (or potential liquidity exposure) multiplied by the associated RSF factor. The RSF factor applied to the reported values of each asset or OBS exposure is the amount of that item that supervisors believe should be supported with stable funding. The RSF factors assigned to various types of assets are intended to approximate the amount of a particular asset that could not be sold or used as collateral in a secured borrowing during a severe liquidity event lasting one year. Table 21–17 summarizes the specific types of assets to be assigned to each asset category and their associated RSF factor.

TABLE 21–16 Components of Available Stable Funding and Associated ASF Factors

ASF Factor	Components of ASF Category
100%	• The total amount of capital, including both Tier I and Tier II as defined in existing global capital standards issued by the Committee. • The total amount of any preferred stock not included in Tier II that has an effective remaining maturity of one year or greater taking into account any explicit or embedded options that would reduce the expected maturity to less than one year. • The total amount of secured and unsecured borrowings and liabilities (including term deposits) with effective remaining maturities of one year or greater, excluding any instruments with explicit or embedded options that would reduce the expected maturity to less than one year. Such options include those exercisable at the investor's discretion within the one-year horizon.
90%	• "Stable" nonmaturity (demand) deposits and/or term deposits (as defined in the LCR) with residual maturities of less than one year provided by retail customers and small business customers.
80%	• "Less stable" (as defined in the LCR) nonmaturity (demand) deposits and/or term deposits with residual maturities of less than one year provided by retail and small business customers.
50%	• Unsecured wholesale funding, nonmaturity deposits and/or term deposits with a residual maturity of less than one year, provided by nonfinancial corporates, sovereigns, central banks, multilateral development banks, and PSEs.
0%	• All other liability and equity categories not included in the above categories.

TABLE 21–17 Detailed Composition of Asset Categories and Associated RSF Factors

Components of RSF Category	RSF Factor
• Cash immediately available to meet obligations, not currently encumbered as collateral, and not held for planned use (as contingent collateral, salary payments, or for other reasons). • Unencumbered short-term unsecured instruments and transactions with outstanding maturities of less than one year. • Unencumbered securities with slated remaining maturities of less than one year with no embedded options that would increase the expected maturity to more than one year. • Unencumbered securities held where the institution has an offsetting reverse repurchase transaction when the security on each transaction has the same unique identifier (e.g., ISN number or CUSIP). • Unencumbered loans to financial entities with effective of less than one year that are not renewable and for which the lender has an irrevocable right to call.	0%
• Unencumbered marketable securities with residual maturities of one year or greater representing claims on or claims guaranteed by sovereigns, central banks, BIS, IMF, EC, noncentral government PSEs, or multilateral development banks that are assigned a 0% risk weight under the Basel III standardized approach, provided that active repo or sale-markets exist for these securities. • Off-balance-sheet exposures require little long-term funding. Thus, revocable and irrevocable credit and liquidity facilities to any client has a RSF ratio = 5%.	5%
• Unencumbered corporate bonds or covered bonds rated AA− or higher with residual maturities of one year or greater satisfying all of the conditions for Level 2 assets in the LCR. • Unencumbered marketable securities with residual maturities of one year or greater representing claims on or claims guaranteed by sovereigns, central banks, and noncentral government PSEs that are assigned a 20% risk weight under the Basel III standardized approach, provided that they meet all of the conditions for Level 2 assets in the LCR.	20%
• Unencumbered gold. • Unencumbered equity securities, not issued by financial institutions or their affiliates, listed on a recognized exchange and included in a large cap market index. • Unencumbered corporate bonds and covered bonds that satisfy all of the following conditions: – Central bank eligibility to intraday liquidity needs and overnight liquidity shortages in relevant jurisdictions. – Not issued by financial institutions or their affiliates (except in the case of covered bonds). – Not issued by the respective firm itself or its affiliates. – Low credit risk: assets have a credit assessment by a recognized ECAI of A+ to BBB− or do not have a credit assessment by a recognized ECAI and are internally rated as having a PD corresponding to a credit assessment of A+ to BBB−. – Traded in large, deep, and active markets characterized by a low level of concentration. • Unencumbered loans to nonfinancial corporate clients, sovereigns, central banks, and PSEs having a remaining maturity of less than one year.	50%
• Unencumbered residential mortgages of any maturity that would qualify for the 35% or lower risk weight under Basel III Standardized Approach for credit risk. • Other unencumbered loans, excluding loans to financial institutions, with a remaining maturity of one year or greater, that would qualify for the 35% or lower risk weight under Basel III Standardized Approach for credit risk.	65%
• Unencumbered loans to retail customers (i.e., natural persons) and small business customers (as defined in the LCR) having a remaining maturity of less than one year (other than those that qualify for the 65% RSF above).	85%
• All other assets not included in the above categories	100%

EXAMPLE 21–5 Calculation of the Net Stable Funding Ratio

OneBank has the following balance sheet (in millions of dollars).

Assets		Required Stable Funding Factor	Liabilities and Equity		Available Stable Funding Factor
Cash	\$ 10	0%	Stable retail deposits	\$ 95	90%
Deposits at the Fed	15	5	Less stable retail deposits	40	80
Treasury securities	100	5	Unsecured wholesale funding from:		
GNMA securities	75	20			
Loans to A rated corporations (maturity > 1 year)	110	65	Stable small business deposits	100	90
Loans to B rated corporations (maturity < 1 year)	85	50	Less stable small business deposits	80	80
Premises	15	100	Nonfinancial corporates	50	50
Total	\$410				
			Equity	45	100
				\$410	

The net stable funding ratio for OneBank is calculated as follows:

Available amount of stable funding $= \$45 \times 1.00 + (\$95 + \$100) \times 0.90 + (\$40 + \$80) \times 0.80 + \$50 \times 0.50 = \$341.5\text{m}$

Required amount of stable funding $= \$10 \times 0.00 + (\$15 + \$100) \times 0.05 + \$75 \times 0.20 + \$110 \times 0.65 + \$85 \times 0.50 + \$15 \times 1.00 = \$149.75\text{m}$

Net stable funding ratio $= \$341.5\text{m}/\$149.75\text{m} = 228.05\%$.

The bank is in compliance with liquidity requirements based on the NSFR.

Other Liquidity Risk Control Measures. In addition to the LCR and NSFR described above, regulators will monitor several additional DI and systemwide trends. These additional metrics capture specific information related to a bank's cash flows, balance sheet structure, available unencumbered collateral, and certain market indicators. The additional monitoring measures include:

Contractual maturity mismatch: Compare assets with liabilities in time bands based on maturity (e.g., overnight, 7 and 14 days, 1, 2, 3, 4, and 9 months, 1, 2, 3, 5 years and beyond). Data on maturity mismatches are to be provided to DI supervisors on a frequent basis.

Concentration of funding: Identify those sources of wholesale funding that are of such significance that withdrawal of these funds could trigger liquidity problems.

Available unencumbered asset: Identify the quantity and key characteristics, including currency denomination and location, of banks' available unencumbered assets. These assets have the potential to be used as collateral to raise additional secured funding in secondary markets and/or are eligible at central banks and as such may potentially be additional sources of liquidity for the bank.

LCR by significant currency: Monitor the LCR in significant currencies. This will allow DIs and supervisors to track potential currency mismatch issues that could arise.

Market-related monitoring tools: Monitor high frequency market data (including marketwide data and information on the financial sector) with little or no time lag. These measures can be used as early warning indicators in monitoring potential liquidity difficulties at banks.