

# Foreign Banks: U.S. Liquidity Buffer Requirement Visual Memorandum and Interactive Calculator



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**Davis Polk**


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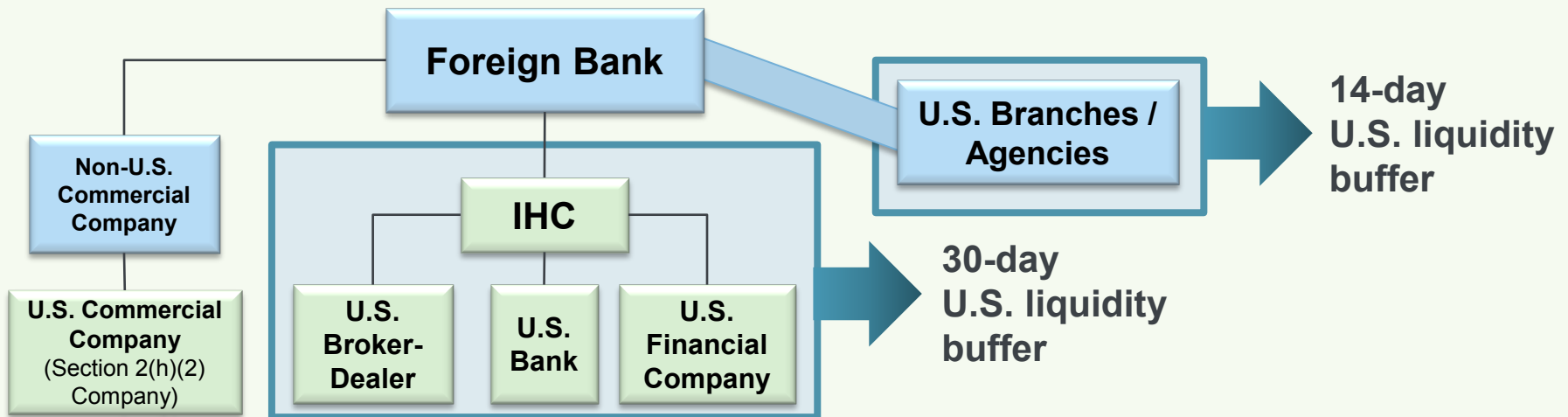
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# U.S. Liquidity Buffer Requirement for Foreign Banks with $\geq$ \$50 Billion in U.S. Assets

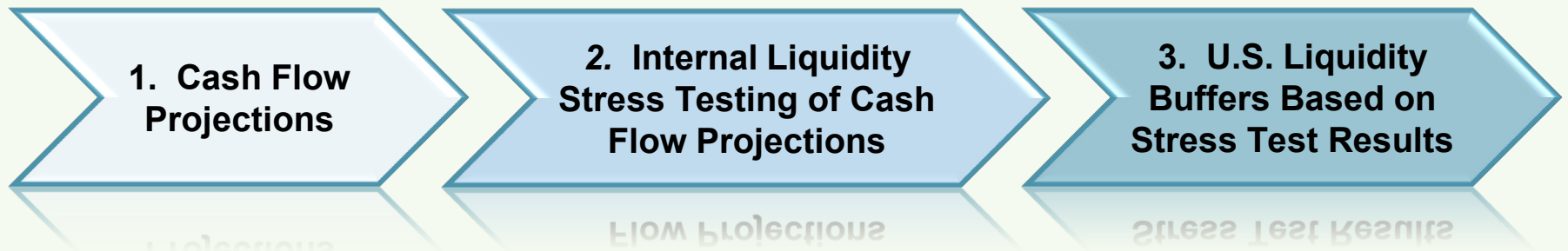
- The Federal Reserve’s February 2014 Dodd-Frank enhanced prudential standards (EPS) final rule subjects foreign banking organizations with  $\geq$  \$50 billion in U.S. assets (including U.S. branch/agency assets)\* to a qualitative liquidity framework.
- Among other things, the qualitative liquidity framework requires a Foreign Bank to maintain **separate U.S. liquidity buffers** (based on results of internal liquidity stress tests) for its:
  - U.S. branches/agencies; and
  - U.S. intermediate holding company (IHC).



\* **Terminology:** For ease of reference, a foreign banking organization with  $\geq$  \$50 billion in U.S. assets (including U.S. branch/agency assets) is referred to in this document as a “**Foreign Bank.**”

# Calculation of U.S. Liquidity Buffers for U.S. Branches/ Agencies and IHC

- The EPS final rule **prescribes a specific method** for calculating the U.S. liquidity buffers for a Foreign Bank's U.S. branches/agencies and IHC.
- This visual memorandum:
  - Includes [flowcharts](#), [examples](#) and an [interactive calculator](#) to illustrate how this method works in practice; and
  - Addresses the related cash flow projection and internal liquidity stress testing requirements in the EPS final rule.



# 1. Cash Flow Projections

<b>Scope</b>	<ul style="list-style-type: none"><li>▪ A Foreign Bank must produce comprehensive cash flow projections for its <b>combined U.S. operations</b> that project cash flows arising from assets, liabilities and off-balance sheet exposures.<ul style="list-style-type: none"><li>▪ <b>Combined U.S. operations</b> = U.S. branches/agencies + IHC and its consolidated subsidiaries</li></ul></li></ul>
<b>Time horizons</b>	<ul style="list-style-type: none"><li>▪ At a minimum, short-term and long-term time horizons.</li></ul>
<b>Frequency</b>	<ul style="list-style-type: none"><li>▪ <b>Short-term</b> cash flow projections must be updated <b>daily</b>.</li><li>▪ <b>Longer-term</b> cash flow projections must be updated at least <b>monthly</b>.</li></ul>
<b>Methodology</b>	<ul style="list-style-type: none"><li>▪ Include cash flows arising from contractual maturities, intercompany transactions, new business, funding renewals, customer options and other potential events that may impact liquidity.</li><li>▪ Include reasonable assumptions regarding future behavior of assets, liabilities and off-balance sheet exposures.</li><li>▪ Identify and quantify discrete and cumulative cash flow mismatches over these time horizons.</li></ul>

# 2. Internal Liquidity Stress Testing of Cash Flow Projections

<p><b>Scope</b></p>	<ul style="list-style-type: none"> <li>▪ A Foreign Bank must conduct internal liquidity stress tests to <b>separately assess</b> the potential impact of liquidity stress scenarios on the cash flows, liquidity position, profitability and solvency of its:             <ul style="list-style-type: none"> <li>▪ Combined U.S. operations;</li> <li>▪ U.S. branches/agencies; and</li> <li>▪ IHC.</li> </ul> </li> </ul>
<p><b>Frequency</b></p>	<ul style="list-style-type: none"> <li>▪ At least monthly. Federal Reserve may require more frequent stress tests.</li> </ul>
<p><b>Planning Horizon</b></p>	<ul style="list-style-type: none"> <li>▪ Overnight, 30-day, 90-day, 1-year, and other horizons relevant to liquidity risk profile</li> <li>▪ 30-day stress test results are used for calculating U.S. liquidity buffers.</li> </ul>
<p><b>Scenarios</b></p>	<ul style="list-style-type: none"> <li>▪ Each stress test conducted by a Foreign Bank must include, at a minimum, scenarios reflecting:             <ul style="list-style-type: none"> <li>▪ Adverse market conditions;</li> <li>▪ Idiosyncratic stress event for the U.S. branches/agencies and the IHC; and</li> <li>▪ Combined market and idiosyncratic stresses.</li> </ul> </li> </ul>
<p><b>Stress testing framework</b></p>	<ul style="list-style-type: none"> <li>▪ The EPS final rule imposes a number of requirements relating to liquidity stress testing policies, procedures, systems, processes, controls, reporting and risk management.</li> </ul>

# 2. Internal Liquidity Stress Testing of Cash Flow Projections *(cont.)*

<p><b>Internal models and assumptions</b></p>	<p>Liquidity stress testing is based on a Foreign Bank’s own internal models and assumptions, subject to the following:</p> <ul style="list-style-type: none"> <li>▪ <b>Haircuts:</b> Assets used as cash flow sources must be discounted to reflect credit risk and market price volatility. The EPS final rule does not prescribe haircuts.</li> <li>▪ <b>Diversification:</b> Assets used as cash flow sources during the planning horizon must be diversified by collateral, counterparty, borrowing capacity or other factors associated with the liquidity risk of the assets.</li> <li>▪ <b>Line of credit</b> does <u>not</u> qualify as a cash flow source for purposes of a stress test with a planning horizon of <math>\leq 30</math> days.</li> <li>▪ <b>Internal cash inflows</b> <u>cannot</u> offset external cash outflows for purposes of a stress test with a planning horizon of <math>\leq 30</math> days.</li> </ul>
<p><b>Factors to take into account</b></p>	<ul style="list-style-type: none"> <li>▪ Current liquidity, condition, risks, exposures, strategies and activities of the Foreign Bank’s combined U.S. operations.</li> <li>▪ On- and off-balance sheet exposures, size, risk profile, complexity, business lines, organizational structure and other characteristics of the Foreign Bank and its combined U.S. operations that affect liquidity risk profile of combined U.S. operations.</li> <li>▪ Potential direct and indirect adverse impact of associated market disruptions on combined U.S. operations.</li> <li>▪ Potential actions of other market participants experiencing liquidity stresses under the market disruptions that would adversely affect the Foreign Bank or its combined U.S. operations.</li> </ul>

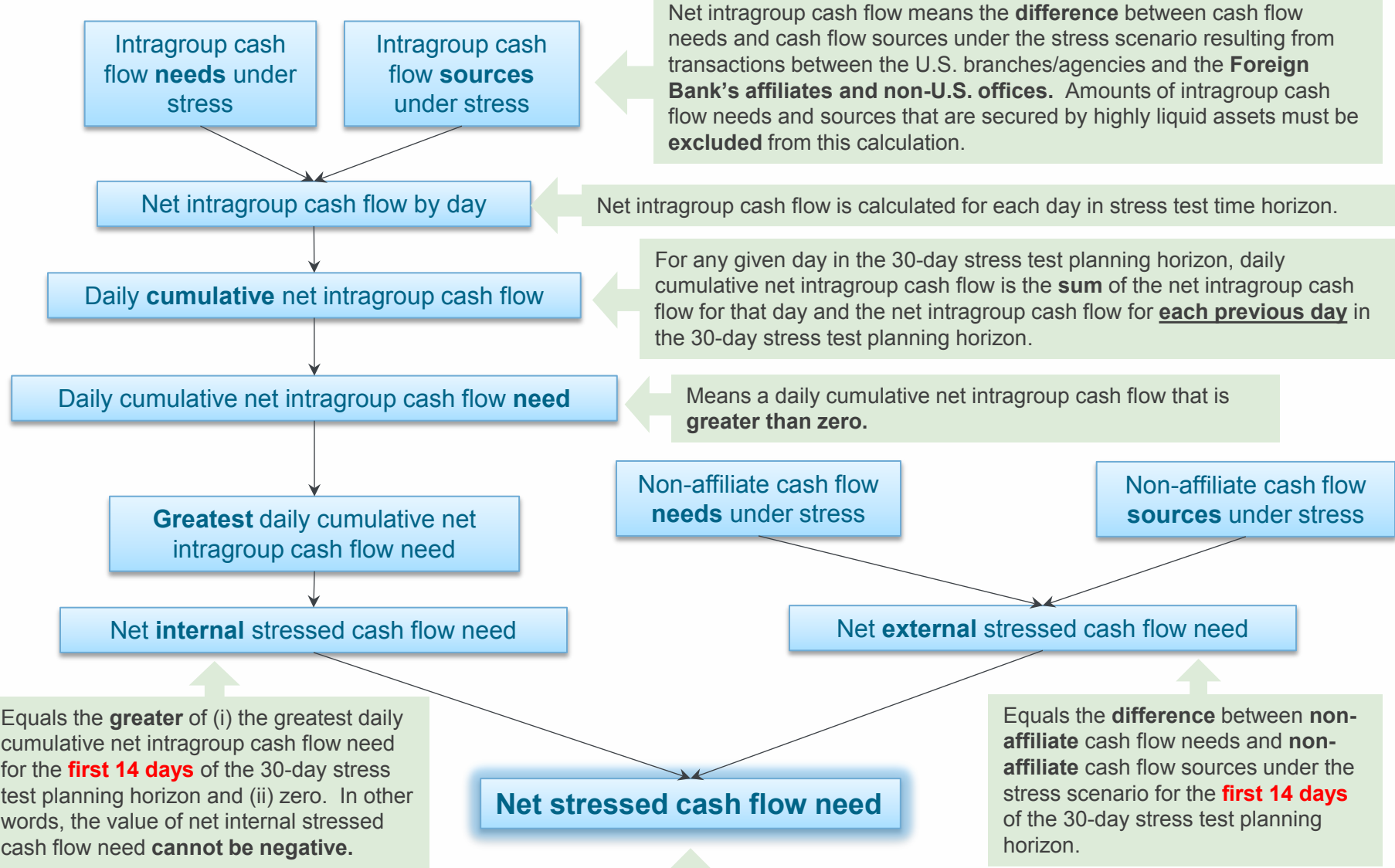
### 3. Separate U.S. Liquidity Buffers for U.S. Branches / Agencies and IHC Based on Stress Test Results

<b>Composition of U.S. liquidity buffers</b>	A Foreign Bank’s U.S. branches/agencies and IHC must separately maintain U.S. liquidity buffers consisting of <b>unencumbered highly liquid assets</b> . See definitions and discussion beginning on <a href="#">page 15</a> .
<b>Location</b>	Liquidity buffers must be <b>maintained in the United States</b> . See <a href="#">page 21</a> .
<b><u>U.S. branches / agencies</u>: minimum size of U.S. liquidity buffer</b>	Projected <b>net stressed cash flow need</b> for the <b>first 14 days</b> of an internal liquidity stress test with a 30-day planning horizon.
<b><u>IHC</u>: minimum size of U.S. liquidity buffer</b>	Projected <b>net stressed cash flow need</b> for the <b>entire 30 days</b> of an internal liquidity stress test with a 30-day planning horizon.
<b>Prescribed method for calculating net stressed cash flow need</b>	<p>The prescribed method for calculating <b>net stressed cash flow need</b> distinguishes between <b>external</b> and <b>internal</b> stressed cash flow needs and takes into account <b>intragroup</b> cash flow maturity mismatches.</p> <ul style="list-style-type: none"> <li>▪ Essentially the same method is used to calculate net stressed cash flow need for the U.S. branches/agencies and the IHC.</li> <li>▪ See flowcharts, example and interactive calculator beginning on <a href="#">page 9</a>.</li> </ul>

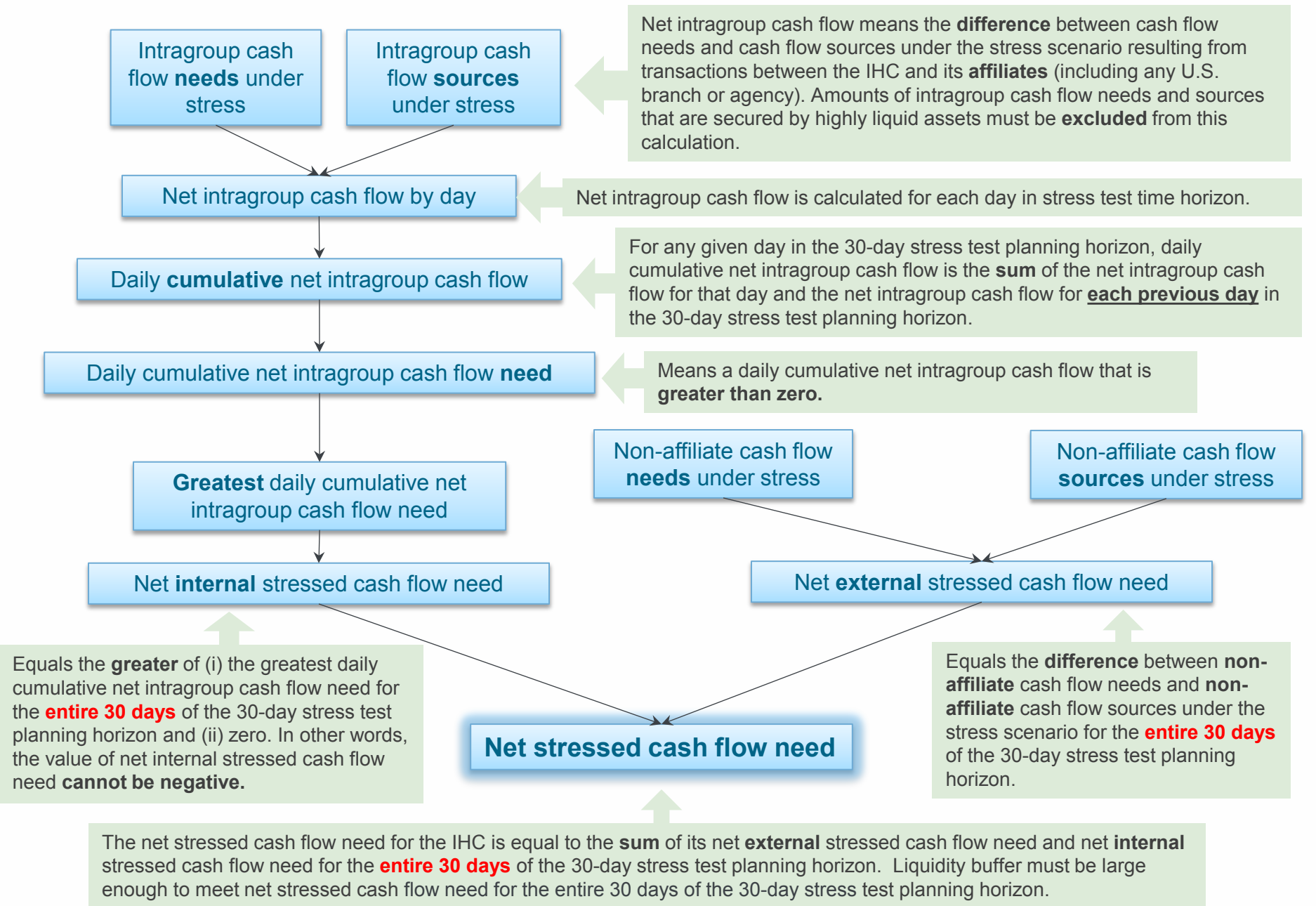


# Prescribed Method for Calculating Net Stressed Cash Outflow Need

- **External and Internal Cash Flows:** Internal cash flow sources (e.g., from foreign parent or head office) **cannot** be used to offset external cash flow needs.
- **Maturity Mismatches:** Intragroup cash flows sources may offset intragroup cash flow needs of a Foreign Bank's U.S. branches/agencies or IHC only to the extent the term of the intragroup cash flow source is the **same as or shorter than** the term of the intragroup cash flow need.
  - According to the Federal Reserve, this limitation ensures that, to the extent the Foreign Bank is reliant on intragroup cash flow sources to offset intragroup cash flow needs, they are scheduled to occur at the same time or before the outflows, limiting maturity mismatch for internal cash flows.
  - See flowcharts, calculation example and interactive calculator beginning on [page 9](#).
- **Amounts Secured by Highly Liquid Assets:** For the purposes of calculating **net intragroup cash flow**, the amounts of intragroup cash flow needs and intragroup cash flow sources that are secured by highly liquid assets must be **excluded** from the calculation.



The net stressed cash flow need for the U.S. branches/agencies is equal to the **sum** of its net **external** stressed cash flow need and net **internal** stressed cash flow need for the **first 14 days** of the 30-day stress test planning horizon. Liquidity buffer must be large enough to meet net stressed cash flow need for the first 14 days of the 30-day stress test planning horizon.



# Example of Net Stressed Cash Flow Need Calculation

Below is an example of a net stressed cash flow need calculation using a stress period of 5 days.

	Day 1	Day 2	Day 3	Day 4	Day 5	Period Total
<b>Non-affiliate cash flow sources</b>						
Maturing loans/placements with other firms	5	5	6	6	6	28
<b>Total non-affiliate cash flow sources</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>28</b>
<b>Non-affiliate cash flow needs</b>						
Maturing wholesale funding / deposits	(12)	(8)	(8)	(7)	(7)	(42)
<b>Total non-affiliate cash flow needs</b>	<b>(12)</b>	<b>(8)</b>	<b>(8)</b>	<b>(7)</b>	<b>(7)</b>	<b>(42)</b>
<b>Net external stressed cash flow need</b>	<b>(7)</b>	<b>(3)</b>	<b>(2)</b>	<b>(1)</b>	<b>(1)</b>	<b>(14)</b>

# Example of Net Stressed Cash Flow Need Calculation

(cont.)

	Day 1	Day 2	Day 3	Day 4	Day 5	Period Total
<b>Intragroup cash flow sources</b>						
Maturing loans to parent	2	2	3	2	1	10
Maturing loans to non-U.S. entities	0	0	1	1	2	4
<b>Total intragroup cash flow sources</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>14</b>
<b>Intragroup cash flow needs</b>						
Maturing funding from parent	0	(4)	(10)	0	0	(14)
Maturing deposit from non-U.S. entities	(1)	(1)	(1)	0	0	(3)
<b>Total intragroup cash flow needs</b>	<b>(1)</b>	<b>(5)</b>	<b>(11)</b>	<b>0</b>	<b>0</b>	<b>(17)</b>
<b>Net intragroup cash flows</b>	<b>1</b>	<b>(3)</b>	<b>(7)</b>	<b>3</b>	<b>3</b>	<b>(3)</b>
<b>Daily cumulative net intragroup cash flow</b>	<b>1</b>	<b>(2)</b>	<b>(9)</b>	<b>(6)</b>	<b>(3)</b>	
<b>Daily cumulative net intragroup cash flow need</b>	<b>0</b>	<b>(2)</b>	<b>(9)</b>	<b>(6)</b>	<b>(3)</b>	
<b>Greatest daily cumulative net intragroup cash flow need</b>	<b>0</b>	<b>0</b>	<b>(9)</b>	<b>0</b>	<b>0</b>	
<b>Net internal stressed cash flow need</b>	<b>0</b>	<b>0</b>	<b>(9)</b>	<b>0</b>	<b>0</b>	<b>(9)</b>

# Example of Net Stressed Cash Flow Need Calculation

(cont.)

	Period Total
Net <u>external</u> stressed cash flow need	(14)
Net <u>internal</u> stressed cash flow need	(9)
Net stressed cash flow need	(23)
Minimum Size of U.S. Liquidity Buffer	23

# Interactive U.S. Liquidity Buffer Calculator for a Foreign Bank's U.S. Branches/Agencies and IHC

We have developed an interactive tool to illustrate the calculation of net stressed cash flow need for purposes of determining the minimum size of the separate U.S. liquidity buffers that a Foreign Bank must maintain for its U.S. branches/agencies and IHC.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
<b>DavisPolk</b>															
<b>U.S. Liquidity Buffer Calculator for U.S. Branches/Agencies</b>															
For Stress Testing Purposes (Not Liquidity Buffer Purposes)															
Daily cumulative net intragroup cash flow	1	(2)	(9)	(6)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Daily cumulative net intragroup cash flow need	0	(2)	(9)	(6)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Greatest daily cumulative net intragroup cash flow need	0	0	(9)	0	0	0	0	0	0	0	0	0	0	0	0
Net internal stressed cash flow need	0	0	(9)	0	0	0	0	0	0	0	0	0	0	0	0
For Liquidity Buffer Purposes															
Daily cumulative net intragroup cash flow	1	(2)	(9)	(6)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Daily cumulative net intragroup cash flow need	0	(2)	(9)	(6)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Greatest daily cumulative net intragroup cash flow need	0	0	(9)	0	0	0	0	0	0	0	0	0	0	0	0
Net internal stressed cash flow need	0	0	(9)	0	0	0	0	0	0	0	0	0	0	0	0
<b>NET STRESSED CASH FLOW NEED</b>															
Amounts below relate to the first 14 days															
Net external stressed cash flow need		(14)													
Net internal stressed cash flow need		(9)													
Net stressed cash flow need		(23)													
Minimum size of U.S. liquidity buffer for U.S. branches/agencies	23														

Access the Interactive U.S. Liquidity Buffer Calculator by [Clicking Here](#)

# Definition of Unencumbered Highly Liquid Assets

**Highly liquid assets** means:

- Cash;
- Securities issued or guaranteed by the U. S. government, a U.S. government agency, or a U.S. government-sponsored entity (e.g., Fannie Mae and Freddie Mac); and
- Any other asset that the Foreign Bank **demonstrates** to the satisfaction of the Federal Reserve:
  - Has low credit risk and low market risk;
  - Is traded in an active secondary two-way market that has committed market makers and independent bona fide offers to buy and sell so that a price reasonably related to the last sales price or current bona fide competitive bid and offer quotations can be determined within one day and settled at that price within a reasonable time period conforming with trade custom; and
  - Is a type of asset that investors historically have purchased in periods of financial market distress during which market liquidity is impaired.

**Home Country Sovereign Debt:** A Foreign Bank's home country sovereign debt is **not automatically** considered a highly liquid asset.



# Definition of Unencumbered Highly Liquid Assets (cont.)

- **Treatment of LCR HQLAs:** The preamble to the EPS final rule states that high-quality liquid assets (HQLAs) as defined in the U.S. liquidity coverage ratio (LCR) proposal “would be liquid under most scenarios.” However, a Foreign Bank must still:
  - Make a liquidity profile demonstration to the Federal Reserve as required by the final rule;
  - Meet the diversification requirement (final rule excludes cash and securities issued by the United States, a U.S. government agency or a U.S. government-sponsored enterprise from the diversification requirement); and
  - Assign appropriate haircuts, which may be different from the haircuts prescribed for HQLAs in the U.S. LCR proposal.
- **Definition of HQLAs in U.S. LCR Proposal:** The definition of HQLAs in the U.S. LCR proposal is narrower than in the Basel Committee’s revised LCR framework.
  - *E.g.*, under the U.S. LCR proposal, HQLAs do **not** include securities issued or guaranteed by public sector entities (*e.g.*, state, local authority or other governmental subdivision below the sovereign level), covered bonds or residential mortgage-backed securities (RMBS).
  - Davis Polk’s comparison of the European Banking Authority’s definition of HQLAs and the definition in the U.S. LCR proposal is available [here](#).

## Definition of Unencumbered Highly Liquid Assets (cont.)

- **Diversification Requirement:** The liquidity buffer must not contain significant concentrations of highly liquid assets by issuer, business sector, region, or other factor related to the Foreign Bank's risk, except with respect to cash and securities issued or guaranteed by the United States, a U.S. government agency, or a U.S. government-sponsored enterprise.
- **Haircuts:** The fair market value of an asset included in the liquidity buffer must be discounted to reflect any credit risk and market price volatility of the asset.
  - The EPS final rule does not prescribe any haircuts.
- **Reverse Repos:** If a Foreign Bank is able to rehypothecate collateral consisting of highly liquid assets that secures a loan (but has not done so), the Foreign Bank may count that collateral as a highly liquid asset, subject to appropriate haircuts.
- **Deposits at Other Banks:** Cash deposits at other banks are loans and constitute cash inflows, rather than highly liquid assets that count towards the liquidity buffer.

## Definition of Unencumbered Highly Liquid Assets (cont.)

- **Foreign Currency-Denominated Assets:** The EPS final rule, like the proposed rule, does **not** disqualify foreign currency-denominated assets from inclusion in a Foreign Bank's U.S. liquidity buffers.
  - However, the Federal Reserve noted that currency matching of projected cash inflows and outflows is an important aspect of liquidity risk management that should be monitored on a regular basis and accounted for in the composition of a Foreign Bank's U.S. liquidity buffers.
  - Stress testing should consider vulnerabilities associated with currency mismatches of highly liquid assets to potential outflows.
  - When determining appropriate haircuts for buffer assets, currency mismatches should be considered as well as potential frictions associated with currency conversions in certain stress scenarios.

# Definition of Unencumbered Highly Liquid Assets

- A highly liquid asset is **unencumbered** if it:
  - Is free of legal, regulatory, contractual, or other restrictions on the ability of such company promptly to liquidate, sell or transfer the asset; **and**
  - Is **either**:
    - Not pledged or used to secure or provide credit enhancement to any transaction; **or**
    - Pledged to a central bank or a U.S. government-sponsored enterprise, to the extent potential credit secured by the asset is not currently extended by such central bank or U.S. government-sponsored enterprise or any of its consolidated subsidiaries.
- **Hedges**: The EPS final rule allows assets that are used as hedges to be considered “unencumbered” if they otherwise meet the definition.
  - In contrast, the proposed definition of unencumbered requires that an asset not be designated as a hedge on a trading position.

## Definition of Unencumbered Highly Liquid Assets *(cont.)*

- **Pledged Assets:** Unencumbered highly liquid assets should generally not include assets pledged to a counterparty for provisional needs.
  - Assets pledged to clearing counterparties and assets subject to “banker’s liens” must be considered encumbered in most scenarios, as their encumbrance is an ongoing requirement for conducting business with such counterparties.
  - Assets required to be pledged to other entities or maintained in segregated accounts due to regulatory requirements (such as OCC’s Capital Equivalency Deposit requirement or state law asset-pledge requirements) may not be available for use in a stress scenario and thus should not be characterized as highly liquid assets.
  - Should a regulatory requirement be certain to be lowered in a prescribed stressed environment, a Foreign Bank could include the portion of highly liquid assets that would be made available when simulating such a scenario.

# Maintaining Liquidity Buffers in the United States

- An IHC must maintain its **30-day** liquidity buffer in the United States.
  - To the extent that the liquidity buffer consists of cash, the cash may **not** be held in an account located at a U.S. branch/agency of the Foreign Bank or other affiliate of the Foreign Bank that is not controlled by the IHC.
  - The Federal Reserve noted that nothing in the EPS final rule would prevent the IHC from using any liquidity that is held at one of its subsidiaries to offset potential outflows elsewhere within the IHC, to the extent that those funds are freely available to the IHC.
- U.S. branches/agencies must maintain the **14-day** liquidity buffer in the United States.
  - The Federal Reserve expects, however, that Foreign Banks would hold additional liquidity resources, either at the head office or in the United States, to protect against longer periods of funding pressure at their U.S. branches/agencies.
  - To the extent that the liquidity buffer consists of cash, the cash may **not** be held in an account located at the IHC or other affiliate of the Foreign Bank.
- The Federal Reserve clarified that the maintenance of the liquidity buffer in the United States means that the assets should be reflected on the balance sheet of the IHC or U.S. branches/agencies, as applicable.

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If you have any questions regarding the matters covered in this publication, please contact any of the lawyers listed below or your regular Davis Polk contact.

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