Interim Allocation Targets Review Follow-up: Liquidity Allocation

Target, Range & Implications

May 18, 2015

CalPERS | Investment Office
Asset Allocation/Risk Management

Agenda

Purpose of Today's Item

Background Information

Discussion: Unsettled Issues

Purpose of Today's Item

Objectives

- Refresh on leverage and liquidity – Current uses and reporting
- Further explore unsettled issues
- Gather feedback from the Committee on preferred direction for future Statement of Investment Policy revisions

Today's Starting Point | April Recap

Settled Issues

- Continue use of interim strategic allocation targets for Global Equity, Private Equity, and Real Assets
- Revise Liquidity Policy Benchmark and streamline role of Liquidity allocation
- If the Liquidity target is reduced, add 1% to Global Fixed Income target

Unsettled Issues

- Create interim target for Liquidity (1%) with expanded policy range (+/- 3%) or maintain current target (2%) and range (+/-1%)
  - Expanded range would establish Total Fund-level leverage as an operational liquidity management tool

Agenda

Purpose of Today's Item

Background Information

Discussion: Unsettled Issues

Background| Leverage Types in Use

CalPERS investment policies currently permit the use of several types of leverage. Policies set limits on each type.

Asset Class	Permitted Uses – Leverage Types		
	Notional	Non-Recourse	Recourse
Global Equity	✓	✓	
Fixed Income	✓	✓	
Real Estate		✓	✓
Infrastructure		✓	✓
Forestland		✓	
Private Equity	✓	✓	✓

Excerpt: Total Fund Policy Appendix 6 – Summary of Permissible and Prohibited Types of Leverage.

Background| Leverage Reporting

Analysis of leverage deployed by CalPERS is reported to the Committee semi-annually

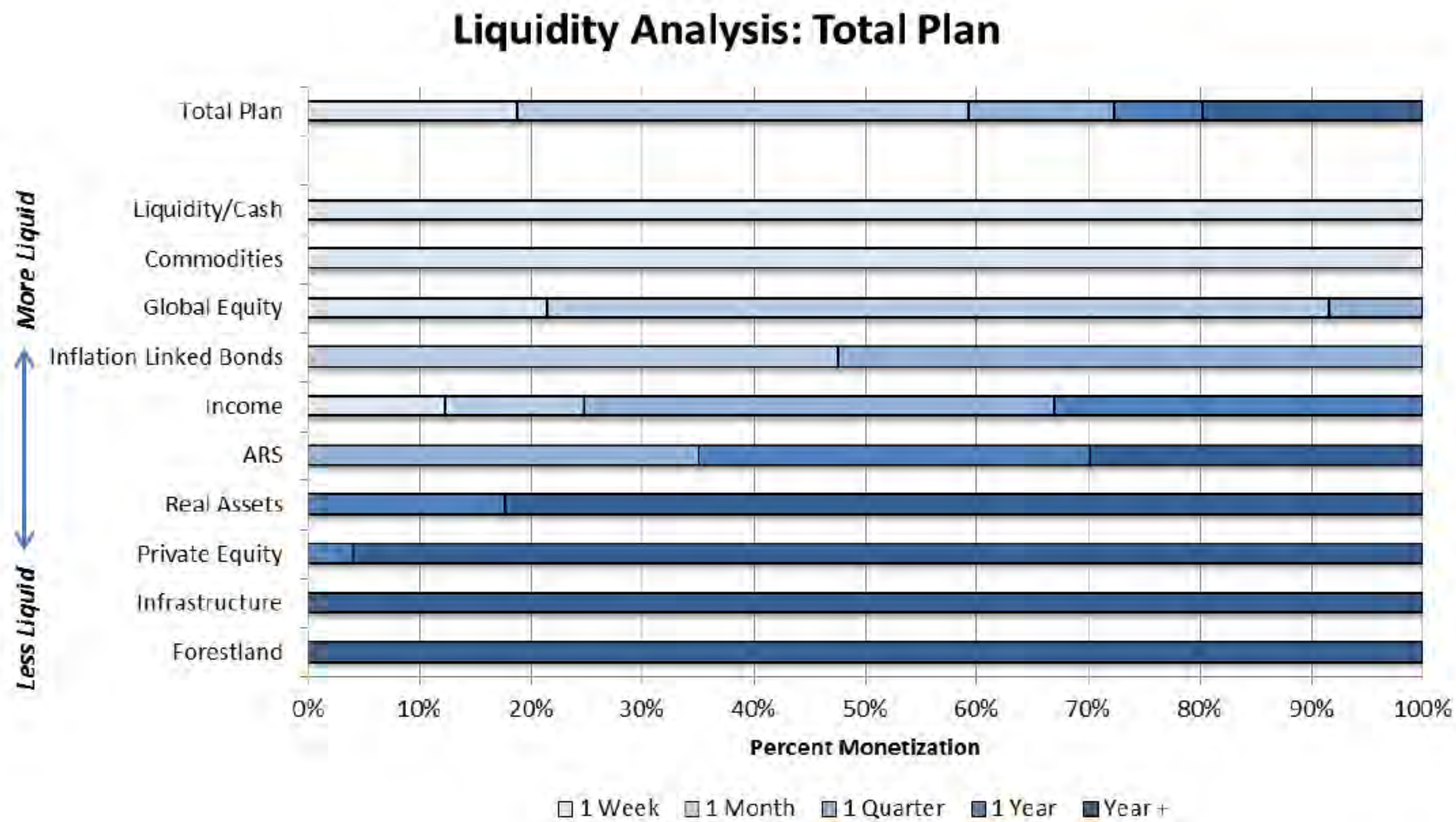
Leverage Reporting Excerpt

Asset Class	Net Market Value ($Billions)	Leverage Deployed by CalPERS: Notional Exposure	Non Recourse Debt	Recourse Debt[4]	Contingent Claim	Policy Leverage Calc %[10]	Policy Limit	Embedded Leverage: Embedded Leverage Sources[4,6]	Total Gross Exposure[8] ($Billions)
Public Equity[2,3]	$ 160.2	6.4	-	-	-	4%	10%	52.9	$ 219.6
Private Equity[5]	30.9	-	-	-	-	-	-	12.3	43.2
Income	53.6	0.8	-	-	-	1%	10%		54.4
Liquidity	5.3	-	-	-	-	-	-		5.3
Real Estate	25.6	-	13.1	0.1	-	34%	50%		38.7
Infrastructure	2.1	-	1.9	-	-	47%	65%		4.0
Forestland	2.3	-	0.6	-	-	21%	50%		2.9
Inflation Linked	15.4	-	-	-	-	-	-		15.4
ARS (Incl. MAC)[9]	2.9	-	-	-	-	-	-		2.9
Transition + Overlay	1.2	-	-	-	-	-	-		1.2
Total Fund	$ 299.5	7.2	15.6	0.1	-	-	-	65.3	$ 387.5

Source: February 2015 Investment Committee Item 7a, Attachment 3 CIO Total Fund Performance & Risk Report. Data are as of November 30, 2014. Footnotes are available in appendix

Background| Current Liquidity Reporting

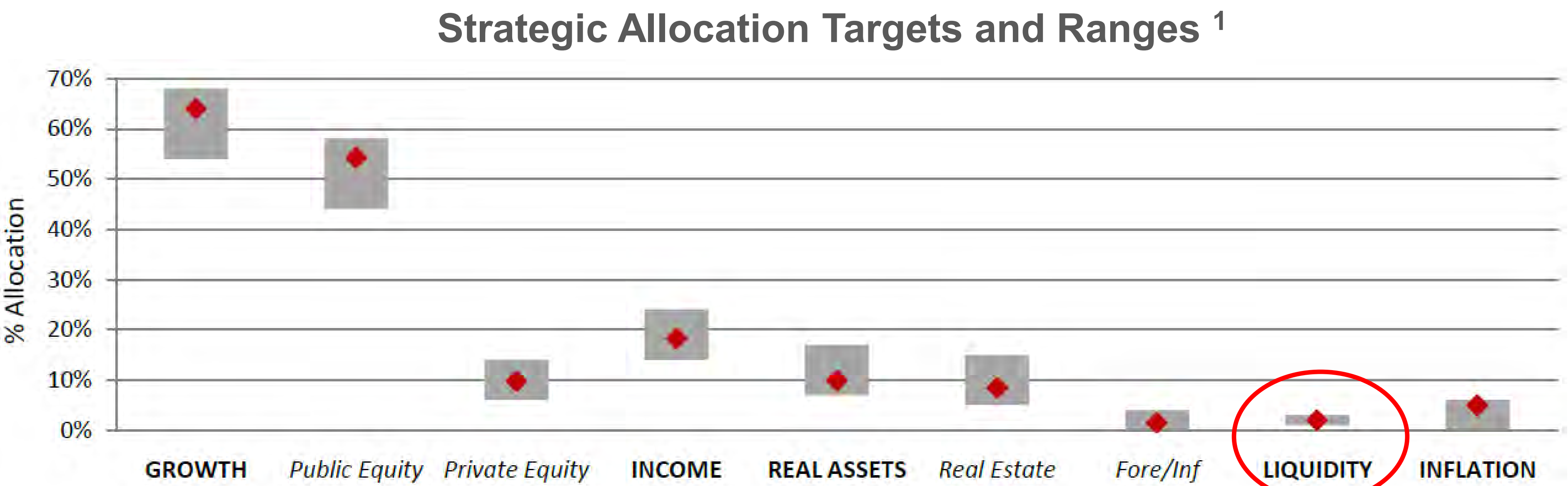
Analysis of the relative transactional liquidity of the Total Fund is reported to the Committee semi-annually



Source: February 2015 Investment Committee Item 7a, Attachment 3 CIO Total Fund Performance & Risk Report. Data are as of November 30, 2014

Background| Regular Target and Range Reporting

CalPERS current positions relative to the strategic asset allocation targets and ranges are reported monthly



[1] Strategic allocation targets based on the 2013 Asset Liability Management (ALM) Workshop.

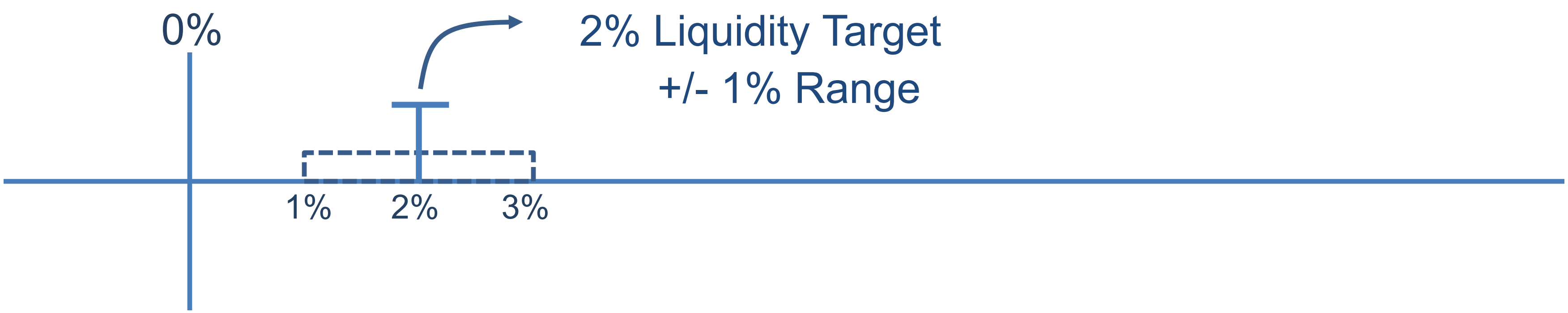
Source: April 2015 Investment Committee Item 4c, data as of February 28, 2015

Agenda

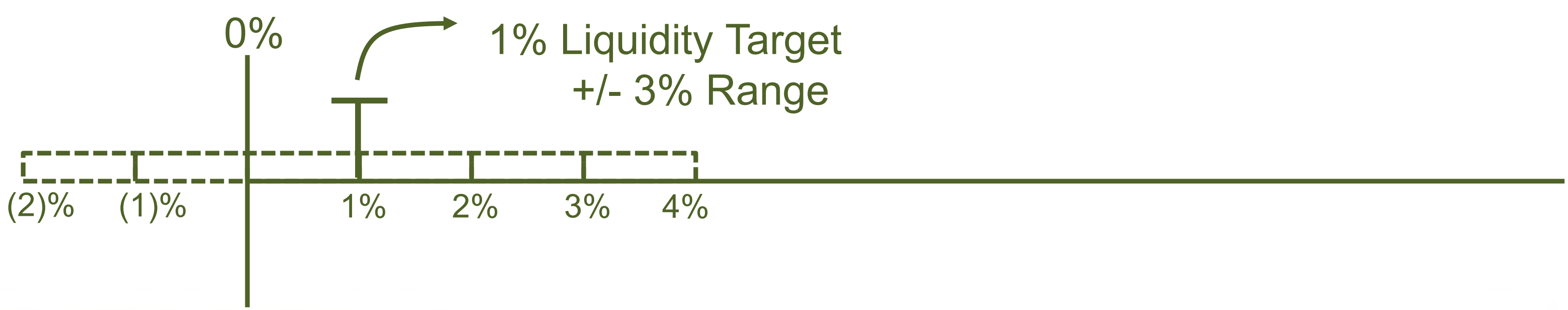
- Purpose of Today's Item
- Background Information
- **Discussion: Unsettled Issues**

Potential Revision | Liquidity Target & Range

Current State



Proposed



Liquidity Target| Why 1% Now

Investment Office	
From (2008-2009)	**To (2015)**
CalPERS Cash Flow Positive and Liquidity Managed Reactively	• CalPERS is cash flow negative • Liquidity managed proactively
Limited Visibility Across Asset Classes and within Private Asset Classes	• Enhanced governance • Technological enhancements
Potential Demands for Liquidity High and Varied	• Conservative management • Reduction in collateral pool management risk profile

Enterprise	
From (2008-2009)	**To (2015)**
No Chief Financial Officer (CFO) Role	• CFO in place • Treasury Management Policy and reserve fund established • Enterprise-wide discussion of liquidity

Liquidity Target| Why 1% Now *Continued*

Investment Office		
	Then (2008)	Today
Visibility	Liquidity managed reactively within one asset class – Global Fixed Income	• Investment Strategy Group manages aggregate liquidity across the Total Fund • Increased automation and technological solutions enhance private asset class data visibility • Ongoing refinement of cash forecasting
Potential Demands	• Over $40B in unfunded commitments[1] • Collateral pool managed externally and more aggressively • Over $30B in Securities Lending "On-Loan" balances	• Unfunded commitments almost halved – Less than $23B as of December 2014 • Collateral pool managed internally and conservatively • Securities Lending "On Loan" balances reduced – Average $14.2B over the past 12 months [2]

CalPERS | Investment Office Asset Allocation/Risk Management

[1] *Source – November 2013 ALM Workshop*
[2] *Source – CalPERS GFI*

1% Target & Expanded Range| What is it for?

It is intended to:

- Be used on a short-term, exception basis (est. < 90 days)
- Be a liquidity risk management tool (like "overdraft protection")
- Minimize excessive "no value-add" transactions to meet frictional cash flows
- Provide "time buffer" to allow investment decision process to maximize CalPERS' economic interest

1% Target & Expanded Range| What is it not?

The reduced target and expanded range is:

- Not establishing long-term leverage on the Total Fund
- Not intended to materially impact returns
- Not intended to impact the treasury management reserve
- Not to be undertaken without corresponding enhancements to policy, procedures, and reporting

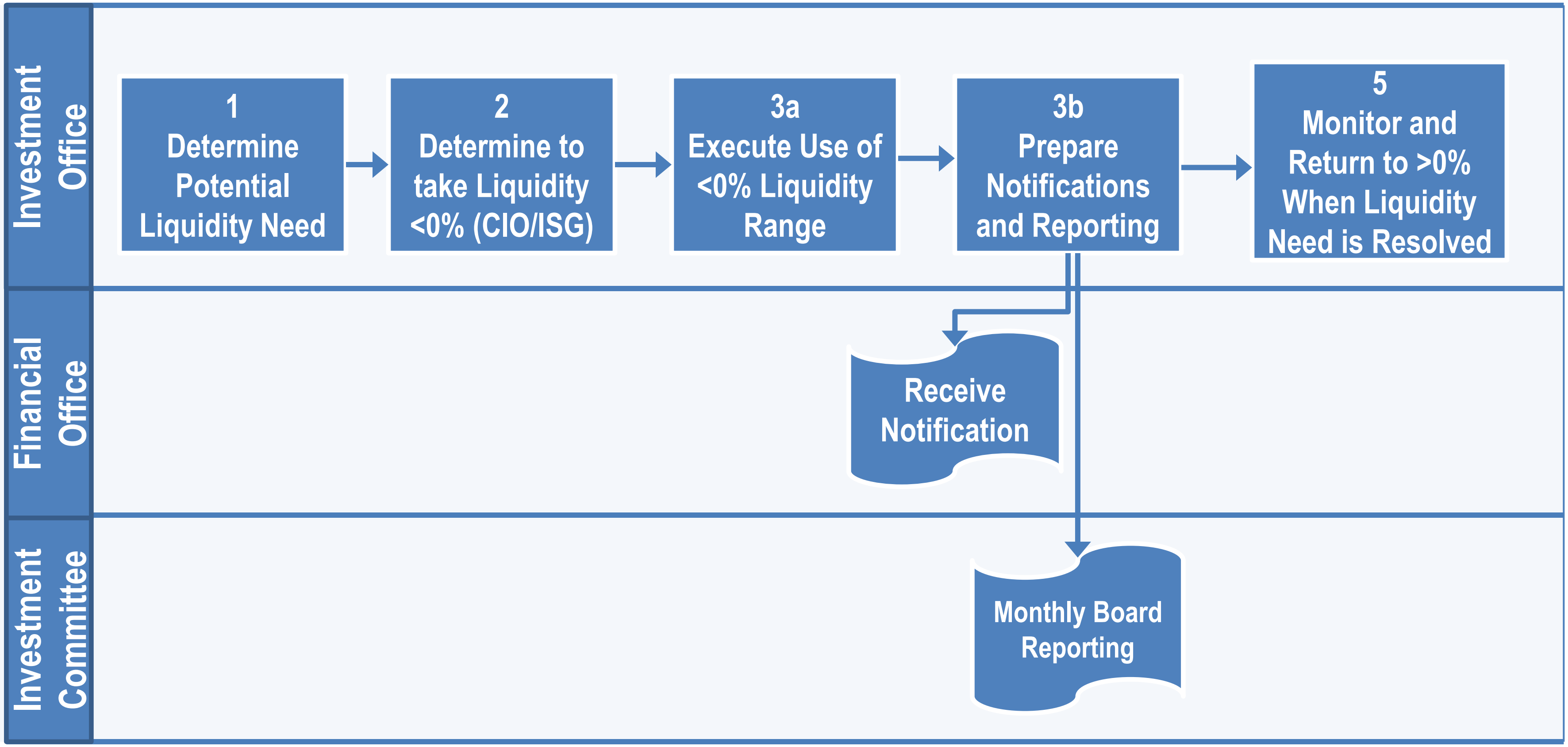
1% Target & Expanded Range| Who

Use of borrowed liquidity would involve:

- Review and approval by the Investment Strategy Group
- Authorization by the Chief Investment Officer
- Implementation by internal Investment Office resources (Asset Allocation, Investment Servicing, and public asset classes)
- Collaborative communication between Investment and Financial Office

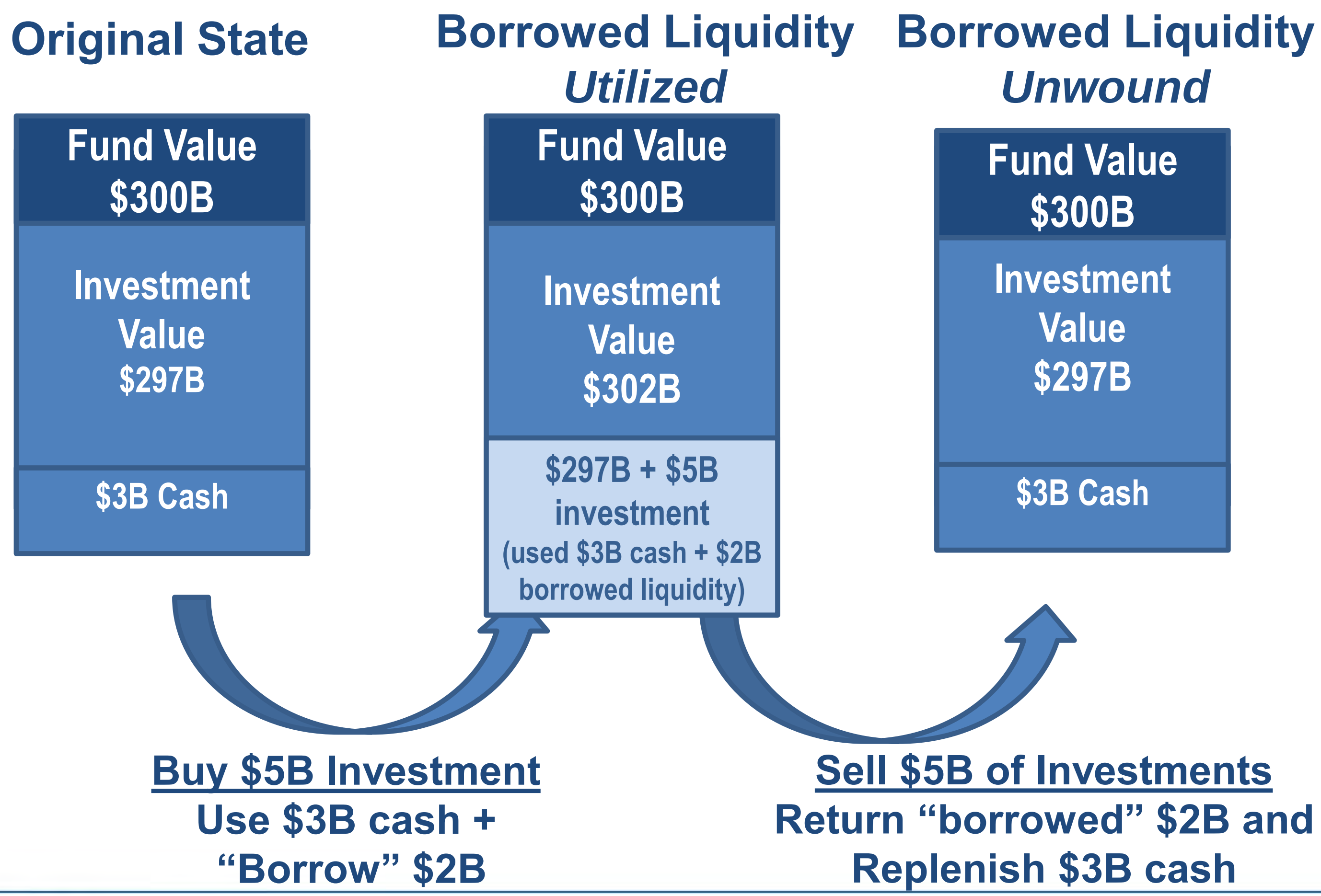
1% Target & Expanded Range| How

Potential Decision Making & Reporting – Requires development of procedural and governance framework



1% Target & Expanded Range| How

Impact on the PERF[1] – Fund Value Remains Unchanged

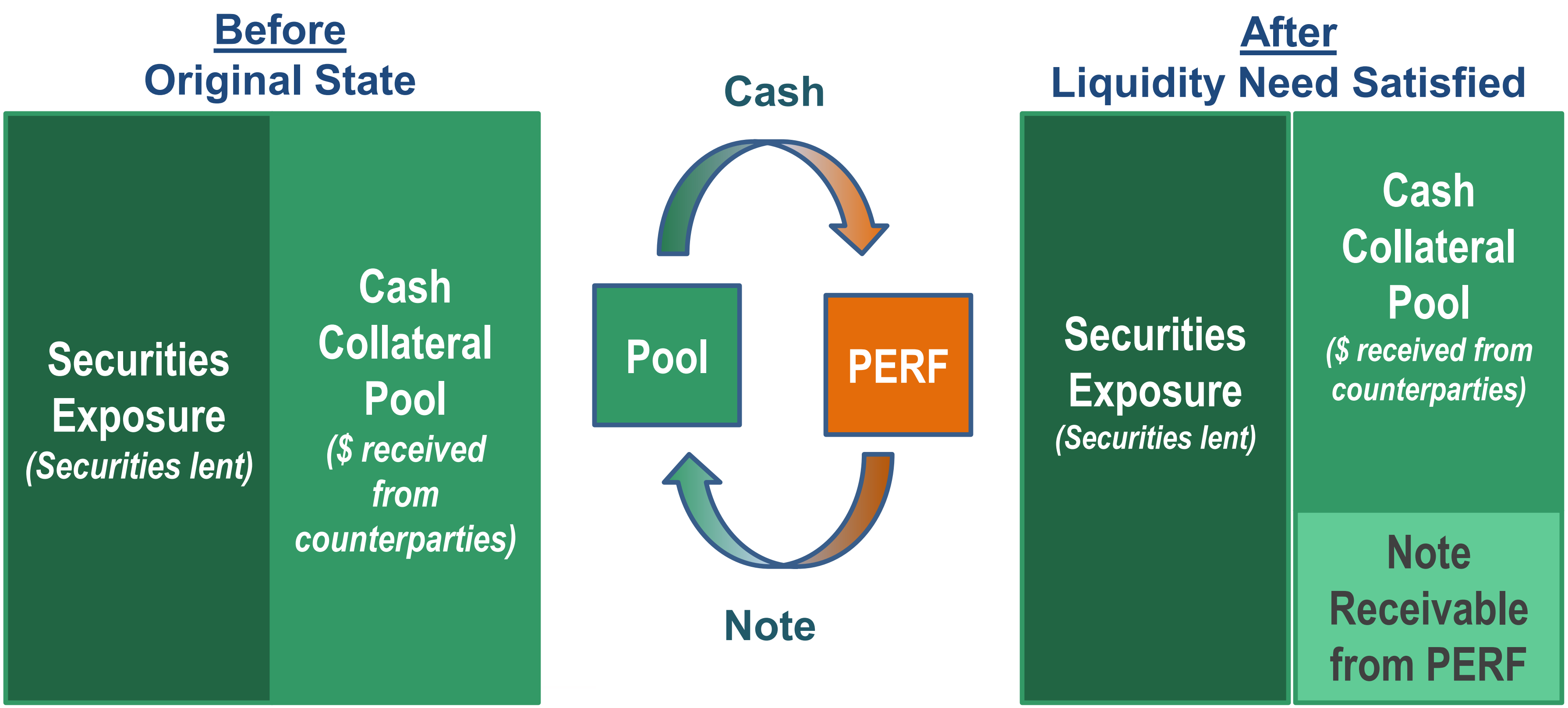


Diagrams are for illustrative purposes only and do not indicate actual proportions, etc.

[1] Public Employees' Retirement Fund (PERF)

1% Target & Expanded Range| How

Process to Source Cash from Securities Lending Collateral Pool



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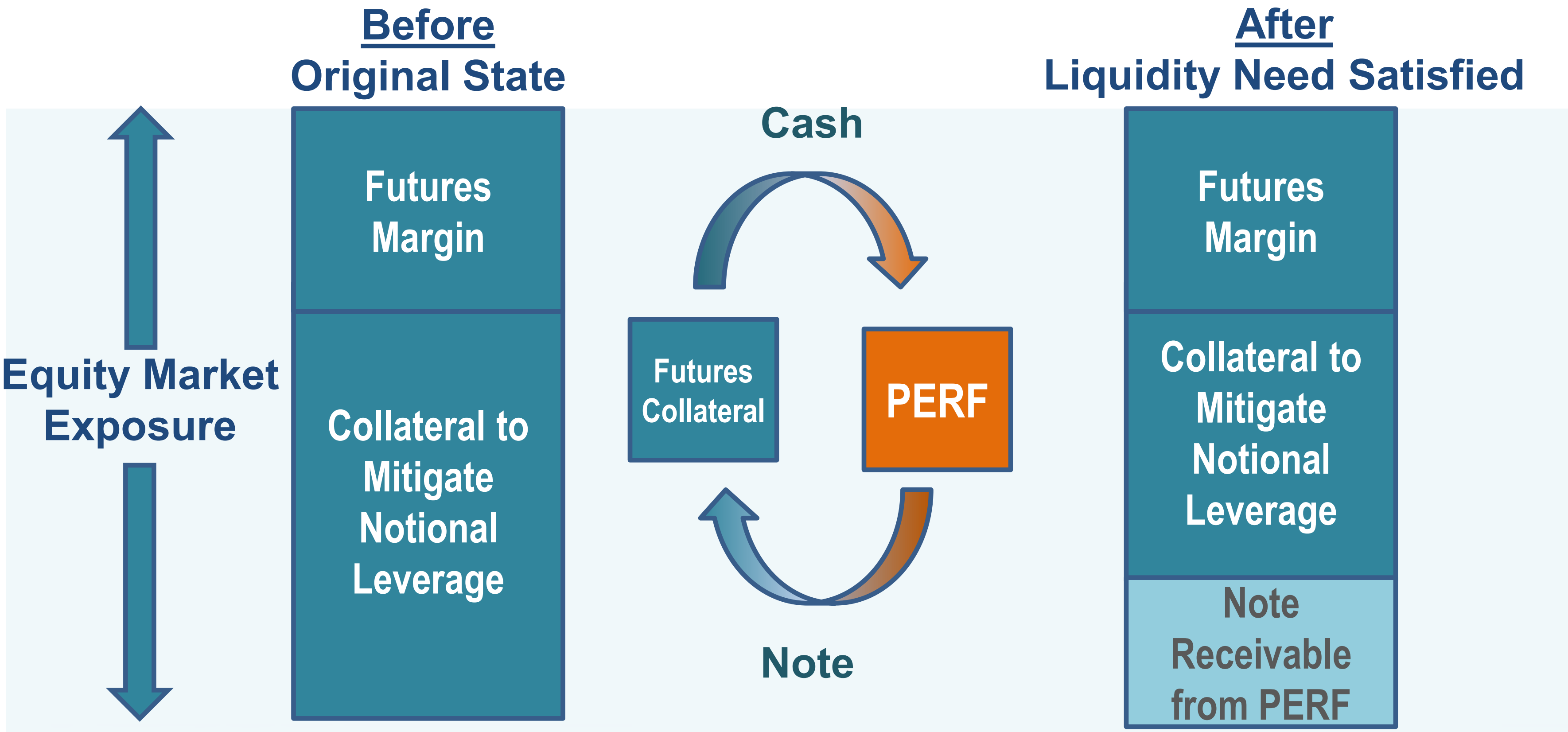
1% Target & Expanded Range| How

Process to Source Cash from Futures Collateral – Equity Market Exposure Remains Unchanged



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Borrowed Liquidity Methods | Merits & Concerns

Source: Securities Lending

Merits	Concerns
Low Cost	Counterparty Risk
Utilize Portfolio Securities	Margin Requirements
Timely Execution	Term Risk

Source: Equity Futures Cash Account

Merits	Concerns
Low Cost	Maintenance Margin
Negligible Counterparty Risk	Roll Risk
Liquid Market	
Timely Execution	

Borrowed Liquidity Methods | Concerns & Mitigations

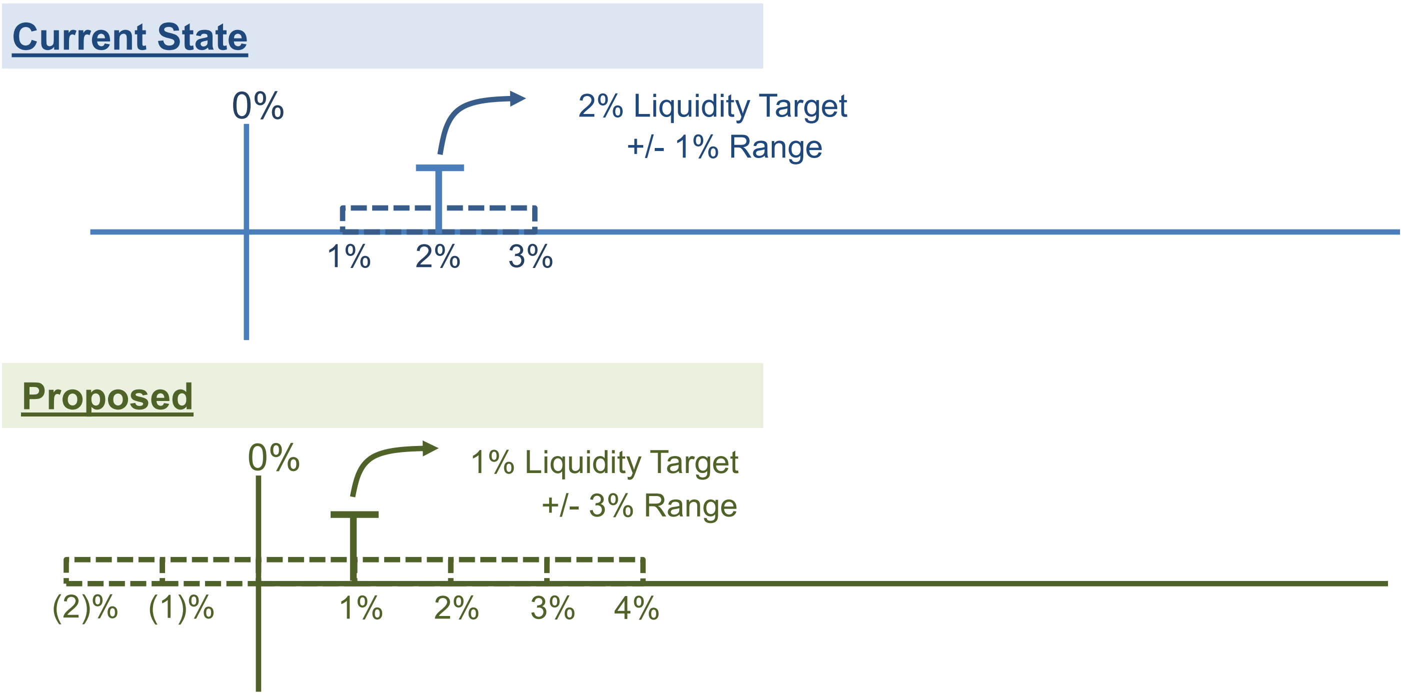
Source: Securities Lending	
Concerns	**Mitigation**
Counterparty Risk	• Diversification • Counterparty Monitoring • Proactive Collateral Management
Margin Requirements	• Conservative Reserve Management
Term Risk	• Term Loan Instead of Overnight Loan

Borrowed Liquidity Methods | Concerns & Mitigations

Source: Equity Futures Cash Account	
Concerns	**Mitigation**
Maintenance Margin	• Conservative Reserve Management
Roll Risk	• Proactive Monitoring

Now or Later| Liquidity Target & Range

Changing Characteristics Will Require Development of Enhanced Liquidity Management Tools



- Feedback from the Committee
- Questions & Comments
- Next Steps
  - Policy revisions
  - Cash reserve account segregated from Liquidity Program
  - Reporting enhancements

Appendix

Appendix | Semi Annual Leverage Reporting Excerpt Footnotes

1. Securities Lending notional exposure is the dollar amount of reinvested capital with maturity greater than 90 days. Policy Leverage % for Securities Lending is calculated as the notional exposure divided by the total size of the program. The size of the Securities Lending program as of 11-30 was $9.6 Billion.
2. Public Equity Notional Exposure is the net notional value of derivatives that are not backed by cash like instruments.
3. Embedded leverage represented for Public Equity is non-recourse debt. This amount is estimated using the average LT Debt/Capital ratio (currently at 33.07%) of the underlying holdings.
4. Recourse Debt in Real Estate decreased by $141 Million from prior quarter
5. Embedded leverage for Private Equity is non-recourse debt exposure at the investment company level or within commingled funds. This is estimated using the average Net Debt/Enterprise Value ratio (currently estimated at 40%) for all PE holdings.
6. Credit Enhancement - exposure is contingent upon default of underlying obligation being insured + estimated recovery ratio on the security.
7. Asset Based Lending - exposure is contingent upon default of underlying obligation + estimated sale of recoverable assets.
8. Total Gross Exposure is the sum of Net Market Value + Leverage Sources (within CalPERS direct control for implementation as well as embedded leverage).
9. For ARS and other strategies where limited transparency is available, net exposure is measured as the estimated global equity beta. The current estimated beta of ARS to global equity is .2
10. Policy Calculations - limits for leverage are typically set on leverage source(s) within an asset class/program where deployment is controlled or influenced by internal staff. The below table summarizes the specific policy limits shown in the table above and which leverage source they are specified against.

Asset Class / Program	Leverage Type	Policy Limit
Public Equity	Notional Leverage	10%
Income	Notional Leverage	10%
Real Estate	Non-Recourse + Recourse	50%
Infrastructure	Non-Recourse + Recourse	65%
Forestland	Non-Recourse + Recourse	50%
Securities Lending	Notional Leverage	70%

Source: February 2015 Investment Committee Item 7a, Attachment 3 CIO Total Fund Performance & Risk Report. Data are as of November 30, 2014.