



Agenda Item 8a

December 16, 2013

ITEM NAME: Comparison of CalPERS Liquidity Options

PROGRAM: Asset Allocation and Risk Management

ITEM TYPE: Asset Allocation, Performance & Risk – Information

EXECUTIVE SUMMARY

This agenda item is part of the 2013 Asset Liability Management (ALM) process that is currently ongoing and involves the analysis of alternative liquidity sources. The material has been prepared in response to a request from an Investment Committee (IC) member during the ALM Workshop held on November 12-13, 2013. Two distinct paths have been considered in organizing this analysis:

1. Sale of non-cash asset exposure
2. Borrowing (creating leverage)

Asset Sale – Table 1 reflects the cost, capacity, and timing associated with the market segments viewed as being potentially appropriate for raising short term liquidity.

Borrowing – Table 2 reflects the three mechanisms which facilitate borrowing and have been incorporated into this analysis. Borrowing is not viewed as a long term solution to meeting the cash needs of the organization as it creates an offsetting liability.

Meeting the “normal” liquidity requirements of CalPERS is an activity that occurs continuously within the Financial and Investment Offices. From the perspective of the Investment Office, liquidity management happens within and across all the individual strategies. The concern being addressed with the strategic Liquidity allocation contained in the ALM is the ability to meet an unanticipated demand for cash. These demands could arrive in the form of a capital call from undrawn committed capital, a “mark to market,” or from an attractive investment opportunity that presents itself.

CalPERS investment portfolio currently has significant allocations to asset segments that have maintained liquidity in a wide variety of market environments, including 2008-2009. The combination of the asset portfolio structure and internal staff trading capabilities provides a degree of liquidity believed sufficient to manage any reasonably foreseeable demands. Staff believes that the cost associated with maintaining a credit line is not economically efficient or required at this time for investment related activity. Additional research would also be required to determine whether all borrowing options are permissible.

STRATEGIC PLAN

This agenda item supports the CalPERS Strategic Plan goal of improving long-term pension and health benefit sustainability.

BACKGROUND

Since May 2009, CalPERS has maintained an IC approved allocation to Liquidity. This allocation was recommended following the market turmoil in 2008-2009 to ensure sufficient liquidity to take advantage of opportunities, meet liabilities, and maintain an exposure to U.S. Government bonds that provided diversification during the market dislocation. The current strategic allocation to Liquidity is 4%.

During the November 2013 ALM Workshop, staff recommended the strategic allocation to Liquidity be reduced to 2%. This recommendation was based on an improved management framework, reduced sources of liquidity stress (securities lending and committed capital) and the opportunity cost associated with maintaining too high of an allocation to Liquidity due to its low return expectations (+1.95%).

ANALYSIS

Liquidity management ensures that CalPERS is able to pay liabilities when they come due. These liabilities may originate in member benefits, administrative expenses, service provider expenses, capital calls, and margin calls. Another role involving liquidity is to allow CalPERS to act opportunistically as a provider of capital during market disruptions.

CalPERS liabilities are typically settled in U.S. dollars. The sources of cash used to pay liabilities include: member and employer contributions, income on investment assets, proceeds from the sale of investment assets, borrowing, and recovery from litigation. To the extent that a cash shortfall is anticipated or arises, action must be taken to secure a sufficient amount of additional cash to allow a timely settlement of any liabilities. The most material actions available to staff to secure additional cash involve the sale of assets or borrowing.

Asset Sale – The segments of the CalPERS investment portfolio containing the assets that are most appropriate for the rapid conversion into cash are Global Equity and Global Fixed Income. These public market asset segments constitute the largest target allocation proportions, and thus have the basic capacity to be the source of significant amounts of cash. Table 1 reflects relevant characteristics of these segments:

Table 1 – Asset Sale

Segment	Asset Category	Approximate Exposure	\$1 B Sale	Cost (BPS)	3 Day Sale	Cost (BPS)
Fixed Income	Treasury	\$ 9 B	1 Day	3	\$ 9 B	3
	Agency Mortgages	\$ 9 B	1 Day	5	\$ 3 B	10
	Corporate	\$ 9 B	1 Month	50	\$ 150 M	50

Segment	Asset Category	Approximate Exposure	\$1 B Sale	Cost (BPS)	3 Day Sale	Cost (BPS)
Equity	Domestic	\$ 65 B	½ Day	10	\$ 10 B	25
	Developed	\$ 52 B	1 Day	16	\$ 10 B	43
	Emerging	\$ 7 B	1 Day	52	\$ 2 B	67

As reflected in Table 1, significant amounts of assets are amenable to being sold rapidly to raise cash. The “approximate exposure” column is limited to assets that are internally managed, thus avoiding any disruption to externally managed exposures. The capacity and cost figures represent “normal” market conditions and include the anticipated impact on market pricing from the presence of orders of this size. For example, the anticipated total cost (commissions, price impact and any tax or fees) of selling \$ 1 B in domestic equity is 10 basis points (\$1,000,000). The expected cost increases should it be desired to raise significantly more as illustrated by the three day sale capacity, where the expense level moves to 25 basis points. Should the market environment become disrupted such as in the 2008-2009 crisis period, it should be expected that the execution cost may increase due to greater adverse market reaction to the presence of significant orders.

Table 1 also demonstrates that several categories of assets should not be viewed as “ideal” from the perspective of selling to raise cash. Staff believes that emerging market equity and corporate fixed income are of limited utility for liquidity purposes.

Borrowing - Liquidity needs may also be satisfied by accessing borrowing facilities. With CalPERS existing leverage related policy constraints and governance processes, staff believe that borrowing primarily constitutes a short-term solution with the benefit of providing time to the decision making process. By having time, it is possible to either make better relative valuation assessments, or to allow for the receipt of cash coming from other activities.

Three borrowing mechanisms have been examined with summary data being shown in Table 2. The three mechanisms are:

1. Line of credit from a commercial finance entity
2. Securities lending
3. Synthetic equity where derivatives substitute for a common stock exposure

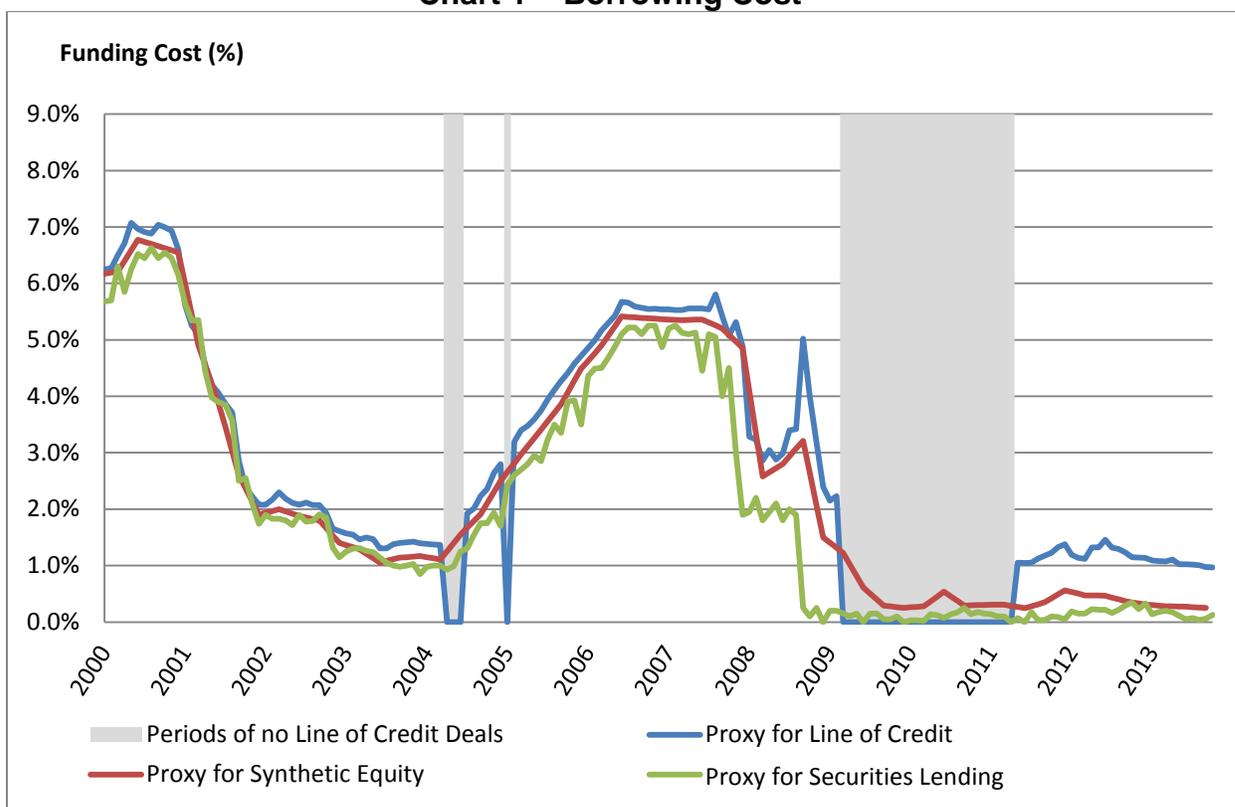
The borrowing mechanisms currently in place are securities lending and replacing common stock positions with derivatives. The establishment of a line of credit would take several months to negotiate and complete documentation.

Table 2 – Borrowing Mechanisms

Borrowing Mechanism	Source	Capacity	Term	Cost
Line of Credit	Bank or Finance Company	\$ 5 B	3-5 Year	LIBOR + 60 to 80 BP
Securities Lending	Security Borrower	\$ 25 B	Negotiated (Short Term)	Fed Funds
Synthetic Equity	Market Leverage in Instruments	\$ 10 B	Quarterly	LIBOR + 8 BP Execution

The current interest rate environment has a structure where 3-month LIBOR is about 25 basis points, 1-year LIBOR is about 60 basis points and Fed Funds is about 10 basis points. The approximate historic cost structure associated with the various borrowing mechanisms is reflected in Chart 1.

Chart 1 – Borrowing Cost



1. Proxy for Line of Credit: 3m LIBOR + AA Credit Spread on multi-year fully drawn LC, source: Thomson Reuters
2. Proxy for Synthetic Equity: SPX Futures Rate, source: BofA/Merrill Lynch Lending Desk
3. Proxy for Securities Lending: Treasury Repo Funding Cost, source: Bloomberg

Each of the borrowing mechanisms has some specific nuances which impact their relative attractiveness. These are explored in more detail in the following sections:

1. Line of Credit – This facility constitutes a binding commitment by a commercial bank or finance company to provide credit upon the demand of the borrower. The terms of the commitment are negotiated as to the size, term, notification period, and costs. Staff obtained indicative quotes for a \$5 billion line of credit from several major financial entities to understand the approximate cost structure. Among the costs are:
 - a. Upfront Fee – These are one time charges paid to the finance entity for establishing the line of credit; they range between 3 and 10 basis points (\$1.5 to \$5.0 M), and may include miscellaneous fees for documentation.
 - b. Unused Fee – These are ongoing fees paid annually to the finance entity for continuing the commitment; they range between 2 and 10 basis points (\$1.0 to \$5.0 M).
 - c. Drawn Spread – Upon the borrower (i.e. CalPERS) calling some, or all, of the commitment amount, the drawn spread is the annual interest charge applied to the loan value. The spread varies by the notice period the borrower provides to the lender. For a 3 day notice period, the fee range was LIBOR plus 60 to 80 basis points (\$30.0 to \$40.0 M excluding LIBOR).

Once established, a line of credit is among the simplest borrowing mechanisms to utilize, requiring only notification to the lender to receive cash. The offset to the simplicity of utilization is the ongoing fees that are charged even when the line of credit is not being drawn upon. A risk associated with this mechanism is the potential for the lender to fail, thus causing a possible early termination of a loan or an inability to meet the original loan commitment. In addition, further research would be necessary to confirm CalPERS ability to enter into such a line of credit.

2. Securities Lending – A securities lending transaction constitutes a delivery of some type of security (bond or stock) to a borrower who then posts cash with the lender to secure the value of the transaction. In these types of transactions, the lender (i.e. CalPERS) loans securities and receives cash while paying the borrower a return on the cash of approximately the Fed Funds rate (currently about 10 basis points). Typically, the security loan is collateralized at 102% of the market value of the security lent. The lender (i.e., CalPERS) is able to use the cash for either reinvestment, or most any other purpose. Using securities lending as a source of borrowed cash brings some risks such as:

- a. Term – A securities lending transaction may generally be terminated by either party with a short notification period (one day). This potential for termination results in a need to repay the borrower's cash in exchange for receipt of the security lent, thus subjecting the lender (i.e., CalPERS) to replacement risk should the cash have been used for some other purpose.
 - b. Market Price Volatility – The cash posted by a borrower in a securities lending transaction is adjusted on a daily basis to maintain the 102% collateralization level. Should the market price of a borrowed security decline, the lender (i.e., CalPERS) must return some of the cash. Conversely, if the price of a borrowed security increases, more cash must be posted to the lender by the borrower. The practical result of this market volatility is for the lender to reserve some of the cash posted to allow for any downward price adjustment.
3. Synthetic Equity – Borrowing by using synthetic equity is simply a transaction that takes advantage of the inherent leverage contained in derivative instruments. For example, owning a standard equity index future contract on the S&P 500 index represents approximately \$450,000 of stock market exposure (notional value). The initial margin which must be posted on this position is about 5% of the notional value, or \$25,000. An investor that normally maintains an ownership position in common stocks is able to replace that position with futures and cash.

Investors typically facilitate a borrowing transaction using synthetic equity by engaging in an "exchange futures for physical" (EFP) transaction where the investor either swaps their stock position for futures and cash, or swaps their futures and cash position for a stock portfolio. The approximate cost of an EFP transaction is about 8 basis points.

Using synthetic equity as a source of borrowing also entails risks that are categorically similar to those in a securities lending transaction.

- a. Term – A synthetic equity transaction carries term risk through the time to expiration of the futures contract. Generally, equity futures are rolled on a quarterly basis. The activity of rolling contracts thus exposes the investor to pricing risk each time the position is rolled and conceivably, the potential that a roll can't be accomplished.
- b. Market Price Volatility – Investors owning or shorting exchange traded futures contracts are subject to daily "mark to market" cash flows. The magnitude of the potential cash flow is derived from the change in the value of the stock index underlying the futures position. For an investor that owns an equity index futures contract, should the level of the underlying index decline, the investor will be required to send cash to

the clearing entity. Should the index level increase, the investor receives cash from the clearing entity. From a practical standpoint, an investor borrowing through the mechanism of synthetic equity should reserve a significant proportion of the cash received to insure their ability to satisfy daily “mark to market” liabilities. CalPERS staff currently reserves about 20% of the notional value of a futures position to ensure the ability to meet “mark to market” liabilities.

Borrowing through securities lending or synthetic equity is significantly less expensive than utilizing a line of credit. However, the cost saving is partly offset by the increased complexity associated with using these liquidity sources. CalPERS is able to utilize securities lending and synthetic equity as potential liquidity sources due to having the internal capability to control securities lending, as well as managing and trading public equity exposure.

With the current structure of CalPERS public market exposure and the organization’s internal capabilities, staff believes that unanticipated liquidity needs are able to be satisfied through the existing sale and borrowing capabilities without incurring the expense of a line of credit. There are several instances in which staff would anticipate returning to the IC for additional discussion of liquidity options, such as:

- Upon direction from the IC,
- A change in market conditions,
- Impairment of internal capabilities,
- A determination from CalPERS Financial Office.

Additionally, pending feedback from the IC, staff plans on returning with a recommendation on CalPERS strategic asset allocation targets and ranges, including the Liquidity allocation, as part of the ALM process in early 2014.

BUDGET AND FISCAL IMPACTS

Not Applicable

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