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CALIFORNIA
DEBT AND
INVESTMENT
ADVISORY
COMMISSION

THE PUBLIC INVESTMENT PORTFOLIO: UTILIZING REPURCHASE AGREEMENTS, REVERSE REPOS, AND SECURITIES LENDING AGREEMENTS

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AUGUST 5, 2015

10:00 AM – 11:15 AM

Disclaimer

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THAD GARRISON, DIRECTOR, SENIOR BANKER, CORPORATE
AND INVESTMENT BANK, CITIGROUP

RICK PHILLIPS, PRESIDENT AND CHIEF INVESTMENT OFFICER,
FTN FINANCIAL MAIN STREET ADVISORS

AUGUST 5, 2015

10:00 AM – 11:15 AM

Repurchase Agreements (Repo)

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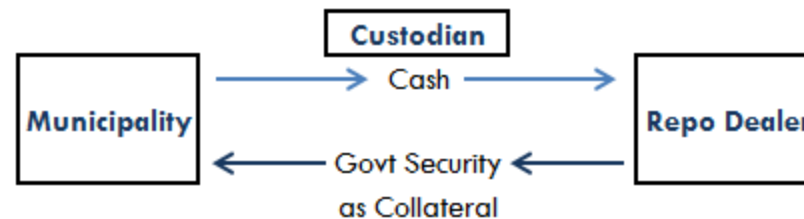
□ Definition:

A repo is the sale of a security with a simultaneous commitment by the seller to repurchase the security from the buyer at a future date at a predetermined price. This transaction allows one party (the seller) to obtain financing from another party (the buyer). The security is held as collateral, protecting the buyer against the risk that the seller is unable to repurchase the security as designated. In this way, a repo transaction may be thought of as a collateralized loan to the seller of the repo.

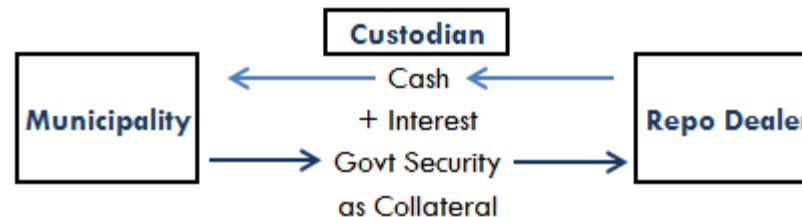
Repurchase Agreement Transaction Details

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Purchase



Maturity



Repurchase Agreements

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□ History:

In the US, repos have been used from as early as 1917 when wartime taxes made older forms of lending less attractive. At first repos were used just by the Federal Reserve to lend to other banks, but the practice soon spread to other market participants. The use of repos expanded in the 1920s, fell away through the Great depression and WWII, then expanded once again in the 1950s, enjoying rapid growth in the 1970s and 1980s in part due to computer technology.

Source: "The Evolution of Repo Contracting Conventions in the 1980s" -- Kenneth D. Garbade, The New York Federal Reserve

California State Code – Repurchase Agreements

□ California Government Code

▣ Section 53601, (j),

(2) Investments in repurchase agreements may be made, on an investment authorized in this section, when the term of the agreement does not exceed one year. The market value of securities that underlie a repurchase agreement shall be valued at 102 percent or greater of the funds borrowed against those securities and the value shall be adjusted no less than quarterly. Since the market value of the underlying securities is subject to daily market fluctuations, the investments in repurchase agreements shall be in compliance if the value of the underlying securities is brought back up to 102 percent no later than the next business day.

Repurchase Agreement Details

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Repurchase Agreement Ticket

Repurchase Agreement Information	
Account Name	Cash Management
Account Number	45XXXXX32
Repurchase Agreement Par	10,000,000.00
Price	100
Trade Date	7/23/2015
Settlement Date	7/23/2015
Maturity Date	7/24/2015
Repurchase Agreement Interest Rate	0.150%
Repurchase Agreement Interest	\$41.67

Delivery Instructions	
Broker/Dealer	Daiwa
ABA	21000018
Account	114XXXX70
Attention	BK of NYC/DAIWA

Collateral Information	
Description	T 4 1/4 08/15/15
CUSIP	912828EE6
Par/Shares	\$10,000,000.00
Price	100.22157500
Principal	\$10,022,157.50
Accrued Interest	\$184,497.24
Total Value	\$10,206,654.74

Collateral Sufficiency	
Collateral Total Value	\$10,206,654.74
Repo Par	\$10,000,000.00
Collateralization %	102.1%



Interest Computation: $\$10,000,000 \times .15\% \times 1(\text{day})/360 = \41.67

Comparative Money Market Instrument Yields as of 7/28/15

- ☐ Overnight Repo Avg. 4 Primary Dealers: .14% (range: .11% to .16%)
- ☐ Overnight Commercial Paper A-1/P-1: .11% (range: .01% to .15%)
- ☐ Overnight'ish T-Bill (7/30 maturity): .03%
- ☐ Overnight Agency Discount Note: .02% (FHLB only posting)
- ☐ LAIF (as of 7/22): .32%

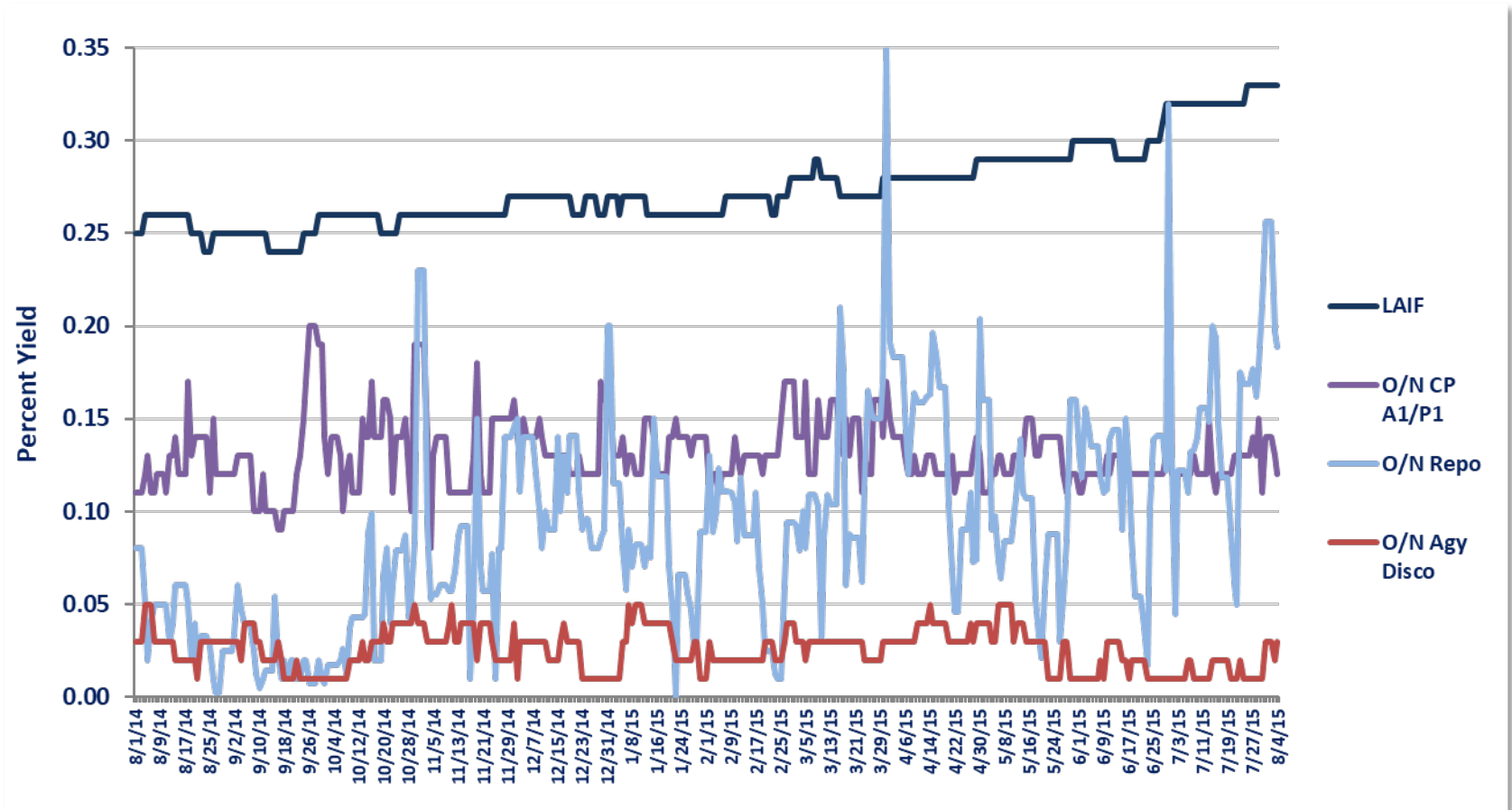
- ☐ One Week Repo Avg. 4 Primary Dealers: .15% (range: .11% to .17%)
- ☐ One Week Commercial Paper A-1/P-1: .12% (range: .02% to .18%)
- ☐ One Week'ish T-Bill (8/6 maturity): .035%
- ☐ One Week Agency Discount Note: .05% (FHLB only posting)
- ☐ LAIF (as of 7/22): .32%

Rates for Repo: Treasury only collateral, 5 years and under collateral maturities

Sources: Bloomberg and California State Treasurer's Office

Short-Term Investment Rates

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Repo: Treasury only collateral, 5 years and under collateral maturities

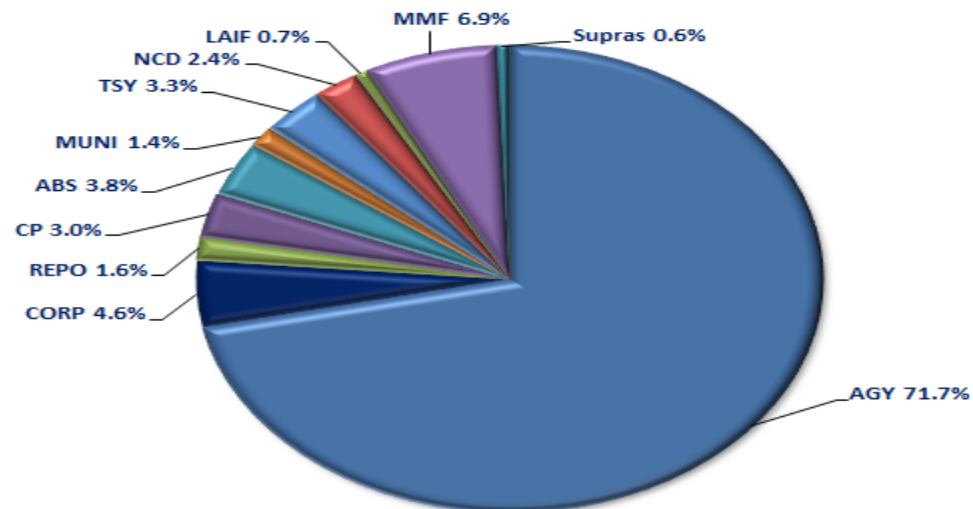
Sources: Bloomberg and California State Treasurer's Office

Large California Municipality

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Investment Type	Par Value*	Book Value* #	Market Value*
Federal Agencies	\$ 4,341.84	\$ 4,348.13	\$ 4,351.49
Corporate Bonds	277.49	277.42	278.28
Repurchase Agreements	100.00	100.00	100.00
Commercial Paper	185.00	185.00	185.00
Asset-Backed Securities	229.31	229.39	229.39
Municipal Securities	83.54	84.79	85.55
U.S. Treasuries	200.00	200.62	200.77
Negotiable CDs	145.00	145.00	145.03
LAIF	40.00	40.00	40.00
Money Market Funds	417.38	417.38	417.38
Supranationals	37.50	37.49	37.54
Total	\$ 6,057.05	\$ 6,065.21	\$ 6,070.42

*Values in \$Millions #Represents amortized book value



Asset Allocation by Market Value

Note: Figures may not total due to rounding.

Investment Policy Considerations

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- ☐ Code: Maturity not to exceed one year
- ☐ Code: Collateralized at 102% or greater
- ☐ Code: Collateralized by Code and Investment Policy allowable securities

- ☐ Consideration: Dealer/Issuer limit
- ☐ Consideration: Dealer/Issuer ratings
- ☐ Consideration: Sector limit
- ☐ Consideration: Delivery Versus Payment or Tri-Party
- ☐ Consideration: Allowable collateral

SIFMA Master Repurchase Agreement

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Securities Industry and Financial Markets Association
New York • Washington
www.sifma.org



International Capital Market Association
Talacker 29, 8001 Zurich, Switzerland
www.icmagroup.org

2011 version Global Master Repurchase Agreement

Dated as of _____

Between:

("Party A")

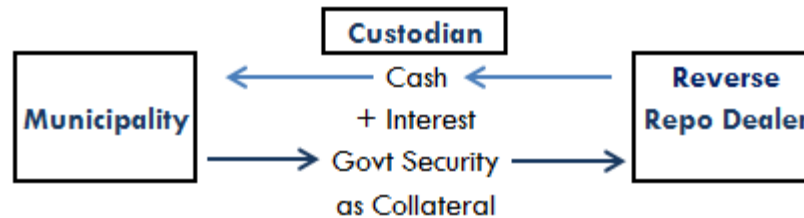
and

("Party B")

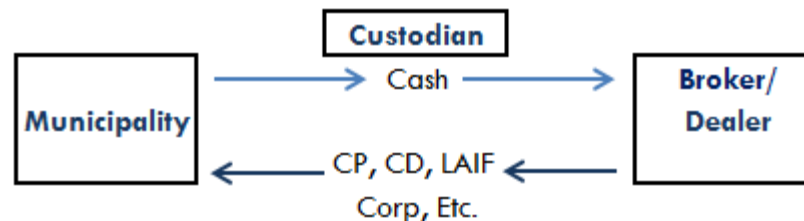
Reverse Repo/Securities Lending Transaction Details

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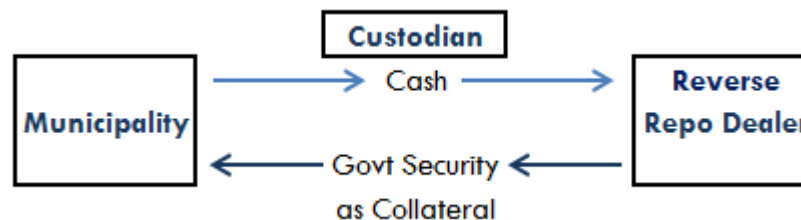
Loan of Securities



Purchase of Investment With Cash From Reverse Repo Dealer



Return of Loaned Securities



California State Code – Securities Lending and Reverse Repurchase Agreements

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□ California Government Code

▣ Section 53601, (j),

(3) Reverse repurchase agreements or securities lending agreements may be utilized only when all of the following conditions are met:

(A) The security to be sold using a reverse repurchase agreement or securities lending agreement has been owned and fully paid for by the local agency for a minimum of **30 days** prior to sale.

(B) The total of all reverse repurchase agreements and securities lending agreements on investments owned by the local agency does not exceed **20 percent** of the base value of the portfolio.

(C) The agreement does not exceed a term of **92 days**...

What is Securities Lending?

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□ Basics of Securities Lending

- **Securities Lending Defined:** Owner of a security agrees to lend the security to a borrower according to negotiated terms and the owner is secured with collateral.
 - ▣ Securities lending is the market practice where securities are temporarily borrowed by one party (the borrower) from another party (the lender)
 - ▣ Borrowers tend to be large institutional investors who need to cover a short positions of equity or fixed income securities
 - ▣ Securities are borrowed for a certain period of time and the borrower gives collateral in exchange for the securities.
- **Benefits of Securities Lending:** Relatively (key word is relatively!) low-risk form of incremental revenue or returns on a portfolio.
- **Demand Drivers:** Borrowers are required to make delivery of securities to avoid fails, cover short positions as part of trading strategy.

Securities Lending Participants

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■ Lenders

- ▣ Public Pension Funds
- ▣ ERISA Plans
- ▣ State & Local Govt's
- ▣ Endowment/Foundations
- ▣ Central Banks
- ▣ Mutual Fund Companies
- ▣ Investment Managers
- ▣ Insurance Companies
- ▣ Taxable Accounts

■ Borrowers

- ▣ Broker/Dealers
- ▣ Hedge Funds
- ▣ Banks (less common due to Volker Rule)

■ Lending Agents

- ▣ Large Custody Banks
 - State Street, BNY Mellon, Citi, JP Morgan, Northern Trust. All provide Agency and Third-Party lending.
- ▣ Independent Firms (third-party lending agents)
 - E-Sec Lending, SunGard, Equilend

Securities Lending Basics

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□ Basics of Securities Lending

- **Security Ownership:** When a security is loaned, the **title** of the security transfers to the borrower. Lender retains economic beneficial ownership of securities (income dividends, U/R gains/losses). Lenders also lose proxy voting rights of equities. If lender wishes to vote, they must recall the security from loan.
- **Collateral Ownership:** Borrower retains economic beneficial ownership of collateral. In the event of borrower default, lender may be able to take full possession of the collateral. Collateral deficiency is lender's risk.
 - Collateral generally consists of:
 - Cash (primary form of collateral)
 - Government securities (common in the non-US Markets)
 - Letters of credit (extremely rare)
 - Collateral is matched vs. loan value + applicable margin

Securities Lending Basics

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□ Basics of Securities Lending

□ GASB 28 Accounting Treatment:

- **Assets:** Securities lent (the underlying securities) are recorded as assets in the balance sheet. Cash received as collateral on securities lending transactions and investments made with that cash should be reported as assets.
- **Liabilities:** Obligations to return borrower cash collateral resulting from these transactions should be reported in the balance sheet.
- **Expenses:** The costs of securities lending transactions, such as borrower rebates (interest costs) and agent fees, should be reported as expenditures or expenses.

Securities Lending Basics

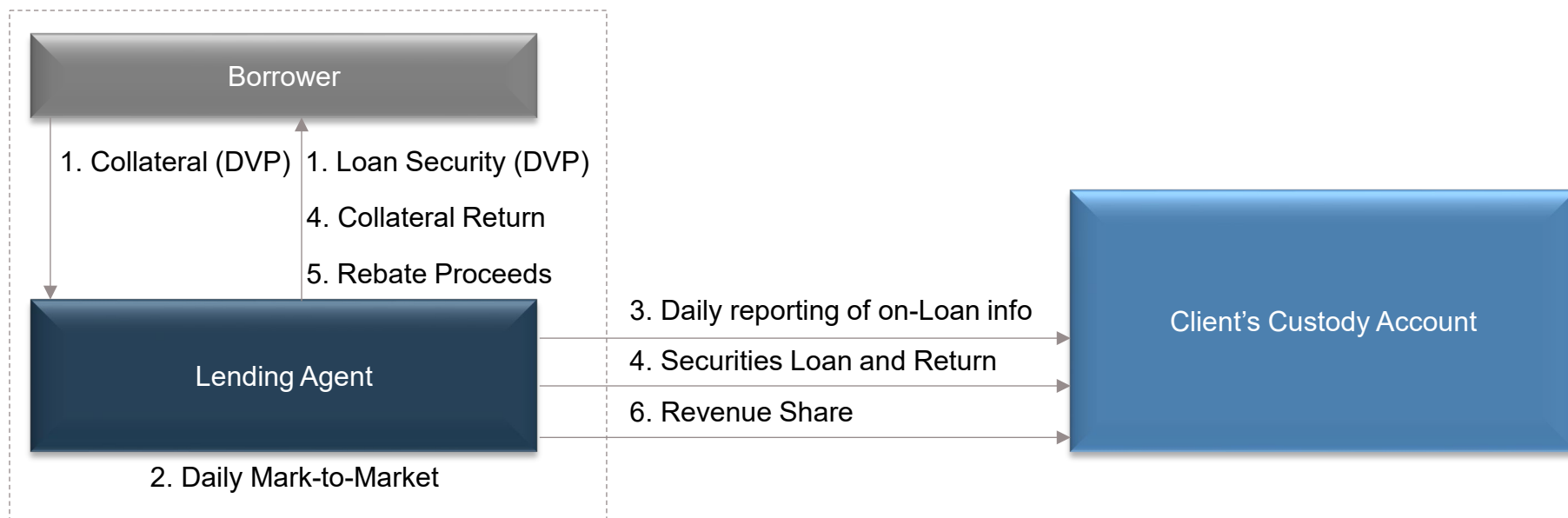
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□ Agency Securities Lending Structure

- Security loans are collateralized at higher levels to compensate for fluctuating market values of the securities loaned.
 - Collateralization levels:
 - 102% for U.S. securities
 - 105% for non-U.S. securities
- Securities on-loan are marked to market on a daily basis versus the collateral. Additional collateral is posted by the borrower if the loan to collateral value falls below pre-established values.
- Cash collateral is invested in higher yielding securities that earn a premium to the income rebated to the borrower.
- For securities on-loan whereby non-cash collateral is used, the borrower pays a fee to borrow the securities.

Securities Lending Process Flow

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Securities Lending Steps (Assuming all contractual agreements are in place)

1. Lending Agent negotiates broker/dealer request to borrow client's securities. Securities are delivered vs. cash ("DVP"). Cash collateral (plus excess margin) is invested as per client-approved guidelines.
2. Loaned securities are marked to market daily vs. cash collateral by the Lending Agent.
3. Lending Agent provides daily reporting to lender. Lender ultimately is responsible for compliance.
4. Upon loan termination securities are returned to lender plus any coupon/dividend income
5. Collateral cash is returned to the borrower plus a portion of interest earned on collateral investments (rebate)
6. Lending client and Lending agent split the remaining investment proceeds (revenue share/fee split)

Risks in Securities Lending

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□ Borrower Risk

- The risk that the borrower will not return the securities due to insolvency or for any other reason (e.g. loan recall for proxy voting or sale of security).
 - Lending Agents may indemnify against borrower default.

□ Collateral Reinvestment Risk

- The risk that the investment of the cash collateral will not earn a sufficient return to cover the agreed upon rebate rate due to; Interest Rate Risk, Liquidity Risk and Credit Risk.
- The investor can stipulate the types of acceptable collateral and the instruments in which the collateral can be invested.
- Lender monitoring of appropriate collateral is critical. Lender bears investment risk!

□ Operational Negligence

- The risk that an agent fails to mark to market collateralization levels, posting of corporate actions and income, including all economic benefits of ownership except for proxy voting.
 - Most lending agents indemnify lenders of gross operational negligence

□ Trade Settlement Risk

- The risk that an investor sells a security that is out on loan and that the loaned security is not returned by the borrower and that a trade fails or the seller is charged with an overdraft fee.
 - Lender may take possession of collateral upon borrower default of loaned securities

Securities Lending and Basel III

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Basel III seeks to address is the ability of institutions to withstand financial shocks. To mitigate these risks, higher levels of capital will be required. These increased requirements will impact Securities Lending, as well as the financial services industry in general.

□ Impact to Securities Lending Agents:

- Securities Lending is an off-balance sheet activity, any indemnification provided by Agent Lenders requires that capital be held against lending activity.

□ Impact to Borrowers:

- Basel III will also impact demand. Due to unavoidably higher capital costs across the industry, broker/dealers (borrowers) will become more selective about what trades they can afford to enter into from a return on capital perspective.

□ Impact to Lenders:

- Agent Lenders will need to determine whether or not existing revenue/fee splits cover the true cost of the capital needed to support contractual indemnifications offered to lenders.

Securities Lending vs. Repo

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□ Securities Lending

- Securities on-loan do not constitute a sale of securities.
- Securities are typically lent via lending agent.
- Domestic and Int'l Securities are all lendable. Most MMI's are not.
- Agent negotiates multiple loans on behalf of the lender
- Lender shares in revenue
- Loans may be part of a basket of lent securities
- Agent may indemnify against borrower default

□ Repurchase Agreements

- Repurchase Agreements constitute a sale of securities
- Repos are direct transactions between buyer and seller (no Agent).
- Repos are primarily UST/AGCY securities vs. cash.
- Buyers and seller negotiate single trade.
- Buyer receives 100% of the revenue.
- No Repo Baskets
- No indemnification for Repo

Large California Municipality

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Description	Par Value	Market Value	Percent of Total	Average Days	Weighted Years
Bank Deposits*	\$90,281,009	\$90,281,009	1.07%	1	0.0
BNYM Sweep Account	\$0	\$0	0.00%	0	0.0
L.A.I.F. (State of California)	\$0	\$0	0.00%	0	0.0
Subtotal: Cash & Overnight Inv.	\$90,281,009	\$90,281,009	1.07%	1	0.0
CDARS	\$11,000,000	\$11,000,000	0.13%	150	0.4
Commercial Paper	\$1,154,777,000	\$1,154,710,775	13.67%	15	0.0
Negotiable Cert. of Deposit	\$0	\$0	0.00%	0	0.0
Corporate Notes	\$240,000,000	\$242,001,850	2.87%	187	0.5
U.S. Agencies/Munis/Supras	\$87,000,000	\$87,945,310	1.04%	193	0.5
U.S. Treasuries	\$0	\$0	0.00%	0	0.0
Subtotal: Pooled Investments	\$1,492,777,000	\$1,495,657,935	17.71%	54	0.1
Total Short-Term Core Portfolio:	\$1,583,058,009	\$1,585,938,944	18.78%	51	0.1
Money Market Funds	\$0	\$0	0.00%	0	0.0
Commercial Paper	\$0	\$0	0.00%	0	0.0
Negotiable Cert. of Deposit	\$0	\$0	0.00%	0	0.0
Corporate Notes	\$1,399,709,000	\$1,402,810,277	16.61%	1,114	3.1
U.S. Agencies/Munis/Supras	\$801,330,000	\$807,273,904	9.56%	953	2.6
U.S. Treasuries	\$4,592,000,000	\$4,649,970,060	55.06%	980	2.7
Total Long-Term Reserve Portfolio	\$6,793,039,000	\$6,860,054,240	81.22%	1,004	2.8

Securities Lending Revenue Example

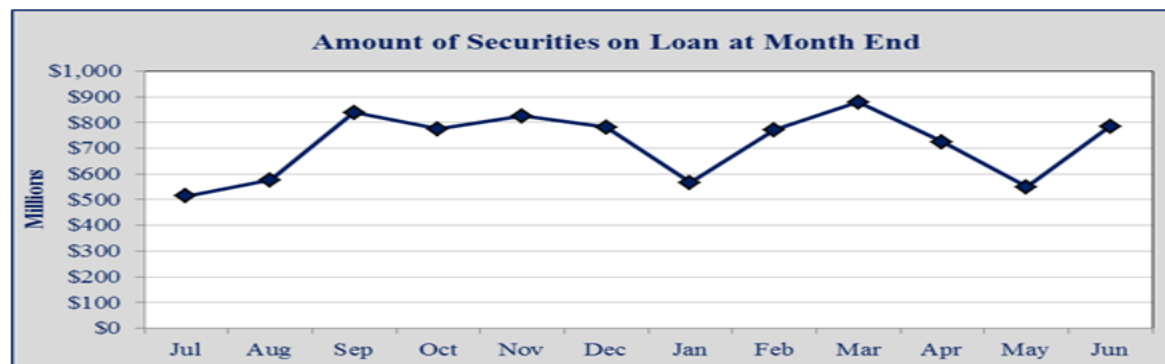
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SECURITIES LENDING INFORMATION June 30, 2015



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Monthly*	\$21	\$27	\$34	\$37	\$31	\$34	\$45	\$28	\$36	\$35	\$31	\$30
FYTD*	\$21	\$49	\$82	\$119	\$150	\$184	\$229	\$257	\$293	\$328	\$359	\$389

*Amounts in Thousands



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Monthly*	\$515	\$577	\$840	\$775	\$825	\$781	\$567	\$772	\$880	\$724	\$549	\$785

*Amounts in Millions

QUESTIONS

Public Investment Webinar Series: The Public Investment Portfolio

Webinar 4: Money Markets Part 2: CDs, Deposit Placement Services and Collateralized Bank Deposits	Postponed to September 9
Webinar 5: Corporates	August 19
Webinar 6: Asset-Backed Securities, Mortgage-Backed Securities and Collateralized Mortgage Obligations	September 2
Webinar 7: Mutual Funds, Money Market Mutual Funds and Local Government Pooled Investments	September 16

For more information or to register, go to
<http://www.treasurer.ca.gov/cdiac/webinars/2015/portfolio/description.asp>

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