

# Final Report on Risk Analysis of the Treasurer's Investment Pools

Orange County Board of Supervisors January 29, 2008



PFM Asset Management LLC 50 California Street, Suite 2300 San Francisco, CA 94111 415-982-5544 www.pfm.com Presented by Marty Margolis, Managing Director John Molloy, CFA, Senior Managing Consultant PFM Asset Management LLC

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#### I. Executive Summary



## Purpose, Scope and Approach

- · Assist Orange County in the review and evaluation of the County Treasurer's three investment pools.
- Add to the County's current understanding of the market, its portfolios' holdings, current investment operations and structure, and offer recommendations for effectively meeting the County's and its investors' objectives.
- For each of the County's pools our approach to this project includes both a portfolio review and a policy and procedures evaluation.
- The review encompassed all investments in the three pools, including Structured Investment Vehicles (SIVs). Our process included a review of documents, interviews with key parties, and analysis of the County's portfolios using standard industry products and our own proprietary tools.

## Policies and Procedures Review

- PFM reviewed the Investment Policy Statement, Organization, Investment Processes, Staffing Requirements,
  Oversight, Reporting, and Accounting through interviews and the review of documents and other information provided
  by the County.
- Based on our review of documentation, analysis of reports and discussions with County employees, we found a high
  degree of transparency with regard to the County's investments. Further, we were impressed with the diligence with
  which the Treasurer and his staff approach the investment function. In our opinion, the County's investments are being
  managed in a thoughtful, prudent manner.
- As in any organization, however, there are opportunities for improvement. We have made specific observations (followed by recommendations) related to:
  - Clarify certain aspects of the Investment Policy Statement,
  - Formalizing the credit review process,
  - Adding to staff in the investment management area,
  - Improving communication in the oversight of the portfolios,
  - Clarifying the roles and responsibilities of the oversight committees

#### I. Executive Summary



## **Investment Program** and Portfolio Review

- PFM reviewed the County portfolios with respect to Risk Factors by Sector, Credit Quality, Stressed Securities, Historic Sector Allocation, Liquidity, Investment Policy Compliance, and Performance.
- On the whole, the County's three pools are sound. The vast majority of money market pool assets are of very high quality and pose minimal risk to principal. In addition, the majority of the Extended Fund assets also possess high quality ratings and an acceptable risk profile for a slightly longer-term fund.
- As the County is aware, there have been certain stresses in the financial markets related to asset-backed commercial paper (ABCP) and structured investment vehicles (SIVs). The County's holdings in these areas have held up well to the market pressures.
- As with the Policies and Procedures review, we have made specific observations (followed by recommendations where needed) with respect to:
  - Each type of security held in the pools (credit quality, liquidity, etc.)
  - Strategic use of certain security types
  - Stressed securities asset-backed commercial paper and SIVs
  - Changing sector allocations over time
  - The allocation of assets to the money market funds versus the Extended Fund
  - Investment policy compliance
  - Relative performance versus benchmarks and risk-return trade-off

#### I. Executive Summary



#### Conclusions and Recommendations

- Each section of this report provides recommendations on the areas examined. The "Conclusions and Recommendations" section summarizes these from the rest of the report for ease of review.
- · Portfolios are generally high quality.
- Liquidity is more than adequate given historic and expected cash flows.
- · Credit exposure is well diversified; sector allocations are generally responsive to market changes.
- Markets moves in the last 6 months have had an adverse effect on the value of some assets, but the overall effect on the portfolios in de minimus.
- No portfolio holdings are impaired or in present danger of becoming impaired.
- Yields over the past 2 years are appropriate for portfolios given the County's investment policies.
- While not an exhaustive list, some of our key conclusions and recommendations are:
  - Revise Investment Policy Statement to increase clarity for internal purposes, oversight and external parties (brokers, etc.).
  - Increase the formality of the credit review process for securities, broker-dealers, and counterparties.
  - Foster greater communication of credit information between Treasury Investment Committee, Treasury Advisory Committee and Treasury
    Oversight Committee.
  - Include Repurchase Agreements in the strategic asset allocation and broaden the list of counterparties.
  - Split the approved issuer list into short-term and long-term names, and develop separate standards for both; remove issuers with little
    volume to save staff time and resources.
  - Add a portfolio manager to the investment team, so one can be devoted to each pool type (money funds and the Extended Fund). This will
    provide an additional resource for market and credit input, and add depth to the team for back up purposes.
  - Adopt a total return approach to the Extended Fund, select an appropriate benchmark, credit interest to other pools on the first business day
    of each month. Treat the Extended Fund separately from money market funds to preserve constant Net Asset Value (NAV) of money funds.
  - With regard to SIV holdings, continue to hold these. Extend issuer limitations to implicate liquidity support bank.

#### **II. Policies and Procedures Review**



#### **Section Outline**

- 1. Investment Policy Statement
- 2. Organization and Oversight
- 3. Investment Processes
- 4. Staffing Requirements
- 5. Reporting
- 6. Accounting



Areas for Examination	Comments
Policy Review	We reviewed the County's Investment Policy ("Policy") dated February 6, 2007. We evaluated the Policy based on the following four factors – Compliance, Comprehensiveness, Balance, and Clarity – that we believe contribute to the overall effectiveness of an investment policy.
Compliance	While a governing board may impose additional requirements based upon its investment objectives and preferences, an investment policy must, at a minimum, comply with the requirements of the California Government Code ("Government Code").
Comprehensiveness	<ul> <li>An investment policy should be comprehensive to ensure that the key aspects of the investment program are addressed. The Association of Public Treasurers of the United States and Canada (APT) certification standards are used to help to evaluate a policy's comprehensiveness. We have included a matrix below comparing the County's Policy topics with the APT recommended sections</li> </ul>
Balance	<ul> <li>An investment policy should provide a balance between investment restrictions, which help protect the agency's assets, and investment flexibility, which permits the investment staff to adapt to changing market conditions and investment needs.</li> </ul>
Clarity	<ul> <li>An investment policy should express the governing board's investment objectives with sufficient clarity, so that both the agency's investment staff and other interested parties (participants or broker/dealers) clearly understand the investment policy's intent.</li> </ul>
Observations	<ul> <li>Overall, the Policy is comprehensive and in compliance with the Government Code sections governing local agency investments. As part of our review, we developed some recommendations for the County's consideration. Our suggestions are meant as options for the County to evaluate and do not represent required additions to the Policy. Our recommendations are divided into two types: Government Code Comments and Additional Comments. The comments are listed below by comment type and Policy section. The County should evaluate the suitability of the recommendations based on the context of the County's investment objectives and preferences.</li> </ul>



	California Government Code Comments
Comparison to California Government Code	<ul> <li>The Policy's overall requirements conform to, or are more restrictive than, the Government Code's requirements; however, there have been several changes to the Government Code's sections governing local agency investments since the adoption of the current Policy that we wanted to bring to the County's attention, which are listed below by Bill number and effective date.</li> </ul>
AB 2011 Non-Negotiable CDs	<ul> <li>AB 2011, which took effect January 1, 2007, added two new sections, 53601.8 and 53635.8, to the Government Code. These sections explicitly allow local agencies, until January 1, 2012, to utilize placement services for Non-Negotiable Certificates of Deposit ("CD") purchases. While California law had not previously prohibited the placement of public funds through a deposit placement service, it had not explicitly allowed the practice.</li> </ul>
	<ul> <li>In brief, a deposit placement service takes a customer's large deposit and divides it into multiple pieces, each less than \$100,000. These pieces are then placed in CDs at other banks within the deposit placement service's network, ensuring FDIC protection on the customer's full deposit. The other banks simultaneously send an amount of funds equal to the amount they received back to the original bank, so it receives the benefit of the full amount of the original deposit. The process is largely invisible to the customer (although the customer must approve participation in the placement service).</li> </ul>
	<ul> <li>While placement services may increase competition for public fund deposits and possibly the yield local agencies receive, the main beneficiary of the placement services' legislation are the banks. Placement services allow banks to accept and receive the benefit of large local agency deposits, for lending or other purposes, without the burden of collateralizing those deposits. To protect public agency deposits, the Government Code requires that financial institutions collateralize public agency deposits that exceed FDIC insurance levels. The collateralization requirements can be burdensome, especially for smaller community banks that do not regularly have large amounts of public agency funds on deposit.</li> </ul>
	<ul> <li>It is important to understand that a deposit placement service does not change the basic nature of a CD. CDs are normally fixed-term investments. Withdrawals before maturity are usually subject to a substantial penalty. Given the liquidity constraints associated with CDs and the number of other investment options available to the County; we believe it may be desirable, but not necessary, from an investment perspective, for the County to incorporate deposit placement services into its Investment Policy Statement.</li> </ul>
AB 1745 Out of State Municipal Bonds	<ul> <li>AB 1745, which took effect January 1, 2008, added a new section to Government Code Section, 53601(d), that allows local agencies to purchase municipal bonds from any of the other 49 states. Previously, the Government Code had restricted the purchase of municipal bonds to those issued by the State of California and local agencies within California.</li> </ul>
	<ul> <li>As the Policy currently permits the purchase of California municipal bonds, we recommend that the County add non-California municipal bonds to its list of permitted investments to provide the County with additional investment options. The County should apply the same credit quality and holding limits to non-California municipal debt that currently requires for California municipal debt.</li> </ul>



	Additional IPS Comments
Comparison to California Government Code	<ul> <li>In addition to the Government Code comments listed above, we identified some possible revisions that, in our opinion, could improve the overall Policy consistent with the objectives identified above: Comprehensiveness, Balance, and Clarity Our recommendations are described below by Policy section.</li> </ul>
Scope of Policy	<ul> <li>Although the current Policy has a section labeled Scope, the section does not clearly define the scope of the funds to which the Policy does or does not apply, such as the County and Educational Investment Pools and the Extended Fund, etc. We recommend that the County revise the Scope to clearly delineate which funds are covered by the Policy. As par of this revision, we also recommend that the County incorporate into this section the Policy statement that Bond Proceeds are outside the scope of the Policy as currently addressed in the Policy section.</li> </ul>
	<ul> <li>In this section, there are two topics, Prudence and Delegation of Authority, which do not directly relate to the scope of the policy. As a further revision to the section, we recommend that these two topics be moved to separate, individually titled sections to make it easier to understand the Policy's requirements.</li> </ul>
Authorized Investments	<ul> <li>IPS Section IV. Authorized Investments. The County's Policy requirements are more restrictive than what is permitted by the Government Code. On pages 9-11, we have provided a summary matrix that compares the investments permitted by the Government Code to the County's Investment Policy. We are not recommending any changes to the County's list of permitted investments. However, as a minor edit to the Repurchase Agreement requirements under item 5, the "Public Securities Association" merged with the "Securities Industry Association" in 2006 to form the "Securities Industry and Financial Markets Association."</li> </ul>
Credit Minimums	<ul> <li>IPS Section V.1. Credit Minimums. To avoid potential inconsistencies and to clarify the Policy's requirements, we recommend consolidating the minimum credit ratings requirements that are currently listed under section V.10 into this section. This was one of several sections where similar policy requirements were covered in multiple sections, which made it more difficult to follow the Policy's intent. Whenever possible, we recommend consolidating similar requirements into the same section.</li> </ul>
Per Issuer Limits	<ul> <li>IPS Section V.3. Per Issuer Limits. As noted above, to avoid confusion, we recommend consolidating the per issuer requirements currently listed in this section in to the diversification requirements under Section VI.</li> </ul>

### II. 1. Investment Policy Statement (IPS) – Permitted Investment Matrix



Investment Type	Government Code Limitations: Holding, Minimum Credit, Maturity	Additional County Credit Quality Requirements	Additional County Holding Limits	Additional County Maturity Limitations
U.S. Treasury obligations	100%	None	None	See Additional Requirements
Federal Agency obligations	100%	None	None	See Additional Requirements
Commercial Paper	40% (53635) 100% (53601.7) 10%of single issue "A1/P1/F1" Issuer CP: "A" on issuers LT debt ABCP: Credit Enhancement Maximum Maturity: 270 days	See Additional Requirements	45%/50% Money Market Fund	None
Negotiable Certificates of Deposit	30% Related party restrictions	See Additional Requirements	None	See Additional Requirements
Repurchase Agreements	100% 102% Collateral Max Maturity: 1 year	None	50%	None
Securities Lending Agreements	Primary Dealers or Significant Banking Relationship 20% 92 days	None	None	None
Bankers' Acceptances	40% total 30%/issuer 180 days	See Additional Requirements	None	None
Money Market Funds	20% "AAA" by two NSRO OR \$500 million	None	None	None
California Municipal Obligations	100%	None	10%	See Additional Requirements

### II. 1. Investment Policy Statement (IPS) – Permitted Investment Matrix



Investment Type	Government Code Limitations: Holding, Minimum Credit, Maturity	Additional County Credit Quality Requirements	Additional County Holding Limits	Additional County Maturity Limitations
Asset-Backed Securities	20% Maximum Maturity: 5 years Issue min: "AA" Issuer min: "A	None	10%	90 days
Medium-Term Corporate Notes	30% Maximum Maturity: 5 years "A" or better	See Additional Requirements	None	See Additional Requirements
Funding Agreements	100% (See Additional Requirements)	See Additional Requirements	10% MMFs only	See Additional Requirements
Other Investments as allowed by 53601.7 (Only Money Market Fund)	100% (See Additional Requirements)	See Additional Requirements	10%	MMFs only
Non-California Municipal Debt	100%	Not Permitted	Not Permitted	Not Permitted
Reverse Repurchase Agreements	Primary Dealers or Significant Banking Relationship 20% Maximum Maturity: 92 days	Not Permitted	Not Permitted	Not Permitted
Mutual Funds	20% 10% per fund "AAA" by two NSRO OR \$500 million	Not Permitted	Not Permitted	Not Permitted
Obligations backed by a first security interest in acceptable collateral	100%	Not Permitted	Not Permitted	Not Permitted
Local Government Investment Pools	100%; Investment Advisor Required	Not Permitted	Not Permitted	Not Permitted
Deposit Placement Service CDs	30% FDIC Insured	Not Permitted	Not Permitted	Not Permitted
LAIF	\$40 million	Not Permitted	Not Permitted	Not Permitted
Time CDs	100% Collateralized	Not Addressed	Not Addressed	Not Addressed

### II. 1. Investment Policy Statement (IPS) – Permitted Investment Matrix



	Government Code Limitations:	Additional County	Additional County	Additional County
	Holding, Minimum Credit, Maturity	Credit Quality Requirements	Holding Limits	Maturity Limitations
Additional Requirements	5 year maximum maturity without Board approval 53601.7 (only applies to the MMFs): Credit Limits: Short-Term: A1/P1/F1 by a NRSRO. Long-Term: A or better by a NRSRO No limits on sector allocations 5% in any one issuer (except U.S. Treasury/Federal Agency). 25% of an issuer's First Tier securities may be held up to 3 business days. Maturity Limits: 397 Days Max. WAM < 90 days	Short-Term Debt:  A-1/P-1/F-1  By Two NRSRO Issuers LT-Debt A or better  Long-term Debt:  A- or better by Two NRSRO for Money Market Funds  AAA on Extended Fund, if >397 days	Money Market Funds: The Money Market Funds may invest an additional 5% in any sector under certain conditions for a period not to exceed 30 days.	Extended Fund: 3 Years Max. WAM < 18 months  Money Market Funds: (53601.7 requirements) 397 Days Max. WAM < 90 days



Торіс	Observations	Recommendations
Comparison to APT US & C Model Investment Policy	The Association of Public Treasurers of the United States and Canada (APT) certification standards are used to help to evaluate a policy's comprehensiveness.	<ul> <li>We have included a matrix comparing the County's Policy topics with the APT recommended sections.</li> <li>Orange County's Investment Policy compares favorably to</li> </ul>
		the standards established by the APT.
	APT US&C Certification Standards	Orange County
	Policy	Yes
	Scope	No
	Prudence	Yes
	Objective	Yes
	Delegation of Authority	Yes
	Investment Procedures	Yes
	Ethics and Conflicts of Interest	Yes
	Authorized Financial Dealers and Institutions	Yes
	Authorized and Suitable Investments	Yes
	Investment Pools/Mutual Funds	Yes
	Collateralization	Yes
	Safekeeping and Custody	Yes
	Diversification	Yes
	Maximum Maturities	Yes
	Internal Controls	Yes
	Performance Standards	Yes
	Reporting	Yes
	Policy Adoption	Yes
	Glossary	Yes



<b>Best Practices</b>	Observations	Recommendations
Securities Lending	<ul> <li>The IPS permits the Treasurer to engage in securities lending agreements on any securities held by the portfolio. The IPS imposes certain constraints on lending activity including maximum maturity of the lending agreements and third-party custody requirements.</li> <li>The Treasurer is not currently engaged in securities lending on any of the portfolios.</li> </ul>	Securities lending can add incremental return, but it also subjects a portfolio to several types of risk. To properly control the use of securities lending, the County should develop detailed written policies describing how and when securities lending will be used. It is not sufficient to set limits only on the lending of securities. To control risk, it is necessary to also establish limits on the investment of cash collateral. The securities lending policy should include:  - Lending limits  - Requirements for written agreements with lending agents  - Authorized investments for cash collateral  - Diversification limits for cash collateral investments  - Maximum maturity and maximum weighted average maturity for cash collateral investments  - Eligible borrower criteria  - Reporting standards  - Indemnification requirements  • It is difficult to generate enough income on the lending of a money market portfolio to justify the expense of monitoring a securities lending program. Further, rating agency restrictions on the use of securities lending make it cost prohibitive for rated money market type funds. If the County chooses to use securities lending, we recommend that it be limited to the Extended Fund.



Best Practices	Observations	Recommendations
Repurchase Agreements	<ul> <li>The IPS allows the Treasurer to enter into repurchase agreements under the following conditions:         <ul> <li>A signed Public Securities Association (PSA) agreement is in place</li> <li>Collateral must have a market value of at least 102% of the amount of the agreement</li> <li>Eligible collateral is limited to securities that the County can purchase directly. (Diversification standards are set based on the type of collateral.)</li> <li>The term does not exceed one year</li> <li>Collateral must be held by a third-party custodian.</li> </ul> </li> <li>Historically, the County purchased repurchase agreements backed by "general" collateral, which included commercial paper and other credit sensitive securities. On January 7, 2008, the Treasurer's office changed its policy and began limiting repo collateral to U.S. Government obligations.</li> </ul>	<ul> <li>To limit counterparty risk, most governments set minimum credit and capital requirements for repurchase agreement counterparties. PFM recommends that repo counterparties have a minimum short-term rating or counterparty rating of no less than A-1 or the equivalent by an Nationally Recognized Statistical Rating Agency (NRSRO) and have capital of no less than \$500 million.</li> <li>Term repurchase agreements backed by credit sensitive securities can subject the County to substantial credit risk for extended periods. Since the County has no control over the type or quality of collateral delivered, it could end up holding collateral that would not meet its strict credit review process. PFM recommends that the IPS be modified to limit collateral on repurchase agreements to U.S. Treasury and Federal Agency obligations.</li> <li>An alternative is to treat repurchase agreements that are secured by general collateral as corporate obligations for the purpose of credit and diversification limits of the IPS.</li> </ul>
"Other" Investments	The IPS allows up to 10% of the Money Market Funds to be invested in securities that meet the terms of an "eligible security" as defined under SEC Rule 2a-7 of the Investment Company Act of 1940. This includes, but is not limited to, liquidity notes, extended commercial notes and securities with an unconditional demand feature, guarantee, or put.	<ul> <li>Recommend eliminating the "Other" category from the list of permitted investments. While this clause provides a certain amount of flexibility, it also allows the portfolio to be invested in new and possibly complex securities that have not been fully vetted with the TOC.</li> <li>Should the Treasury wish to purchase a security that falls into the "other" category, the TOC should be asked to specifically approve the use of the security type in the portfolio. This will give the TOC the opportunity to carefully consider the potential risks to the portfolio and allow it to set any additional policy constraints that it deems to be prudent.</li> </ul>



Best Practices	Observations	Recommendations
GSE Diversification	<ul> <li>The IPS sets diversification standards by type of security for the Money Market Funds and the Extended Fund. There is no limit on the holdings of any single Government Sponsored Enterprise (GSE).</li> <li>Until recently, the Treasurer had limited holdings of any single GSE to no more than 15% of the portfolio, but this is not in the IPS. There are currently no internal diversification limits on holdings of GSEs.</li> </ul>	<ul> <li>GSEs have come under increased scrutiny in recent years because of "accounting irregularities" and the realization by many market participants that they are subject to credit risk. Most public entities have set diversification limits on GSEs to better manage credit and liquidity risk.</li> <li>Recommend modifying the IPS to limit holdings of any single GSE to no more than 35% of each Fund.</li> </ul>
Commercial Paper Limits	<ul> <li>In the Diversification section, the IPS states that no more than 45% of the Money Market Funds can be invested in commercial paper. The IPS also states that up to 50% of the Money Market Fund can be invested in commercial paper if the weighted average credit quality (WACR) of the portfolio is AA-or higher. Should the WACR fall below AA-, the policy requires that the limit on commercial paper return to 45% through attrition.</li> <li>The California Government Code limits holdings of commercial paper to 40% of the portfolio. The Code further allows up to 10% of the portfolio to be invested in "other" securities that meet the terms of an "eligible security" as defined under SEC Rule 2a-7 of the Investment Company Act of 1940.</li> </ul>	<ul> <li>The California Government Code clearly limits holdings of commercial paper to 40% of the portfolio.</li> <li>While the Code provides for an additional 10% to be invested in "other" securities, which may include commercial paper, it may be questionable to allow up to 50% of the portfolio to be invested in commercial paper.</li> <li>Recommend limiting holdings of commercial paper to 40% of the portfolio, regardless of the weighted average credit quality of the portfolio.</li> </ul>



Best Practices	Observations	Recommendations
Variable-Rate Notes	The IPS allows the Treasurer to invest in variable-rate notes. The policy states that the next interest rate reset date may be used for purposes of meeting the maximum maturity restriction (13 months for the Investment Pools and 3 years for the Extended Fund).  Extended Fund).	<ul> <li>The interest rate on a variable-rate note that is tied to a short-term market index tends to closely track current market rates. This helps to keep the market value from deviating significantly from par. As a result, it is prudent to use the next interest rate reset date for purposes of meeting maximum maturity restrictions and for calculating the portfolio's weighted average maturity.</li> <li>Regardless of the interest reset date, it is considered good practice to limit the final maturity date, including variable-rate notes. This can help to reduce basis risk. For instance, Standard &amp; Poor's limits the final maturity of variable rate notes to 2 years for AAAm rated funds and 3 years for AAm rated funds.</li> <li>Recommend following Rule 2(a)7 for the Investment Pools. Rule 2(a)7 limits the final maturity of Federal Agencies to 2 years and corporate securities to 13 months.</li> <li>Recommend limiting the final maturity on variable-rate notes held to 3 years in the Extended Fund. The next interest rate reset date should be used for the purposes of computing the portfolio duration or weighted average maturity.</li> </ul>
Maximum Maturity	The IPS sets separate maximum maturity limitations for investments in the Money Market Funds and the Extended Fund.	<ul> <li>In addition to setting a maximum final maturity, PFM recommends that a maximum duration be set for the Extended Fund in order to better manage market risk.</li> </ul>
GASB Reporting Standards	The Performance Evaluation section of the IPS states that reports will be prepared in compliance with GASB Statements 3 and 31.	<ul> <li>GASB 3 was amended by GASB 40 in 2003.</li> <li>Recommend that the IPS be updated to state that reports will be prepared in compliance with GASB Statements 31 and 40. It is not necessary to mention GASB 3.</li> </ul>

## II. 2. Organization and Oversight



Topic	Observations	Recommendations
Topic  Treasury Oversight Committee (TOC)	<ul> <li>Observations</li> <li>The Treasury Oversight Committee was created by SB 866, but is no longer required by law. The County has continued to use the TOC to provide general oversight of the Treasurer-Tax Collector.</li> <li>The stated duties of the TOC are to review and monitor the annual investment policy prepared by the Treasurer and to cause an annual compliance audit of the Treasurer's investment function to be conducted. The Committee's Bylaws specifically state that the TOC "shall not direct individual investment decisions, select investment advisors, brokers, dealers or impinge on the day-to-day operations of the Treasurer."</li> <li>As described in minutes of the meetings, the TOC performs at a relatively high level and does not discuss market conditions or specific investment strategies. The Committee appears to focus on broad policy issues.</li> <li>Meeting minutes are sparsely written and do not provide much details about Committee deliberations.</li> <li>It was reported that TOC members do not always have adequate time to consider proposed changes to the IPS.</li> </ul>	<ul> <li>As the County's policy setting body, it would be appropriate for the TOC to participate in more detailed discussions with Treasury staff regarding investments. These discussions should include: <ul> <li>discussion of economic conditions and the potential impact on the County's portfolios,</li> <li>a review of current market conditions and the implications for the County's investment strategy,</li> <li>any major shift in the investment strategy including the use of new investment vehicles or asset classes, and</li> <li>changes to the approved issuers list.</li> </ul> </li> <li>The County may wish to engage an external investment advisor, with experience in the management of money market and short-duration portfolios, to assist the TOC with their deliberations. An outside firm could provide a valuable external perspective to the Committee regarding industry "best practices."</li> <li>Recommend that minutes of the Committee's meetings provide more detail about issues discussed.</li> <li>When there is a split vote on the adoption of changes to the IPS, it would be useful to include more detail about the specific</li> </ul>
	items for which there were dissenting votes. For instance, instead of showing that there was a 3-2 vote to approve changes to the IPS, the minutes could show that there was unanimity regarding all items except one, for which there was a split vote.  • Recommend that proposed changes be circulated to TOC members at least one week prior to scheduled meetings.	

## II. 2. Organization and Oversight



Topic	Observations	Recommendations		
Treasury Advisory Committee (TAC)	<ul> <li>The Treasury Advisory Committee is an external working group comprised of investment experts and public officials. The TAC has historically served as a sounding board for the Treasurer. The TAC is often asked to consider changes to the Investment Policy Statement before those changes are proposed to the Treasury Oversight Committee.</li> <li>The TAC has no authority or power to bind the Treasurer or County. However, TOC members appear to value the opinion of the TAC and consider their perspective when debating County policy.</li> <li>The TAC meets quarterly, generally the week prior to the TOC meeting.</li> <li>Although no minutes are maintained, investment staff reports that the TAC discusses portfolio management issues in detail and carefully evaluates proposed changes to the IPS.</li> </ul>	<ul> <li>The TAC appears to serve an important function by advising directly the Treasurer-Tax Collector and indirectly the TOC.</li> <li>We recommend that the perspective of the TAC be more formally shared with the members of the TOC. This could be accomplished by holding joint meetings or by having a subse of the TAC attend TOC meetings. TAC members would not be eligible to vote on matters of policy.</li> </ul>		
Treasury Investment Committee (TIC)	<ul> <li>The Treasury Investment Committee is an internal working group of TTC staff. Current members include the Treasurer-Tax-Collector, Assistant Treasurer-Tax Collectors, Chief Portfolio Manager, and Financial Analyst. The Committee meets weekly to discuss current market conditions, state of the economy, investment strategy and credit work. The group also reviews all purchases and maturities after the fact.</li> <li>The Portfolio Manager sets the agenda for the meetings. No minutes are kept.</li> </ul>	<ul> <li>The use of an internal group to review and monitor the portfolio is a good practice. It helps to ensure that the perspectives of a broad group are considered in the decision making process and that a number of people are aware of changes in the portfolio strategy.</li> <li>Professional asset managers generally have a credit committee to review and approve any changes to the approved issuers list. This provides a broad perspective on industry and issuer specific issues. Since the TIC seems to function as an informal credit committee, it would be appropriate for the TIC to more formally document its work regarding the approved issuer list. Recommend that the TIC keep a written record of discussions related to credit and changes to the approved issuer list.</li> </ul>		

### II. 3. Investment Processes – Trading



Topic	Observations	Recommendations	
Access	<ul> <li>Emphasizing pre-trade compliance through Bloomberg limits the use of electronic trading.</li> <li>The Treasury does purchase many securities online.         <ul> <li>A trial run done with JP Morgan was unsuccessful.</li> </ul> </li> <li>The Portfolio Manager obtains best price by reviewing broker offerings and negotiating with broker/dealers.</li> </ul>	<ul> <li>Consider whether an online trading platform providing acce to more inventories and documented competitive process for buying and selling would be practical</li> <li>Consider alternatives to pre-trade compliance procedures</li> </ul>	
Security Swaps	The Treasury currently uses a "buy and hold" strategy in which securities are purchased and then held to maturity. There is little, if any, trading activity.	<ul> <li>Selling securities prior to maturity is an important tool for managing a portfolio to sector allocation and duration targets.</li> <li>Adopt procedures to evaluate and document value of security swaps so they can become a part of the County's investment management process.</li> </ul>	
Approved Broker/Dealer List	<ul> <li>Treasury currently maintains an approved list of 36 broker/dealers and direct issuers.</li> <li>No formal review of broker/dealers is conducted.</li> <li>The Procedures manual describes the process for reviewing broker/dealer performance and for eliminating firms when they are no longer performing at the necessary level. In practice, it appears that there is no formal review of performance and firms remain on the approved list once they have been approved.</li> </ul>	<ul> <li>Recommend that the Treasurer require all firms interested in doing business with the County to go through a formal application, review and approval process. This review should include a financial analysis of the firm, background check of personnel assigned to the County's account and verification of necessary registrations.</li> <li>The Treasurer's office should also perform a formal annual credit and performance review of all firms on the approved broker/dealer list. Underperforming firms and firms that no longer meet minimum credit standards should be purged.</li> </ul>	

### II. 3. Investment Processes – Trading



Topic	Observations Recommendations			
Target Sector Allocation	Portfolio manager decides sector allocation with policy limits, market rates, and market perspective	Discuss at TIC meetings and have TIC approve guidelines for sector allocations on an ongoing basis.		
Use of Callable Securities	<ul> <li>The County has regularly held callable Federal Agency securities in the Extended Fund.</li> <li>Analysis of callable structures and spreads versus bullet securities is performed by the Portfolio Manager based on his "intuitive" assessment of the security, market conditions and input from the broker.</li> <li>46% of the Extended Fund was invested in callable securities as of December 31, 2007.</li> </ul>	<ul> <li>Although the intuition of an experienced portfolio manager and broker input can be useful for assessing the value of callable securities, they are generally not sufficient. Rigorous quantitative analysis is also required. We recommend that the Portfolio Manager use the option adjusted spread (OAS) analysis available in Bloomberg to more fully assess callable securities and to help determine the relative value of call options.</li> </ul>		
Overnight Tri- Party Repurchase Agreements	<ul> <li>Repo custodian is Chase</li> <li>Establishes target rates with in-house formula</li> <li>Used as liquidity not strategy</li> <li>Not bidding to more than one counter-party, Greenwich</li> <li>Variety of collateral until 1/7 to be more conservative         <ul> <li>Quality of corporate collateral received recently was declining</li> </ul> </li> </ul>	<ul> <li>Money market funds should use repurchase agreements more strategically as part of sector allocation decision</li> <li>Adopt collateralization policy to include only Treasuries and Agencies</li> <li>Establish additional Tri-party repo relationship(s)</li> <li>Bid out to obtain more competitive rates</li> <li>Bid early in the day, using a range of yields and set the final amount at the conclusion of trading.</li> </ul>		
Mortgage-Backed Securities	Does not purchase because acknowledges that does not have expertise to evaluate	<ul> <li>Mortgage-backed securities can offer good returns with limited risk and add to diversification</li> <li>Add to strategic allocation discussions</li> <li>Develop policies, procedures for evaluation and trading</li> </ul>		
<ul> <li>The County has not participated in securities lending past 3 years.</li> <li>Incremental earnings from lending activities is not bel compensate for the resources which are expended.</li> </ul>		If securities lending is done, do so only in the Extended Fund and set up detailed and stringent guidelines. (Additional commentary on securities lending may be found on page 13 in the Investment Policy section.)		

### II. 3. Investment Processes – Credit Analysis



Topic	Observations	Recommendations
Credit Analysis	<ul> <li>The Financial Analyst in the Treasurer's office is a full time credit analyst. He performs fundamental credit and peer group analysis of all "credit sensitive" securities considered for purchase by the County.</li> <li>When the Financial Analyst concludes that an issuer meets the County's credit criteria, he makes a recommendation to the TIC that the issuer be approved for purchase.</li> <li>The TIC considers the recommendation and decides if the issuer will be added to the County's approved list. Each month, the approved list is distributed as part of the Treasurer's Investment Report.</li> </ul>	<ul> <li>PFM recommends that the Treasury augment the already strong credit process with additional training for the Financial Analyst and other members of the TIC. Training is available from the rating agencies and at various industry conferences.</li> <li>Professional asset managers generally have a credit committee to review and approve any changes to the approved issuers list. This provides a broad perspective on industry and issuer specific issues. Since the TIC seems to function as an informal credit committee, it would be appropriate for the TIC to more formally document their work regarding the approved issuer list. Recommend that the TIC keep a written record of discussions related to credit and changes to the approved issuer list.</li> </ul>
Approved Issuer List	<ul> <li>New names are proposed by Financial Analyst, and infrequently by Portfolio Manager</li> <li>Writes up those he wishes to get approved for TIC meeting</li> <li>Approval vote by TIC, letter then included in monthly report</li> <li>Denotes only internally issuers on "hold"</li> <li>Keeps track of why names may not have been approved to prevent unnecessarily revisiting</li> </ul>	<ul> <li>Be more proactive and anticipatory of unfolding events</li> <li>Bring a more macro view to analysis of forces affecting approved list</li> <li>When the TIC puts an issuer on "hold", note that status on the weekly credit report and in the monthly Treasurer's Management Report.</li> </ul>

### II. 3. Investment Processes – Credit Analysis



Topic	Observations	Recommendations
Review of Corporate Instruments	<ul> <li>Reviews monthly pool reports         <ul> <li>Receives reports with 1-2 month lag depending on b/d coverage</li> <li>Been receiving interim reports since August</li> </ul> </li> <li>Looks at triggers, relationship and face time with managers, strength of administrator</li> <li>Follows approximately 25 programs</li> <li>Reasonably good success obtaining information on underlying assets</li> <li>Uses information provided by rating agencies to confirm internal         <ul> <li>Prefers Fitch and Moody's reports</li> </ul> </li> <li>List is primarily made up of highly-rated diversified issuers</li> <li>The list in its current form makes it difficult to distinguish between suitable names for various funds.</li> </ul>	<ul> <li>Adopt the same methodology in selecting ABCP programs as in selecting SIVs, purchasing only programs administrated and managed by large commercial banks such as Bank of America and Citigroup.</li> <li>Purchase only ABCP programs with liquidity providers that are approved issuers</li> <li>Split the approved list into a short-term list and medium-term list. We believe that medium-term notes should be considered with a higher standard than short-term debt.</li> <li>Recommend splitting the approved list into a short-term list and medium-term list. We believe that medium-term notes should be considered with a higher standard than short-term debt.</li> <li>Create separate lists for funds concerning medium-term notes, since funds have different rating restrictions. This would make lists more understandable for readers.</li> </ul>
Ongoing Credit Monitoring	<ul> <li>Daily process</li> <li>Runs queries off Bloomberg, searches for headlines, peer analysis, Bloomberg fundamentals, rating agency info, and info from brokers</li> <li>Downgrades below acceptable limits appear in non-compliance report in monthly report</li> <li>Decision to sell/hold because of downgrade is separate decision from reporting is made by investment officers</li> <li>Sensitive to "headline" risk and may give up some yield to avoid this risk</li> </ul>	Recommend removing issuers that do not issue often or have low levels of debt outstanding. This would conserve resources allowing the County to focus efforts on issuers that are more likely to be purchased.

### II. 3. Investment Processes



Topic	Observations	Recommendations		
Investment Procedures Manual	<ul> <li>The manual needs a thorough review per the TTC staff.</li> <li>Some sections are updated regularly.</li> <li>Jennifer Burkhart, Asst TTC, is now responsible for updating the manual.</li> </ul>	<ul> <li>Review and update</li> <li>Expand scope of manual beyond process for running needed reports to include:         <ul> <li>IPS compliance monitoring, credit processes, event notification procedures, etc.</li> </ul> </li> </ul>		
Cash Flows	<ul> <li>Cash Manager and Assistant Cash Manager report to Paul Gorman</li> <li>Core analysis was done a long time ago (05-06: \$3-4 Billion)</li> <li>There is no target allocation for the Extended Fund.</li> </ul>	Update core analysis     PFM has provided some analysis in Section IV.     Liquidity		
Fund Rating	<ul> <li>The County and Educational Investment Pools are currently rated by Moody's and Fitch</li> <li>The Treasury plans to let the Fitch rating expire.</li> <li>The Treasury is In the process of obtaining a rating from Standard &amp; Poor's.</li> <li>The Extended Fund is not rated separately from the Investment Pools.</li> </ul>	<ul> <li>Follow through with obtaining a Standard &amp; Poor's rating</li> <li>Have the Extended Fund rated separately</li> </ul>		

## II. 4. Staffing Requirements



Topic	Observations	Recommendations
Job Descriptions	<ul> <li>Written job descriptions for Treasury investment staff are generic and somewhat vague. Further, they do not specify minimum requirements.</li> <li>Create more specific job descriptions and related staff to append to the office description.</li> <li>Include minimum qualifications in job</li> </ul>	
Current Staffing	<ul> <li>Treasury portfolio management staff is experienced and knowledgeable about the sectors of the fixed-income market in which they operate. However, the experience has come primarily from working in Orange County with very short duration portfolios. They may not have the broad market perspective that comes from working in different trading environments and with a broader range of asset classes and maturities.</li> </ul>	Encourage opportunities for advanced and ongoing training on investment topics and strategies.
The County has a relatively small investment staff given the size and complexity of its portfolio. Although there are 7 investment positions listed on the Treasurer's organization chart, only 5 of these positions are now filled; the Chief Portfolio Manager, Financial Analyst, 2 Assistant Treasurer-Tax Collectors and an Intern.		<ul> <li>Fill vacancies noted on the organization charts</li> <li>Primary need for an additional portfolio manager         <ul> <li>Split investment responsibilities between managers for short vs. long-term funds</li> <li>Provide additional backup coverage</li> <li>Additional views on markets, credits, etc.</li> </ul> </li> </ul>

## II. 5. Reporting



Topic	Observations	Recommendations
Monthly Treasurer's Management Report	<ul> <li>The monthly Treasurer's Management Report provides a wealth of detailed information about the County's portfolio. It is distributed to a long list of interested parties including the Board of Supervisors, elected officials, County Departments, State officials, Treasury Oversight and Advisory Committee members and voluntary participants.</li> <li>The report includes most of the information a sophisticated investor needs to understand how the portfolio was invested during the period. It provides limited information about the investment strategy and why the portfolios were invested the manner in which they were.</li> </ul>	<ul> <li>The 100+ page monthly report is long, complicated and is probably too technical for all but the most sophisticated of readers. We recommend that an executive summary, with portfolio highlights (charts and graphs) and summary performance data be added to the report.</li> <li>The executive summary should include a brief discussion of the investment strategy employed during the period and any planned changes to the strategy.</li> </ul>
Credit Quality	<ul> <li>A complete list of approved issuers and their credit ratings is included in the monthly Treasurer's Management Report.</li> <li>A weighted average credit rating (WACR) for the combined portfolio is also provided.</li> </ul>	The WACR is one method of reporting the overall credit quality of the portfolio, but it may not reveal the complete credit picture. By averaging the credit rating of all holdings, the WACR may have the unintended consequences of obscuring credit problems. PFM recommends that more details about the credit rating of individual portfolio holdings be added to the report. This could take the form of a simple pie chart or credit distribution chart.

## II. 5. Reporting



Topic	Observations	Recommendations		
Performance	Monthly performance data is presented in the Treasurer's     Management Report and is compared to a composite of publicly available money market mutual funds. The selected funds are all AAAm or Aaa rated and are among the largest prime money market funds.	<ul> <li>The performance benchmark reported for the Money Market Fund is the 90-day Treasury bill and a composite of money market mutual funds. In addition to this market index, we recommend that performance be compared to the Standard &amp; Poor's LGIP Index and an appropriate iMoneyNet Money Market Fund average.</li> <li>The investment performance for the Extended Fund is computed on an amortized cost basis and compared to a short-term benchmark. This is not an appropriate performance benchmark for a portfolio with a weighted average maturity in excess of one year. The performance of the Extended Fund should be computed on a total return basis and compared to an index comprised of comparable securities with a similar duration.</li> </ul>		
Portfolio Diversification	<ul> <li>The IPS sets diversification standards for both the Money Market Funds and the Extended Fund.</li> <li>For purposes of verifying compliance with the IPS diversification limits, the Monthly Treasurer's Management Report combines the County Money Market Fund with the entire Extended Fund – including the portion of the Extended Fund belonging to the Educational Pool.</li> </ul>	<ul> <li>For purposes of verifying compliance with the diversification requirements of the IPS, the Money Market Funds and the Extended Fund should be reported separately.</li> </ul>		

## II. 6. Accounting



Topic	Observations	Recommendations
Interest Apportionment	Income from the Investment Pools and the Extended Fund is allocated to accounts monthly. The amount to be distributed is computed using an amortized cost methodology. This approach considers coupon income, accretion of discounts, amortization of premiums and realized gains/losses on the sale of securities; it does not include changes in the fair value of portfolio holdings.	<ul> <li>Short-term funds typically distribute earnings on an amortized cost basis, so the County's current approach for the Money Market Funds is considered to be industry standard</li> <li>The distribution method used by longer-term portfolios like the Extended Fund varies by fund. Mutual funds that must comply with the requirements of the Investment Company Act of 1940 must consider market value changes when distributing earnings and computing the net asset value of fund shares. Some public funds mirror this approach. Others choose to use the amortized cost method of computing earnings because it is much simpler to implement. The managers of bond funds that use the amortized cost method often manage their portfolios in a way that limits the accumulation of large unrealized losses or gains to limit any misallocation of earnings.</li> <li>The County should carefully consider the possible inequity in the allocation of earnings that may occur if it continues to use the amortized cost basis of accounting to compute earnings for the Extended Fund versus the complexity of attempting to account for market value fluctuations in either the income allocation or share price.</li> </ul>
Timing of Interest Allocations	<ul> <li>The Treasurer's office computes daily earnings on each portfolio using an amortized cost approach. These earnings are then allocated to each account based on the account's daily balance.</li> <li>The IPS states that pool participant's accounts will "reflect" the investment earnings as of the first working day of the next month.</li> <li>The total monthly earnings for each account are reported at the end of the month. Earnings are not actually distributed until the County has received enough investment income to cover the entire earnings apportionment. Depending on portfolio turnover, this means that pool participants may not receive investment earnings for 1½ to 2 months after month-end.</li> </ul>	<ul> <li>It is standard practice for both mutual funds and local government investment pools to distribute earnings on the first day of the month following the month in which the income was earned. Although there may not be enough cash from coupon payments and investment earnings to cover the distribution of earnings, the fund will have sufficient accrued interest to cover the distribution (as long as the monthly earnings number is computed correctly.)</li> <li>PFM recommends that the County distribute earnings on the first business day of each month.</li> </ul>

## II. 6. Accounting



Topic	Observations	Recommendations	
Maintaining Stable \$1.00 Pool Share Price (NAV)	<ul> <li>Securities may be sold to maintain NAV between .995 and 1.005.</li> <li>NAV is calculated every time a voluntary participant makes a withdrawal to ensure no action is needed to maintain \$1.00 share price</li> <li>The County is not committed to maintaining an NAV of \$1.00 for the Extended Fund.</li> </ul>	<ul> <li>Price money market funds regularly and frequently (daily or weekly) to speed up the recognition of any issues.</li> <li>If the Extended Fund is managed as a total return fund, with a longer duration, the County should consider evaluating the Fund separately from the Investment Pools to avoid any impact on the Investment Pool's NAV stability.</li> </ul>	
Pricing	<ul> <li>Done by Portfolio Manager and Financial Analyst</li> <li>Bloomberg prices used for everything but SIVs now</li> <li>Prices for SIVs are developed using an in-house algorithm</li> <li>Wrote off 2-3% of SIVs value</li> <li>Independent of Net Asset Value (NAV) calculation</li> </ul>	Consider adding another pricing methodology/source for SIVs. PFM obtained prices for most of Orange County's SIV holdings from IDC (see following page). While no method is perfect, an additional source of pricing may add further credibility to overall pricing efforts.	

### II. 6. Accounting – SIV Pricing



#### **Orange County SIV Holdings**

Priced as of December 31,2007

CUSIP	Issuer	Par	Price*	Market Value	Maturity
33828WDY3	Five Finance	50,000,000	98.835	49,417,700	11/25/2008
33828WDZ0	Five Finance	50,000,000	N/A	0	6/6/2008
33828WCV0	Five Finance	15,000,000	98.867	14,830,035	11/25/2008
12500GVF8	CC (USA)	50,000,000	99.463	49,731,250	2/9/2009
12500GWY6	CC (USA)	50,000,000	99.510	49,755,200	1/23/2009
87582TKX6	Tango Finance	50,000,000	98.101	49,050,400	6/10/2009
87582TJM2	Tango Finance	50,000,000	N/A	0	11/12/2008
87582TLG2	Tango Finance	40,000,000	97.920	39,167,840	7/30/2009
87582TJA8	Tango Finance	25,000,000	97.815	24,453,650	9/25/2009
96335WJT1	Whistlejacket Capital	50,000,000	97.701	48,850,650	1/25/2009
96335WFP3	Whistlejacket Capital	30,000,000	99.138	29,741,310	1/26/2009
48273PTK9	K2 (USA)	50,000,000	97.471	48,735,700	6/9/2009
48273PRR6	K2 (USA)	50,000,000	99.748	49,874,150	3/10/2008
48273PRR6	K2 (USA)	50,000,000	99.748	49,874,150	3/10/2008
48273PRE5	K2 (USA)	25,000,000	97.653	24,413,200	2/23/2009
48273PTL7	K2 (USA)	25,000,000	97.361	24,340,175	6/9/2009
8265Q0UM2	SIGMA Finance	50,000,000	99.112	49,555,800	5/14/2008
8265Q0UA8	SIGMA Finance	50,000,000	98.345	49,172,300	10/30/2008
8265Q0WB4	SIGMA Finance	50,000,000	99.657	49,828,300	2/21/2008
8265Q0UA8	SIGMA Finance	50,000,000	98.345	49,172,300	10/30/2008

<sup>\*</sup>Pricing provided by IDC

#### **III. Investment Program and Portfolio Review**



#### **Section Outline**

- 1. Risk Factors by sector
  - 1. Federal Agencies
  - 2. Negotiable CDs
  - 3. Commercial Paper
  - 4. Medium-Term Corporate Notes
  - 5. Repurchase Agreements
  - 6. Money Market Funds
  - 7. Municipal securities\*
- 2. Credit Quality
- 3. Stressed Securities (SIVs and some ABCP)
  - 1. Introduction to Asset-Backed Securities
  - 2. Asset-Backed Commercial Paper Exposure in Pools
  - 3. SIV Market Commentary and Broad Risk Factors
  - 4. Tier Rankings of SIVs
  - 5. SIV Exposure in Pools
  - 6. Outlook and Strategy for SIVS

- 4. Historic Sector Allocation
- 5. Liquidity Analysis
  - 1. Historical cash flow analysis
  - 2. Stress test
  - 3. Raising cash under different market scenarios
- 6. Investment Policy Compliance
- 7. Performance and Benchmarking

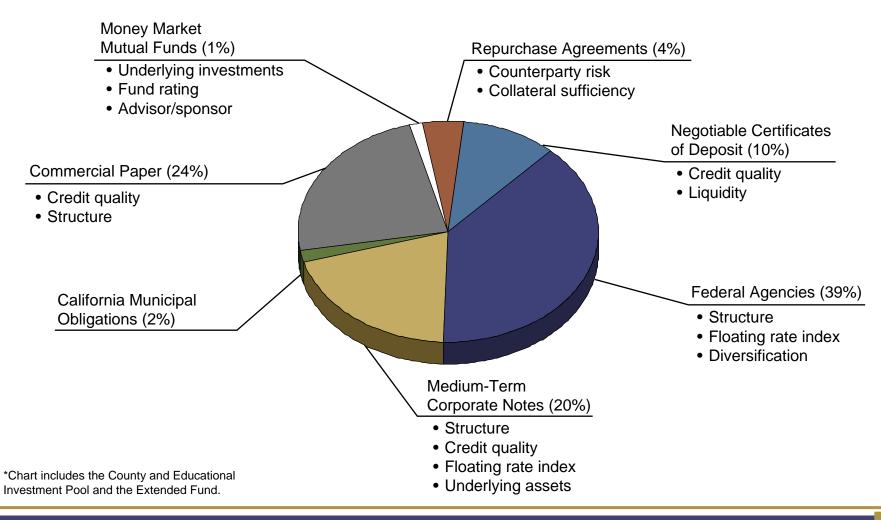
<sup>\*</sup>Since the County only owns OC municipal issues we are not addressing these holdings with a page.

#### **III. 1. Risk Factors by Sector**



#### Sector Diversification - All Funds Combined\*

as of December 31, 2007

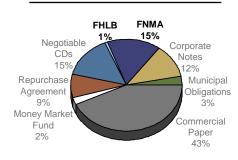


#### III. 1. Risk Factors by Sector – Federal Agencies

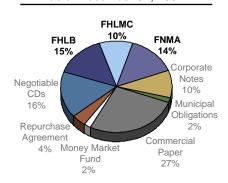


Topic	Observations			
Structure	<ul> <li>Callable 11.6%  – One-time (10.7%), Semi-annual (0.3%), Quarterly (1.0%)</li> <li>Discount Note 18.8%</li> <li>Bullet 8.2%</li> <li>Step-up (included in Callables) 0.3%</li> <li>Total 38.6%</li> </ul>			
Floating rate index	No securities tied to a variable-rate index as of December 31, 2007.			
<b>Diversification</b> (as a percent of combined holdings)	<ul> <li>Freddie Mac (FHLMC)</li> <li>Federal Home Loan Bank (FHLB)</li> <li>Fannie Mae (FNMA)</li> <li>Federal Farm Credit Bank (FFCB)</li> <li>Private Export Funding (PEFCO)</li> <li>0.4%</li> </ul>			
Conclusions	<ul> <li>No issues or anticipated problems with these holdings.</li> <li>Use Bloomberg OAS functionality for increased analysis on the value of callable securities.</li> <li>Monitor percent allocation per issuer. Set a per agency limit high enough to allow adequate flexibility for investing.</li> </ul>			

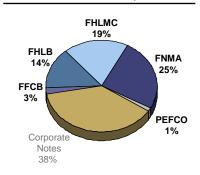
### County Investment Pool as of December 31, 2007



#### Educational Investment Pool as of December 31, 2007



### Extended Fund as of December 31, 2007

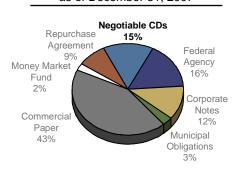


#### III. 1. Risk Factors by Sector – Negotiable Certificates of Deposit

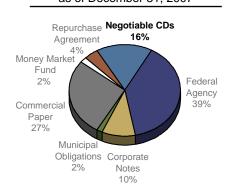


Issuing Bank	Short-Term Credit Rating	Long-Term Credit Rating	Liquidity	
Australian & New Zealand Banking Group NY	A-1+/P-1/F1+	AA/Aa1/AA-	Low daily volume	
Bank of America NA	A-1+/P-1/F1+	AA+/Aaa/AA+	Has an active secondary market	
Barclays Bank PLC NY	A-1+/P-1/F1+	AA/Aa1/AA+	Has an active secondary market	
BNP Paribas NY	A-1+/P-1/F1+	AA+/Aa1/AA	Has an active secondary market	
Calyon NY	A-1+/P-1/F1+	AA-/Aa1/Aa	Has an active secondary market	
Commonwealth Bank of Australia NY	NR/NR/NR	NR/Aa1/NR	Low daily volume	
Deutsche Bank NY	A-1+/P-1/F1+	AA/Aa1/AA-	Has only a few brokers who will bid	
Fortis Bank NY	A-1+/P-1/F1+	AA-/Aa2/AA-	Has an active secondary market	
HBOS Treasury Services NY	A-1+/P-1/F1+	AA/Aa1/AA+	Has an active secondary market	
Rabobank Nederland NV NY	A-1+/P-1/F1+	AAA/Aaa/AA+	Has an active secondary market	
Conclusions	Credit profile of CDs meets the criteria established.			

### County Investment Pool as of December 31, 2007



#### Educational Investment Pool as of December 31, 2007



#### Extended Fund

as of December 31, 2007

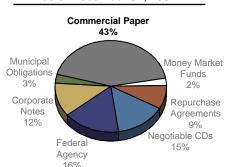
There are no Negotiable CD holdings in the Extended Fund.

#### III. 1. Risk Factors by Sector – Commercial Paper

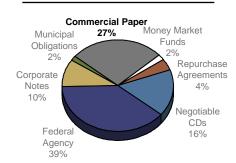


Risk Factor	Observations			
Credit quality	Of the total CP owned by the Investment Pool and the Educational Investment Pool the CP is:  • A-1+ 75%  • A-1 11%  • Not Rated** 14%  *Ratings by S&P  **Lockhart Funding is rated P-1 and F1 ratings by Moody's and Fitch			
Structure	Based on the total assets of the Investment Pools and the Extended Fund, the County owns CP with the following structures:  • 15.0% Guaranteed (Non-Asset Backed)  • 8.6% Asset-Backed			
Diversification	<ul> <li>15 issuers</li> <li>5% maximum per issuer</li> <li>Highest single CP allocation is to Lockhart Funding LLC</li> </ul>			
Conclusion	<ul> <li>Commercial paper holdings are well balanced and have excellent diversification by issuer.</li> <li>County Investment Pool is very close to maximum allocation outlined in IPS. The County may benefit from reallocating some assets from CP to repo to benefit from the currently inverted shape of the short-end of the yield curve.</li> <li>The Treasury should adopt an ABCP credit monitoring process that parallels the SIVs process.</li> </ul>			





### Educational Investment Pool as of December 31, 2007



#### Extended Fund as of December 31, 2007

There are no commercial paper holdings in the Extended Fund.

### III. 1. Risk Factors by Sector – Commercial Paper continued



#### **List of All Commercial Paper Holdings**

as of December 31, 2007

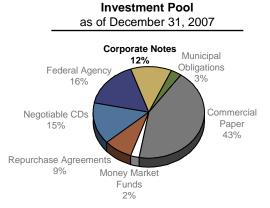
			<u>Diversification</u> *	
Issuer	Credit Rating	Structure	County Investment Pool	Educational Investment Pool
Alpine Securitization	A-1+/P-1/F1+	Asset-Backed	2.5%	0.0%
Bank of America	A-1+/P-1/F1+	Guarantee	1.8%	0.0%
Barclays US Funding LLC	A-1+/P-1/NA	Guarantee	0.0%	0.6%
BMW US Capital LLC	A-1/P-1/NA	Guarantee	0.0%	1.1%
BNP Paribas Finance	A-1+/P-1/F1+	Guarantee	0.7%	0.0%
Bryant Park Funding LLC	A-1/P-1/NA	Asset-Backed	0.0%	1.0%
Danske Bank A/S NV	A-1+/P-1/NA	Guarantee	0.0%	0.1%
Dexia Delaware	A-1+/P-1/F1+	Guarantee	0.0%	0.7%
Edison Asset LLC	A-1+/P-1/NA	Asset-Backed	0.3%	0.0%
Fountain Square Funding	A-1+/P-1/NA	Asset-Backed	0.7%	0.7%
Intesa Funding LLC	A-1+/P-1/F1+	Guarantee	0.4%	0.7%
JP Morgan Chase Bank	A-1+/P-1/F1+	Guarantee	0.1%	0.6%
Lockhart Funding LLC	NA/P-1/F1	Asset-Backed	2.6%	0.9%
Nestle Capital Corp	A-1+/P-1/F1+	Guarantee	0.0%	0.7%
Rabobank USA Financial	A-1+/P-1/NA	Guarantee	0.7%	0.5%

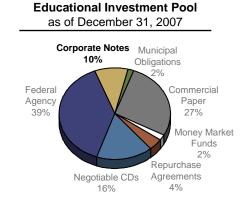
<sup>\*</sup>There are no commercial paper holdings in the Extended Fund as of December 31, 2007.

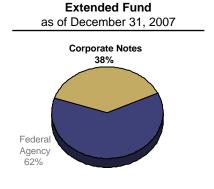
# III. 1. Risk Factors by Sector – Medium-Term Corporate Notes



Risk Factor	Observations (based on Market Value unless otherwise noted)					
Credit Quality	<ul> <li>AAA 62%</li> <li>AA 2%</li> <li>A 20%</li> <li>Not Rated 16%</li> </ul>					
Structure	<ul> <li>*Ratings as provided by Standard &amp; Poor's.</li> <li>Total corporate note holdings of \$1.36 billion</li> <li>57% of the corporate note holdings are floating rate securities</li> <li>60%, or \$818 million, of the corporate notes are currently invested in 6 different SIV issuers</li> </ul>					
Floating- Rate Index	All floating-rate issues under management (\$779 million) are tied to LIBOR (spreads to LIBOR on specific holdings are unknown at this time).					
Conclusion	<ul> <li>The current corporate cote holdings are well diversified among issuers, credit rating, and structure.</li> <li>The market for SIVs is frozen and liquidity is very limited at present, so there is no real alternative to holding the current SIV investments.</li> <li>Floating-rate securities immunize a portfolio against interest rate movements, but they do not avoid basis risk.</li> </ul>					







# III. 1. Risk Factors by Sector – Medium-Term Corporate Notes continued



### **List of All Medium-Term Corporate Note Holdings**

as of December 31, 2007

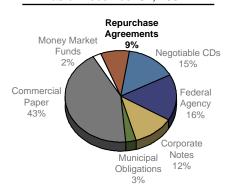
Issuer	Credit Rating	Structure	County Investment Pool	<u>Diversification</u> Educational Investment Pool	Extended Fund			
American Honda Finance	A+/Aa3/NR	Direct Issue	0.0%	0.0%	0.7%			
Caterpillar	A/A2/A+	Direct Issue	0.7%	0.6%	0.0%			
CC USA Inc	AAA/Aaa/NR	SIV	0.0%	0.0%	1.4%			
CIT Group Inc	A/A2/A	Direct Issue	1.4%	0.1%	0.0%			
Five Finance Inc	AAA/Aaa/AAA	SIV	0.0%	0.0%	1.7%			
General Electric Capital Corp	AAA/Aaa/NR	Direct Issue	1.0%	0.4%	0.4%			
K2 (USA) LLC	AAA/Aaa/NR	SIV	0.7%	0.7%	1.5%			
Merrill Lynch	A+/A1/A+	Direct Issue	0.0%	0.3%	0.0%			
SIGMA Finance	AAA/Aaa/NR	SIV	0.0%	0.7%	1.8%			
Tango Finance Corp	AAA/Aaa/NR	SIV	0.0%	0.0%	2.4%			
Toyota Motor Credit	AAA/Aaa/NR	Direct Issue	0.0%	0.4%	1.3%			
Whistlejacket Capital Ltd.	AAA/Aaa/NR	SIV	0.0%	0.0%	1.1%			

# **III. 1. Risk Factors by Sector – Repurchase Agreements**

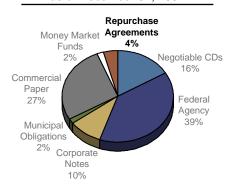


	Counter-Party Risk	Collateral Sufficiency
Description	<ul> <li>The risk to each party of a contract that the counterparty will not live up to its contractual obligations.</li> <li>In general, counterparty risk can be reduced by having an organization with extremely good credit act as an intermediary (custodian) between the two parties.</li> </ul>	<ul> <li>Collateral sufficiency refers to the collateral underlying repo agreements. Repo documents usually dictate the percentage of collateral that must be committed by the counterparty to a repo agreement.</li> </ul>
Observation	<ul> <li>The allocations of the County Investment Pool and the Educational Investment Pool to repo are fully exposed to Greenwich Capital.</li> <li>Greenwich Capital is a highly rated broker/dealer and subsidiary of Royal Bank of Scotland. Both Greenwich Capital and Royal Bank of Scotland are on the County's approved list.</li> </ul>	The County should monitor collateral on a daily basis.
Conclusion	<ul> <li>The County executes repo agreements with a highly rated counterparty. We see little risk in Greenwich as a counterparty.</li> <li>The County may benefit from maintaining a relationship with more than one counterparty.</li> </ul>	<ul> <li>Continue to limit collateral to only Treasury and Federal Agency securities</li> <li>The County should monitor the market value of collateral on a daily basis to ensure the committed amount and type is sufficient.</li> </ul>

# County Investment Pool as of December 31, 2007



# Educational Investment Pool as of December 31, 2007



### Extended Fund

as of December 31, 2007

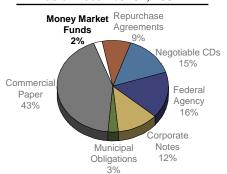
There are no repurchase agreement holdings in the Extended Fund.

# III. 1. Risk Factors by Sector – Money Market Funds

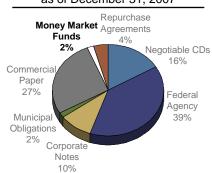


Fund	Underlying Investments - Top 5	Sectors	Rating	Advisor/Sponsor	
BlackRock Temporary Fund (TMPXX)	<ul> <li>Certificates of Deposit</li> <li>Asset-Backed Commercial Paper</li> <li>Commercial paper</li> <li>Repurchase Agreements</li> <li>Variable-Rate Obligations</li> </ul>	41.1% 19.7% 14.3% 7.9% 7.7%	<ul><li>AAAm by S&amp;P</li><li>Aaa by Moody's</li></ul>	BlackRock	
Goldman Sachs Financial Square Prime Obligations Fund (FPOXX)	<ul> <li>Asset-Backed Commercial Paper</li> <li>Repurchase Agreements</li> <li>Variable-Rate Obligations</li> <li>Commercial Paper</li> <li>Certificates of Deposit</li> </ul>	39.4% 25.9% 13.7% 11.7% 3.2%	<ul><li>AAAm by S&amp;P</li><li>Aaa by Moody's</li><li>AAA/v1+ by Fitch</li></ul>	Goldman Sachs	
Barclays Global Investors Prime Fund (BPSXX)	<ul> <li>Commercial Paper</li> <li>Medium-Term Notes</li> <li>Repurchase Agreements</li> <li>Certificates of Deposit</li> <li>Asset-Backed Securities</li> </ul>	29.7% 28.3% 25.6% 7.6% 5.6%	<ul><li>AAAm by S&amp;P</li><li>Aaa by Moody's</li></ul>	Barclays Global Investors	
Conclusion	<ul> <li>Funds' weighting to ABCP causes some concern. While Fund sponsors have "deep pockets" to support NAV the County should consider switching to Government-only money market funds until credit picture firms.</li> <li>Establish a periodic review process for monitoring of risk factors and reapproval.</li> </ul>				





# Educational Investment Pool as of December 31, 2007



### Extended Fund

as of December 31, 2007

There are no money market fund holdings in the Extended Fund.

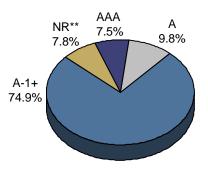
### III. 2. Credit Quality



• In addition to the information provided by the Weighted Average Credit Rating, a further breakdown shows the overall high credit quality of the funds, but it also shows any exposure to lower credits.

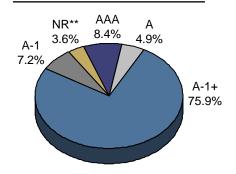
County Investment Pool	Educational Investment Pool	Extended Fund		
<ul> <li>The County Investment Pool has 82.4% of its</li></ul>	The Educational Investment Pool has 91.5% of	<ul> <li>96.6% of the Extended Fund is invested in</li></ul>		
portfolio invested in securities in the highest	its portfolio invested in securities in the highest	securities in the highest rating category by		
rating category by Standard & Poor's.	rating category by Standard & Poor's.	Standard & Poor's.		
A-rated securities, S&P's third highest category, make up9.8% of the County Investment Pool.	A-rated securities make up 4.9% of the Educational Investment Pool.	AA-rated securities , S&P's second highest category, make up 1.1% of the Extended Fund.		
The rest of the securities in this pool are unrated	The rest of the securities in this pool are unrated	A-rated securities make up 2.3% of the County		
by S&P, but are rated by either Moody's or Fitch.	by S&P, but are rated by either Moody's or Fitch.	Investment Pool.		





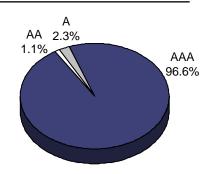
<sup>\*</sup>Ratings by S&P
\*\*Securities not rated by S&P are rated by either Moody's or Fitch

# Educational Investment Pool as of December 31, 2007



### Extended Fund

as of December 31, 2007

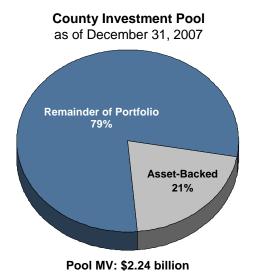


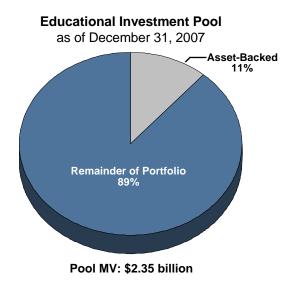
### III. 3. Stressed Securities

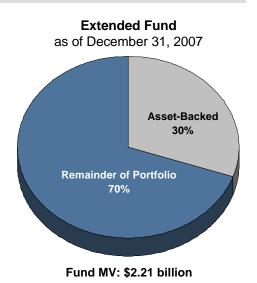


#### Introduction to Asset-Backed Securities

- Problems began in the ABS market with the implosion of two Bear Stearns hedge funds in the first half of 2007. The collapse of the funds called into question the pricing, rating methodology and soundness of recently constructed ABS such as CDOs.
- Increasing delinquencies of sub-prime mortgages, that later spread into ALT-A and to some extent prime mortgages, increased the level of concern amongst market participants.
- Many ABCP, SIV and SIV-Lite programs invested in securities that were at the center of the turmoil. The realization of this caused some investors to stop purchasing the debt of many ABCP programs and SIVs.
- Programs that were invested heavily in securities backed by subprime mortgages and certain CDOs were affected the most. These programs found the value of their asset dropping dramatically. In some case enforcement events were triggered forcing the wind down of some funds. Some of these programs defaulted as workout options were considered.
- Many ABCP programs were forced to tap liquidity lines to pay off debt that could not be rolled over. Eventually sponsoring banks provided support to some
  of the programs that had difficulties.
- Although the County had exposure to both the ABCP and SIV sector throughout the difficult periods none of the programs held have defaulted or have been downgraded by any rating agencies. Although the County's holdings have faired relatively well there are still areas of concern in some SIV holdings. There also may be opportunities to strengthen the credit profile of the pool in general.









Current SIV Market	Characteristics
Structural Issues	<ul> <li>SIVs are not as structurally sound as "traditional asset-backed program". SIVs do not typically have 100% liquidity support like most traditional asset-backed programs. This could create a problem if SIVs can't reissue debt to pay off maturities. Some have triggers which in some circumstances can result in enforcement actions possibly forcing asset sales.</li> </ul>
Funding Maturities	<ul> <li>Most SIVs are still having difficulty funding maturities through the issuance of Commercial Paper and Medium Term Notes</li> </ul>
	Programs have been forced to use alternative funding including repurchase agreements, restructuring, or asset switches
Bank Sponsorship	<ul> <li>Banks sponsoring SIVs have begun to support their SIVs through asset purchases, liability purchases and liquidity arrangements</li> </ul>
Value of Assets, Liquidity	<ul> <li>Despite the high quality of SIV underlying assets, the value of the assets continued to decline. There is also little liquidity in the marketplace for those assets.</li> </ul>
	Many SIVs have begun to eat through their capital cushions resulting in declining NAVs.
	<ul> <li>As the value of assets decline, the excess capital available to protect senior note holders also declines. Extreme capital losses could expose senior note holders to principle losses.</li> </ul>
Ratings	<ul> <li>We find little comfort in SIV ratings, for example, the recent 13 notch downgrade of Victoria Finance from AA to B- on 1/7/2008 and finally to D on 1/14/2008. There have been similar downgrades to other programs over the past several months.</li> </ul>



Current SIV Market	Characteristics
Extendible Maturity	<ul> <li>In extendable programs the issuer has the right to extend the maturity of the notes if the commercial paper can't be rolled. This could create difficulties for investors who had expected to make use of the funds on their planned maturity date. In addition, it extends the credit risk of holding the notes an additional several months. There have been instances of extendable ABCP programs choosing to extend the maturities of their notes.</li> </ul>
Program Structure	<ul> <li>SIVs are arbitrage vehicles issuing short-term and medium-term debt to finance the purchase of assets. The managers of these programs seek to profit from the difference in issuing short-term debt and purchasing longer-term assets. Despite the very high credit quality of assets within the programs, the unprecedented disruptions in the credit market have caused some asset values to drop.</li> </ul>
	<ul> <li>SIV-lites are similar to SIVs with the exception that these programs have a finite life. Unlike SIVs, SIV-lites cannot issue medium-term debt. In addition, these programs have committed liquidity support but it is subject to market tests and triggers. Most SIV-lites are made up of 100% US originated mortgage backed securities. This sector of the ABS market has experienced the most difficulty.</li> </ul>
Management /Administration	<ul> <li>The explosion in the growth of structured finance programs has brought many new entrants into the market. There is a wide variety of experience amongst program managers and administrators in the market. Some programs, particularly SIVs, may experience differences in management styles and philosophies. Programs with strong management teams are more likely to be able to survive difficult market conditions. The ideal combination is a well established team with the backing of a major bank.</li> </ul>
Liquidity Facilities	<ul> <li>Liquidity facilities provide support in the event that a program cannot roll its commercial paper. Liquidity support can come from one of several sources. The most common are Liquidity Asset Purchase Agreements (LAPA) or Letters of Credit (LOC). Typically a bank or group of highly-rated banks provides liquidity support. So far, it appears that liquidity facilities currently in place have allowed most programs to continue to operate. An additional source of liquidity is the sale of assets from the program. A growing concern is that, as more programs are forced to use available liquidity sources, banks may be forced to buy assets from or extend credit to the programs. Banks may be forced to extend large loans to the programs or purchase assets and hold them on their own balance sheets.</li> </ul>



SIV Market Risk Factors	Tiers for SIV Risks
Tier I	<ul> <li>Least Concern: Holdings in this group are comprised of the unsecured debt of issuers that have not had difficulty accessing the current marketplace. This group also includes some ABS programs with favorable characteristics. These programs are typically backed by receivables and may be single seller or multi-seller programs or programs with strong bank sponsorship. Multi-seller programs purchase assets from a wide variety of sellers, while single seller programs purchase assets from one seller. This group also consists of asset-backed programs with financially strong and experienced administrators and managers. Although SIVs and SIV-lites as a group cause the most concern currently, those with major bank support or sponsorship are included in this group. Although there is a high level of comfort in these holdings, this opinion could change if market conditions change dramatically or bank support is withdrawn.</li> <li>Orange County's SIV holdings in CC Finance, Five Finance - supported by Citigroup – fit in this category, as do Whistlejacket supported by Standard Chartered Bank and Tango Finance supported by Rabobank.</li> </ul>
Tier II	<ul> <li>Higher Level of Potential Risk Characteristics: This group represents issuers for which we would recommend close monitoring. Inclusion in this group is not a prediction of future problems. This group includes issuers with some of the potential risk characteristics described on the preceding page. Included in this group would be many of the SIV programs and Security Arbitrage Vehicles. Also included in this group are programs managed or administered by non-bank entities. It is our view that programs managed and administered by large banking institutions will enjoy a greater level of support if conditions continue to worsen.</li> <li>Orange County's SIV holdings in K2, sponsored by Dresdner but not yet "supported", and SIGMA fall in this category.</li> </ul>
Tier III	Impaired Programs: This group contains programs that have become impaired to the point that a favorable workout may be in doubt.
	Orange County has no exposure to this group.

# **III. 3. Stressed Securities**



Types of Commercial Paper Held	Characteristics	Example of Issuers Held
Direct Issuer/Unsecured	<ul> <li>Issuers are generally of high quality operating diversified businesses with the ability to weather economic cycles</li> <li>Some are effected to a greater extent by cyclical changes in the business cycle, for instance those that may be heavily exposed to consumer finance</li> <li>Other issuers have been affected disproportionately by the problems in the sub-prime mortgage and ABS markets, some banks and broker dealers fall into this category</li> <li>Care must be taken to monitor the effects of macro issues on approved issuers</li> </ul>	<ul> <li>Bank of America</li> <li>BNP Paribas</li> <li>JP Morgan Chase</li> <li>Rabobank USA</li> <li>UBS Finance (Delaware)</li> <li>Wal-Mart Funding</li> </ul>
Asset-Backed – Receivables or Securities	<ul> <li>None of the County's approved ABCP issuers have experienced downgrades and appear to be operating close to normal</li> <li>Some asset-backed issuers on the approved list are being forced to issue securities at abnormally wide spreads, a possible sign of stress in those issuers.</li> <li>Several issuers have committed Lines of Credit from smaller banking institutions and some rely on surety bonds form mono-line insurers such as AMBAC or MBIA</li> </ul>	<ul><li>Alpine Securitization</li><li>Bryant Park Funding</li><li>Edison Asset LLC</li><li>Lockhart Funding LLC</li></ul>

### **III. 3. Stressed Securities – County Investment Pool**

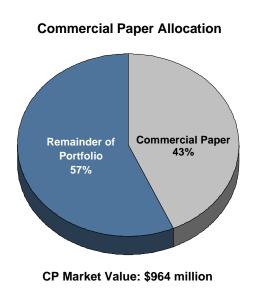


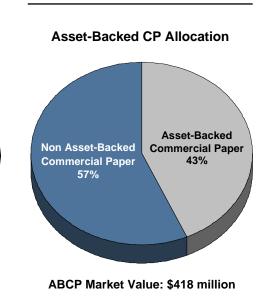
#### **Commercial Paper Analysis – County Investment Pool**

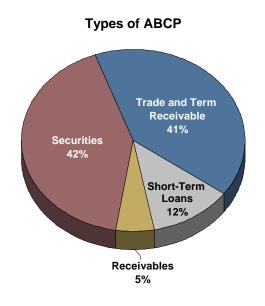
- 43% of the County Investment Pool is made of commercial paper
- 43% of the pool's commercial paper is asset-backed commercial paper
- In aggregate, the assets contained within the ABCP programs are well diversified across sectors.
- · Although assets are diversified in aggregate, care must be taken to ensure that the assets in each program are well diversified.

#### **County Investment Pool Commercial Paper Analysis**

as of December 31, 2007







### III. 3. Stressed Securities – County Investment Pool



### **Commercial Paper Holdings**

- The Commercial Paper held in the County Investment Pool is of the highest quality, with all holdings at least within the top two credit ratings set forth by Moody's, Standard and Poor's and Fitch ratings agencies.
- The maturity distribution of the portfolio is extremely short, with all current holdings maturing by March 2008. Most Commercial Paper holdings mature in January 2008.
- The portfolio is diversified among 12 different issuers, with the largest allocation, \$175.8 million, invested in Lockhart Funding an asset-backed issuer.

		Market	Interest	Maturity	Fitch	Moody's	S&P	ABCP
CUSIP	Issuer	Value	Rate(%)	Date	Ratings	Ratings	Ratings	Y/N
02086LA30	Alpine Securitization	49,978,150.00	6.00	1/3/2008	F1+	P-1	A-1+	Yes
02086LA30	Alpine Securitization	49,978,150.00	6.00	1/3/2008	F1+	P-1	A-1+	Yes
02086LA30	Alpine Securitization	49,978,150.00	5.75	1/3/2008	F1+	P-1	A-1+	Yes
02086LA30	Alpine Securitization	19,991,260.00	5.75	1/3/2008	F1+	P-1	A-1+	Yes
0660P0CA9	Bank Of America	49,566,400.00	4.82	3/10/2008	F1+	P-1	A-1+	No
0660P0A37	Bank Of America	39,985,760.00	4.60	1/3/2008	F1+	P-1	A-1+	No
0660P0AB9	Bank Of America	20,971,692.00	4.88	1/11/2008	F1+	P-1	A-1+	No
0660P0CA9	Bank Of America	14,869,920.00	4.82	3/10/2008	F1+	P-1	A-1+	No
0556N0AG0	BNP Paribas Finance	49,901,550.00	4.91	1/16/2008	F1+	P-1	A-1+	No
28100LAR4	Edison Asset LLC	22,175,528.75	4.48	1/25/2008	nr	P-1	A-1+	Yes
35075RA22	Fountain Square Funding	49,985,550.00	4.50	1/2/2008	nr	P-1	A-1+	Yes
4611K0A98	Intesa Funding LLC	24,974,800.00	4.69	1/9/2008	F1+	P-1	A-1+	No
4662J0AP7	JP Morgan Chase Bank	9,971,700.00	5.04	1/23/2008	F1+	P-1	A-1+	No
53974TA31	Lockhart Funding LLC	49,977,900.00	5.30	1/3/2008	F1	P-1	nr	Yes
53974TA80	Lockhart Funding LLC	49,939,650.00	5.35	1/8/2008	F1	P-1	nr	Yes
53974TA80	Lockhart Funding LLC	49,939,650.00	5.35	1/8/2008	F1	P-1	nr	Yes
53974TA80	Lockhart Funding LLC	14,981,895.00	5.35	1/8/2008	F1	P-1	nr	Yes
53974TA31	Lockhart Funding LLC	10,995,138.00	5.30	1/3/2008	F1	P-1	nr	Yes
74977KA41	Rabobank USA Financial	49,976,100.00	4.75	1/4/2008	nr	P-1	A-1+	No
79917JAR5	San Paolo Financial	49,853,100.00	5.08	1/25/2008	F1+	P-1	A-1+	No
79917JAR5	San Paolo Financial	49,853,100.00	5.08	1/25/2008	F1+	P-1	A-1+	No
79917JAR5	San Paolo Financial	49,853,100.00	5.08	1/25/2008	F1+	P-1	A-1+	No
90262CA80	UBS Finance (De) LLC	49,955,550.00	5.00	1/8/2008	nr	P-1	A-1+	No
90262CA80	UBS Finance (De) LLC	29,973,330.00	5.00	1/8/2008	nr	P-1	A-1+	No
90262CA31	UBS Finance (De) LLC	6,997,746.00	4.68	1/3/2008	nr	P-1	A-1+	No
93114TAU8	Wal-Mart Funding	49,789,600.00	5.15	1/28/2008	F1+	P-1	A-1+	No

### III. 3. Stressed Securities – Educational Investment Pool

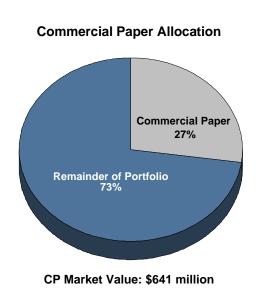


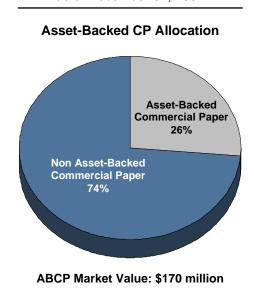
#### **Commercial Paper Analysis – Educational Investment Pool**

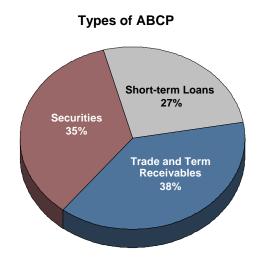
- 27% of the Educational Investment Pool is invested in commercial paper
- 26% of the Pool's commercial paper is asset-backed commercial paper
- Although the underlying assets of the ABCP programs are well diversified in aggregate, care must be taken to ensure the assets of each program are diversified.

#### **Educational Investment Pool Commercial Paper Analysis**

as of December 31, 2007







### III. 3. Stressed Securities – Educational Investment Pool



#### **Commercial Paper Holdings**

- The Educational Investment Pool's Commercial Paper holdings are of high quality; current security credit ratings are at within the two highest ratings levels as issued by Standard and Poor's, Moody's and Fitch ratings agencies.
- Maturities on Educational Pool's Commercial Paper holdings are extremely short, with the longest maturity occurring in the second week of February 2008.
- The Pool's Commercial Paper holdings are well balanced among 13 different issuers; the largest allocation to one individual issuer is an \$89.8 million investment in UBS finance.

CUSIP	Issuer	Market Value	Interest Rate(%)	Maturity Date	Fitch Ratings	Moody's Ratings	S&P Ratings	ABCP Y/N
06737HB73	Barclays Us Funding LLC	39,812,520.00	5.18	2/7/2008	nr	P-1	A-1+	No
0556C2AF0	BMW Us Capital LLC	44,911,890.00	4.21	1/15/2008	nr	P-1	A-1	No
0556C2A29	BMW Us Capital LLC	29,992,410.00	4.21	1/2/2008	nr	P-1	A-1	No
11765JAJ9	Bryant Park Funding LLC	49,864,500.00	5.20	1/18/2008	nr	P-1	A-1	Yes
11765JAJ9	Bryant Park Funding LLC	14,959,350.00	5.20	1/18/2008	nr	P-1	A-1	Yes
2363F6B17	Danske Bank A/S NY	8,342,864.54	4.80	2/1/2008	F1+	nr	A-1+	No
2521E0B48	Dexia Delaware	49,784,150.00	4.91	2/4/2008	F1+	P-1	A-1+	No
35075RA22				1/2/2008		P-1		
	Fountain Square	44,986,995.00	4.70		nr		A-1+	Yes
4611K0A23	Intesa Funding LLC	49,989,350.00	4.91	1/2/2008	F1+	P-1	A-1+	No
4662J0AP7	JP Morgan Chase Bank, Na	41,881,140.00	5.04	1/23/2008	F1+	P-1	A-1+	No
53974TAE7	Lockhart Funding LLC	49,894,200.00	5.65	1/14/2008	F1	P-1	nr	Yes
53974TA23	Lockhart Funding LLC	5,998,242.00	5.26	1/2/2008	F1	P-1	nr	Yes
53974TA80	Lockhart Funding LLC	3,968,204.59	5.90	1/8/2008	F1	P-1	nr	Yes
64105GAB0	Nestle Capital	19,973,040.00	4.34	1/11/2008	F1+	P-1	A-1+	No
64105GA79	Nestle Capital	9,991,440.00	4.34	1/7/2008	F1+	P-1	A-1+	No
64105GA87	Nestle Capital	9,990,220.00	4.34	1/8/2008	F1+	P-1	A-1+	No
64105GA95	Nestle Capital	9,988,980.00	4.34	1/9/2008	F1+	P-1	A-1+	No
74977KA25	Rabobank USA Financial	36,991,305.00	4.74	1/2/2008	nr	P-1	A-1+	No
84262LA83	Southern Company	29,967,210.00	4.55	1/8/2008	F1	P-1	A-1	No
90262CA23	UBS Finance (De) LLC	49,989,350.00	4.50	1/2/2008	nr	P-1	A-1+	No
90262CAX5	UBS Finance (De) LLC	39,853,600.00	4.76	1/31/2008	nr	P-1	A-1+	No

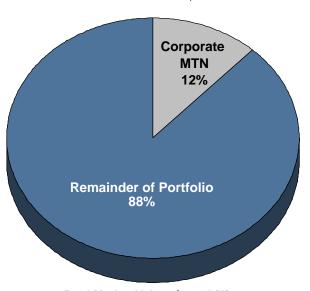
### III. 3. Stressed Securities – SIVs in the County Investment Pool



### **Corporate Note Holdings**

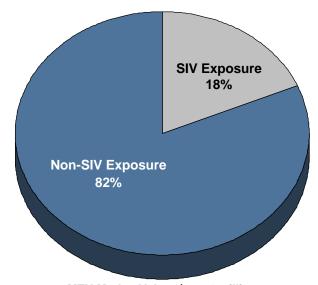
- Approximately 12% of the County Investment Pool is invested in corporate notes, all of which are of investment-grade quality. .
- The corporate note weighted average maturity is approximately 110 days; the longest maturity is a Caterpillar note that is scheduled to mature in November 2008.
- The Pool holds one SIV K2 LLC, a floating rate note that will mature in March 2008.

# Corporate Note Allocation as of December 31, 2007



Pool Market Value: \$2.24 billion

County Investment Pool – SIV Exposure						
Market Value Percent MV						
SIV Exposure	49,250,000	18%				
Non SIV	217,110,253	82%				



MTN Market Value: \$266.4 million

### III. 3. Stressed Securities – SIVs in the County Investment Pool



### **Corporate Note Holdings – County Investment Pool**

- The County Investment Pool holds approximately \$266 million in short- to medium-term corporate notes, with minimal allocation to SIVs.
- Corporate notes are diversified among five separate issuers; 37% of corporate note holdings are allocated to CIT Group, the largest allocation to one specific issuer.
- All holdings are currently rated above investment grade by either Standard & Poor's, Moody's or Fitch.
- The Pool holds one SIV K2 LLC, a \$49 million investment that matures in March 2008.

		Market	Interest	Maturity	Fitch	Moody's	S&P		Asset- Backed
CUSIP	Issuer	Value	Rate(%)	Date	Ratings	Ratings	Ratings	Is SIV?	Y/N
02666QWV1	AMERICAN HONDA FINANCI	3,228,973	5.03	7/14/2008	nr	Aa3	A+	0	No
14912L3M1	CATERPILLAR	50,000,000	5.16	11/26/2008	A+	A2	Α	0	No
12560PDV0	CIT GROUP INC	38,216,498	5.46	5/23/2008	Α	A2	Α	0	No
12560PEQ0	CIT GROUP INC	25,002,815	5.42	2/21/2008	Α	A2	Α	0	No
12560PEQ0	CIT GROUP INC	24,858,635	5.42	2/21/2008	Α	A2	Α	0	No
12560PEQ0	CIT GROUP INC	9,943,454	5.44	2/21/2008	Α	A2	Α	0	No
36962GK45	GENERAL ELECTRIC	45,856,878	5.33	1/15/2008	nr	Aaa	AAA	0	No
36962GK45	GENERAL ELECTRIC	20,003,000	5.77	1/15/2008	nr	Aaa	AAA	0	No
48273PRR6	K2 (USA) LLC	49,250,000	5.28	3/10/2008	nr	Aaa	AAA	1	Yes

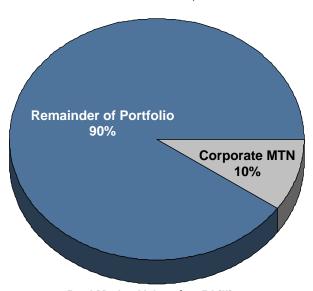
### III. 3. Stressed Securities - SIVs in the Educational Investment Pool



#### **SIV Analysis – Educational Investment Pool**

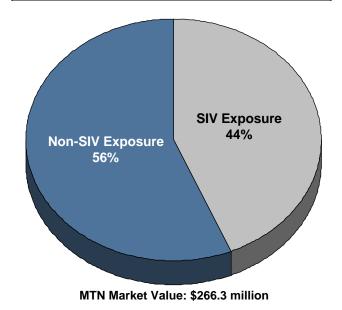
- Approximately 10% of the Educational Investment Pool is invested in corporate notes, all of which are investment-grade quality.
- 32% of the corporate notes are rated A, while the remainder are rated AAA.
- Of the corporate notes in the Educational Investment Pool 44% or \$127.8 million are SIVs.
- SIVS in the Educational Investment Pool include SIGMA and K2.

# Corporate Note Allocation as of December 31, 2007



Pool Market Value: \$2.35 billion

SIV Exposure Among Corporate Notes					
	Market Value	Percent MV			
SIV Exposure	98,500,000	44%			
Non SIV	127,783,231	56%			



### III. 3. Stressed Securities – SIVs in the Educational Investment Pool



### **Corporate Note Holdings**

- The Educational Investment Pool holds approximately \$227 million in short- to medium-term corporate notes; 60% of the current corporate note portfolio is scheduled to mature within 3 months.
- The Pool holds two shorter-term SIVs K2 LLC and SIGMA. These securities entail over 40% of the portfolio's corporate note exposure; they are scheduled to mature in February and March 2008.

CUSIP	Issuer	Market Value	Interest Rate(%)	Maturity Date	Fitch Ratings	Moody's Ratings	S&P Ratings	Asset- Backed Y/ N
14912L3M1	Caterpillar	40,000,000	5.16	11/26/2008	A+	A2	Α	No
12560PEQ0	Cit Group Inc	9,943,454	5.46	2/21/2008	Α	A2	Α	No
36962GN42	General Electric Co	20,004,000	5.31	1/3/2008	nr	Aaa	AAA	No
36962GK45	General Electric Co	10,001,500	5.77	1/15/2008	nr	Aaa	AAA	No
48273PRR6	K2 (USA) LLC	49,250,000	5.28	3/10/2008	nr	Aaa	AAA	Yes
59018YYN5	Merrill Lynch & Co	22,834,277	5.59	10/23/2008	A+	A1	A+	No
8265Q0WB4	SIGMA	49,250,000	5.28	2/21/2008	nr	Aaa	AAA	Yes
89233PK96	Toyota Motor Credit	25,000,000	5.15	10/6/2008	nr	Aaa	AAAe	No

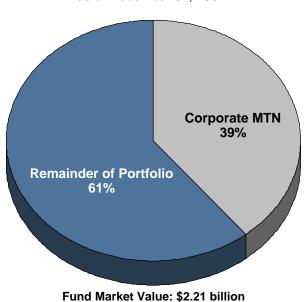
### III. 3. Stressed Securities – SIVs in the Extended Fund



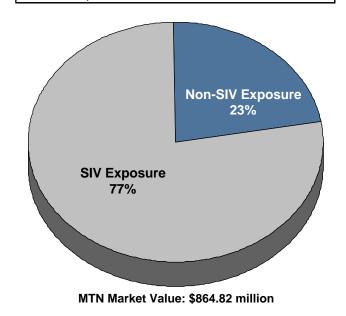
### **SIV Analysis – County Investment Pool**

- There is a high concentration of SIVs among corporate notes.
- K2 and SIGMA comprise 10% of the portfolio's market value allocation or \$222.4 million in market value.
- These 2 holdings will mature between May 2008 and June 2009.

# Corporate Note Allocation as of December 31, 2007



SIV Exposure Among Corporate Notes					
	Market Value	Percent MV			
SIV Exposure	670,088,000	77%			
Non SIV Exposure	194,732,439	23%			



### III. 3. Stressed Securities – SIVs in the Extended Fund



### **Corporate Note Holdings – Extended Fund**

- The Extended Fund's corporate note holdings are diversified among 10 issuers, with nearly 100% of the holdings currently rated AAA by Standard & Poor's.
- However, six of the issuers in this portfolio (all SIVs) have been placed on "negative outlook" by Standard & Poor's and Moody's. The County will need to actively follow the ratings developments regarding these specific issuers.

CUSIP	Issuer	Market Value	Interest Rate(%)	Maturity Date	Fitch Rating	Moody's Rating	S&P Rating	ls SIV?
02666QZY2	American Honda Finance	50,000,000	5.85	9/18/2008	nr	Aa3	A+e	No
12500GVF8	Cc (USA) Inc.	48,500,000	5.26	2/9/2009	nr	Aaae	AAA	Yes
12500GWY6	CC (USA) Inc.	48,500,000	5.31	1/23/2009	nr	Aaae	AAAe	Yes
33828WDY3	Five Finance, Inc	49,981,700	5.32	11/25/2008	AAAe	Aaae	AAAe	Yes
33828WDZ0	Five Finance, Inc	48,500,000	5.36	6/6/2008	AAAe	Aaae	AAAe	Yes
33828WCV0	Five Finance, Inc	14,550,000	5.38	11/25/2008	nr	Aaae	AAA	Yes
36962GY57	General Electric	14,979,000	5.48	10/24/2008	nr	Aaa	AAA	No
36962G2H6	General Electric	6,882,923	5.39	3/12/2010	nr	Aaa	AAA	No
36962G2H6	General Electric	4,588,615	5.99	3/12/2010	nr	Aaa	AAA	No
36962GW83	General Electric	2,284,326	5.63	5/10/2010	nr	Aaa	AAA	No
48273PTK9	K2 (USA) LLC	50,031,300	5.48	6/9/2009	nr	Aaae	AAAe	Yes
48273PRE5	K2 (USA) LLC	24,625,000	6.31	2/23/2009	nr	Aaae	AAA	Yes
48273PTL7	K2 (USA) LLC	24,625,000	5.38	6/9/2009	nr	Aaae	AAAe	Yes
8265Q0UM2	SIGMA	49,250,000	5.20	5/14/2008	nr	Aaae	AAA	Yes
8265Q0UA8	SIGMA	49,250,000	5.35	10/30/2008	nr	Aaae	AAA	Yes
8265Q0UA8	SIGMA	24,625,000	5.35	10/30/2008	nr	Aaae	AAA	Yes
87582TKX6	Tango	48,500,000	5.36	6/10/2009	nr	Aaae	AAA	Yes
87582TJM2	Tango	48,500,000	5.35	11/12/2008	nr	Aaae	AAA	Yes
87582TLG2	Tango	38,800,000	5.50	7/30/2009	nr	Aaae	AAAe	Yes
87582TJA8	Tango	24,250,000	5.35	9/25/2009	nr	Aaae	AAA	Yes
89233PK47	Toyota Motor Credit	49,984,500	5.20	9/24/2009	nr	Aaa	AAAe	No
89233PM37	Toyota Motor Credit	25,000,000	4.98	10/30/2010	nr	Aaa	AAAe	No
89233PJ31	Toyota Motor Credit	16,000,576	5.42	8/6/2009	nr	Aaa	nr	No
96335WJT1	Whistlejacket Capital LLC	48,500,000	5.34	1/25/2009	nr	Aaae	AAAe	Yes
96335WFP3	Whistlejacket Capital LLC	29,100,000	5.19	1/26/2009	nr	Aaae	AAA	Yes



SIV Held by the County	Observations
Relative performance	<ul> <li>Although the markets have battered SIVs, Orange County seems to have selected SIVs that should continue to perform relatively well. That being said there are still concerns</li> </ul>
Bank / Sponsor Support	<ul> <li>The decision of banks to support their sponsored SIVs is a positive for the County.</li> <li>Citigroup's support of Five Finance, and CC Finance removes much doubt about these programs. Given this support these securities will most likely mature as projected. This could change if Citigroup withdrew its support.</li> <li>Standard Chartered Bank has indicated that it would provide similar support to its Whistlejacket program.</li> <li>Rabobank has indicated it would provide similar support to its Tango Finance</li> <li>Dresdner Bank has thus far not committed to support its K2 program.</li> </ul>

OC SIV Programs	Sponsor	Level of Support Indicated
CC Finance	Citigroup	Committed
Five Finance	Citigroup	Committed
Tango Finance	Rabobank	Committed
Whistlejacket	Standard Charter	Committed
K2	Dresdner Bank	Uncommitted
SIGMA	• none	• none

### SIV Maturity Schedule (combined pools)

Time	SIV Market Value Dollars	Cumulative
0-2m	147,750,000	18.07%
2-4m	49,250,000	24.09%
4-6m	48,500,000	30.02%
6-8m	0	30.02%
8-10m	122,375,000	44.98%
10-12m	64,531,700	52.87%
12-14m	199,225,000	77.23%
14-16m	0	77.23%
16-18m	123,156,300	92.29%
> 18m	63,050,000	100.00%
<b>Grand Total</b>	817,838,000	

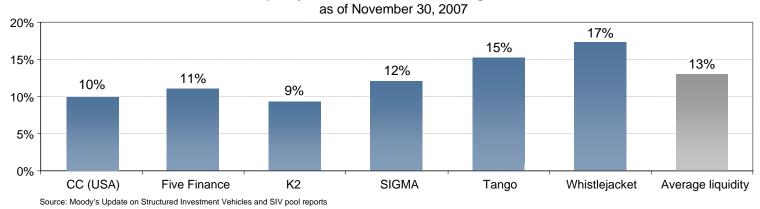


Торіс	Observations
SIV Holdings in Aggregate	<ul> <li>Liquidity support provides an ABCP program the means to pay off maturing debt in the event that it is unable to issue new debt.</li> <li>SIVs do not have enough liquidity support to cover all of their outstanding debt. Several SIVs sponsors have pledged support to the programs they sponsor to provide liquidity to pay off maturing debt. If liquidity support is removed, the vehicles could have liquidity challenges.</li> <li>Liquidity support is typically only available to SIVs affiliated with large commercial banks. One Orange County holding, SIGMA, is not affiliated with a bank and is unlikely to receive any liquidity support.</li> <li>K2's sponsor, Dresdner, has not offered any support to date</li> </ul>

				Liquidity	
SIV	Senior Notes (\$Million)	Current Senior Rating	Liquidity (\$Million)	Percent of Senior Notes	Orange County Holdings (Market Value in \$Millions)
CC (USA) Inc	14,022	P-1/ Aaa	1,417	10.1%	97
Five Finance, Inc	9,752	P-1/ Aaa*	1,080	11.1%	113
K2 (USA)LLC	18,271	P-1/ Aaa	1,705	9.3%	198
SIGMA Finance	36,307	P-1/ Aaa	4,387	12.1%	172
Tango Finance	6,900	P-1/ Aaa*	1,050	15.2%	160
Whistlejacket Capital LLC	8,717	P-1/ Aaa*	1,508	17.3%	78
Average liquidity among SIV Uni	verse			13.0%	

<sup>\*</sup> Rating under review

### SIVs Liquidity as a Percent of Outstanding Senior Notes



# III. 3. Stressed Securities – SIVs: SIGMA



SIGMA	Observations
Concerns	SIGMA does not have the support of a large commercial bank.
	Fitch has recently placed SIGMA on negative outlook. SIGMA has recently asked Fitch to withdraw their ratings of SIGMA.
	<ul> <li>SIGMA has apparently not been able to sell commercial paper or medium-term notes; outstanding commercial paper has fallen to \$1.7 billion on December 31,2007 from \$9,558 billion on May 31, 2007.</li> </ul>
	• Like other SIVs, SIGMA has relied increasingly on repurchase agreements to fund maturities. The use of repo has grown to \$10.1 billion as of December 31, 2007 from \$980 million as of May 31, 2007.
	<ul> <li>As of December 31, SIGMA's management report shows roughly \$25 billion in debt maturing in 2008. The vehicle will have to find methods to fund those maturities.</li> </ul>
	NAV information is not readily available for the program.
	<ul> <li>As with all SIVs, the program does not have 100% liquidity support. SIGMA had \$4.1 billion in committed liquidity facilities on December 31, 2007 or 9.3% of outstanding liabilities.</li> </ul>
Positives	SIGMA has stable underlying assets. As of December 31, 2007, 79% of the portfolios assets were rated AA or higher by S&P.
	According to management, the vehicle has no exposure to subprime or Alt-A RMBS, Home Equity Transactions or subprime credit cards.
	SIGMA does not contain NAV triggers that could start an enforcement event leading to the sale of assets.

### **SIGMA Finance Debt Maturity Schedule**

Time	Outstanding Total	Cumulative Total
0-3m	14%	14%
4-9m	9%	23%
10-12m	27%	50%
> 1 year	50%	100%

Source: SIGMA's Monthly Business Report for December 31, 2007

### **Orange County SIGMA Finance Maturity Schedule**

Time	Market Value	Cumulative Percent
0-3m	49,250,000	29%
3-6m	49,250,000	57%
6-9m	0	57%
9-12m	73,875,000	100%



K2	Observations
Concerns	Like all SIVs, K2 does not have 100% liquidity support.
	According to the latest report dated November 30, 2007, K2 has \$1.7 billion in committed liquidity or 8.8% of outstanding liabilities
	NAV value continues to fall – management reports NAV at 61.7% on January 11, 2008
	• Difficult selling commercial paper; outstanding commercial paper has dropped from \$3.1 billion on January 26, 2007 to \$547 million at the end of November 2007.
Positives	Underlying asset quality is still strong.
	• 87% of assets are rated AA or better by S&P on November 30, 2007 compared to 82% on January 27, 2007.
	Management reports that K2 has no exposure to subprime, Alt-A, to CDOs backed by ABS or MBS collateral or home equity and home equity lines of credit.
	There is the possibility of liquidity support from Dresdner Bank.

**Top 5 K2 Holdings by Sector** 

Industry Sector	% of K2 Portfolio
Commercial Bank Subordinate Debt	22%
Commercial Bank Senior Debt	10%
Mortgage-Backed Securities	9%
Insurance (Monoline)	9%
Insurance (Other)	7%

Source: K2's Consolidated Investor Report for November 30, 2007

### **Orange County K2 Maturity Schedule**

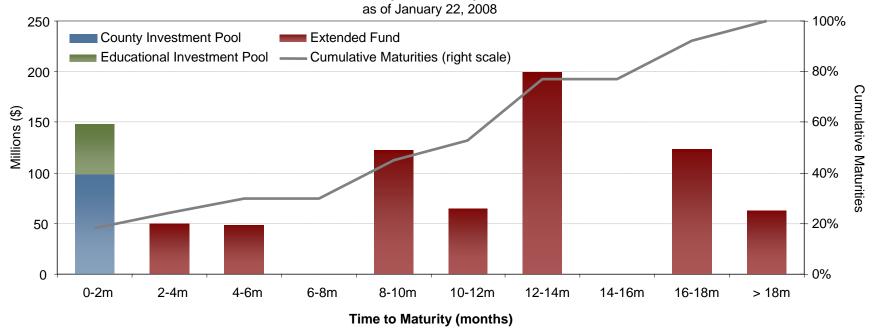
Time	Market Value	Cumulative Percent
0-3m	98,500,000	50%
3-6m	0	50%
6-9m	0	50%
9-12m	0	50%
12-14m	24,625,000	62%
14-16m	0	62%
16-18m	74,656,300	100%

### **III. 3. Stressed Securities**



Торіс	Observations
SIV Maturities	• SIVs held in the Money Market and Schools' Money Market Funds will mature within two months. In this capacity, the SIVs held in these two funds are of lesser concern than those held in the Extended Fund. The longest maturing SIV, a \$25 million Tango Finance holding, is invested in the Extended Fund, and matures in September, 2009.



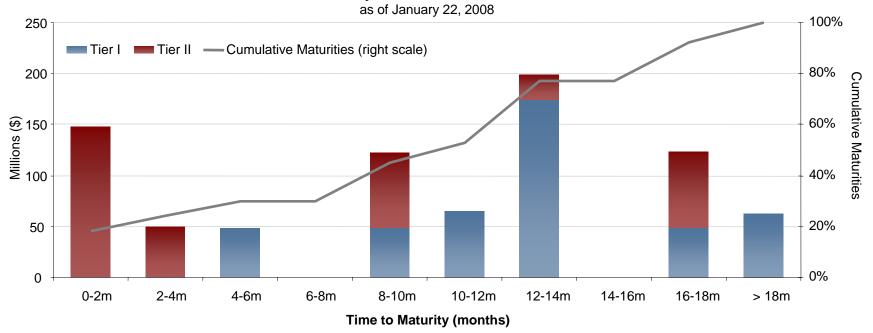


### III. 3. Stressed Securities continued



1	Горіс	Observations
9	SIV Maturities	<ul> <li>Total SIV holdings consist of what we would consider Tier I and Tier II securities, as described earlier. Nearly 40% of Tier II SIVS will mature at a quick pace – within two months. Additionally, over 50% of the total SIV portfolio will mature within the next 12 months.</li> </ul>

### SIV Maturity Schedule - Combined Funds



# **III. 3. Stressed Securities**



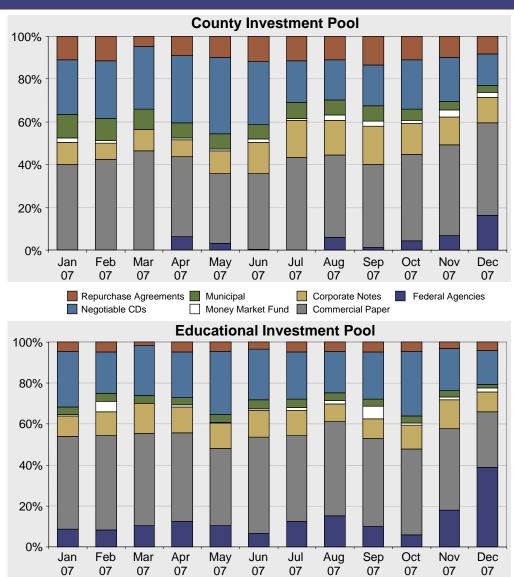
Topic	Observations
Outlook for SIVs	<ul> <li>The SIV and SIV-lite sectors have been the hardest hit in the ABCP markets. SIVs and SIV-lites with heavy exposure to the sub-prime residential mortgage markets suffered the most. Most ABCP commercial paper programs were able to survive the downturn because of protections that SIVs did not have. SIVs without 100% liquidity support like many ABCP programs were unable to roll maturing debt. Some resorted to selling assets into a distressed market to raise funds.</li> </ul>
	<ul> <li>The SIVs that failed experienced rapidly falling NAV as the capital that protected senior debt holders was eaten away. Some were forced to liquidate or entered into states of enforcement shutting down their operations.</li> </ul>
	There currently is no secondary market in the SIV sector making it difficult if not impossible to sell SIV holdings.
	<ul> <li>Recent announcements that major banks will support sponsored SIVs has given a boost to holders of those securities. Many of those programs were beginning to experience some of the problems that the failed SIVS were.</li> </ul>
	<ul> <li>Lower absolute yields and the potential for calming credit markets could be helpful to remaining SIVs. These developments could lead to higher values in the underlying assets relieving NAV concerns. Lower rates should also provide cheaper funding for remaining SIVs.</li> </ul>
	<ul> <li>Recent weakness in the monoline insurers, AMBAC and MBIA, in particularly could have a negative effect on SIVS. Some assets in SIVs have monocline wraps to increase the securities ratings. Further downgrades of those securities could endanger the ratings and market values of those securities.</li> </ul>
Strategies	We agree with the County's conclusion to hold their current SIV positions for the following reasons:
	— Most of the County's holdings have received support from sponsoring banks, It is likely that these securities will mature as projected unless the sponsoring bank withdrawals support or the sponsoring bank becomes insolvent. The credit risk of the SIV in some respects has now been transferred to the sponsoring bank. We would recommend close monitoring of the sponsoring bank. In addition we would also recommend including the outstanding exposure of supported SIVS in the evaluation of credit exposure related to the supporting institutions.
	<ul> <li>Although there are concerns about the two unsupported SIVs those programs seem to be meeting the challenges before them. There is the potential for further deterioration if the credit markets in general and the ABS markets specifically do not improve. We are hopeful that these programs will continue to perform.</li> </ul>
	<ul> <li>Most importantly, it is simply unrealistic to sell SIVs at the moment. Many SIVs can't issue debt into the current marketplace and there is no secondary market to speak of. Any sales of SIVs would most likely occur at deep discounts.</li> </ul>

### III. 4. Historic Sector Analysis – County and Educational Investment Pools



#### **County and Educational Investment Pools**

- Allocations over the last twelve months were relatively stable, with marked increased to Federal Agencies in the last few months of the year.
- Average receipts for the County and the Educational Investment Pool increased as taxes were received in the last few months of 2007.
- It appears that the Pools' allocations were driven by larger credit and market forces as this change coincided with the heightened turmoil in the markets related to subprime housing, primarily affecting corporate credits.
- The increased tax receipts made this change in allocation possible in October through December without the need to sell securities.
- The Educational Investment Pool's higher allocation to Federal Agencies reflects a generally more conservative allocation for this pool.

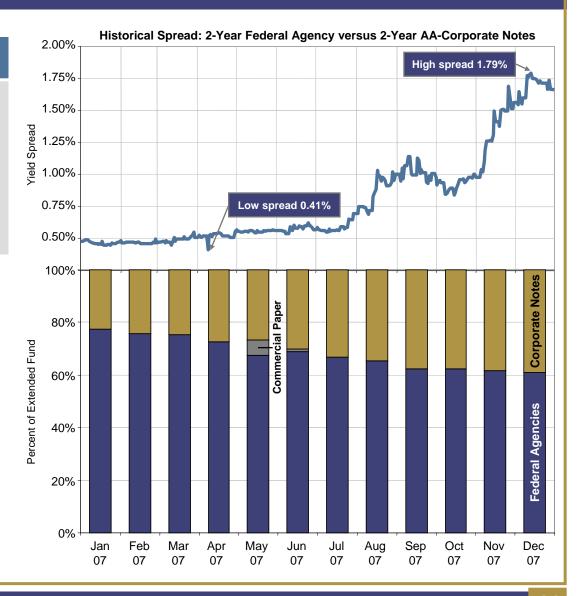


### III. 4. Historic Sector Analysis – Extended Fund



#### **Extended Fund**

- The Extended Fund's allocation to corporate notes increased as spreads reached their widest levels in 2007.
- While this strategy has added credit risk to the portfolio, it has the potential to increase returns significantly if or when credit spreads decrease.
- Continuing turmoil in the credit markets, however, adds uncertainty to both the value of the credit instruments and the timing of any spread tightening.



# III. 5. Liquidity – Historical Cash Flow Analysis: County Investment Pool and Extended Fund



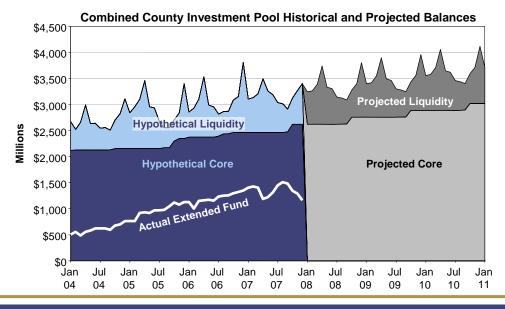
#### **Key Terms and Assumptions**

#### • Assumption: 15% Liquidity Cushion

- This assumptions maintains the liquid portion of the assets always at 15% of the total funds or higher.
- Actual Extended Fund The balance of the Extended Fund allocated to either the County Investment Pool or the Educational Investment Pool.
- Hypothetical Liquidity The amount of assets that were needed to be kept short for cash expenditures.
- Hypothetical Core The amount of assets that could have been invested in a longer-term strategy.
- Projected Liquidity The amount of assets that should be kept in the investment pools to meet short-term cash needs based on historical trends.
- Projected Core The amount of assets the County could invest in a longer-term strategy based on historical trends.

#### **Combined County Investment Pool**

- The combined County Investment Pool assets grew by 5.4% from January 2004 through December 2007.
- The County Investment Pool's allocation to the Extended Fund has grown from \$505 million in January 2004 to \$1,161 million in December 2007.
- Theoretically, the County could have allocated between \$2.12 2.62 billion to a longerterm strategy.
- This allocation to the Extended Fund would have left \$376 1,342 million in the County's money market fund.
- Projecting the County's combined Investment Pool balances based on the historical trend of 5.4% growth would result in a the following levels through January 2011:
  - Projected Core = \$2.62 3.02 billion
  - Projected Liquidity = \$463 1,167 million
- If the County experience zero growth, the County's combined Investment Pool balances would result in a the following levels through January 2011:
  - Projected Core = \$2.52 billion
  - Projected Liquidity = \$453 1,170 million



# III. 5. Liquidity – Historical Cash Flow Analysis: Educational Investment Pool and Extended Fund



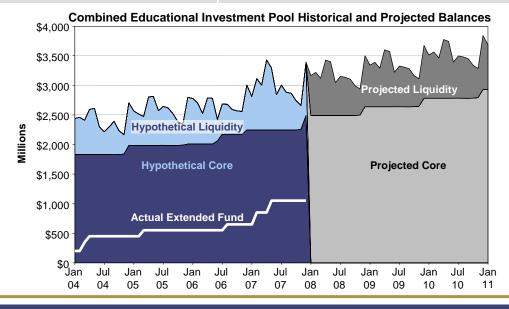
#### **Key Terms and Assumptions**

#### • Assumption: 15% Liquidity Cushion

- This assumptions maintains the liquid portion of the assets always at 15% of the total funds or higher.
- Actual Extended Fund The balance of the Extended Fund allocated to either the County Investment Pool or the Educational Investment Pool.
- Hypothetical Liquidity The amount of assets that were needed to be kept short for cash expenditures.
- Hypothetical Core The amount of assets that could have been invested in a longer-term strategy.
- Projected Liquidity The amount of assets that should be kept in the investment pools to meet short-term cash needs based on historical trends.
- Projected Core The amount of assets the County could invest in a longer-term strategy based on historical trends.

#### **Combined County Investment Pool**

- The combined Educational Investment Pool assets grew by 6.6% from January 2004 through December 2007.
- The Educational Investment Pool's allocation to the Extended Fund has grown from \$200 million in January 2004 to \$1,050 million in December 2007.
- Theoretically, the Schools' could have allocated between \$1.83 2.35 billion to a longerterm strategy.
- This allocation to the Extended Fund would have left \$325 1,184 million in the Educational Investment Pool.
- Projecting the Schools' combined Investment Pool balances based on the historical trend of 6.6% growth would result in a the following levels through January 2011:
  - Projected Core = \$2.49 2.93 billion
  - Projected Liquidity = \$441 989 million
- If the Schools experience zero growth, the combined Educational Investment Pool balances would result in a the following levels through January 2011:
  - Projected Core = \$2.35 billion
  - Projected Liquidity = \$427 1.017 million



### III. 5. Liquidity – Stress Test



#### **County and Educational Investment Pools**

• The County Investment Pool and Educational Investment Pool have sufficient flexibility to withstand swings in interest rates of up to at least 100 basis points (1%) up or down and maintain a pool share price (NAV) of \$1.00.

#### **County Investment Pool NAV Stress Test**

#### **Interest Rate Change (in basis points)** +100 +50 +25 -25 -50 -100 WAM 21 NAV 0.999 0.99843 0.99871 0.99886 0.99900 0.99914 0.99929 0.99957 1 day 0.99897 0.99899 0.99899 0.99900 0.99901 0.99901 0.99903 Other Weighted Average Maturities 7 days 0.99881 0.99890 0.99895 0.99900 0.99905 0.99910 0.99919 15 days 0.99859 0.99879 0.99890 0.99900 0.99910 0.99921 0.99941 30 days 0.99818 0.99859 0.99879 0.99900 0.99921 0.99941 0.99982 45 days 0.99777 0.99838 0.99869 0.99900 0.99931 0.99962 1.00023 60 days 0.99736 0.99818 0.99859 0.99900 0.99941 0.99982 1.00064 90 days 0.99654 0.99777 0.99838 0.99900 0.99962 1.00023 1.00146 180 days 0.99407 0.99654 0.99777 0.99900 1.00023 1.00146 1.00393 365 days 0.98901 0.99401 0.99650 0.99900 1.00150 1.00400 1.00899

#### **Educational Investment Pool NAV Stress Test**

		Interest Rate Change (in basis points)						
WAM	27	+100	+50	+25	0	-25	-50	-100
VAV	0.999	0.99826	0.99863	0.99882	0.99900	0.99918	0.99937	0.99974
S	1 day	0.99897	0.99899	0.99899	0.99900	0.99901	0.99901	0.99903
Maturities	7 days	0.99881	0.99890	0.99895	0.99900	0.99905	0.99910	0.99919
	15 days	0.99859	0.99879	0.99890	0.99900	0.99910	0.99921	0.99941
rage	30 days	0.99818	0.99859	0.99879	0.99900	0.99921	0.99941	0.99982
Ave	45 days	0.99777	0.99838	0.99869	0.99900	0.99931	0.99962	1.00023
ghtec	60 days	0.99736	0.99818	0.99859	0.99900	0.99941	0.99982	1.00064
Wei	90 days	0.99654	0.99777	0.99838	0.99900	0.99962	1.00023	1.00146
Other Weighted Average	180 days	0.99407	0.99654	0.99777	0.99900	1.00023	1.00146	1.00393
O	365 days	0.98901	0.99401	0.99650	0.99900	1.00150	1.00400	1.00899

# III. 5. Liquidity



Topic	Observations
Liquidity	Liquidity is here defined as being able to sell assets at or near the market price.
	<ul> <li>Under normal market conditions we would consider the portfolio to be highly liquid, based on the structure of the fund and types of securities held.</li> </ul>
	<ul> <li>Most securities would be easy to sell at attractive bid/ask spreads including agencies, commercial paper and medium-term notes.</li> </ul>
Asset-Backed Commercial Paper	Under conditions of stress similar to that of late 2007, the portfolio would loss some liquidity.
	Bid/ask spreads would be wider in almost all sectors. It is likely if those conditions were to return that liquidity in many asset-backed commercial paper programs would disappear.
	Even though the ABCP has shown definite signs of improving it may be to early to characterize that market as back to normal.
	<ul> <li>It is likely that any sales of ABCP paper programs would be at wide bid/ask spreads and possibly at levels that could prove prohibitive.</li> </ul>
	The County's allocation to ABCP does decrease liquidity a bit.
SIVs and Medium-Term Notes	<ul> <li>None of the County's SIV holdings can be characterized as liquid. It is likely that if any sales were made they would be at deeply discounted levels.</li> </ul>
	Under condition of credit stress it would also be difficult to sell some medium-term notes at attractive levels.
	<ul> <li>Like other sectors, the bid/ask spreads for corporate notes have also increased. This especially true for the finance sectors.</li> </ul>

# III. 6. Investment Policy Compliance – Investment Policy Summary



Туре	Maximum Portfolio Allocation	Issuer Restrictions	Credit Ratings	Maturity Restrictions	
U.S. Treasuries	100%	N/A	N/A	Max 397 days (13 months) for MMF Max 3 years for Extended Fund	
U.S. Government Agencies	100%	N/A	N/A	Max 397 days (13 months) for MMF Max 3 years for Extended Fund	
Commercial Paper	45% for MMFs 40% for Extended Fund 40% Combined	Max 5% per issuer	A-1/P-1/F-1No less than A on long-term debt per issuer	Max 270 days	
Negotiable Certificates of Deposit	30%	Max 5% per issuer	Short-term:A-1/P-1/F-; No less than A on long-term debt per issuer A- or above for Money Market Funds on long-term CDs AAA for Extended Fund on long-term CDs	Max 397 days (13 months) for MMF Max 3 years for Extended Fund	
Repos & Securities Lending	50%	Max 5% per issuer	A-1/P-1/F-1No less than A on long-term debt per issuer	Max 1 year for Repos Max 92 days for Securities Lending"	
Bankers' Acceptances	40%	Max 5% per issuer	Rated by at least 2 Nationally Recognized Ratings Agencies	Max 180 days	
Money Market Funds	20%	Max 10% per issuer	Attain highest ratings by at least 2 Nationally Recognized Ratings Agencies Investment Advisor with at least 5 years of experience		
California Municipal Obligations	10%	Max 5% per issuer		Max 397 days (13 months) for MMF Max 3 years for Extended Fund	
Receivable-Backed Securities	10%	Max 5% per issuer	AA on securities/A on issuers	Max 90 days	
Medium-Term Notes	30%	Max 5% per issuer	A- for MMFAAA for Extended Fund	Max 397 days (13 months) for MMF Max 3 years for Extended Fund	
Funding Agreements	10%	Max 5% per issuer	Extended Fund may not invest	Max 397 days (13 months) for MMF Extended Fund may not invest	
Other (as defined by California Code 53601.7)	Not addressed	Max 10% of MMFs	Only Money Market Funds may invest in securities classified as "other."	Max 397 days (13 months) for MMF Max 3 years for Extended Fund	

# III. 6. Investment Policy Compliance – County Investment Pool



Topic	Observations
Sector Allocation	• All sectors are within the County's Investment Policy limits. Commercial paper holdings are within 2% of the Policy limits while repurchase agreements are well below the 50% limit as set forth by the County's policy.
Credit Analysis	<ul> <li>The County Investment Pool is in compliance with the County's Investment Policy per credit ratings. All short-term money market instruments are rated in the top two ratings categories by at least two NSROs.</li> <li>The County's lowest rated corporate notes are CIT Group and Caterpillar notes – rated "A" by Standard and Poor's; these are above the minimum "A-" rating as set forth in the County's Investment Policy.</li> </ul>
Maturity Distribution	Maturity distributions all fall within the County's Investment Policy Statement. The longest maturity for all securities is a 10-month A-rated corporate note issued by Caterpillar .

Security Type	Market Value(\$)	Allocation Percentage	Within Policy Limits	Max Maturity Held (days)	Within Policy Limits
Negotiable CDs	329,996,850	15%	✓	70	✓
Commercial Paper	964,414,470	43%	✓	70	✓
Federal Agency	369,061,140	16%	✓	37	✓
Corporate Notes	266,360,253	12%	✓	331	✓
Money Market Fund	53,685,462	2%	✓	N/A	✓
Municipal	67,625,579	3%	✓	31	✓
Repurchase Agreement	190,000,000	9%	✓	2	✓

# III. 6. Investment Policy Compliance – Educational Investment Pool



Topic	Observations
Sector Allocation	All sector allocations are within the limits set forth by the County's Investment Policy Statement.
Credit Analysis	<ul> <li>The credit ratings of all securities are in compliance with the County's Investment Policy Statement.</li> <li>The Educational Investment Pool holds two "A" rated corporate note issues – a \$40 million par value Caterpillar note that</li> </ul>
	matures in November 2008 and a \$10 million par value CIT Group note that will mature in February 2008.
	<ul> <li>The Pool also holds two SIVs, SIGMA Finance and K2 LLC – these SIVs should be watched carefully for possible ratings movements.</li> </ul>
Maturity Distribution	<ul> <li>All maturities are in compliance with the Pool's Policy. The longest maturing security is the Caterpillar note as mentioned above. This security is non-callable.</li> </ul>

Security Type	Market Value(\$)	Allocation Percentage	Within Policy Limits	Max Maturity Held (days)	Within Policy Limits
Negotiable CDs	382,988,087	16%	✓	85	✓
Commercial Paper	641,130,961	27%	✓	38	✓
Federal Agency	911,012,660	39%	✓	60	✓
Corporate Notes	226,283,231	10%	✓	331	✓
Money Market Fund	43,533,767	2%	✓	N/A	✓
Municipal	42,169,751	2%	✓	31	✓
Repurchase Agreement	100,000,000	4%	✓	2	✓

# III. 6. Investment Policy Compliance – Extended Fund



Topic	Observations
Sector Allocation	• When evaluated on a stand-alone basis, the Extended Fund is out of compliance with the County's Investment Policy in regard to sector distribution. As of December 31, the County held 39% (an additional \$200 million in current market value) in corporate notes. The allowable allocation per the County's Investment Policy is 30%.
Credit Analysis	<ul> <li>The Fund is in compliance with the County's Investment Policy Statement per issuer credit ratings. The Policy states that medium-term note issuers must carry a minimum A- credit rating; the lowest credit rating on any corporate note in the Fund is a non-callable A+ rated American Honda Finance note that matures September 2008. This issuer has been placed on "watch effective" by Standard and Poor's and should be followed closely for any subsequent ratings actions.</li> </ul>
Maturity Distribution	• The Extended Fund is in compliance with the County's Investment Policy Statement for maturity distribution. The longest maturing Federal Agency is a \$20.5 million par value callable FHLB note that matures November 26, 2010 (next call date is Feb. 26, 2008). The longest maturing corporate note is a \$25 million par value callable Toyota corporate note that matures October 10, 2010 (next call date is April 30, 2009). Per the Policy, maturities of callable notes can be measured to the next call date.

Security Type	Market Value(\$)	Allocation Percentage	Within Policy Limits	Max Maturity Held (days)	Within Policy Limits
Negotiable CDs	0	0%	✓	-	✓
Commercial Paper	0	0%	✓	-	✓
Federal Agency	1,340,922,035	62%	✓	1,061	✓
Corporate Notes	864,820,439	38%	×	1,034	✓
Money Market Fund	0	0%	✓	-	✓
Municipal	0	0%	✓	-	✓
Repurchase Agreement	0	0%	✓	-	✓

## III. 7. Performance/Benchmarking – County and Education Investment Pools

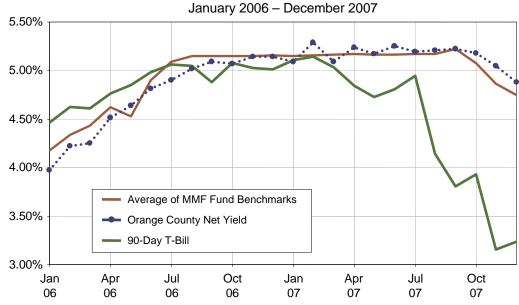


#### Current Benchmarks - Money Market Funds and the 90-Day Treasury Bill

- The current money market fund benchmarks consist of four large funds: Dreyfus Government Cash Management, BlackRock Temporary Fund, Fidelity Institutional Cash Management, and Merrill Lynch Institutional Money Market Fund. These funds have investment policies that permit a higher risk profile than the County's pools so some underperformance can be expected. The Treasurer's business plan also references the 90-Day T-Bill as a performance benchmark for the investment pools.
- The County has generally underperformed the average of the money market fund benchmarks for the past two years. Since October, the County's and the School's investment pools have outperformed the average of the benchmark money market funds on a net basis.

	Average Net Spread
Average of MMF Fund Benchmarks	(0.02%)
Dreyfus Government Cash Management (DGCXX)	0.09%
BlackRock Temporary Fund (TMPXX)	(0.08%)
Fidelity Institutional Cash Management (FMPXX)	(0.11%)
Merrill Lynch Institutional Money Market (MLIXX)	(0.01%)
90-Day T-Bill	0.31%

#### Current Benchmarks versus Orange County Net Yields



Source: Bloomberg and Orange County Treasurer's Monthly Management Report

# III. 7. Performance/Benchmarking – Current Benchmarks Data



	Orange County's Current Benchmarks (Net)						
Date	MMF Average	Dreyfus Government Cash Management (DGCXX)	BlackRock Temporary Fund (TMPXX)	Fidelity Institutional Cash Management (FMPXX)	Merrill Lynch Institutional Money Market (MLIXX)	90-Day T-Bill	OCIP - Net
1/31/06	4.18%	4.10%	4.24%	4.23%	4.13%	4.47%	3.97%
2/28/06	4.34%	4.26%	4.39%	4.41%	4.29%	4.62%	4.22%
3/31/06	4.44%	4.38%	4.48%	4.50%	4.38%	4.61%	4.25%
4/30/06	4.62%	4.56%	4.67%	4.69%	4.56%	4.76%	4.51%
5/31/06	4.53%	4.72%	4.81%	4.85%	4.71%	4.85%	4.64%
6/30/06	4.90%	4.87%	4.92%	4.97%	4.84%	4.98%	4.81%
7/31/06	5.09%	5.03%	5.15%	5.15%	5.03%	5.06%	4.90%
8/31/06	5.15%	5.10%	5.20%	5.20%	5.09%	5.05%	5.02%
9/30/06	5.15%	5.11%	5.19%	5.20%	5.09%	4.88%	5.09%
10/31/06	5.15%	5.09%	5.19%	5.21%	5.10%	5.08%	5.07%
11/30/06	5.15%	5.11%	5.18%	5.21%	5.10%	5.02%	5.14%
12/31/06	5.16%	5.10%	5.19%	5.22%	5.12%	5.01%	5.14%
1/31/07	5.15%	5.08%	5.18%	5.22%	5.12%	5.11%	5.09%
2/28/07	5.16%	5.08%	5.20%	5.21%	5.13%	5.14%	5.29%
3/31/07	5.16%	5.10%	5.20%	5.22%	5.13%	5.03%	5.09%
4/30/07	5.17%	5.10%	5.20%	5.23%	5.14%	4.85%	5.24%
5/31/07	5.16%	5.10%	5.19%	5.22%	5.14%	4.73%	5.17%
6/30/07	5.17%	5.12%	5.19%	5.22%	5.13%	4.81%	5.25%
7/31/07	5.17%	5.11%	5.19%	5.23%	5.14%	4.95%	5.19%
8/31/07	5.17%	5.04%	5.21%	5.27%	5.17%	4.14%	5.21%
9/30/07	5.22%	4.91%	5.37%	5.33%	5.27%	3.81%	5.22%
10/31/07	5.07%	4.69%	5.22%	5.20%	5.18%	3.93%	5.18%
11/30/07	4.86%	4.45%	5.02%	5.00%	4.98%	3.16%	5.05%
12/31/07	4.75%	4.27%	4.86%	4.97%	4.88%	3.24%	4.88%

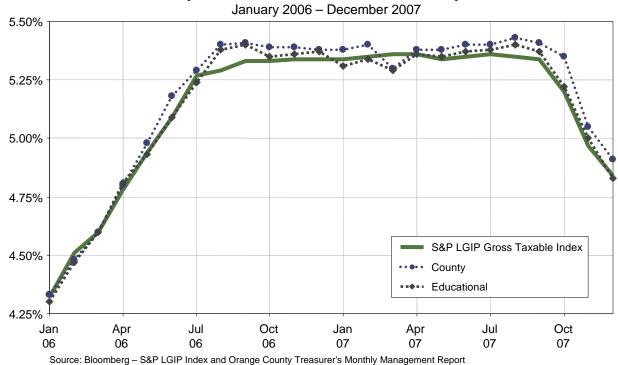
## III. 7. Performance/Benchmarking – County and Education Investment Pools



#### Alternative Benchmarks - S&P LGIP Index

- The Standard & Poor's Local Government Investment Pool (LGIP) Taxable Index provides a good peer group comparison for LGIPs around the County.
- As the County procures an S&P pool rating, the pools would actually be included in this group.
- The County Investment Pool's average spread to the S&P LGIP Taxable Index is 5 basis points (0.05%) over the past two years. The Educational Investment Pool's average spread to the S&P LGIP Taxable Index is 1 basis point (0.01%). Many of the funds in the LGIP Index have investment policies that allow a higher risk profile than the County's pools so some underperformance can be expected.

# Standard & Poor's LGIP Taxable Index 30-Day Yields versus County and Educational Investment Pool Monthly Yields



## III. 7. Performance/Benchmarking – County and Education Investment Pools

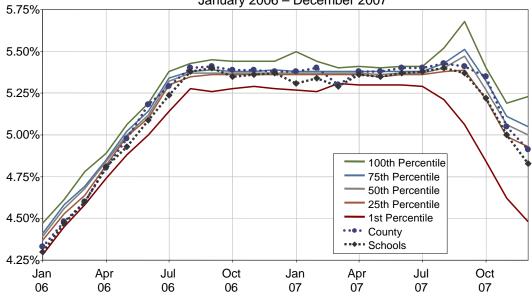


#### Alternative Benchmarks - iMoneyNet

- The County Investment Pool and Educational Investment Pool would benefit from comparing the pool yields to a peer group such as the money market funds included in the iMoneyNet Prime Money Market Fund rankings. Many of the funds in the LGIP Index have investment policies that allow a higher risk profile than the County's pools so some underperformance can be expected.
- This comparison would provide a frame of reference for the gross performance of the pools relative to other institutional prime money market funds.
- Since January 2006, the County Investment Pool has had a similar yield to the 50<sup>th</sup> percentile of the iMoneyNet's group of prime funds as shown in the table below.
- The Education Investment Pool was most like the iMoneyNet's 25th percentile of prime funds over the past two years.

# County and Educational Investment Pool Monthly Yields January 2006 – December 2007 5.75%

Average Gross Spread		County Investment Pool	Educational Investment Pool	
onal	100th Percentile	(0.09%)	(0.13%)	
Institui ings	75th Percentile	(0.03%)	(0.06%)	
Net Prin MMF Ra	50th Percentile	(0.00%)	(0.04%)	
	25th Percentile	0.02%	(0.02%)	
iMor	1st Percentile	0.16%	0.12%	



iMoneyNet Gross Prime Fund 30- Day Yield Rankings versus

Source: iMoneyNet U.S. Prime Institutional Average Money Market Funds and Orange County Treasurer's Monthly Management Report

# III. 7. Performance/Benchmarking – Alternative Benchmarks Data



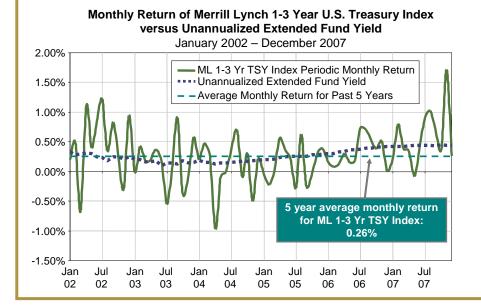
		Gross	Benchmark	Compariso	ne			
			neyNet Prim			ings		
	S&P LGIP	100th	75th	50th	25th	1st	County Gross	Educational
Date	Taxable Index	Percentile	Percentile	Percentile	Percentile	Percentile	Yields	Gross Yields
1/31/06	4.32%	4.47%	4.41%	4.39%	4.37%	4.28%	4.33%	4.30%
2/28/06	4.51%	4.61%	4.58%	4.56%	4.53%	4.45%	4.48%	4.47%
3/31/06	4.60%	4.78%	4.69%	4.68%	4.64%	4.58%	4.60%	4.60%
4/30/06	4.78%	4.89%	4.85%	4.84%	4.82%	4.74%	4.80%	4.81%
5/31/06	4.94%	5.06%	5.02%	5.00%	4.99%	4.88%	4.98%	4.93%
6/30/06	5.09%	5.19%	5.14%	5.12%	5.10%	5.00%	5.18%	5.09%
7/31/06	5.27%	5.38%	5.34%	5.32%	5.30%	5.14%	5.29%	5.24%
8/31/06	5.29%	5.43%	5.38%	5.37%	5.35%	5.28%	5.40%	5.38%
9/30/06	5.33%	5.45%	5.39%	5.37%	5.36%	5.26%	5.41%	5.40%
10/31/06	5.33%	5.44%	5.38%	5.37%	5.36%	5.28%	5.39%	5.35%
11/30/06	5.34%	5.44%	5.38%	5.37%	5.36%	5.29%	5.39%	5.36%
12/31/06	5.34%	5.44%	5.39%	5.37%	5.36%	5.28%	5.38%	5.37%
1/31/07	5.34%	5.50%	5.38%	5.37%	5.36%	5.27%	5.38%	5.31%
2/28/07	5.35%	5.44%	5.38%	5.37%	5.36%	5.26%	5.40%	5.34%
3/31/07	5.36%	5.40%	5.38%	5.37%	5.36%	5.31%	5.30%	5.29%
4/30/07	5.36%	5.41%	5.38%	5.37%	5.36%	5.30%	5.38%	5.36%
5/31/07	5.34%	5.40%	5.38%	5.36%	5.35%	5.30%	5.38%	5.35%
6/30/07	5.35%	5.41%	5.38%	5.37%	5.36%	5.30%	5.40%	5.37%
7/31/07	5.36%	5.41%	5.38%	5.37%	5.36%	5.29%	5.40%	5.38%
8/31/07	5.35%	5.52%	5.43%	5.40%	5.38%	5.21%	5.43%	5.40%
9/30/07	5.34%	5.68%	5.51%	5.47%	5.39%	5.06%	5.41%	5.37%
10/31/07	5.20%	5.40%	5.32%	5.27%	5.21%	4.84%	5.35%	5.22%
11/30/07	4.97%	5.19%	5.11%	5.06%	4.99%	4.62%	5.05%	5.00%
12/31/07	4.84%	5.23%	5.05%	5.00%	4.93%	4.48%	4.91%	4.83%

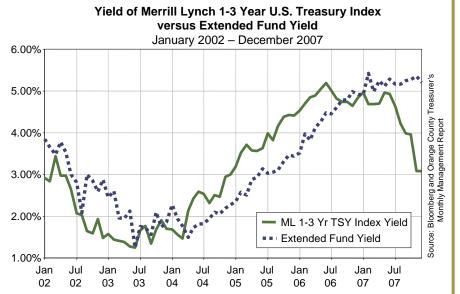
## III. 7. Performance/Benchmarking – Extended Fund



#### **Total Return Benchmark**

- Comparing the Extended Fund to a total return index such as the Merrill Lynch 1-3 Year U.S. Treasury Index depicted below would provide an appropriate comparison for a portfolio with a longer-term strategy.
- Total return is the appropriate performance measure for a longer-term portfolio like the Extended Fund because total return takes into consideration both the yield of the portfolio as well as the portfolio's realized and unrealized gains or losses created by changes in market value of the portfolio's investments.
- The chart below on the left shows the unannualized monthly returns of the 1-3 year index along with it's 5-year monthly average versus the Extended Funds monthly yield unannualized.
- The chart below on the right shows the yield of the 1-3 Year Treasury index versus the yield of the Extended Fund for the past 5 years. The Extended Fund's yield lagged the yield of the index from March 2004 through September 2006, which would be expected in a rising rate environment. More recently the yield of the Extended Fund has been higher than the index because the fund is able to maintain a higher yield by purchasing longer-term securities, whereas the high yielding securities in the index mature out of the index's 1-3 year maturity range.
- If the County maintains a duration of approximately 1.6 years for the Extended Fund the Merrill Lynch 1-3 Year U.S. Treasury Index would be a good choice for a benchmark. For a short duration, such as 0.9 years, the Merrill Lynch 1-Year U.S. Treasury Index would be a better fit.





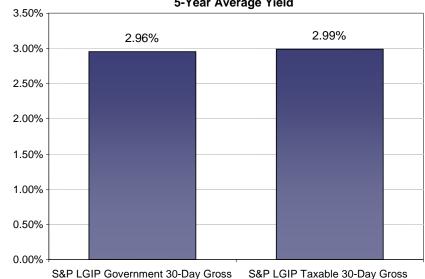
## III. 7. Performance/Benchmarking – Risk/Return Trade-off



#### Risk/Return Tradeoff

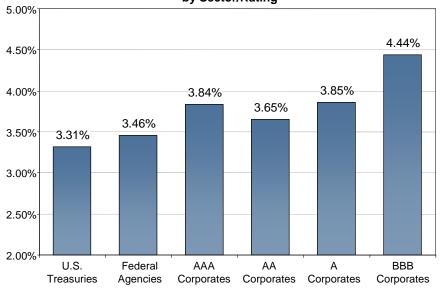
- Thoughtful deliberations should be undertaken regarding the level of additional risk assumed for the potential return provided through investments in corporate instruments.
- For Short-term Funds: Based on 5-year data from Standard & Poor's LGIP indices, the addition of corporate securities adds, on average, 3 basis points per year.
- For Extended-term Funds: Based on 5-year data on various Merrill Lynch indices, a longer-term indices of Corporate securities provide additional return over more conservative Treasury and Agency benchmarks. The difference in return between AAA, AA, and A Corporates, however, is not significant, yet the added risk of A and AA rated securities over AAA rated securities is sizeable and the negative price impact of downgrades increases as the credit quality worsens. Please refer to the next page for greater detail on the potential impact of this added risk.

#### Short-Term Funds Risk/Return Analysis: 5-Year Average Yield



# Extended Term Funds ear Returns of Merrill Lynch 1-5 Year Indices





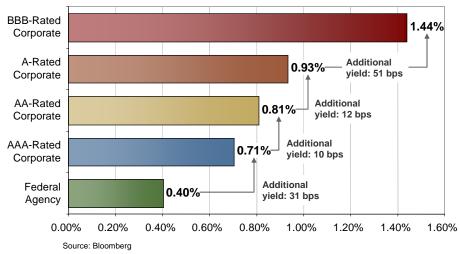
Source: Bloomberg - S&P LGIP Indices and Merrill Lynch Indices

## III. 7. Performance/Benchmarking – Risk/Return Trade-off



- The increasing size of spread differences as credit quality decreases, magnifies the losses on downgraded securities the further down the securities are in the credit scales.
- The chart **below** shows the average spread (to Treasuries) for the last five years for securities of different credit quality.
- At right, the expected loss due to downgrade is shown. With the
  more sizeable losses as a security goes from AA to A, and then A to
  BBB, and the relatively small performance advantage seen in A-rated
  corporates over higher rated corporates, we recommend the County
  give careful consideration to maintaining its minimum A rating
  requirement.

# 5-Year Average Spread of 5-Year Securities to 5-Year U.S. Treasuries as of December 31, 2007



#### **Affects of Credit Downgrades**

• Price impact of downgrade from AAA to AA

AAA price	\$100.00
Minus new AA price due to increase in yield	<u>\$ 99.55</u>
Loss on security due to change in rating	\$ 0.45

• Price impact of downgrade from AA to A

AA price	\$100.00
Minus new A price due to increase in yield	\$ 99.46
Loss on security due to change in rating	\$ 0.54

• Price impact of downgrade from A to BBB

A price	\$100.00
Minus new BBB price due to increase in yield	<u>\$ 97.70</u>
Loss on security due to change in rating	\$ 2.30

#### Sample Securities

Туре	Yield	Maturity	Duration
AAA-rated Corporate	5.00%	1/29/2013	4.5 years
AA-rated Corporate	5.10%	1/29/2013	4.5 years
A-rated Corporate	5.22%	1/29/2013	4.5 years
BBB-rated Corporate	5.73%	1/29/2013	4.5 years

# IV. Conclusions and Recommendations



## **Section Outline**

- 1. Policies and Procedures
- 2. Investment Program and Portfolio Review



# Investment Policy Statement

- Incorporate deposit placement services into its Investment Policy Statement.
- · Add non-California municipal bonds to its list of permitted investments
- Revise the Scope to clearly delineate which funds are covered by the Policy
- Incorporate into this section the Policy statement that Bond Proceeds are outside the scope of the Policy
- Prudence and Delegation of Authority sections should be moved to separate, individually titled sections to make it easier to understand the Policy's requirements.
- We recommend consolidating minimum credit rating requirements that are currently listed under section V.10 into section V.1. Credit Minimums.
- · Securities Lending
  - Develop detailed written policies describing how and when securities lending will be used.
  - Establish limits on the investment of cash collateral.
  - Limit to the Extended Fund.
- · Repurchase Agreements
  - Repo counterparties should have a minimum short-term rating or counterparty rating of no less than A-1 or the equivalent by an Nationally Recognized Statistical Rating Agency (NRSRO) and have capital of no less than \$500 million.
  - Modify IPS to limit collateral on repurchase agreements to U.S. Treasury and Federal Agency obligations.
- · Other Investments
  - Eliminate category from permitted investments.
- · GSE Diversification
  - Limit holdings of any GSE issuer to no more than 35% per Fund.
- Commercial Paper
  - Limit holdings to 40% of each Fund.
- · Variable-Rate Notes
  - Recommend following Rule 2(a)7
  - Recommend limiting the final maturity on variable-rate notes held to 3 years in the Extended Fund.
- Maximum Maturity
  - Set a maximum duration for the Extended Fund in order to better manage market risk.
- GASB Reporting Standards
  - Recommend that the IPS be updated to state that reports will be prepared in compliance with GASB Statements 31 and 40.



# Organization and Oversight

- · TOC to participate in more detailed discussions with Treasury staff regarding investments.
- The County may wish to engage an external investment advisor to assist the TOC with their deliberations.
- Provide more detail in the minutes of the Committee's meetings about issues discussed.
- Recommend that proposed changes be circulated to TOC members at least one week prior to scheduled meetings.
- We recommend that the perspective of the TAC be more formally shared with the members of the TOC.
- · Recommend that the TIC keep a written record of discussions related to credit and changes to the approved issuer list.

#### **Investment Processes**

- Consider whether an online trading platform providing access to more inventories and documented competitive process for buying and selling would be practical
- Consider alternatives to pre-trade compliance procedures
- Adopt procedures to evaluate and document value of security swaps so they can become a part of the County's investment management process.
- Recommend that the Treasurer require all firms interested in doing business with the County to go through a formal application, review and approval process.
- The Treasurer's office should also perform a formal annual credit and performance review of all firms on the approved broker/dealer list.
- Discuss sector allocation at TIC meetings and have TIC approve guidelines for sector allocations on an ongoing basis.
- We recommend that the Portfolio Manager use the option adjusted spread (OAS) analysis available in Bloomberg.
- · Tri-Party Repo
  - Money market funds should use repurchase agreements more strategically as part of sector allocation decision
  - Adopt collateralization policy to include only Treasuries and Agencies
  - Establish additional Tri-party repo relationship(s)
  - Bid out to obtain more competitive rates
  - Bid early in the day
- Develop policies, procedures for evaluation and trading of mortgage-backed securities.
- · If securities lending is done, do so only in the Extended Fund and set up detailed and stringent guidelines.
- PFM recommends that the Treasury augment the already strong credit process with additional training for the Financial Analyst and other members of the TIC.
- Recommend that the TIC keep a written record of discussions related to credit and changes to the approved issuer list.



Investment Processes	Adopt the same methodology in selecting ABCP programs as in selecting SIVs.
	Purchase only ABCP programs with liquidity providers that are approved issuers.
	Split the approved issuer list into a short-term list and medium-term list.
	Recommend removing issuers that do not issue often or have low levels of debt outstanding.
	Review and update Investment Procedures Manual.
	Expand scope of Investment Procedures Manual beyond process for running needed reports.
	Update cash flow core analysis.
	Follow through with obtaining a Standard & Poor's rating
	Have the Extended Fund rated separately
Staffing Requirements	Create more specific job descriptions for investment and related staff to append to the official job description.
	Include minimum qualifications in job descriptions.
	Encourage opportunities for advanced and ongoing training on investment topics and strategies.
	Fill vacancies noted on the organization charts
	Hire an additional portfolio manager
Reporting	<ul> <li>We recommend that an executive summary, with portfolio highlights (charts and graphs) and summary performance data be added to the report.</li> </ul>
	<ul> <li>The executive summary should include a brief discussion of the investment strategy employed during the period and any planned changes to the strategy.</li> </ul>
	PFM recommends that more details about the credit rating of individual portfolio holdings be added to the report.
	<ul> <li>We recommend that performance be compared to the Standard &amp; Poor's LGIP Index and an appropriate iMoneyNet Money Market Fund average.</li> </ul>
	<ul> <li>The performance of the Extended Fund should be computed on a total return basis and compared to an index comprised of comparable securities with a similar duration.</li> </ul>
	<ul> <li>For purposes of verifying compliance with the diversification requirements of the IPS, the Money Market Funds and the Extended Fund should be reported separately.</li> </ul>



#### **Accounting**

- The County should carefully consider the possible inequity in the allocation of earnings that may occur if it continues to use the amortized cost basis of accounting to compute earnings for the Extended Fund versus the complexity of attempting to account for market value fluctuations in either the income allocation or share price.
- PFM recommends that the County distribute earnings on the first business day of each month.
- Price money market funds regularly and frequently.
- If the Extended Fund is managed as a total return fund, with a longer duration, the County should consider evaluating the Fund separately from the Investment Pools to avoid any impact on the Investment Pool's NAV stability.
- Consider adding another pricing methodology/source for SIVs.

# IV. 2. Conclusions and Recommendations – Investment Program and Portfolio Review



Federal Agencies	Use Bloomberg OAS functionality for increased analysis on the value of callable securities.
	Monitor percent allocation per issuer. Set a per agency limit high enough to allow adequate flexibility for investing.
Commercial Paper	• The County may benefit from reallocating some assets from CP to repo to benefit from the currently inverted shape of the short-end of the yield curve.
	The Treasury should adopt an ABCP credit monitoring process that parallels the SIVs process.
Repurchase	The County may benefit from maintaining a relationship with more than one counterparty.
Agreements	Continue to limit collateral to only Treasury and Federal Agency securities
	• The County should monitor the market value of collateral on a daily basis to ensure the committed amount and type is sufficient.
Medium-Term Corporate Notes	Actively follow the ratings developments regarding issues which have been placed on negative credit watch.
Money Market Funds	The County should consider switching to Government-only money market funds until credit picture firms.
	Establish a periodic review process for monitoring of risk factors and reapproval.
SIVs	We agree with the County's conclusion to hold their current SIV positions.
Risk/Return Tradeoff	Consider the level of additional risk assumed for the potential return provided through investments in corporate instruments.