TEACHERS' RETIREMENT BOARD

INVESTMENT COMMITTEE

SUBJECT: Strategic Risk Based Asset Allocation – Part 3 ITEM NUMBER: 4

CONSENT: _____ ATTACHMENT(S): 7

ACTION: __X__ DATE OF MEETING: February 10, 2011 / *40 mins.*

INFORMATION: _____ PRESENTER(S): Christopher Ailman and Pension Consulting Alliance

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POLICY

This topic is governed by the overall Investment Policy and Management Plan and, if approved, will complete the first Investment Committee Work Plan objective for FY 10-11: Discuss Risk Oriented Strategic Allocation Management.

BOARD STRATEGIC PLAN GOAL

Goal 4: Ensure a financially sound retirement system.
➢ **Objective A:** Ensure a financially sound retirement system through optimal investment returns.

HISTORY OF THE ITEM

This is the third discussion of risk based asset allocation. The item was first reviewed at the September meeting. Pension Consulting Alliance provided a presentation at the November meeting and this item, if approved, will conclude the initial phase of the study.

PURPOSE

The purpose of this stage of the study is to get Investment Committee approval on the foundational elements of the CalSTRS version of risk based asset allocation. This includes not only the elements but the theory on how to evaluate those elements of risk and to receive direction from the Investment Committee as to implementing those risk measures into the investment reports. Specifically, staff recommends approval of the following:

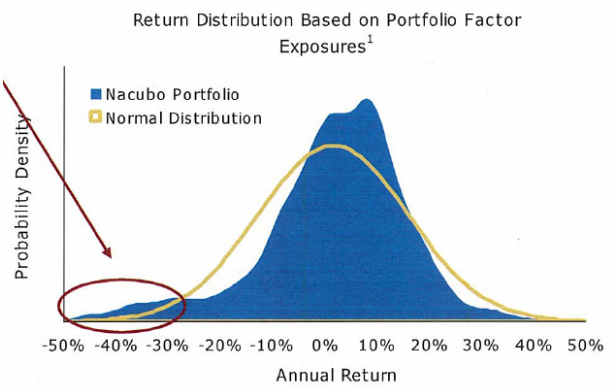
- Approve the concept of investment risk and blending across the portfolio rather than discreet buckets of risk,
- Approve the CalSTRS specific elements of broad, long-term risk measures, and
- Direct staff to integrate these risk measures into the regular investment reports and present a risk management framework as a key objective in the FY 11-12, Investment Committee Work Plan.

BACKGROUND[1]

Ever since the deployment of Modern Portfolio Theory, diversification has been the key to reducing risk and a core tenant of building an investment portfolio. The theory holds that by using investments that are less correlated, the overall portfolio will have a reduced volatility and overall risk. In the 1980's as the "Prudent Investor" fiduciary standard swept the country, public pension plans began to diversify their assets between equity and debt investments to create a so called "balanced" portfolio. However, in the decade of the 2000's, the global financial markets demonstrated that the world is much more risky and significantly more correlated than previously thought or experienced. Unfortunately, the world and financial markets across most all asset types became highly correlated in the 2008 financial crisis, which was just when you wanted the diversification the most. So at this critically extreme time, the theory of diversification reducing risk abandoned us and all investors. It became apparent that in crisis, there are only a few dominant risks that matter and these risks cut across all investments. As a result, CalSTRS has searched to find new strategies that will help navigate the modern global financial marketplace. To be successful we have to adapt and expand upon the traditional asset allocation methodology with new tools and a new perspective on our investment portfolio. While the work of Nobel Prize winners Harry Markowitz and Bill Sharpe gives us an excellent base framework on which to make strategic portfolio decisions, we may need to expand our concept of risk to provide a more robust set of informational inputs to make investment decisions in today's environment.

Historically we have defined investment risk by one measure, standard deviation or volatility. We need to consider risks beyond that one measure and we need to envelope assets, instruments and investment strategies beyond the traditional equity / debt split. Risk simply isn't a single number; it is a multi-faceted concept. For CalSTRS, the greatest risk is loss of capital followed by loss of reputation and member trust. For the investment portfolio, the greatest risk is a ruinous left hand tail event. Current research by PIMCO and Bridgewater shows that the left hand tail risk is not the 1.5 percent occurrence we assumed using a normal distribution, as assumed in traditional economic theory, but is more likely a 3 to 5 percent occurrence. In other words, what we thought was a 70 to 100 year flood event, is more likely to be a one in twenty year event. The graph on the next page displays the increase in left hand tail risk, or the increase in the potential of significant negative outcomes of a traditional investment portfolio based on PIMCO's return distribution analysis along risk factor lines.

[1] Based on a paper from PIMCO Solutions / Client Analytics: "Investment solutions for a Changing World" Niels Pedersen, PhD, Joseph Simonin PhD. 2010



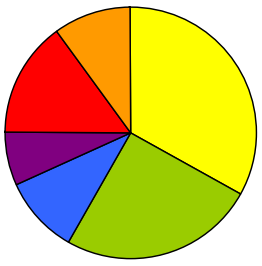
Probability of Loss Greater Than	Nacubo Portfolio	Normal Distribution
30%	3.7%	1.3%
25%	5.5%	3.0%
20%	7.4%	6.2%

With the potential of larger left hand tail risk, we need a new framework that incorporates more risks than just volatility as a measure. We need a framework that provides a more robust picture and allows a different analysis of multiple risks.

While engaging in this study, CalSTRS staff and PCA considered over 24 different measures of risk. During an off-site meeting with Dr. Martin Liebowitz of Morgan Stanley, the team recognized that it may not prove optimal to divide the portfolio completely into 4 to 5 discreet risk buckets, because different investments tend to be exposed to multiple different risks in part and in whole, and thus are very hard to isolate. This modified our risk based asset allocation to one of risk based portfolio management via overlay analysis. So while some peers allocate their portfolio across specific and distinct risk buckets, we propose CalSTRS take a holistic approach and evaluate a spectrum of risk across the entire portfolio.

DISCUSSION

Investors would like a world where risk can be cleanly defined and isolated in discreet buckets. Frankly, it makes this easier and more comfortable, plus it gives the impression that the analysis of risk is very precise. Under this method, a portfolio can be divided up into those buckets and the risk can be contained and managed. As an illustration, this method looks like the color wheel pictured here. Pure types of risk in neat clean buckets of exposures; 33 percent exposed to this risk and 25 percent exposed to that risk.



RISK ANALYSIS

The CalSTRS Staff and Pension Consulting Alliance embarked on this risk based asset allocation study to develop exactly such a group of risk buckets as others had done before. But in the course of debate and review, staff concluded that the world is too interconnected and complicated to fit in neat buckets. Staff believes that risks in fact bleed into one another and could not easily be discreetly segregated and managed. While it should not come as a shock, it was a bit of a revelation in our process that the portfolio's exposure spills over into multiple risks and the world is better exemplified by a painter's palate of core risks that then blended into one another and together all at the same time.

It is clear that the world has become more interconnected during the past decade than ever before in history. Investment risk is also fully global and interconnected more than ever before in its history. Geography used to define specific exposures; no longer. Even industry used to be a distinct measure; but now only partly true. Many companies are starting to define industry definitions and industries themselves are starting to blur. For example, to pick on California's favorite apple; is Apple a technology company, a music distribution company or a media distribution company? The result is, in CalSTRS' view, that risk is invasive and systemic at times and also discreet at the same time. In other words, risk is complex, cohesive and holistic; and frankly a real pain to measure, manage and mitigate.

Our 24 plus risks were vetted down to six core risk exposures. This is not comprehensive; new risk will no doubt debut in the future, but this is our initial attempt to identify the key risks. Further in our study we found risks were identifiable across day risk (one minute to multiple days), short-term risk (3 months to 18 months) and long-term risk (3 years to 5 or more years). So time period becomes a significant determinant in defining a particular investor's risk.

The key nuance of the CalSTRS risk factors is that they will not be used to divide the portfolio by exposure, but rather overlay across the entire portfolio as well as be used to dissect each new investment to understand its contribution and accumulations of risk.

RISK FACTORS

Our six core risk measures are as follows, a more detailed explanation developed by PCA is on the following pages. All of these risks will be global in nature and all exhibit both a tactical and a strategic level of risk depending upon time frame and severity. Lastly, these risks will generally be viewed as external risk, but they can also be used to outline internal specific risks with an individual investment, a portfolio and an asset class.

GLOBAL ECONOMIC GROWTH RISK

This will comprise a measure of expected global economic activity and corporate profits. We are considering dividing the world by the average age of a country's population rather than the traditional division of Developed and Emerging. Our division would be Old World, Middle Age and Young countries. Countries with an older and aging population typically have low immigration and slower economic output (such as Japan or Italy); middle age would pick up

mature economies like the U.S., which allow more immigration; while younger countries often exhibit more growth potential.

INTEREST RATE RISK

This is a measure of global interest rates, the direction of change for interest rates, the slope of the yield curve and especially the G20 Monetary Policy stance. Additionally, this factor will pick up foreign currency levels and trends as well.

INFLATION RISK

While at the largest level, some argue inflation expectations (both fear and optimism) may be the core driver of fincial markets; we will use it as a measure of future interest rate levels, monetary policy foreign currency levels and mostly the fear of growing inflation expectations as a risk to our portfolio.

LIQUIDITY – FLUID MARKETS

Every financial system and trading market needs some level of liquidity to operate. This factor will attempt to measure the liquidity in the various market places and the fluidity of financial markets, as well as the absolute liquidity within the CalSTRS Portfolio and our unique cash flow requirements.

LEVERAGE / FINANCING

Clearly, a major global risk in 2008 was the overall leverage used in the financial market. By itself, leverage is benign. However, it amplifies the positive and negative outcomes, making it a significant source of risk to the investment portfolio. We will attempt to develop measures on the amount of leverage in the financial system and within financial institutions. In addition, we want to measure the availability of leverage and the terms of the leverage. Clearly, the terms and due diligence of loans denigrated during the decade of the 2000's, to the point that major defaults were highly likely. Easy money is never good. Loans require discipline; conversely, no financing or the lack of availability of leverage tightens the economy and can pose an alternative risk, especially to real estate and private equity.

INVESTMENT GOVERNANCE RISK

This factor will track changes in accounting rules, tax codes, governance rules and financial regulations and enforcement. This measure was a new development and came from our group discussion and research. It was proposed from several different angles which touch and affect the financial markets and global systems. For example, changes in tax policies can have a powerful impact on investment markets. Changes in accounting rules not only affect corporations and investment valuations, they also drive investor decisions and can directly impact the rules that govern the CalSTRS Portfolio. Changes in financial regulation abound as a result of 2008, but future regulations or the lack there of can also signal levels of risk to monitor.

As is easily noted, many of these risks intermingle and directly relate to each other. For example, changes in inflation expectations directly affect interest rates. Changes in interest rates in turn affect the availability and use of leverage and the amount of liquidity. They can also affect the expectation for inflation.

NEXT STEPS

If the Resolution is approved, the next steps for staff and PCA would be to: 1) build out measures for each of the risks and 2) develop a scaling system to judge their status and impact upon the CalSTRS Investment Portfolio. In addition, together we will review the portfolio and perfect the dollar value of exposure to each risk. Lastly, staff and PCA will each work to integrate these risks into their standard Investment Committee reports. For staff, these would include the CIO Dashboard report at Investment Committee meetings and the Quarterly Investment Portfolio report published on the web. In addition, staff will integrate these risks into the format of all investment recommendation memos to gauge each investment exposure and help refine CalSTRS exposure to each risk. Lastly, the Innovation and Risk group will use these risks as a framework for both the measurement of risk and most importantly the management of risk. PCA will endeavor to expand their semi-annual performance report to include these risks and begin determining how best to link these risk factors with their risk metrics report (see attached, which represents an initial draft prototype qualitative tool that could be used by either/both staff and/or the Investment Committee).

As the measurements of the risks are refined and the information is integrated into the reporting, at the Investment Committee decision level, a risk management strategy review could be added to the FY 11-12 Work Plan for the fall of 2011. This could entail a comprehensive discussion of tools and strategies CalSTRS might use to manage, mitigate and maximize our return from exposure to these risks.

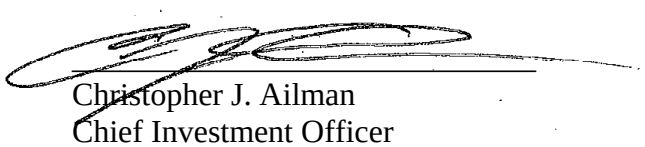
RECOMMENDATION

Staff and PCA recommend the Investment Committee adopt the attached Resolution signaling the conclusion of the initial phase of the Risk Based Asset Allocation review as listed on the FY 09-10 Investment Committee Work Plan.

The Resolution contains four elements:

1) Approval of the comprehensive risk overlay concept for CalSTRS rather than discreet risk buckets idea,
2) Approval of the six broad risk factors,
3) Direction to Staff and PCA to integrate these into future investment reports, and
4) Early approval to place “risk management strategies” as a core project / objective for the FY 11-12 Investment Committee Work Plan.

Prepared by:



Christopher J. Ailman
Chief Investment Officer

Risk Factor	Global Economic Growth Risk
Definition	Uncertainty regarding global real (i.e., after inflation) GDP growth.
Rationale	Uncertainty regarding the level and trend of real GDP growth has a direct influence on the market's required compensation for bearing exposure to this risk. Real GDP levels that are stable and rising, generally result in lower levels of required return to bear this risk. Uncertainty introduced by stagnant and/or volatile real GDP growth threatens market participants' perceived understanding of the rules of the game. Recessions, dislocations in capital markets, or inflation fears introduce uncertainty regarding visibility for GDP growth, prompting a rise in required returns and drop in valuations.
Near-term Expectations	There has been significant upward adjustment of near-term GDP growth from many economic and investment-related practitioners, reducing fear of a double-dip recession and reinforcing the idea of a self-sustaining U.S. recovery. According to measures of ***equity and credit spread valuation*** in PCA's Risk Metrics report, the valuation of assets with signficant exposure to global economic growth risk are not at extreme levels.

Risk Factor Analytics

Fundamental / Qualitative Measures	US	Dev ex-US	EM
Blue Chip GDP Growth Estimates	Median Estimate/ Estimate Dispersion (Quarterly)	Median Estimate/ Estimate Dispersion (Quarterly)	Median Estimate/ Estimate Dispersion (Quarterly)
IMF GDP Estimates	Median Estimate (Annually)	Median Estimate (Annually)	Median Estimate (Annually)
Global Market Measures	**US**	**Dev ex-US**	**EM**
Equity Volatility/VIX ***PCA Risk Metric***	Z-Score (Daily)	Z-Score (Daily)	Z-Score (Daily)
Oil Price Volatility	Z-Score (Daily)	Z-Score (Daily)	Z-Score (Daily)

Visibility* — Sunny | Partly Cloudy | Thunderstorm

Valuation Gauge** — Low | Average | High

Exposure and Impact

Class	Risk Factor Location (adds to 100%)	Event Risk** per class? CalSTRS $ exposure per class (in $billions)
Global Public Equity	64%	-$20
Fixed Income	4%	-$1
Real Estate	12%	-$4
Private Equity	20%	-$6
Absolute Return	0%	$0
Total	100%	-$32

* Visibility is measured as a consolidated implied (forward looking) volatility of the global market risk factor measures. Low implied volatility means good visibility.

** Valuation Gauge is calculated, either whole or in part, from the PCA's Risk Metrics calculations, which are long-term metrics.

*** Event Risk is a user defined severe shock to the risk factor (not a certain standard deviation).

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Risk Factor	Interest Rate Risk
Definition	Uncertainty regarding interest rate trends.
Rationale	Uncertainty regarding the level and trend of interest rates has a direct influence on the market's required compensation for bearing exposure to this risk. Interest rates that are stable, generally result in lower levels of required return to bear this risk. Uncertainty introduced by high and/or volatile interest rates threatens market participants' perceived understanding of the rules of the game. Rising or unpredictable interest rates cause bond and currency market participants to demand an increased risk premium to bear this risk.
Near-term Expectations	There has been a recent upward movement (from October lows) of interest rates, with introduction of the Fed's QE2 (quantitative easing 2) and extension of tax cuts, reducing fears of a double-dip recession. According to measures of ***interest rate risk*** in PCA's Risk Metrics report, the interest rate duration is at extreme levels, representing an elevated level of interest rate risk.

Risk Factor Analytics

Fundamental / Qualitative Measures	US	Dev ex-US	EM
Yield Curve Slope (PCA Risk Metric)	10 year minus 1 year Treasury Note	10 year minus 1 year Treasury Note	NA ???
Duration (PCA Risk Metric)	Daily	Daily	Daily

Global Market Measures	US	Dev ex-US	EM
Volatlity of Treasury Futures	Z-Score (Monthly)	Z-Score (Monthly)	NA
Volatility of Currency Futures	Z-Score (Monthly)	Z-Score (Monthly)	Z-Score (Monthly)

Visibility* — Sunny | Partly Cloudy | Thunderstorm

Valuation Gauge *PCA Risk Metric*** — Low | Average | High

Exposure and Impact

Class	Risk Factor Location (adds to 100%)	Event Risk** per class? CalSTRS $ exposure per class (in $billions)
Global Public Equity	5%	-$4
Fixed Income	100%	-$12
Real Estate	20%	$4
Private Equity	5%	-$2
Absolute Return	0%	$0
Total	90%	-$14

* Visibility is measured as a consolidated volatility of the global market risk factor measures. Low volatility means good visibility.

** Valuation Gauge is calculated from the PCA's Risk Metrics calculations, which are longer-term metrics.

*** Event Risk is a user defined severe shock to the risk factor (not a certain standard deviation).

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Risk Factor	Inflation Risk
Definition	Uncertainty regarding Inflation trends.
Rationale	Uncertainty regarding the level and trend of U.S. inflation rates has a direct influence on the market's required compensation for bearing exposure to this risk. Inflation rates that are stable, generally result in low levels of required return to bear this risk. Uncertainty introduced by high and/or volatile rates of inflation threatens market participants' perceived understanding of the rules of the game. Rising or unpredictable rates of inflation cause bond and currency market participants demand an increased risk premium to bear this risk. Recent history has seen falling, then low and stable rates of inflation.
Near-term Expectations	There has been a recent upward movement (from October lows) of inflation expectations, with introduction of the Fed's QE2 (quantitative easing 2) and reduced fears of a double-dip recession. According to measures of ***inflation levels*** in PCA's Risk Metrics report, breakeven inflation is not currently at an extreme level, but both breakeven inflation and commodity prices are on the rise.

Risk Factor Analytics

Fundamental / Qualitative Measures	US	Dev ex-US	EM
Philadelphia Federal Reserve Bank Survey of Professional Forecasts of Inflation	Median Estimate/ Estimate Dispersion (Quarterly)	NA	NA
IMF Inflation Estimates	Median Estimate (Annually)	Median Estimate (Annually)	Median Estimate (Annually)

Global Market Measures	US	Dev ex-US	EM
T-Bill (Trailing 12 month volatility)	Z-Score (Monthly)	Z-Score (Monthly)	NA
Commodity Price Volatility (Trailing 12 Month Volatility)	Z-Score (Monthly)	Z-Score (Monthly)	Z-Score (Monthly)

Visibility* — Sunny / Partly Cloudy / Thunderstorm

Valuation Gauge *PCA Risk Metric*** — Low / Average / High

Exposure and Impact

Class	Risk Factor Location (adds to 100%)	Event Risk** per class? CalSTRS $ exposure per class (in $billions)
Global Public Equity	10%	-$2
Fixed Income	100%	-$6
Real Estate	20%	$2
Private Equity	10%	-$1
Absolute Return	0%	$0
Total	100%	-$7

* Visibility is measured as a consolidated volatility of the global market risk factor measures. Low volatility means good visibility.

** Valuation Gauge is calculated from the PCA's Risk Metrics calculations, which are longer-term metrics.

*** Event Risk is a user defined severe shock to the risk factor (not a certain standard deviation).

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Risk Factor	Liquidity-Fluid Market Risk
Definition	Uncertainty regarding market liquidity / functioning.
Rationale	Uncertainty regarding the level and trend of market liquidity has a direct influence on the market's required compensation for bearing exposure to this risk. Outside of large capitalization stocks and the nominal treasury bond markets, which are fully and consistently liquid, markets are made by levered institutions including broker dealers and investment banks. These players perform a market making function, acting as ready buyers and sellers in lightly traded issues, non-exchange traded securities, structured products, derivatives, or even whole companies. When uncertainty regarding institutional viability increases, the required return to bear illiquidity risk rises.
Near-term Expectations	After peaking during the financial crisis, illiquidity premiums have fallen. The TED Spread, a measure of institutional funding risk has returned to average levels, representing an lower level of illiqidity risk. In the US, the Fed's commitment to providing constant and near zero interest rate funding for the foreseable future suggests lower liquidity risk. Eurozone liquidity risk remains elevated given the roling banking system and sovereign funding crises.

Risk Factor Analytics

Fundamental / Qualitative Measures	US	Dev ex-US	EM
Public versus private EBITDA multiple spreads	Monthly	Monthly	NA
Credit default swap spreads on financial intermediaries	Daily	Daily	NA

Global Market Measures	US	Dev ex-US	EM
TED Spread Volatility	Daily (Z-Score)	Daily (Z-Score)	NA
Financial Intermediate CDS Spread Volatility	Daily (Z-Score)	Daily (Z-Score)	NA

Visibility*: Sunny — Partly Cloudy — Thunderstorm

Valuation Gauge**: Low — Average — High

Exposure and Impact

Class	Risk Factor Location (adds to 100%)	Event Risk** per class? CalSTRS $ exposure per class (in $billions)
Global Public Equity	5%	-$1
Fixed Income	20%	-$3
Real Estate	30%	-$4
Private Equity	40%	-$5
Absolute Return	5%	-$1
Total	100%	-$14

* Visibility is measured as a consolidated volatility of the global market risk factor measures. Low volatility means good visibility.

** Valuation Gauge is calculated from longer-term metrics.

*** Event Risk is a user defined severe shock to the risk factor (not a certain standard deviation).

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Risk Factor	Investment Governance Risk
Definition	Uncertainty regarding political, legal and regulatory trends.
Rationale	Uncertainty regarding the political regime, legal framework, property rights, and regulatory standards has a direct influence on the market's required compensation for bearing exposure to these risks. Standards that are functional and predictable, generally result in low levels of required return to bear this risk. Uncertainty introduced by significant change and/or threats thereof, threaten market participants' perceived understanding of the rules of the game. Rising uncertainty in any of these governance areas cause market participants to demand an increased risk premium to bear this risk.
Near-term Expectations	The U.S. has seen stable and falling uncertainty in these areas since the financial crisis peak, outside of nagging uncertainty about municipal and state finances. Conversely, the Eurozone has seen waves of uncertainty, surrounding sovereign insolvency resolution. Depending on the tack of the new congress, we expect U.S. uncertainty to remain stable. We expect Eurozone uncertainty to continue to climb, given Euro structural issues.

Risk Factor Analytics

Fundamental / Qualitative Measures	US	Dev ex-US	EM
Currency controls / short selling bans	Periodic	Periodic	Periodic
Debt / Deficit as % GDP financed in foreign currency (or Euro)	Quarterely (BIS / IMF)	Quarterely (BIS / IMF)	Quarterely (BIS / IMF)

Global Market Measures	US	Dev ex-US	EM
Volatility of currency futures	Daily (Z-Score)	Daily (Z-Score)	Daily (Z-Score)
Sovereign / Municipal Credit Default Spread Volatitliy	Daily (Z-Score)	Daily (Z-Score)	Daily (Z-Score)

Visibility* — Sunny | Partly Cloudy | Thunderstorm

Valuation Gauge** — Low | Average | High

Exposure and Impact

Class	Risk Factor Location (adds to 100%)	Event Risk** per class? CalSTRS $ exposure per class (in $billions)
Global Public Equity	54%	-$10
Fixed Income	20%	-$4
Real Estate	10%	-$2
Private Equity	14%	-$3
Absolute Return	2%	-$1
Total	100%	-$20

* Visibility is measured as a consolidated volatility of the global market risk factor measures. Low volatility means good visibility.

** Valuation Gauge is calculated from longer-term metrics.

*** Event Risk is a user defined severe shock to the risk factor (not a certain standard deviation).

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Risk Factor	Leverage / Financing Risk
Definition	Uncertainty regarding availability and cost of financial leverage.
Rationale	Uncertainty regarding the level and trend of U.S. consumer and financial leverage has a direct influence on assets that are typically financed with leverage. Leverage levels that are stable and growing, generally result in low levels of required return to bear this risk. Uncertainty introduced by reduced loan volume and/or tight money threaten market participants' perceived understanding of the rules of the game.
Near-term Expectations	There has been a recent increase in the availability of U.S. leverage, with introduction of the Fed's QE2 (quantitative easing 2). Continued reductions in levels of consumer and mortgage debt levels have been offset by growth in business and government debt outstanding. The Fed has made it a priority and shown a willingness to support and grow existing levels of debt and credit availablity.

Risk Factor Analytics

Fundamental / Qualitative Measures	US	Dev ex-US	EM
Growth in Total Debt Outstanding	Quarterly (FRB)	Quarterly (BIS)	Quarterly (BIS)
Deal Volume (PCA Risk Metric)	Quarterly	Quarterly	Quarterly
Federal Reserve Bank Survey of Senior Loan Officer Lending Standards	Quarterly (FRB)	????	NA

Global Market Measures	US	Dev ex-US	EM
Mortgage Spread Volatitlity	Monthly (z-score)	NA	NA
	NA	NA	NA

Visibility*: Sunny — Partly Cloudy — Thunderstorm

Valuation Gauge**: Low — Average — High

Exposure and Impact

Class	Risk Factor Location (adds to 100%)	Event Risk** per class? CalSTRS $ exposure per class (in $billions)
Global Public Equity	50%	-$10
Fixed Income	5%	-$1
Real Estate	20%	-$4
Private Equity	25%	-$5
Absolute Return	0%	$0
Total	100%	-$20

* Visibility is measured as a consolidated volatility of the global market risk factor measures. Low volatility means good visibility.

** Valuation Gauge is calculated from longer-term metrics.

*** Event Risk is a user defined severe shock to the risk factor (not a certain standard deviation).

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PROPOSED RESOLUTION
OF THE
TEACHERS' RETIREMENT BOARD
INVESTMENT COMMITTEE

SUBJECT: Strategic Risk Based Asset Allocation

RESOLUTION NO. _____

WHEREAS, pursuant to the Education Code section 22203 the Board has exclusive control of the investment of the Teachers' Retirement Fund, and

WHEREAS, the Teachers' Retirement Board has charged the Investment Committee with the full authority and responsibility for the System's investments, approval of all investment policies, and establishing the overall investment strategy for the management of the Teachers' Retirement Fund, a multi-billion dollar public pension plan; and

WHEREAS, the Investment Committee has adopted the overall Investment Policy and Management Plan; and

WHEREAS, the Investment Committee has received recommendations from staff and the System's consultant, and has reviewed and considered the proposed foundational elements of the CalSTRS version of risk based asset allocation; Therefore be it

RESOLVED, that the Investment Committee hereby adopts the Strategic Risk Based Asset Allocation concept for CalSTRS, completing the FY 09/10 Investment Committee Work Plan objective, and the six broad risk factors: economic growth risk, interest rate risk, inflation risk, liquidity – fluid markets, leverage / financing and investment governance risk; and directs staff and the investment consultant to integrate these factors into their reports and investment recommendations.

Adopted by:

Investment Committee
On February 10, 2011

_____
Jack Ehnes
Chief Executive Officer

Reviewed by:

_____
Brian J. Bartow
General Counsel

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