CALSTRS

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM

CURRENCY MANAGEMENT PROGRAM POLICY

INVESTMENT BRANCH

APRIL 2014

F. Currency Management Program Policy

EXECUTIVE SUMMARY

In accordance with the Investment Policy and Management Plan, IPMP, the California State Teachers' Retirement System Board has established a strategic allocation to global (i.e., U.S. and non-U.S.) public and private equity assets. Considering this commitment to non-U.S. assets and the impact that currency fluctuations can have on the total return of dollar-based investors, CalSTRS has recognized the need to implement and maintain strategies designed to address the management of currency risk.

The Currency Management Program, CMP, is to be managed in a prudent manner for the sole benefit of its participants and beneficiaries, in accordance with the California Constitution, the Teachers' Retirement Law, and other applicable statutes. No investment instrument or activity prohibited by the IPMP shall be authorized for the Currency Management Program.

CalSTRS believes that the CMP should emphasize the protection of the value of its non-U.S. public and non-U.S. private equity assets (i.e. Private Equity and Real Estate) against a strengthening U.S. dollar first, yet recognizes that there also exists opportunities for alpha generation within the currency markets.

This document is intended to summarize the fundamental objectives and considerations used in the investment, administration, and management of the CMP. These policies are designed to set boundaries that will ensure prudence and care in the management of the CMP while allowing sufficient flexibility in the management process to capture investment opportunities. CalSTRS believes that environmental, social, and governance, ESG, issues can affect the performance of our investments. As a result, the CalSTRS 21 Risk Factors have been developed as a tool that both internal and external investment managers are expected to use to assess the impact of ESG risk when making an investment on behalf of CalSTRS. Detailed procedures and guidelines for CMP are maintained separately.

As with all other plan assets, these policies cannot be altered without explicit direction from the Board.

A flow chart (Exhibit 1) is included to provide context for the policies within the general process of implementing the CMP. Words and terms that may be unfamiliar to the reader are referenced in the glossary.

CURRENCY MANAGEMENT PROGRAM (CMP) POLICY

1. **<u>Program Objectives</u>:**

The strategic objectives for the CMP include: 1) the preservation of the diversification benefits of holding foreign denominated (public and private) assets, while protecting the translation value of those underlying assets when there is the risk that the U.S. dollar, USD, may strengthen; 2) return enhancement in a declining USD environment and; 3) the facilitation of currency positions for the acquisition/disposition of non-U.S. denominated investments within the parameters established by these policies. Monitoring and oversight of the implementation of the CMP shall come under the purview of the Director of Fixed Income.

2. **<u>Performance Objectives</u>:**

The CMP includes core and opportunistic strategies which, in aggregate, are to be structured to add alpha to the total investment portfolio. Separate and distinct risk-adjusted performance objectives shall be established for each of the program mandates (i.e., core and opportunistic), in order to determine whether the performance objectives have been met.

3. **<u>Program Benchmark</u>:**

The performance of the CMP shall be evaluated based on risk-adjusted total return measures relative to the notional value (in USD) of the underlying foreign denominated assets over a business cycle of three to five years.

4. **<u>Program Structure</u>:**

The CMP will be a blend of two major strategies: 1) core and, 2) opportunistic. The core strategy will be actively managed by internal staff with relatively low annual volatility. The opportunistic strategy is to be comprised of active external portfolios with higher levels of annualized volatility and higher expected returns. It is anticipated that allocations to the core and opportunistic strategies will develop over time, as follows:

<u>Strategy</u>	**<u>Mgmt. Style</u>**	**<u>Range</u>**
Core	Active (lower volatility)	70% – 100%
Opportunistic	Active	0% – 30%

5. <u>Eligible Currencies</u>:

The following currencies are authorized:

a. The core CMP will be limited to those represented by the Australian dollar, the British Pound sterling, the Canadian dollar, the Euro, the Japanese yen, and the Swiss franc. Positions for any other currencies must be pre-approved by the Investment Committee, on a case-by-case basis.

b. Currency positions in reference to the facilitation of the acquisition/disposition of non-U.S. denominated investments shall be at the direction of each asset class according to prescribed guidelines and controls. Currency transactions executed for this strategy are not limited to the currencies as stated within Section 5.a above.

6. <u>Risk Management</u>:

a. **Counterparty Exposure** - A counterparty's inclusion within the core CMP shall be evaluated based upon the expertise and financial capacity of the firm. Due to the extended settlement practices, credit quality and size limitations will be established and documented within the CMP guidelines and are subject to change as conditions warrant, as determined by the director of fixed income.

b. **Position Range** - The position range within the core CMP has been designed to allow for some degree of symmetry around the underlying exposure to foreign denominated assets within the total investment portfolio in order to both protect the translation value of the assets against a strengthening USD and to enhance returns in a declining USD environment. Therefore, the position range shall be -25 percent to 50 percent of the total notional value (in USD) of the non-U.S. public and non-U.S. private (i.e. Private Equity and Real Estate) equity portfolios.

c. **Permitted Instruments** - Currency futures and forwards, with a maximum value date of up to one year from the spot date, and currency options are permitted to establish the currency positions in the core CMP.

d. **Authorized Traders** - Authorization letters which specify who may transact business for the core CMP, shall be sent with a copy of the most recent investment resolution, initially at the time an account is opened, and then periodically to all counterparties with whom CalSTRS conducts currency business. Whenever a change in authorized traders takes place, the counterparties shall be notified in writing within 24 hours in the event of termination and as soon as possible in the event of a newly authorized trader(s).

e. **Trading Parameters** - The following parameters apply with respect to daily currency trade activity within the core CMP:

Investment Officer I	up to 1% of the core (notional) program
Investment Officer II	up to 2% of the core (notional) program
Investment Officer III	up to 3% of the core (notional) program
Portfolio Manager	up to 5% of the core (notional) program
Director of Fixed Income	up to 5% of the total non-USD holdings
Chief Investment Officer and Deputy Chief Investment Officer	up to 10% of the total non-USD holdings

Note: Notional amount parameters are intended to take into account the position range referenced in paragraph 5b, above (i.e., -25 percent to +50 percent).

f. **Trade Processing** - All transactions relating to the core CMP shall be traded within the parameters noted above and approved within the confines of guidelines that require, at a minimum, a dual-release for all currency trades. It should be noted that the staff person releasing the trade to the custodian must be from the Investment Operations unit to ensure proper separation of duties.

7. CMP Internal/External Management:

The CMP is managed by both internal staff and external investment managers. The decision to hire an external manager or utilize internal investment staff for an investment strategy is made by applying a board-approved criteria matrix (Exhibit 2) to evaluate a variety of factors including, but not limited to, cost effectiveness/control, market transparency and liquidity, market efficiency, active risk, and infrastructure/resource requirements. CalSTRS uses active external currency specialists as an additional resource and to provide an additional layer of diversification to the CMP.

Within the boundaries and ranges established by these policies, staff is responsible for the selection, allocation, and oversight of the external currency managers. Manager guidelines, objectives, benchmark selection, volatility parameters, constraints and trading activities are to be administered by staff and integrated into the currency management risk budget. CalSTRS shall also maintain a pool of managers to supplement the existing managers or replace a terminated manager as needed.

8. Other Strategies:

Periodically the Board will approve investment strategies that may or may not be managed within the CMP specifically, but are instead designed to take advantage of an opportunity and/or to meet a performance objective. Unless a strategy is addressed by a specific policy of its own, CMP staff is responsible for the implementation of any currency strategy that may be directed by the chief investment officer and deputy chief investment officer.

9. Monitoring and Reporting:

The following reports will be prepared and presented to the Board, unless otherwise stated, in order to facilitate visibility of compliance monitoring and reporting according to this document:

a. **Currency Status Report** - prepared by Operations and Fixed Income staff and presented to the chief investment officer and deputy chief investment officer (monthly)
b. **Performance Report** - prepared by the master custodian/consultant to the Board (semi-annually)
c. **Semi-Annual Report on Investment Manager Ratings** - prepared by staff
d. **Business Plan** - prepared by Staff (annually)

10. Delegation of Authority:

The investment, administration, and management of the Currency Management Program is delegated to staff within the boundaries established by these policies and the processes described within the relevant Investment guidelines.

11. Board Review:

The Board or the Investment Committee shall administer and review these policies periodically as it deems appropriate and in keeping with its fiduciary standards.

Adopted by the Teachers' Retirement Board on July 12, 1995
Revised to reflect addition of Italy & Switzerland as approved currencies on January 7, 1998
Revised to reflect policy format changes on June 2, 1999
Revised to reflect Principal Inv. Officer addition to authorized limits on October 11, 2000
Revised to adopt program statement of philosophy on December 4, 2002
Revised to include Private Equity & Real Estate assets & other hedging tools on April 7, 2005
Revised to include return enhancement objective & approve external managers on June 7, 2006
Revised to reflect risk management system process changes on September 7, 2006
Revised to update the trading parameters and oversight responsibilities on February 4, 2010
Revised to add ESG language and Other Strategies on April 4, 2014

POLICY IMPLEMENTATION FLOWCHART

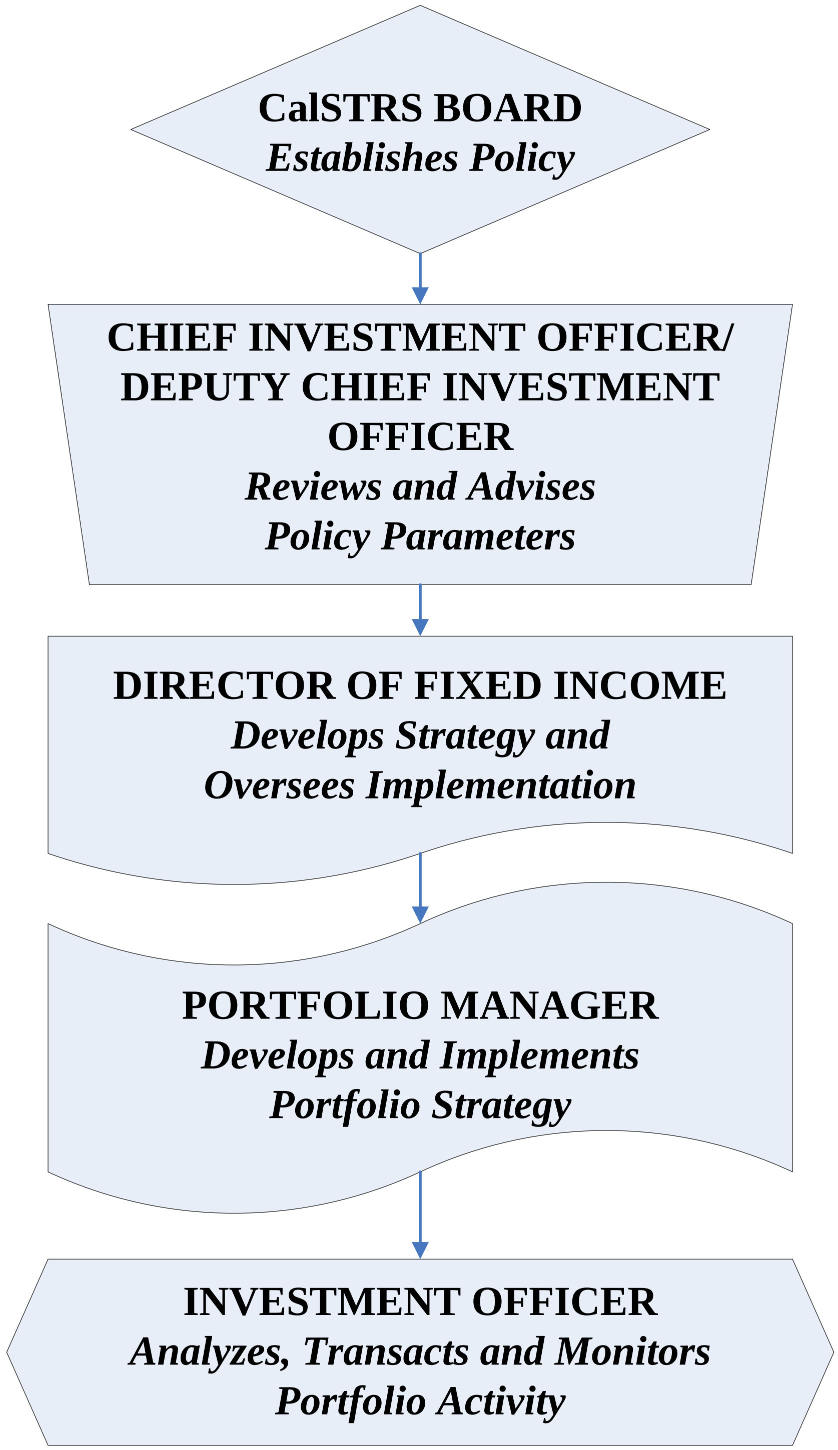

Exhibit 2

INTERNAL / EXTERNAL DECISION CRITERIA MATRIX

Decision Factors	Low	Medium	High
Cost-Effectiveness/ Control	External	External/Internal	Internal
Market Liquidity & Transparency	External	External/Internal	Internal
Market Efficiency	External	External/Internal	Internal
Active Risk	Internal	External/Internal	External
Infrastructure/ Resource Requirements	Internal	External/Internal	External

Cost-Effectiveness/Control

After including all costs, is internal management able to add more value than external management? All things being equal, management fees increase in direct relation to the risk and complexity of the strategy being managed. Given the narrower band for tracking error (i.e., risk) described earlier in this paper, passive management usually provides opportunities for more cost-effective management of assets, while active management presents the potential to generate alpha. For active management to make sense in the Portfolio, the strategy must generate returns in excess of the benchmark net of management fees which, as discussed in last year's active/passive study, is difficult to accomplish consistently.

The decision to manage a portfolio internally or externally should not be based solely on who provides the cheapest management fees. Even though many studies have shown that internal asset management typically has a lower cost structure than external management, a more holistic view should be used in the decision making process, which includes control of the assets and market awareness of internal staff. Internal management, it has been argued, allows better coordination over when and how assets are deployed, permits greater control over corporate governance issues, and allows for a more straightforward mechanism to customize investment mandates that align with a plan sponsor's unique directives. In other words, internal management is able to focus on CalSTRS as its one and only client, versus the multiple accounts among which an external manager must divide its attention. Also, as internal staff begins to manage new strategies, staff should continue to identify additional ways to take advantage of market inefficiencies when they occur. It should be noted, however, that building in-house investment management expertise can be difficult, given the employment and hiring practices dictated by State employment.

While there seem to be many benefits to internal management, we should recognize that bringing assets in-house requires significant up-front costs which can then be amortized over the investment period. These costs include sufficient staffing levels, computer support systems, specialized software/technology, and access to investment-related data. It is clear that building and sizing the infrastructure, risk management and trading systems, and people are critical to investment success. The same criteria we apply to external managers in terms of people, process, and philosophy apply internally, as well. However, once an infrastructure has been established for an asset class, the incremental costs of adding new strategies may be minimal, depending upon the strategy.

Market Transparency and Liquidity

Does the market have enough liquidity and transparency to allow for effective management of the strategy? While it appears that the internal versus external management debate centers around the public (i.e., fixed income and equity) markets, as opposed to the private markets (i.e., private equity and real estate), it is really the transparency, and liquidity of the markets within which each strategy trades that is the primary decision factor.

Private markets are generally less transparent and liquid than other asset classes within the Fund. Public equity and debt markets are more transparent, have broadly and widely recognized indices, are highly liquid, and are amenable to structuring a broadly diversified portfolio. This liquidity and transparency, in terms of widely followed market information and pricing, make equity and fixed income portfolio management a different kind of management challenge, as the assets are broadly available for purchase and sale to all with a mandate and the proper business infrastructure/resources.

Market Efficiency

Does the strategy operate in a market that is efficient or inefficient? Market efficiency refers to the degree that all investors in a market have access to the same information and, at any given time, security prices reflect all available market information. The decision to manage an active or passive strategy should be directly based on the efficiency of the market. For markets that are considered highly efficient, the probability of consistently outperforming the market is relatively low, which suggests that a passive/core strategy would be appropriate. In markets that are less efficient, the opportunity exists to generate alpha. Finding these market inefficiencies requires dedicated resources to identify securities that are considered mispriced. When these inefficiencies are evident, a skilled active manager can take advantage of these opportunities and construct a portfolio that should generate fee-adjusted returns in excess of the market.

Active Risk

Does internal staff have the knowledge and competence to manage the strategy in house? An active strategy requires highly specialized and skilled individuals who are well versed in the pursued strategy and willing to make educated decisions to take prudent risk, in order to achieve a net return higher than the benchmark. A passive or less active strategy still requires skilled individuals; however, the goal of this type of strategy is to track or slightly exceed the strategy's benchmark, and the research effort is much less intensive than active managers.

Private equity and real estate are uniquely active markets in which expertise, in terms of property or company type, leverage, deal structure, deal components, and terms, make them truly active investments requiring resources capable of reviewing the fundamentals of the deal structure and capital to fund the deal. With internal management, recruiting investment professionals who have highly specialized skills in active strategies may be difficult. CalSTRS' compensation structure and the current environment of state budget cuts may provide a headwind to attracting new investment talent. There is also the potential for key investment staff turnover. This will always be a concern in both internal and external portfolios. CalSTRS, like external managers, would seek to construct a bench of talent for any strategy undertaken.

Infrastructure/Resource Requirements

Does CalSTRS have sufficient infrastructure and the resources to support the strategy? Technology and risk management systems, along with proper staffing levels (front and middle office) are a key ingredient to operating a successful investment management operation. CalSTRS has gained much of this experience over the last 20 years through the development of our own internal infrastructure, in terms of communications, specialized investment software, and analytical criteria needed to operate in the public fixed income and equity markets, as well as our exposure to external managers.

GLOSSARY

APPROVED CURRENCIES – The currencies of the countries where positions are permitted. For the Core portion of the CalSTRS Currency Management Program, the countries available to establish positions in are limited to those represented by the Euro, Japan, Switzerland, United Kingdom, Australia, and Canada approximately 80 percent of our overall non-U.S. dollar exposure.

BENCHMARK – A point of reference that serves as a standard for something's performance to be measured against. When evaluating performance of any investment, it is important to compare against the right benchmark. The benchmark for the performance of the CalSTRS Currency Management Program is based on risk-adjusted total return measures relative to the notional value (in U.S. dollars) of the underlying foreign denominated assets over a business cycle of three to five years.

COUNTERPARTY – An individual or organization on the opposite side of a trade.

CROSS-HEDGING – Hedging the risk of one currency by buying or selling another currency. Because the different currencies are similar but not identical, additional risk may incur.

CURRENCY – Any form of money that is in public circulation.

CURRENCY EFFECT – The gain or loss on foreign investments due to changes in the relative value of assets denominated in a currency other than the principal currency. A rising domestic currency means foreign investments will result in lower returns when converted back to the domestic currency. The opposite is true for a declining domestic currency.

CURRENCY FORWARD – A forward contract that locks-in the price an entity can buy or sell currency on a future date (also known as the value date). In currency forward contracts, the contract holders are obligated to buy or sell the currency at a specified future date. These contracts cannot be transferred.

CURRENCY FUTURES – A transferable futures contract that specifies the price at which a specified currency can be bought or sold at a future date. Since these contracts are marked-to-market daily, investors can—by closing out their position—exit from their obligation to buy or sell the currency prior to the contract's delivery date.

CURRENCY HEDGING – A strategy used to manage the risk associated with holding non-U.S. assets in its local currency.

CURRENCY OPTION – A contract that grants the holder the right, but not the obligation, to buy or sell currency at a specified price during a specified period of time.

CURRENCY OVERLAY – The outsourcing of currency risk management to a specialist firm, known as the overlay manager. This is used in international investment portfolios to separate the management of currency risk from the asset allocation and security selection decisions of the investor's money managers. The overlay manager's positions are "overlaid" on the portfolios created by the other money managers, whose activities continue unaffected.

CURRENCY RISK – The risk related to currency fluctuations. For CalSTRS, it is the fluctuation of any foreign currency compared to the U.S. dollar. Non-U.S. investments are complicated by the currency fluctuation and conversion between countries. A high quality investment in another country may prove to be worth less because of a weak currency.

EXTENDED SETTLEMENT PRACTICES – Settlement for currency forwards takes place on the value date. Value dates for CalSTRS Currency Management Program are limited to a maximum of one year.

FLOW OF FUNDS ANALYSIS – Aggregate demand analysis involving trade balance and investment flows as it pertains to the foreign exchange market. Often driven by interest rate differentials, investors have incentives to buy into foreign markets that have higher average interest rates than their own by purchasing bonds, short-term notes, and even stocks. The resulting cross-border exchange creates increased demand for higher yielding currencies which affects foreign exchange rates.

HEDGE RATIOS – A ratio comparing the number of currency forwards sold with the size of the position in the underlying currency.

INTEREST RATE DIFFERENTIALS – A differential measuring the gap in interest rates between two similar interest-bearing assets. Traders in the foreign exchange market use interest rate differentials (IRD) when pricing forward exchange rates. Based on the interest rate parity, a trader can create an expectation of the future exchange rate between two currencies and set the premium (or discount) on the current market exchange rate futures contracts.

MSCI EAFE PLUS CANADA INDEX – The Morgan Stanley Capital International Europe, Australia & Far East Plus Canada Index. This index is a capitalization weighted index of all of the companies found in the developed country indices from Europe, Australasia, the Far East, and Canada that are in the MSCI World Index, as well.

NON-U.S. (or NON-DOLLAR) – Investments made in currencies other than the U.S. Dollar.

NOTIONAL AMOUNT – The U.S. Dollar amount of the underlying assets.

PRUDENT MANNER – A fiduciary is required to act in a manner appropriate in keeping with the investment standard, in the best interest and for the sole benefit of CalSTRS' participants and beneficiaries.

TECHNICAL ANALYSIS – A method of evaluating securities by analyzing statistics generated by market activity, such as past prices and volume. Technical analysts do not attempt to measure a security's intrinsic value. Technical analysts often use charts to identify patterns that can suggest future activity. Technical analysts believe that historical performances of the market are indications of future performance.

VALUE DATE – Term used in relation to foreign currency to indicate the date when transferred money becomes available to the depositor.

Sources: Bloomberg, Callan Associates, Investopedia.com