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CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Scott P. Johnson
Russell Crosby

SUBJECT: Pension Obligation Bonds

DATE: May 14, 2010

Approved

Date 5/14/2010

INFORMATION

BACKGROUND

In the Mayor's March Budget Message, as approved by the City Council, the City Manager was directed to identify the potential benefits and drawbacks of Pension Obligation Bonds (POBs).

On May 10, 2010, the City Manager reported to the Council the conclusion of staff's analysis:

> We do not believe under any scenario that Pension Obligation Bonds are a viable tool to address the 2010-2011 shortfall.
>
> Even if the City Council wanted to assume the risk of financial loss from POBs, which can be considerable, the general stock market conditions are not right and a 6-12 month court validation action would have to be undertaken.
>
> We caution that it is imperative for Council to understand the market-volatility risks of POBs and potential financial losses to the City over the long term. These risks exist even with optimistic assumptions about the average spread between bond interest costs and pension plan earnings.
>
> Should Council wish to continue exploring POBs, any further exploration of POBs should occur in the context of a comprehensive look at pension system cost mitigation, including who bears the cost of any potential losses.

This memorandum elaborates on the analysis leading to the City Manager's May 10 statement.

ANALYSIS

What are Pension Obligation Bonds?

- Pension Obligation Bonds are taxable bonds that could be issued by the City and used to finance some or all of the City's Unfunded Actuarial Accrued Liability ("UAAL").
- Bond proceeds are deposited with the pension plans and invested, along with the plans' other assets, in a mix of long-term investments, such as equities and fixed income securities.
- For the portion of the UAAL that was paid through bond proceeds, instead of making contributions to the pension plans for this portion of the UAAL, the City would make debt service payments to bond holders. This replaces the portion of the employer retirement contribution rate due for payment of the UAAL which was paid off.
- Pension Obligation Bonds can be issued for the entire UAAL as of a particular date, or for a portion of it. The term can be for up to 30 years.
- The City would make two payments: the debt service payments to pay off the bond and contributions to the retirement system.

What is the Unfunded Actuarial Accrued Liability (UAAL)?

- The UAAL is the difference between the funds necessary to fund retiree benefits, as estimated by an actuary, and the actuarial value of the funds already committed to the pension plans to pay those benefits.
- The UAAL for pensions currently is a debt to the pension plans that the City (not employees) is entirely responsible for. This debt is paid/amortized over a period of time at an actuarially determined rate of interest.
- As of June 30, 2009 (most recent valuation), the City's UAAL for pensions is $1.1 billion. The amount of this liability will change over time, and is currently expected to increase.
- As of June 30, 2009 the UAAL for pensions on a market value basis was $2.1 billion. Since the pension plans recognize "smoothed" gains and losses over a five-year period, approximately $1 billion in losses were not recognized in calculating the UAAL as of June 30, 2009. Pension investment reports indicate that as of March 31, 2010 the market values of the pension assets have recovered by approximately $640 million due to the upswing in the financial markets since June 2009. However, approximately $200 million of that was needed to meet the actuarial assumption, so the $1 billion deferred loss at June 30, 2009 has been reduced by approximately $440 million.

Can POBs save cities money?

The theory of POBs is that a city could replace the higher-cost UAAL obligation owed to the pension plans with lower-cost debt owed to bond holders. Savings can result when, if over the life of the bonds, the borrowing costs on the bonds (bond interest rate) is below the actual rate of return earned by the pension plans (pension plan rate of return). The difference between the bond interest rate and the pension plan rate of return is called the "interest rate spread." POBs are a form of risk arbitrage: the government issuer borrows against its good (low-risk) credit rating and invests the proceeds through its pension plans in higher-risk, higher-return investments. The intended result is that City's payments to bondholders are lower than what the City must otherwise contribute to the pension plans for the UAAL.

Illustration A. As an illustration of the theoretical savings, for each $100 million of POBs the City issued at a net average interest rate of 6% amortized over 30 years, if the pension plans earned an average net rate of return of 7% during the same 30-year period (an interest rate spread of 1%), then the *average annual savings* to the City would be approximately $500,000 per year over the 30-year term.

Illustration B. Alternatively, if the POBs were issued at an interest rate of 6% and the pension plans earned an average net rate of return of only 6% over the 30-year period (an interest rate spread of 0%), then the *average annual cost* to the City would be approximately $600,000.

However, as indicated below, cities considering POBs must understand that even if there appears to be annual budgetary savings in the early years, the POB could result in a net financial loss to the city over the longer term due to the market volatility of pension plan returns over time.

What potential risks of financial loss are associated with POBs?

Investment risk is the principal risk associated with a POB program. If the pension plan earns less than the pension system's Board-approved rate of return over the life of the bonds compared with the interest paid on the POBs, then the POB program becomes a net cost to the City.

A significant factor that must be understood is how market volatility—the timing and degree of market upturns and downturns—can affect the ultimate financial gains or losses of issuing a POB.

POBs can have a positive impact if market returns are favorable early in the term of the POB program; this results in additional pension system assets that provide a cushion against future market declines.

However, market volatility can also have a negative impact on the long-term economics of a POB program. Even if the spread between the expected return on pension plan assets and the POB yield is positive, *the volatility of returns on the investments funded with the bond proceeds can cause a drag on returns, leading to less favorable results than was originally expected.* Investment losses experienced early in the POB term may contribute to a new unfunded liability and could require more years of future gains to break-even. Even though short-term budgetary savings are possible, actual interest rate savings over the life of a POB are less certain, since earnings on the investments funded with the bond proceeds may be less than the bond payments in any given year. In addition, the factors on which the actuaries base their calculations in determining the UAAL may change over time.

Even with an attractive interest rate spread, the actual savings or loss of a POB issuance will be impacted by the volatility of the pension plan returns. For example, with Illustration A above (an interest rate spread of 1% between the expected 6% bond yield and 7% pension rate of return), risk analysis of market volatility indicates that there is a probability ratio for success of 60/40—

meaning, there is a 60% chance that a POB issuance would be a net financial benefit to the City and a 40% chance that it would be a net cost.

This same analytical model indicates that for every 0.25% change in the interest rate spread, the probability ratio changes by 4.5% (i.e., the chance that a POB issuance would result in a net benefit to the City increases or decreases by approximately 4.5%.) It is also important to note that within the 40% probability of failure are some very outlying scenarios that could be financially catastrophic for the City (i.e., that could cost the City in excess of $500 million over the 30-year period for a $100 million POB issuance).

Clearly, POBs should only be issued when the interest rate spread is expected to be sufficiently wide to mitigate potential risks associated with POB issuance. In addition, and equally important, the City must be comfortable with the potential for financial loss due to market volatility in the pension plan rate of return.

The following table summarizes the potential savings, costs and chances of success for the illustrations discussed in this briefing sheet.

Illustration	Net Return on Pension Assets	POB Interest Rate	Average Annual Savings/Cost over 30 Years	Average Probability of Success*
A	7%	6%	+$500,000	60%
B	6%	6%	-$600,000	40%

**Average Probability of Success* means the likelihood that the issuance of POBs will result in a net savings to the City over the entire 30-year life of the bonds. The complementary probability is the probability that the POBs will result in a net loss to the City over the entire 30-year life of the bonds.

Besides the risk of financial loss, what are other potential drawbacks of POB's?

- Issuance of debt to fund pension liability increases debt burden and may use up City debt capacity.
- Issuing pension obligation bonds converts a "soft" liability into a "hard" liability. Governments must make the debt service payments on the POBs regardless of retirement plan performance.
- Must recognize that additional unfunded liabilities could still exist in the future on account of plan experience and/or actuarial assumption or method changes. Government Accounting rules require that any unfunded pension liabilities to be disclosed annually in the government's annual audited financial reports.
- POBs make it more difficult to identify the full cost and systemic issues associated with the retirement plans. The POB debt responsibility becomes part of the City's debt portfolio and out of context from the cost of retirement plans.
- Issuance of POBs involves transaction costs similar to other financing instruments.

If market timing is important, how could a city know when the most opportune time is?

The most attractive time to issue POBs is during a recession or during the very early stages of a recovery, when stock/equity prices are depressed and when the predicted yield spread (between the pension plan's return on investments and the City's cost of borrowing) is at a comfortable range--at least a 1% to 2% spread.

The challenge is that it is very difficult to determine the most opportune market time. Government agencies can avail themselves of different tools and techniques to try to time the market. Agencies that issued POBs over the last ten years, when the market was expanding, failed to benefit from opportune market timing due to the significant market decline in 2008/09. They are now "under water" with their total debt service payments to date exceeding their pension returns to date on the POB-related investments.

To issue POBs, what is the first step?

Any city that wants to issue a POB will need to undertake a court validation process. The purpose of the court validation process is to establish that the City's obligation to pay the unfunded liability is a debt imposed by law, and comes within an exception to the State constitutional debt limitation. The validation process typically takes 6-12 months. The validation action does not obligate the City to issue POBs, but there are costs associated with the validation process. As with every debt issuance of the City, each issuance of POBs would require Council approval.

Besides POBs, what other strategies can cities use to decrease their UAAL?

The main options for cities to reduce their UAAL are to a) increase annual contributions, b) increase plan investment returns, and c) share the pension unfunded liability payments with employees.

Cities are also exploring other options to reduce the retirement costs such as redesign for lower benefits.

COORDINATION

This Memo has been coordinate with the City Attorney's Office and the City Manager's Office, including the Budget Office and Office of Employee Relations.

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