

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT MANAGEMENT DIVISION
INVESTMENT ADVISORY COMMITTEE**

**MINUTES OF MEETING
November 18, 2015**

Time and Location: The Investment Advisory Committee (“IAC”) met on Wednesday, November 18, 2015, in the Dogwood Conference Room of the Longleaf Building, 3200 Atlantic Avenue, Raleigh, North Carolina.

Members Present: The following members were present: State Treasurer Janet Cowell (Chair), John Aneralla, David Hartzell (morning session), Steve Jones, Mike Mebane, Neal Triplett (Vice-Chair), and Courtney Tuttle (by teleconference).

Members Absent: None

Staff: The following staff members were present: Bryan Bolcar, Tarik Dalton, Craig Demko, Cecilia Edgar, Ronald Funderburk II, Alison Garcia, Kathy Hahn, Brett Hall, Casey High, Ryan Hill, Sean Incremona, Taylor Jackson, Schorr Johnson, Arlene Jones-McCalla, Kathy Kornak, Matt Krimm, Matthew Leatherman, John Leraas, Troy March, Jack McGowan, Chris Morris, Neal Motaparthi, Meryl Murtagh, Tinh Phan, Patrice Ray, Sam Scher, Kevin SigRist, Jeff Smith, Liz Smith, Tessa Tanis, Blake Thomas, Tim Viezer, Sondra Vitols, Chris Ward.

Others in Attendance: Alan Torrance, Gaynor Fries.

AGENDA ITEM – OPENING REMARKS

The meeting was called to order at approximately 10:00 a.m. The Chair, Treasurer Cowell, announced that representatives from Aon Hewitt had been unable to attend due to weather and the agenda had been updated to reflect a shorter meeting. The Chair asked the Members present to declare any conflicts of interest. There being nothing declared, the meeting commenced.

AGENDA ITEM – APPROVAL OF MINUTES

The Chair asked for approval of the minutes of the May 20, 2015 meeting. Mr. Mebane moved to approve the minutes and Mr. Hartzell seconded. The minutes were approved as written.

AGENDA ITEM – INITIATIVES AND PERFORMANCE UPDATE

The Chair then recognized Mr. SigRist, Chief Investment Officer, to provide an overview of initiatives, as well as an update on the performance of the investments for the North Carolina Retirement Systems (“NCRS”).

❖ INVESTMENT MANAGEMENT DIVISION INITIATIVES

Mr. SigRist presented his report to the IAC.

Taken Off The List – Mr. SigRist highlighted the items that had been resolved from the Investment Management Division’s list of initiatives. These items included:

- Implementing a capital allocation plan as a result of the Asset Liability Study

- Supporting General Counsel's corporate governance initiatives related to diversity engagements, divestment policies and developing investment beliefs
- Procuring a Public Equity consultant – this was in the contracting phase. The consultant would review the structure of asset classes and help to develop a research agenda.
- Evaluating liquid "Staging Portfolios" for Core Real Estate and Inflation Sensitive (further details would follow in the Real Estate presentation)
- Implementing operation/resource improvements brought forth by the Ernst & Young ("E&Y") project, including filling vacancies and utilizing contractual resources, conducting a market-oriented compensation study and preparing the Division for the first internal audit with activities around developing and evaluation and manager monitoring policies.
- Restructuring the BNY Mellon contract, including new business requirements. The Department received a monetary settlement out of the restructured contract.
- Instituting structured third-party review of fees and incentive payments. E&Y cross-walked the fees and incentive payments that were identified in the audited financial statements and confirmed that we were paying the appropriate management fees under our fee agreements. It is the intent of the Division to do more of this type of fee reconciliation in the future rather than just relaying on surveys that the Division conducts twice a year.
- Effect relocation
- Independent consultant benchmark evaluation
- Best practices reviews with the Investment Advisory Committee

Mr. Mebane inquired how the Public Equity consultant would be compensated and whether any performance incentives had been built in. Mr. SigRist replied that compensation would be a flat fee with itemized activities, such as manager searches, paid separately on an additional fee basis.

Investment Projects/Priorities – In response to Mr. Triplett's inquiry as to internal management of the public equity funds, Mr. SigRist moved the discussion to the Investment Project to develop an internal equity index fund implementation. Mr. SigRist highlighted that there is currently \$3 billion invested in the Russell Top 200 Fund with Piedmont Investment Advisors, a local firm with whom the Investment Management Division has a relationship. A strategic partnership and knowledge transfer agreement had been entered into with Piedmont to train staff to move management of this portfolio in-house. Mr. Hartzell inquired about the term of the contract and Mr. SigRist responded it was likely to be 2-3 years. The plan was to develop a paper portfolio, get comfortable with that, and then move the first slate of money in. Mr. Mebane asked if the main reason for doing this was to reduce fees and Mr. SigRist replied that while there would be cost savings, the driving factor was to have greater control of the assets and enhanced liquidity. Having passive equity money allows for better anticipation of cash flows. If the Department can make the domestic funds work out well, then the next step would be to do the same for the foreign investment funds. Because Piedmont is unable to do foreign equity funds, the Division would like have to find another firm for that step.

Mr. SigRist highlighted the implementation of the Managed Accounts program which was moving along fine. The Division is working with FRM to facilitate this with the first manager to be added during the first quarter of 2016; four other hedged equity managers are in the pipeline.

Research and Develop ESG Policies and Strategies – Mr. SigRist reported that projects analyzing Department of State Treasurer investment beliefs and ESG (Environmental, Social, & Governance) viewpoints were initiated earlier this year to codify for the investment team the core

investment beliefs, values, vision and mission statements. The projects would also look to identify how the Department works – e.g., is it hierarchical in nature? Is it process or policy driven? What is the culture that we want to organize to drive forward? Mr. SigRist commented that the view is that investment beliefs should drive a big part of the investment program, including its environmental, social, and governance factors.

Mr. SigRist noted that he would like to have some time on the IAC agenda during the spring or in February to talk about investment beliefs and how these can be expressed. Having an ESG policy would drive corporate governance policies and define where we engage with companies or regulators. It was felt to be interesting to look at risk management aspects in this space as well as to look at asset deployment in the clean energy and clean tech space and to determine whether we want to take these factors into account during due diligence of external investment managers. Mr. SigRist raised the question whether the IAC would be interested in spending some time getting acquainted with what the Investment Management Division has done in the past in this area. Mr. Hartzell felt it would be interesting and wondered if a special meeting would be required to discuss. Mr. SigRist agreed that it would be best for the IAC to consider it as a standalone agenda item – perhaps with a facilitator.

Mr. SigRist noted he had recently spent time at a conference with European, Canadian and Asian plan sponsors to benchmark best practices. One party described ESG factors as non-financial factors that do not affect the bottom line. The second generation view was that there is a financial impact of corporate governance initiatives. The third generation view was that ESG factors were an enhanced analysis of financials and that investors should be concerned about the long-term consequences of a company's financial policies. The Division has discussed this with staff and received a wide variety of views. The IAC may have some views to share that would be useful.

Mr. Jones shared his thoughts and his support for the initiatives. He commented that such initiatives are often not successful in that they do not pass from one generation of management to the next. Mr. Jones offered that Berkshire Hathaway would be a good example to follow. Mr. SigRist commented that one area of diversity of belief – where there is the least consensus – is investors' ability to find investments with competitive risk profiles and a "double bottom line," or a "collateral benefit." Mr. Mebane commented that he would like to see this for discussion on a future agenda and Mr. SigRist confirmed he would do that.

Review of the NCRS Investment Return Assumption -- Mr. SigRist stated that every 5 years there is a study of all the assumptions that go into the foundation of the Retirement System. An important assumption that the Retirement Systems' Boards of Trustees (the "Retirement Boards") approves is the discount rate for the Retirement System. Mr. SigRist had given a presentation on asset allocation policy at a recent meeting which led to a request by the Retirement Boards for a working group to look at return assumption, or using a different approach to the discount rate. Some aspects that could be discussed would include mortality assumptions and wage growth.

At the end of 2013, the assumptions were set following an asset liability study. One proposal is gathering new information from assumptions on the street and using that information to freshen assumptions be made for the investment program and that the IAC review these updated return assumptions and talk about what is reasonable. The Boards could benefit from IAC input in this.

Mr. Aneralla commented that the mortality rate has not changed for a long time. He commented that a tweak of 0.25% to the discount rate could give around a \$300 million increase in contributions. There was concern from the Retirement Boards that we might underperform for a number of years. Mr. Aneralla wondered whether the IAC should make any adjustments today.

Mr. Triplett remarked that with a 2% expected rate of return over the next 10 years, the 7.25% rate of return is a real challenge. He commented that one-quarter of a basis point is big. Mr. Hartzell asked about the trends in discount rate valuation from other public plans. At this point, Sam Watts from the Retirement Systems Division responded that North Carolina have the fourth lowest discount rate in the country and that the trend is moving towards us, but at less than a 0.25% drop. Mr. Mebane asked what the Retirement Boards would find useful to receive from the IAC. Mr. SigRist shared projected returns per the 2014 Asset Allocation Study, adding that he felt it would be useful to have the IAC weigh in on reasonable returns for 10, 20 and 30 years.

Mr. Mebane noted that, looking at risk-adjusted returns, having no appetite for increased risk is a good position to be in right now. Sam Watts added there were 12 different factors to resolve – all very important, but with investment return having the largest impact. Mr. Jones asked, from the Retirement Board's standpoint, what is the overarching thing we are striving for? Mr. Mebane suggested focusing on (i) the Annual Required Contribution (in other words, how much the legislature is going to need to fund) and (ii) funding ratio.

Mr. Aneralla noted that the IAC's background is such that they have dealt with these issues day-to-day and would carry weight with the Board. Steve Toole, Director of the Retirement Systems, stated that the Retirement Boards are asking the IAC if a discount rate of 7.25% is reasonable. If reasonable, the Boards were likely to stick to it. If not, they will think about changing it. Ms. Tuttle commented that we are at a point in the cycle where the leveraged plan index is below 6%, or 125 basis points in terms of yield. She added the riskiest bonds in the market were up 5.81% last week, with Private Equity funds leaning towards low to mid-20s and that we are talking about a rate equivalent to very risky investments. Mr. Triplett commented that trying to determine a point estimate of 7.25% is impossible. We should be looking at ranges in percentiles rather than a specific point.

Mr. SigRist asked the IAC to focus on what is a reasonable rate of return that a plan can earn over various time periods. One way or another, the benefits will get paid by the State. It is a matter of how you pay it - now or later. Mr. SigRist suggested that IMD work with the same group of Buck Consulting actuaries and consultants as was used for the asset liability study.

Mr. Jones said thinking about the bigger issue, we have an arguably high discount rate and mortality rate. Mr. Hartzell suggested we start with the discount rate. Mr. Toole was sensitive that the discussion portrayed the situation as bleak, and commented that the situation was not bleak for the North Carolina Retirement Systems, as they have some of the best and most conservative assumptions in the country. He noted that North Carolina had updated mortality every year. Mr. SigRist said he would pull information together, perform work with Buck Consulting, and work to get a date on the calendar for further discussion.

❖ **PERFORMANCE REVIEW**

Mr. SigRist presented the Performance Review to the IAC. He began by noting that views on the economy have not changed too much. We are seeing modest growth in the US. Developing markets have been offset by weaker growth in emerging markets, which are a drag on the global market. There were a lot of inflationary pressures that Ron and Kathy will discuss later in the presentation, and some wage growth is showing. Housing is continuing to recover. Worries are the Eurozone issue with Greece and the UK and possible tightening by the Fed. Market economic signals could return stronger than expected, but this is seen as a fairly low probability.

NCRS Asset Allocation – Mr. SigRist presented figures as of September 30, 2015. There was a lot of volatility in the markets, and the market value at the end of the quarter was \$85.5 billion. Mr. SigRist commented that NCRS's asset allocations were pretty much at Investment Policy Statement targets, and he was fairly comfortable where we are at, particularly in the areas of Private Equity. Mr. SigRist noted that Public Equity was underweight by 0.81% and that Investment Grade Fixed Income was overweight by 1.64%.

NCRS Performance – A handout was presented showing unaudited performance data through November 13, 2015. Over the time frame, Public Equity showed an almost 5% rebound this quarter to date. It was noted that Non-Core Real Estate was very strong and that Inflation Sensitive had seen a tough year with commodities.

Total Net Portfolio Return versus Benchmarks – Mr. SigRist presented an overview as of September 30, 2015 comparing, NCRS, the Long-Term Policy Benchmark, and the Implementation Benchmark (which includes peer benchmarks). He noted that we were doing well on a relative basis and have preserved value relative to funds, but that we were not achieving 7.25%. Mr. Triplett noted that over all time periods presented in the data, NCRS returns had not achieved 7.25%.

NCRS Net Return Attribution – Mr. SigRist presented performance attribution for the one-year and five-year periods ending September 30, 2015. Total fund one-year performance showed value-add at +0.69% and a policy return at -1.2%, producing a portfolio return of -0.51%. Attribution of the added value demonstrated that the selection effect was +65 basis points and the allocation effect was +3 basis points. The five-year picture showed value-add at +0.71% and a policy return at +6.29%, producing a portfolio return of +6.99%.

NCRS Gross of Fees Risk and Return – Mr. SigRist presented figures comparing NCRS to the BNY Mellon universe, a peer group. He commented that looking at returns, NCRS was pretty much at the median. Looking at the gross of fees Sharpe Ratio, Mr. SigRist commented that our risk level was appropriate. Mr. Jones asked what the effect would have been on our return if our percentile on risk had been closer to the median. Mr. SigRist answered that he did not know; he commented that one could probably do a rough calculation, but however, he tends to look at it as risk appetite and what is the best way to deliver given that appetite.

New and Incremental Investment Commitments – Mr. SigRist gave a brief overview of what has been happening since the May meeting with our investment commitments. He particularly noted the recent major commitment to BlackRock. Mr. Mebane reminded the IAC that concern had been expressed previously over getting into some of the funds we had wanted; he wondered how that was going. Mr. SigRist replied that issues seem to have been resolved. Mr. Mebane asked if it was felt we were in a sellers' market right now. Was it hard to get in funds at a price with which the Department was comfortable? Mr. SigRist stated this was still the case, but we are working through it just fine.

AGENDA ITEM – REAL ESTATE UPDATE

Alison Garcia and her new team members, Sean Incremona and Tessa Tanis, were introduced to the meeting to present an update on Real Estate.

Real Estate Allocation Overview - Ms. Garcia presented an overview as of September 30, 2015 which demonstrated real estate's allocation was at 8.7% currently, with projections for the final quarter of 2015 at 9.1% of the plan in Real Estate. She commented that the portfolio's rebalancing to 5% Core and

3% Non-Core of the total plan, per the strategic policy, was well underway. Mr. Hartzell stated NCRS was doing a good job selling into the Core markets and holding exposure in Non-Core Real Estate.

Non-Core RE Performance (Net Returns) – Ms. Garcia reported that separate accounts and high-conviction managers are driving impressive returns, significantly outperforming the benchmark, including NorthCreek, Blackstone and Lone Star. Managers are now realizing 12-18 month plans, rather than the 4-5 year plans seen previously. Mr. Hartzell asked about the reduction in target returns and Ms. Garcia responded that low 20s to high teens are being seen.

Core Real Estate Performance (Net Returns) – Ms. Garcia reported that her team has spent the last 12-18 months taking a deeper look at Core. The 5-year was lagging in Core at 10.8% versus the Benchmark of 12.3%, but that performance is expected to improve within 24 months as investments mature. Mr. Hartzell asked whether this was income versus appreciation. Ms. Garcia responded that 5-6% of income and about 1-2% of appreciation is the long-term expectation, but there was still quite a bit of cushion.

REITs & Private Core Performance (Net Returns) - Ms. Garcia presented the slide showing the capital commitment over a 10-year period. The anticipated J-Curve effect from significant recent commitments to Core Plus investments is causing short-term underperformance. Ms. Garcia added we were trying to be sure we evaluate what will be considered Core in the future, not just at the present time. The road map for the current transition plans include no change in exposure to REITs, but looking to restructure to be 50% passive and 50% active to reduce costs.

Core - Ms. Garcia shared a thesis for these investments: “To generate durable income and stable returns through strategic investments, with prudent use of leverage, in assets with long-term fundamental drivers that will endure for generations.” Ms. Garcia noted that NCRS would rebalance out a bit of ODCE in favor of separate accounts and more Core plus bonds. The Department was looking to rebalance and looking to increase debt exposure slightly. Ms. Garcia shared that, as a result of implementing the Core Transition Plan, we expect core returns to increase steadily over the next couple of years with 5.5% forecast for gross income returns. Ms. Garcia discussed that overall, leverage is projected to move higher; however, NCRS maintains control by using separate accounts.

Market Conditions - Ms. Garcia reported that we were seeing a lot of capital coming into the markets and that the environment is harder than it was 4-5 years ago, but all the fundamentals feel good. It was noted that John Gray, who is likely to be the next CFO of Blackstone, believes we are essentially mid-cycle and is expecting to see a dramatic pull back and some market shifts. Mr. Aneralla asked which sector gives us the most problems. Ms. Garcia responded she would have to go market by market and check investments. The multi-family space had seen the most construction. Mr. Aneralla then inquired if we were most positive on commercial, multi-family or residential and Ms. Garcia responded that Blackstone was positive on everything. We were seeing a lot of open dialogue, more than ever before. We have slowed down the buying on residential, but continue to feel positive about the space as a whole.

Mr. Hartzell noted that, at this stage of the cycle, we will start to see style drift. He asked what portion of the portfolio was open-ended and Mr. Garcia confirmed around 18%. She was confident that the value will ebb and flow, but that the core values are strong. We are hearing from managers unanimously that they do not want to reach. Mr. Hartzell asked that since open-ended funds are highly competitive, what would be the queue to get in. Troy March, Real Estate Portfolio Manager, responded that it was around 4-6 quarters to get in on the largest funds. Mr. Hartzell asked whether we were seeing admission or exit fees.

Mr. March confirmed that there were not; there are just the AUM and fee percentages for all funds we are in.

Topics for Discussion - Mr. SigRist reported that they had wanted the IAC to consider three areas:

(A) – Consider raising the Overall Cap on Real Estate – Increasing our investment in real estate will allow Non-Core Real Estate investments to offset the underweight to Private Equity. We were 9.1% at September 30th and are now at 8.9%, looking to be 9.5% by the end of 2016. Mr. SigRist indicated that in the past, the Division did not get a lot of traction about raising the Real Estate cap. But staff's sense is that Real Estate provides a duration and cash flow that is helpful in handling the medium-term liabilities of the pension plans. Mr. SigRist stated that his sense is that we should probably have more headroom in Real Estate. Mr. Mebane commented that the perspective has taken a 180-degree turn around in the Real Estate section with coherent, specific work, well communicated, and now was a good time to consider raising the cap. Mr. Jones agreed with raising the cap, commenting that we are capped by our own targets, but the range has plenty of room. It was asked how much headroom would be comfortable. Mr. SigRist commented that he would like to see it around 15% to give room for growth. Mr. Mebane asked what area the increased allocation would come from. Mr. SigRist suggested it could be drawn from both Equities and Fixed Income.

(B) – Real Estate Operating Companies (REOCs) – It was raised that the plans might want to put more money into Real Estate Operating Company platforms. The pros of doing so include pipeline access (with 35% of pipeline by the US), more efficient cost structure, and governance/control. The cons include private equity-type risk, difficulty of sourcing, and more DST resources being required.

Ms. Garcia wanted some direction on putting more money in REOCs. In 2011, NCRS had backed 95% of equity behind Mill Creek to start a multi-family development company. Mr. Jones asked whether that was split between the operational company and assets. Ms. Garcia responded that \$205 million had been put into the platform and we had been repaid half this year – an \$800 million total investment. Mr. Hartzell felt more due diligence at the platform level was required. Ms. Garcia noted that consolidation had led to a very capable property manager being on the market. Mr. SigRist added that operating company investments are a different type of investment. The goal is to get better control and visibility by taking this role. Mr. Mebane commented he was sensing these were large deals, and a 9.5% allocation does not give a lot of room. Ms. Garcia responded that \$200 million would likely be freed up by secondary market sale of legacy interests. Staff would like to factor this into the plan for 2016.

(C) – Leverage – Ms. Garcia reported that leverage is accretive in current market environment and that proper structure is key. From our standpoint, as long as it is properly structured, it is not a huge risk to go from 33% to 38%. Mr. Hartzell added that a small increase does not concern him so much and noted it was a cyclical problem last time. The question goes back to what is Core.

The IAC then broke for lunch and reconvened at 12:45 p.m. It was noted that Mr. Hartzell had offered his apologies and would have to be absent for the afternoon session.

AGENDA ITEM – CEM BENCHMARKING

Alan Torrance of CEM Benchmarking presented information to the IAC on the investment cost effectiveness analysis. The NCRS cost and return performance was compared to CEM's extensive pension

database, which had been running for around 23 years and contains 149 US pension funds. Mr. Torrance reported that the peer group used in the NCRS comparison had a median size of \$74 billion versus NCRS's size of \$89 billion.

Net Total Returns – Mr. Torrance highlighted that NCRS's five-year net total return of 8.7% (using CEM Benchmarking's time period for analysis) was below both the US Public median of 9.8% and the peer median of 9.9%. CEM does not look at total fund returns, but rather splits total return into policy return and value added components. The net total fund return was 8.7% with 8.2% as policy return and 0.5% of net value-add. Mr. Aneralla asked if that was net of fees; Mr. Torrance confirmed it was net of fees and net of CEM costs. As an explanation of CEM's policy return concept, Mr. Torrance confirmed that policy return reflects long-term capital market expectations, liabilities, appetite for risk.

5-year Average Policy Mix - Mr. Torrance reported that the 5-year policy return of 8.2% was below the US Public median of 9.7%, primarily because of the lower weight in one of the better performing asset classes, US Stock. The NCRS was at 22% versus a US average of 25%. In addition, the NCRS had a higher weight in one of the poorer performing assets classes, US Bonds. NCRS had a 33% 5-year average weight in US Bonds versus a US average of 19%.

Policy Asset Mix - The policy asset mix of the NCRS has changed over the past 5 years. At the end of 2014, total equities were at 42%, versus 51% back in 2010. Total Fixed Income was at 31% versus 36% back in 2010. CEM has different definitions of asset classes. For example, some investments in the Opportunistic Fixed Income or Credit portfolio are described in CEM's terminology as private equity. Christopher Morris explained how NCRS's asset classes were mapped into CEM's categories. Mr. Torrance confirmed that debt and private equity are not quite comparing apples to apples.

Net Value Added - In CEM's terminology, net value added is the component of total return from active management. The 5-year net value added for NCRS was 0.5% compared to a median of 0.3% for our peers and 0% for the US public universe. Mr. Torrance then showed a chart demonstrating NCRS's 5-year average net value added by U.S. Stock, EAFE Stock, Emerging Market Stock, Fixed Income, and Real Estate. NCRS's Emerging Market Stock was at 1.0%, much higher than the US and peer averages. To enable fairer comparisons, the private equity benchmarks of all participants, except NCRS's fund, were adjusted to reflect lagged, investable, public-market indices.

Investment Costs - NCRS's investments costs were \$442.7 million, or 49.9 basis points in 2014, which was below the peer median of 63.4 basis points. CEM is working to show in their analysis, across all members of the peer group, costs that are not quite so easily available, such as the costs charged by external private equity managers. Mr. SigRist commented that the grey numbers on Slide 13 were NCRS's actual costs paid, not accrued. These costs are collected and reported biannually. Only 10% of public plans, including NCRS, collect and report this information.

Normal Cost - The benchmark cost analysis suggested that after adjusting for fund size and asset mix, NCRS's fund cost was normal in 2014. This was because the impact of paying less for similar services was partly offset by our higher cost implementation style. NCRS pays less than its peers for similar services in external/internal investment management costs and oversight and custodial costs. Mr. Mebane commented that the total savings versus excess cost was a good number.

Implementation Style - Mr. Torrance highlighted that differences in cost performance are often caused by differences in implementation style (i.e. the way the fund implements asset allocation). NCRS had 8% more in hedge funds, real estate and private equity in fund-of-funds than NCRS's peer groups –

12% versus 4% for peers. NCRS is at 49% external active management versus 47% last year. Mr. Torrance reported that differences in implementation style cost NCRS 2.6 basis points relative to its peers.

External Asset Management - The net impact of paying less for external asset management costs saved 2.3 basis points. Mr. Mebane commented that the bottom line is that we have spent \$20 million less than would be expected for our funds. Mr. Jones noted he would rather think about our biggest savings and cost and value for money on a line-by-line basis and as return of investment on fees paid. Mr. SigRist added that the return of investment on fees paid is interesting but we do not have a good metric.

Mr. Jones questioned how did NCRS performed relative to a lower cost way of doing it. Are we really saving money, relative to what we would have made if we had invested differently? Mr. SigRist replied that for large-cap active public equity, for instance, fees are partly driven by a desire to increase control. The Active share is now around one-third. For our Large Cap Active Managers, we would have to have a compelling reason to replace them with another manager. Mr. SigRist noted that the Department tried to think about that strategically, asset class by asset class. Mr. Triplett asked whether NCRS had a passive implementation benchmark cost. Mr. SigRist responded that the long-term policy benchmark can be reviewed to show our performance against it, which is a benefit of having real assets.

Mr. Aneralla added that just because expenses are high does not mean we are getting a return. It was noted that in fund-of-funds, it seems we are not getting bang for our buck.

Internal Asset Management and Other Savings Relative to Peers - The net impact of paying less for internal Fixed Income asset management costs saved 0.8 basis points, or \$7.3 million. The net impact of differences in oversight, custodial and other costs saved 1.0 basis points. Consulting showed the biggest saving at \$4.2 million.

Mr. SigRist closed by noting that IMD is working with CEM, who has taken leadership to push on transparency within the industry and for standardization of disclosure on fees and costs. They had made a very good effort, which hopefully will have some payoff. The Chair offered thanks to Mr. Torrance for his time and information.

AGENDA ITEM – INFLATION

Ron Funderburk and Kathy Hahn were introduced to the meeting as representatives of the Inflation Sensitive Portfolio team. A warm welcome was given to two new staff members in Inflation Sensitive, John Leraas and Ryan Hill.

Inflation Portfolio History - Kathy Hahn provided a brief introduction of the history of the portfolio. The portfolio was created five years ago, consisting of legacy investments from the private equity and real estate portfolios. The initial strategy was long commodities serving as a diversifier for the broader plan. The volatility was painful. Over time, the portfolio evolved into commodities and energy, which offered more diversification than before with the following benchmarks: 33% in US TIPS, 17% in Bloomberg commodities, and 50% in a dynamically weighed combination of benchmarks of investments classified as private natural resources or other real assets and diversifiers.

Ms. Hahn presented the current portfolio to the IAC as at September 30, 2015, split out by strategy. NCRS was slightly overweight in Private Natural Resources at 34% and underweight in Inflation Linked Bonds at 9%, with Public Natural Resources at 23%. It is anticipated that by first quarter 2016, with a new staging portfolio, Private Natural Resources would be at 32%, Public Natural Resources at 16%, and

Inflation Linked Bonds at 20%.

Inflation Portfolio Performance – Ms. Hahn shared charts with the IAC demonstrating the Inflation Portfolio's performance as at September 30, 2015. The energy sector was underperforming, mainly due to around 50% being in the private lending energy sector. The energy benchmark is the TIPS Index, where lending investments are down 18% and 20% in the developing hedge fund space. She commented that it is a very dislocated sector.

Looking at the energy environment, TIPS is flatlining and most of our investments are benchmarked against it - long/short strategies with a basket of hedges. Volatility in market has caused ratios to fluctuate. It was noted that the energy managers are solid, but some of the benchmarking and techniques we have taken are a mismatch.

Mr. SigRist reported that energy lending has been stacked to control downside risk. Mr. Mebane asked if there had been any defaults and Ms. Hahn replied not yet. Debt managers were good and all investments have been performing in the energy lending space of \$500 million. 10% could be invested as new money. Mr. Mebane asked whether we made individual reserves for losses in the sector and whether there was any concern of defaults. Mr. Funderburk replied that the team has been working with managers to understand reserves and how they plan to capitalize on them. Mr. Mebane inquired about the interest rates on loans and Mr. Funderburk replied that we were getting 10% here.

Mr. SigRist added that this asset class is destined to produce against inflation and so there is constant attention around it. The question of "where should we lean?" is a very strategic question and one of the biggest ones we have. Mr. Mebane commented that the strategy seemed to have been more focused on loss avoidance rather than on investment growth.

Current Inflation Environment - The market is not expecting inflation any time soon. CPI is near historical lows, which has led to modest inflation expectations as measured by marked implied inflation (which has drifted below the Federal Reserve's inflation target of 2%). Low inflation expectations cheapen inflation-sensitive assets and increase the potential upside from inflation surprises.

Current Energy Environment - Crude prices have fallen around 55% and gas prices around 46% since the November 2014 OPEC meeting. Mr. Aneralla commented that in looking at the rig count slide, the USA has been producing more oil today than previously. Ms. Hahn confirmed that this was because drilling is currently in progress. Capital markets are showing weaker appetite for E&P securities in both equities and high yield markets. Many companies are overleveraged and undercapitalized to survive the prolonged downturn and many are struggling to find capital. Fall borrowing base redetermination has been challenging and many E&P companies are relatively unhedged in 2016.

Forward Looking Opportunity Set - Mr. Funderburk reported that his team had reached out to two of our well respected partners in the energy sector to get their opinion on opportunities. It was felt the more attractive areas were: Energy (lending and select energy opportunities in private equity); Whole Loans (residential and commercial) and Floating Rate Loans. This is based on the concept that costs are very low right now not that the opportunities are particularly high in those areas. The less attractive areas were contracted cash flows, US TIPS, and Global TIPS because they are low-yield environments.

Mr. Funderburk presented two graphics to the IAC showing the break-out in strategy and perspective of two strategic partners. If we had polled a year ago, most things would be in the 'Expensive Valuation – Underpricing Risk' section, but now things are moving to 'Fairly Priced'. Mr. Triplett inquired

why we would increase our allocation to TIPS if TIPS are unattractive. Ms. Hahn answered that the Staging Portfolio would seek to find alternatives to TIPS. Mr. SigRist added that we would still be underweight in that sector and true TIPS would be small overall.

CPI Components - Mr. SigRist asked for the IAC's feedback on the staging portfolio. Should we base it on CPI components? The Department was reviewing different proposals by managers. The two most promising have been selected, and two staging portfolio concepts were being evaluated to try to build in liquid hedges. Ideally, the team would like to allocate to both because the goal of the staging portfolio is to create liquidity alternatives instead of just relying on TIPS.

Mr. Aneralla asked what type of investments would allow exposure to medical care. Mr. Funderburk replied that health care is the hardest sector to implement on a sustainable basis - very difficult on the liquid side. Mr. SigRist added that drug royalties and medical office buildings were part of the sector and attractive. Mr. Jones inquired whether the decision to chase the liquid approach was right as a substitute for TIPS.

Mr. Funderburk commented that some managers have proposed to focus on current income strategies and then purchase insurance. Mr. Triplett offered that we should not try to fit a bucket; we should make decisions that make sense to us from an investment standpoint and give us inflation protection. He commented that compared to a lot of commodities portfolios, the NCRS portfolio has protected capital pretty well.

AGENDA ITEM – IAC MEMBER Q&A

There were no further questions raised by the IAC Members.

AGENDA ITEM – PUBLIC COMMENT

There were no public comments.

ADJOURNMENT

It was noted that the next IAC meeting was scheduled for March 9, 2016, dependent upon the ability to gather the appropriate data. A special meeting to discuss the return assumption and the effect of adjusting the discount rate would be set prior to the TSERS board meeting in January. Treasurer Cowell thanked everyone for their attendance and input. The meeting was adjourned at approximately 2:34 p.m.

APPROVED BY:



JANET COWELL
STATE TREASURER AND CHAIR