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MONTANA BOARD OF INVESTMENTS
DEPARTMENT OF COMMERCE
2401 Colonial Drive, 3rd Floor
Helena, Montana

MINUTES OF THE MEETING – June 8-9, 2020

BOARD MEMBERS PRESENT:
Karl Englund, Chair
Mark Noennig, Vice Chair *via Zoom*
Terry Cohea
Jim Edwards
Diane Fladmo
Jeff Greenfield
Bruce Nelson *via Zoom*
Maggie Peterson
Jack Prothero

LEGISLATIVE LIAISONS PRESENT:
Senator Fred Thomas
Representative Jim Hamilton *via Zoom*

STAFF PRESENT:

Polly Boutin, Associate Financial Manager
Jason Brent, CFA, CAIA, Investment Officer Public Markets
Dana Chapman, Board Secretary
Frank Cornwell, CPA Associate Financial Manager
Roberta Diaz, Investment Accountant
Julie Feldman, CPA, Financial Manager
Lindsay Ford, Administrative Assistant
Kelsey Gauthier, CPA, Investment Accountant
Kirsten Haswell, Investment Analyst
Samantha Holman, Accounting Intern
Tim House, Investment Analyst
Doug Hill, Director of In-State Loan Programs
Ethan Hurley, CAIA Director of Real Estate/Natural Resources
Teri Kolnik, CFA, Investment Analyst
Emily Kovarik, CPA, Investment Analyst
Eron Krpan, CFA, CIPM, Investment Analyst
Peggy MacEwen, Deputy Director
Savannah Morgan, Bond Program Officer
Rande Muffick, CFA Deputy CIO/Director of Public Market Investments
Michael Nguyen, Director of Private Equity
Mike Pettit, Director of Investment Operations
Jon Putnam, CFA, FRM, CAIA Chief Investment Officer
John Romasko, CFA, Director of Fixed Income
Rob Samson, Investment Intern
Linda Sharkey, Network Administrator
Steve Strong, Investment Analyst
Dan Villa, Executive Director
Louise Welsh, Senior Bond Program Officer
Thomas Winkler, CAIA, Investment Analyst
Dan Zarling, CFA, CIPM Director of Risk Management

GUESTS:
Becky Gratsinger, CFA, CEO, Senior Consultant, Principal, RVK, Inc. *via Zoom*
Jim Voytko, President, Director of Research, Senior Consultant, Principal, RVK, Inc.

CALL TO ORDER

Board Chairman Karl Englund called the regular meeting of the Board of Investments (Board) to order at 1:00 p.m. As noted above a quorum of Board Members was present. Chairman Englund advised audio/video recording of the meeting was under way. Chairman Englund asked for public comment on issues with Board jurisdiction. There was none.

Approval of Board Meeting Minutes

Chairman Englund called for approval of the April 14, 2020, Board Meeting Conference Call Minutes and asked if there were any changes or revisions.

> Member Maggie Peterson made a motion to approve the April 14, 2020, Board Meeting Minutes. Member Jack Prothero seconded the motion. The motion carried.

Chairman Englund called for approval of the April 17, 2020, Special Board Meeting Conference Call Minutes and asked if there were any changes or revisions.

> Member Maggie Peterson made a motion to approve the April 17, 2020, Special Board Meeting Minutes. Member Terry Cohea seconded the motion. The motion carried.

Chairman Englund called for approval of the April 23, 2020, Special Board Meeting Conference Call Minutes and asked if there were any changes or revisions.

> Member Jeff Greenfield made a motion to approve the April 23, 2020, Special Board Meeting Minutes. Member Diane Fladmo seconded the motion. The motion carried.

ADMINISTRATIVE BUSINESS

Audit Committee Report

The Audit Committee met prior to the Board meeting. Committee Chair Maggie Peterson reported there were four items before Committee presented by Ms. Julie Feldman. The first item reviewed was the Audit Checklist which included some updates. The Legislative Audit Division (LAD) had their entrance conference on May 27th for the FY20/FY21 audit cycle. LAD will present the FY19 Audits to the Legislative Audit Committee at the June 15-16, 2020 meeting.

Wipfli conducted their entrance conference with MBOI staff on April 15th and conducted a video walk through with staff the week of June 1st.

MBOI staff recently presented the annual year in review to the TRS and MPERA Boards as required by the Audit Checklist.

The COOP Plan (Continuity of Operations Plan) was updated in February 2020. Staff have used the Plan during remote working. Executive Director Dan Villa also provided several memos on continuing operations which were distributed to staff during the several weeks staff was teleworking.

The Governmental Accounting Standards Board (GASB) implementations have been delayed until next fiscal year, although the Department of Administration plans to implement GASB 84 which will have some impacts on BOI.

The Committee reviewed proposed revisions to the Audit Committee Charter. The goal is to align the language and formatting of the three committee charters, HR, Loan and Audit. Most of the revisions are simple and there are no major changes.

The Committee reviewed proposed revisions to two Governance Policy appendices regarding continuity of operations. Appendix I (Resolution 218) designates to the deputy director in case the executive director is incapacitated, followed by the chief investment officer. Appendix L (Resolution 234) adds the new deputy CIO position should the CIO be incapacitated, followed by the executive director.

The last item reviewed by the Committee was the FY20 Financial Statements. There were no changes to the fiscal year end process or to the financial statements.

Committee Chair Peterson made a motion to approve all items presented to the Audit Committee. Member Bruce Nelson seconded the motion. The motion carried.

Human Resources (HR) Committee Report
The HR Committee met prior to the Board meeting. Committee Chair Terry Cohea reported Executive Director Villa provided an update on the staff career ladder which makes employment and training clearer. Additionally, the Committee is recommending full Board approval to move Eron Krpan into the existing vacant exempt position.

Committee Chair Cohea made a motion to approve placing Mr. Eron Krpan into the existing exempt position at the salary recommended by Director Villa. Member Maggie Peterson seconded the motion. The motion carried.

Committee Chair Cohea stated the Committee is also recommending approval beginning with the FY 20-21 Budget for BOI to begin handling human resources internally.

Committee Chair Cohea made a motion for approval, Member Maggie Peterson seconded. The motion carried

Committee Chair Cohea stated the Committee is recommending approval of the exempt staff pay raises as presented to the Committee by Director Villa, with the amendments distributed at the meeting.

Committee Chair Cohea made a motion to approve the exempt staff pay raises as amended. Member Diane Fladmo seconded. The motion carried

Loan Committee Report
The Loan Committee met prior to the Board meeting. Committee Chair Jack Prothero reported the Committee approved a loan request of $2.5 million from the City of Scobey for improvements in their water system. The loan does not require full Board approval.

Public Employees' Retirement System (PERS) and Teachers' Retirement System (TRS) Updates
Member Jeff Greenfield reported the TRS Board met via Zoom on May 8th and will meet again in August. The Board commissioned and received an audit report completed on the actuary. The audit found the actuarial valuation done by Cavanaugh Macdonald to be fair and reasonable. A few items were noted that Cavanaugh Macdonald could improve on and investigate during the next valuation. The audit also looked at the generational valuation and recommended that the valuation should be reviewed. The review of trends and behaviors of TRS retirees differed somewhat from the nationwide data. National individuals in the first five years of eligibility tend to retire quicker than members in Montana – teachers tend to stay on later than 25 years or after reaching 60 years of age.

The TRS Board also received a risk analysis report done by Cavanaugh Macdonald. The report concluded the greatest risk to the system is short term investment volatility. A suggestion from the risk analysis is to use another way of looking at funding that uses a layered amortization method. This would regularly set the amount of funding required to keep the plan funded; the state rate paid by entities would be calculated on an annual basis. The amount would increase or decrease with market performance. Any changes would need to go through the legislature.

The TRS Board has renewed contracts with both tax consultants and Cavanaugh Macdonald and added functionality to the website. TRS has extended the contract to the website developers to implement changes which will make the website faster and easier to use.

Member Maggie Peterson stated there were no new items to report for MPERA.

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Legislative Liaison Comments

Representative Hamilton stated he is a member of the Legislative Finance Pensions & Local Government Budget Subcommittee which discussed the Pew Stress Test Report which was also presented at the SAVA (State Administration and Veterans' Affairs) Committee. The Committee will be creating more questions for both Cavanaugh Macdonald and the Pew Trust. Tentatively, both are expected to attend the August Legislative Finance Committee meeting and answer questions.

Representative Hamilton provided two quick notes on the budget. Interestingly, withholding was at $5 million between March 1st and May 31st, which is a significant part of individual income tax and the highest revenue item in the budget. This was surprising – even if you remove the first two weeks of March, we are still in line with withholding. Additionally, for corporate withholding, $166 million is typical at the end of June; however, that total is already at $160 million. We are expecting to be above estimates on the corporate income tax side, although it's hard to predict how that will translate to 2020-2021.

Senator Fred Thomas noted he appreciated the budget numbers from Representative Hamilton. The legislature will be looking at revenue very closely. If the situation arises where budget reductions are necessary, it would be best to spread them out over a longer time frame. The situation will be monitored closely as revenues are expected to be down.

EXECUTIVE DIRECTOR'S REPORT

Overall Comments

Executive Director Dan Villa noted there were no member requests from the prior meeting. The packet includes two monthly snapshots for March 31, 2020, when CAPP assets totaled $10.73 billion and one month later on April 30, 2020, CAPP totaled $11.35 billion. This indicates how quickly things can change and is not necessarily indicative of long-term returns.

Director Villa stated the FY20 budget status is also included. Fiscal Year to Date (FYTD) as of April 30, 2020, shows 83.3% of the budget has been expended. Of that, 75% is in personal services. Operation expenses are down significantly, the bulk of which is COVID-19 related travel restrictions. There were some expenditures for COVID-19 technology enhancement. Looking forward to the FY23 biennial budget proposal, the only request is for financial authority to go ahead with a modified FTE (Full Time Employee) and the request to move Human Resources in house. There would be some level of adjustment with the Commerce indirect rates. The position is currently a Modified FTE administrative assistant position and staff are requesting to change it to a permanent FTE. There are no new dollars attached; funds are available in the existing budget.

> Member Maggie Peterson made a motion to provide Executive Director Villa authorization to go forward with the request for one administrative assistant with no dollars attached and to bring Human Resources in house. Member Terry Cohea seconded. The motion carried.

Director Villa stated the last item is an update on COVID-19. Staff have made some adjustments in operations to accommodate increased technological capabilities and additional health screening is now in place at the office to help keep the staff safe.

There was a mention of the Board of Investments in the newspapers as to whether the rate of return assumption was appropriate. There has been a lot of debate about the issue. In the packet are two articles, one with an explanation as to why the Board will never achieve the stated rate of return, and the second as to why we will always meet the expectations.

MONTANA LOAN PROGRAMS

In-State Loan Program

Mr. Doug Hill presented a summary of the commercial and residential loans for the In-State Loan Program. As of April 30, 2020, the Commercial loan portfolio balance was $208,995,596 for 113 loans and there are two loan reservations totaling $7,950,000. Seven loans have been committed totaling $21,657,500. The Commercial loan portfolio, excluding the Veterans' Home Loan Program has a return of 2.91%. There are no loans past due over 30 days.

The Residential loan portfolio balance as of April 20, 2020 was $3,121,006 representing 80 loans with a return of 6.58%. There is no activity in the portfolio. Two loans are over 90 days past due; both have FHA guarantees.

The Veterans' Home Loan Mortgage program as of April 20, 2020 had a balance of $47,691,656 and represents 270 loans. There are six reservations totaling $1,146,906. The projected yield is 1.22%. There is one loan over 90 days past due totaling $170,698.

The new Multifamily Coal Trust Homes Program had a balance of $1,675,560 as of May 11, 2020, which represents two loans with a yield of 2.69%. There are five reservations totaling $12,868,626. The remaining available balance in the Program is $455,814. There are no loans past due.

The Intermediary Relending Program (IRP) as of April 30, 2020 has a balance of $4,249,432 and represents 32 loans with a yield of 2.0%. There is a total of $242,189 available to advance on loans. There are three committed loans totaling $937,500. There are no past due loans.

BOND PROGRAM REPORTS

Activity Report

Ms. Savannah Morgan reviewed the Activity Summary and noted the interest rate was decreased in March to 1.0% through August 15, 2020 as a part of the program's COVID-19 pandemic relief efforts. There were five staff approved loans committed between January 1 and March 31, 2020; all were repeat borrowers.

Responding to questions, Ms. Morgan stated the pace of inquiries has been steady; there are already nine committed loans to report on the next quarter's Activity Summary. The interest rate on the five new loans was 2.5% which was then dropped to the 1.0% rate. The application of the 1.0% rate depends when funding is expected. Other loan applications, if they are not funded by August 15th, will not receive the reduced rate, unless it is extended past August.

Member Maggie Peterson asked if we are foregoing the interest, or will we make it back?

Ms. Louise Welsh responded the bond program is subsidizing the lower rate. Whether the lower rate applies depends on which loans are outstanding or new and which had due dates through August. Borrowers inquired about a fixed rate, but it is not fixed. The upcoming nine loans for this quarter total about $18 million and since then staff have seen an additional $7 million more. There is usually a surge of fundings in June before fiscal year end at June 30th.

MONTANA PROPERTIES

Montana Trust Fund Real Estate Holdings

Director Villa stated staff worked with the real estate team on the approach to the Montana owned buildings, which are viewed through an investment lens. The California Street property, raw land of 1.96 acres, has appreciated faster than anticipated and staff are making progress on a land swap with Smith School.

Ms. Peggy MacEwen explained the buildings owned by BOI are held in the Trust Funds Investment Pool (TFIP). The properties were appraised this March and have a combined fair value of $19,215,000. The net operating income was $1,197,815.

Summary of the properties owned:

- California Street is raw land, purchased in 1998 for $205,000 and is now valued at $290,000 with a Net IRR of 1.12%.
- 2401 Colonial Drive was built in 1999 on land purchased in 1997 at a cost of $6,481,741. The current value is $9.9 million with a Net IRR of 9.8%.
- 9th Avenue was built in 1968; there is no purchase price as it was part of MPERA investment properties when the new Montana Constitution was written. The current value is $470,000 with a Net IRR of 29.98%.
- N. Park Avenue was built in 1982 and purchased for $4,864,326 in 1986. The current value is $6,415,000 with a Net IRR of 8.93%
- Boot Hill Court in Bozeman was built in 2004 when the Board authorized construction. The current value is $1.14 million with a Net IRR of 6.86%.

State agencies occupy the buildings.

Ms. MacEwen outline the two decisions before the Board. The first is a land swap with Smith School. Staff would like to enter into an agreement to terminate all easements and various rights of way. The benefits include divesting of a low IRR property, and a cleanup of property borders.

Director Villa added the land swap values did not appraise at equal value. The BOI portion is $290,000 whereas the school portion is valued at $120,000. The question is how to complete a swap with a difference of $170,000. Changes would include BOI receiving all the parking on the back road as well as the drainage area by the Cupola and the easement of the road coming out of the school. That easement would go away; the air intake for the Colonial Building is on that side. If the school abandons that easement it is a benefit to BOI. There is no good way to appraise the value of the easement.

If the Board grants permission to move forward, staff would begin negotiations with Smith School and bring an agreement back before the Board for final approval. The land swap was the School's idea initially, although it has not yet gone before their board. The preliminary indication from the School is they prefer a non-cash deal: a straight across swap. However, the appraisals show it would not be a net break-even situation.

Director Villa stated the California Street property would have to be taken off the books and the gain from the swapped additional land and easement removal would be booked toward the Colonial property as added value. How to book the negative consequences of the price difference is to be determined.

Director Villa noted a Board motion is not needed, although if there is consensus from the Board to move forward, staff will speak with Smith School.

Mr. Ethan Hurley stated on a standalone basis, the overall value of the Colonial property may benefit and be worth more when combined.

Ms. MacEwen outlined the second decision before the Board which is the proposed purchase the TRS (Teachers' Retirement System) Building located on the corner of East 6th for an estimated purchase price of $1.9 million. The estimated value should be almost $2.5 million in 2040. The building has a lease in place with a 3.0% escalator and the building has been recently renovated and reroofed.

Member Jack Prothero noted historically this Board has been inclined to get rid of properties and asked why this purchase would be beneficial.

Director Villa explained staff have a genuine interest in managing the Montana real estate holdings the same as we would expect an outside manager to manage real estate holdings. It is a small portion of our portfolio, but we are filling a need of state government and generating market return for the Trust Fund participants. The Trust Fund is returning 6.11% these days which is a good return, and the renovations are completed. Participants receive distributions and we have increased leases and occupancy rates. This purchase of the TRS Building and divestment of the California property are in line with those goals.

Member Prothero asked if building management would still fall to staff and added that he has always had a concern with the amount of staff time spent on managing the properties.

Ms. MacEwen and Ms. Louise Welsh agreed property management takes about 10% of their time.

Director Villa stated that is correct, along with our property manager and General Services.

Director Villa asked for the Board to allow staff to proceed and have TRS acquire an appraisal to move forward.

The Board agreed staff could move forward in the process for acquiring the TRS Building.

PENSION ASSET CLASS BENCHMARK REVIEW

Mr. Dan Zarling provided a summary of benchmark definitions and provided examples of different types of benchmarks noting there is no ideal benchmark, there are always tradeoffs. Asset class benchmark criteria include being specified in advance, appropriate, measurable, unambiguous, relevant, accountable and investable.

Mr. Jon Putnam stated the real estate benchmark was recently changed. For the new benchmark, staff opted for the Open-End Diversified Core Equity Index (ODCE). The benchmark is widely known and was created in 1977. It uses a very straight forward universe of real estate funds and must adhere to industry standards. The ODCE Index will align more closely to the BOI portfolio.

Mr. Zarling stated regarding the active benchmarks we use, in theory each asset class is distinct and contains a similar group of components/securities. The asset classes should reflect a similar profile to their benchmarks.

Member Prothero asked Mr. Jim Voytko is he sees any problem with any of the BOI benchmarks.

Mr. Voytko stated analysis shows the CFA (Chartered Financial Analyst) Institute criteria for benchmarks is solid. However, that doesn’t change that there are always tradeoffs and there are no perfect benchmarks. The benchmarks used by BOI are solid. One thing about benchmarks is that trustees are obligated to monitor the assets and how the portfolio is performing. The risk/reward of the BOI portfolio compared to the behavior of the prior policy benchmark was far away from peers. The prior CIO focused on a single criterion, whether it was investible, which means public assets, which pushed your policy portfolio out of bounds. For private investments, the long-awaited flip we anticipated when equity markets declined occurred in the first quarter. The Board will need to make a decision on private investments to align with the CFA Institute as private investments are still aligned with public markets.

Mr. Putnam added staff are looking at the issue. The problem with private investments is there are not a lot of benchmark options.

Mr. Voytko noted many other institutional investors when faced with imperfect benchmarks, use primary and secondary benchmarks for assets.

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Mr. Zarling added there are issues not only with private investments but also natural resources which has no straightforward benchmark available. The tendency is to go with a public index when you have no good alternative.

Mr. Voytko stated this Board asks a lot of good questions regarding benchmarks and the conversations have been very thoughtful. For natural resources, when faced with a set of investments with no option to gauge how the universe actually moves, you can create your own custom benchmarks, or keep certain aspects in mind when determining your investments.

CAPITAL MARKET SUMMARY

Mr. Jim Voytko provided a summary of capital markets. Every crisis/decline in markets has a unique set of circumstances. This crash was the fastest since 1987. This time many characteristics are not associated with equity markets, such as the corona virus, and when an oil price war broke out which was independent of other factors. The price of oil went negative as storage filled up and no one wanted to buy, only sell. A quarter like this is so unusual, predictions are hard to gauge. The first quarter has some great lessons to learn but is not part of a continuum. Through March 31, 2020, equity markets were down a lot, but not as much as the GFC or the Dot Com bubble burst. This one felt bigger than it was since it happened so fast, but the decline came along with other factors such as the disruption of our lives.

Although bonds fared better, the bond market wasn't working very well in March. When the real economy and capital markets are not working, people can lose faith in markets. The Federal Reserve created a number of vehicles to address the issues which helped stamp out most of it. The news was good for real estate, which was positive, although pay no attention since real estate is appraised annually or on a rolling quarter basis. Simply, a lot of real estate has not been reappraised. The decline was worsened when normal business activities were frozen. No buying or selling meant a large drop in transactions and few were occurring; any appraisal looks at comparable sales. Commodities were no surprise; economically linked commodities fell as well.

Longer term, the portfolio rank vs. peers was higher; portfolio asset allocation helped at the start of this market decline crisis. Clients had a lot of questions mid-March. The de-risking of the portfolio over the last three years paid off during the crisis and is the biggest sign of whether the portfolio is becoming more or less sensitive to the stock market. During the second quarter, public equities may come back and again outperform private equity. Portfolio performance over 5-, 7- and 10-years is a good sign.

Board Chairman Englund noted since March 31st markets have changed quite a bit with high unemployment, lots of casualties from COVID-19 and chaos within the national government. It's hard to say with any certainty what things will look like going forward, so why have the numbers improved?

Mr. Voytko replied no one can predict short term markets, but interest rates have dropped dramatically, meaning those with a perpetual portfolio were pushed into risk assets. Capital markets were competing for your capital, competition in fixed income went to nil, and so public equity was the only option. All big rallies occur before the real recovery happens; the steep recovery is a surprise. At the end of March, RVK made a change to the capital market outlook. We had never issued a midyear outlook but felt compelled to make a change. Changes include a reduced expectation for fixed income and a raised outlook for equity. There was a fourth quarter spike before the black swan hit. When it hit a highly valued capital market, results were dramatic. The response has been to run a huge deficit. In modern capital markets central banks have a powerful role. With major bank intervention, interest rates came down and stayed there and GDP stayed down. Fixed income is not expected to be much help over the next five or ten years unless rates are driven up.

Mr. Putnam added staff were reducing core fixed income and adding some to equities, high yield, private investments and real estate, but only on the margins. Treasuries were the only thing we could sell; we

were selling the safe assets, as we wanted to avoid having to sell equities. We were hitting the top of the range for core fixed income.

The meeting adjourned for the day at 4:04 p.m.

BOARD MEETING DAY 2

CALL TO ORDER

Board Chairman Karl Englund called the regular meeting of the Board of Investments (Board) to order at 8:31 a.m. A quorum of Board Members was present. Chairman Englund advised audio/video recording of the meeting was underway. Chairman Englund asked for public comment on issues with Board jurisdiction. There was none.

CONSULTANT REPORT

Quarterly Performance Report – RVK, Inc. – Jim Voytko and Becky Gratsinger, CFA

Mr. Jim Voytko reviewed the Quarterly Investment Performance Analysis for the quarter ending March 31, 2020. The S&P 500 was down just under 20%; small caps were down 30% and bonds, as is typical, were up 3% as interest rates fell. One of the challenges going forward is interest rates have fallen across the yield curve, leaving no place to go in terms of extending duration to get better returns. The entire yield curve was down to 1.0%.

The performance of the total fund is the sum of all the major asset allocation decisions. We look at the performance trend line, rather than quarter by quarter. This was a very unusual quarter.

With respect to the three benchmarks for total fund, the actuarial goals fell far short of their goal of 7+% with a minus 11.21% for PERS over the quarter. It was not a good quarter for capital markets for institutional investors. Every time there is a bad quarter, it ripples through the history. One question is over the 3-, 5-, and 7-year periods will the unusual quarter distort the long-term numbers? Not necessarily, although 6.24% over 7-years and 7.32% for 10-years falls short for the plans. The equity market over the last 10-12 years has been good, although meeting the actuarial rate isn't getting any easier.

The most important question is how are we executing against our own investment goals? There is some historical distortion as the 3-, 5- and 7-year numbers are well above policy benchmark. We will see how things look after the current quarter washes out for a bit. Unusual quarters can affect the short term and the long-term historical picture.

A substantial amount of outperformance is due to the private equity lag. Another way to gauge how the portfolio is performing is comparing to institutional peers. However, they have different liabilities, some are not cash flow negative and some are well funded. It's easy to look at 25 or 30 peers that are generally trying to do what you are doing. But there are variables, and this is the third and least dependable gauge of how your portfolio is doing. The fund was above the median for the recent quarter ranking at 44. You have an excellent track record vs. peers who are similar to you.

The total pension fund ranking was 22nd out of 53 other pensions for U.S. equities. The fund is heavily weighted at almost 29% for U.S. equities vs. 22.66% for peers and 15.6% for international, which is close to the median. U.S. equities have outperformed international equities by a significant margin.

Adding U.S and international equities, your fund is also more equity weighted. The median is just under 38%, where yours was nearly 44%. Equity is the most volatile asset and can introduce volatility into the total fund. Your fund dampens that with a substantial allocation to real estate; the average fund has 6% whereas your fund is at 9.7%. However, this can be misleading as your fund does not contain hedge funds and other exotics. The allocation to real estate acts as a counterweight to equity exposure, along

with fixed income. Your fixed income exposure is closer to normal at 26% vs. the median at 24%, which is also part of the counterweight to U.S. Equity.

Comparing risk/return vs. peers the portfolio had volatility risk at dead center with no unusual risks and above average returns. The PERS benchmark showed more risk and less return. All private investments were marked to public markets, which varies from peers. The emphasis on investability and the focus on benchmarks over the last few years shows how different your fund was compared to peers.

Mr. Voytko reviewed equity beta. We focus on the roll up of how much risk your fund is taking vs. how much is driven by the stock market and the sensitivity to the stock market. U.S. equity beta should be close to 1. Since the 2009 diversification of the portfolio, your fund has had equity beta under control. The diversifiers have benefited the portfolio. Sensitivity has been kept within bounds for the total portfolio. Core fixed income and real estate have very little correlation to the U.S. stock market, and international equity has a widely varying relationship to the U.S. market.

There is only one number that matters, did you reach your actuarial goal? However, this is the one factor the market has the most control over by far. No institutional investor has control over the market, which is the most important factor. Real estate did well in the quarter due to the lag, but as properties get appraised over the next year, we don't expect tremendous performance for real estate in this market. There may be impaired properties due to vacancy rates, or from concessions due to the current market environment.

Ms. Becky Gratsinger reviewed the CAPP (Consolidated Asset Pension Pool). There are currently some interesting themes. Relative performance of equity markets vs. the custom index is showing underperformance, but there are other considerations. Active managers struggled during the recent downturn although your fund ranked well vs. peers. Two thirds of your U.S. equity is indexed; you underperformed as did other plans. The index has been very difficult to beat for many years. International equity was the opposite as it has performed very well vs. the index, but your plan doesn't fare as well vs. peers. Those areas have lagged for a while but vs. the benchmark you've done well. Emerging markets and small cap dragged domestic equity performance vs. your peers. Absolute returns for core and non-core fixed income had positive performance, although not high yield or corporate paper; treasuries contributed.

Investors were reminded that credit exposure acts like equity when you have a big risk-off event. Losses in fixed income had some equity beta embedded in it. Over the long term, investors pursue non-core to get some additional yield.

There has been a lot of discussion about the natural resources benchmark. Natural resources vs. the current index showed a large outperformance, although absolute returns were down.

Your plan has a different structure for real estate than other public funds. Peers had more Class A buildings and core real estate which has higher return expectations. When valuations are done, those will take a hit and we expect them to come in with some red ink over the next few quarters. The REIT benchmark behaves like equity. The big real estate outperformance is due to a benchmark mismatch.

Cash had a positive return for the quarter; yields are expected to be very low going forward, offering little in the way of return.

Private equity assets are not marked to market, although the portfolio has a very good long-term success record. The market benchmark is a mismatch and includes a lot of noise.

Comparing how peers performed relative to your composite asset classes, domestic equity vs. the median plan, even with the underperformance, has a favorable long-term ranking. Your highly indexed program fared very well, ranking just out of the top third.

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With the introduction of international small caps, international equity relative to peers, your ranking has been poor for a while, which is similar to other programs that include emerging markets and small cap. You have been outperforming the benchmark.

During the recent crisis your fixed income is ranked pretty well; core fixed income ranked at the 17th percentile.

Performance for the Trust Funds Investment Pool (TFIP) has been helped over time by the inclusion of high yield and real estate.

Compared to the real estate holdings of other funds, BOI has more non-core. The long-term analysis is more appropriate as over 7- and 10-years the fund is near the median. Real estate investments at BOI were started right at the Great Financial Crisis, which had an impact. Historical valuations for past years show added value, but valuations are stale.

Reviewing the U.S. equity portfolio, are there areas to look at in the program? Generally, it has been tough for midcaps to outperform, although we have had good results in small cap, and some long-term managers have proven their value. It's been difficult for active managers to outperform benchmarks.

Mr. Voytko added the Board has requested a discussion on the issue of upside/downside capture. This is one area we look at to try to gauge the nature of an investment product and how it functions. For example, JP Morgan on 130/30. All the up months are put in one category and the down months in another. We look at each managers' performance vs. their benchmark. We check performance over 10 years to see if the manager captured more than the upside when the market was up and also given up more in downside markets. Over 10 years JP Morgan's 130/30 has outperformed by 69 basis points. During an unusual quarter when their universe plummeted by 19.6%, their performance fell by 17%. Against other similar managers they were almost in the top decile. Historically, we would have expected them to be down more than the market.

Another manager analyzed was Vaughan Nelson, known as a conservative/higher quality manager. On small cap value we would have expected them to provide downside protection. In 44 down months their product has fallen less, and on up months they have trailed. They did well during the first quarter market collapse. The benchmark was down 36% and they fell less than 30%. It was a great time for a manager with their characteristics; they had a solid rank in the middle of the top quartile, at the 17th percentile.

A third manager analyzed was international value manager Lazard. There is a limited three-year history, which shows they have gone down less than other value managers at 4.32% vs. 4.84% and lagged a bit in up markets. We would expect them to outperform, but they did not. When the benchmark fell 23.36%, they fell 24.43%. They fell more than the universe but still ranked in the top third for competing managers. Although upside/downside can tell you a lot, it is not the defining characteristic.

DOMESTIC EQUITY ASSET CLASS REVIEW

Mr. Jon Putnam provided a summary of the CAPP as of March 31, 2020. Domestic equities make up the largest weighting in the pension plan portfolio, therefore it is a major return driver. The allocation is close to 32% today with the recent market activity. Domestic equities have high relative long-term returns and high relative volatility. Both the first and current quarter demonstrate that. It is not the asset class we pay benefits from during times of stress, although it is very liquid.

Staff had a lengthy discussion with RVK in mid-May about domestic equities and we will share some of their research and conclusions. Staff has made significant changes over the last couple years to the domestic equity portfolio, particularly the reduction in mid and large cap active management. In addition, staff has decided to no longer carry significant cash within domestic equity or other asset classes.

Mr. Rande Muffick reviewed the domestic equity benchmark. The benchmark used is the MSCI USA IMI, an investable market index, which means small caps are included in the benchmark. There are over 2000 holdings in the index, which includes a lot of small cap. Characteristics of the benchmark include valuations on the high side after March, although those have changed since. The equity benchmark remains fairly expensive at this time.

Breaking down the MSCI USA IMI by economic sector, it is noteworthy how much information technology has taken over the benchmark at nearly 25%, a reflection of growth outperforming value.

Since staff have been familiar with and used the index, small caps have floated at around 11-12% of the benchmark, although dropped below 10% for the first time during the sell off. For cumulative returns over the last 15 years, generally small caps outperformed large caps. However, small caps are below large caps for first time in 15 years, although markets have moved back to even recently.

Domestic equity was down 10% over the last 12 months, although that has recently reversed. Over 10 years, domestic equity returns are nearly 10%. For some time now, domestic equity has been disappointing across the board relative to the benchmark. This illustrates how difficult it has been to beat benchmarks over the last several years. The fund ranks consistently above peers and overall return is better than the average plan which has domestic equity exposure. A ranking in the 31st percentile out of 66 funds is fairly good performance.

We no longer have as many as active managers as several years ago. Large cap active has had a difficult time achieving outperformance. Relative performance for our current managers over 10 years looks pretty good. In depth due diligence along with sticking with managers over a market cycle remains our strategy. Sometimes it takes some time for a good manager to show themselves.

The main conclusions after discussions with RVK include:

- Active management in U.S. equity was unlikely for last 20 years to generate extra return;
- Over 10 years more than 75% of public funds greater than $1 billion saw underperformance in their U.S. equity allocation;
- The large and midcap portions of the U.S. equity market are highly efficient with high correlation among stocks;
- There needs to be a dispersion of the correlation so active managers can buy/sell stocks, which hasn’t been the case in large and midcaps for a long time; and
- Small caps still provide an ability to explore inefficiencies and staff have picked managers that have added value; and
- Style bias (value vs. growth) and capitalization size bias (small vs. large) are difficult to predict.

Mr. Voytko explained in any particular universe there is a category which does better than another area, such as Amazon doing well and bricks and retail not. Of the different asset classes, some categories outperform for several years, for example large cap growth has been outperforming. U.S. equity vs. international stocks has also been unusual. Usually there is a reversion to the mean.

When something persists for a long time, the issue is not will it equalize, but that it may take several years. Among the characteristics of 10 stocks which have increased the S&P 500, one difference this time around is companies have real earnings, cash flow, and dominant positions, unlike the telecom bubble and during the GFC. It’s easy to see in retrospect that Microsoft and Apple would have done well. However, it is not a good strategy to be allocated to the top 10; do not abandon other areas.

Mr. Muffick stated in conclusion, staff expect to remain largely passive in large caps and midcaps. Active management within small caps is worth pursuing. And be wary of taking large positions in any one style; rather utilize a diversified approach. The portfolio is significantly passive within large caps which was increased last summer and carries less than 1.0% cash. Midcaps are also all passive now and active managers were reduced. We do have a midcap ETF, indexed and enhanced index portfolios, and long

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only and partial shorts. The small cap benchmark weight was down to 9.7%; the portfolio had 11.9% so a bit overweight. The portfolio has leaned slightly value through the years.
Staff continue due diligence and monitoring; even passive managers are monitored to ensure they are staying within guidelines. Manager score cards are completed quarterly which adheres to criteria in investment policies. The quarterly review process is extensive, and the public equity team builds reports for quarterly reviews prior to manager calls. After the calls, writeups are completed and staff fills out scorecards to provide manager recommendations. Onsite visits are conducted for prospective and current managers, and staff meets with the manager teams.

Management fees are a big part of public markets and fees paid are based on the size of portfolio assets under management. Staff use a cost-effective approach; if an active manager is not worth the extra fees, the assets would be indexed. Portfolio fees have been substantially reduced over the last three years and fees paid are primarily for small caps. Fees are monitored on an overall level, by manager and by asset class.

Mr. Voytko added although there is no current information, when looking at the CEM study, BOI fees are low; the passive investments help.

Director Villa noted the next CEM report will be presented at the August meeting.

Mr. Voytko stated RVK agrees with the strategy to have as much passive exposure as tolerable and to continue active management on the small cap level.

Ms. Becky Gratsinger stated when clients consider moving more to passive, they have made a wholesale change over time, or change over gradually as managers are removed. RVK supports either, recognizing there will always be transition costs.

Mr. Voytko noted it's important to remember that risk is not removed with passive investments. Stocks will be weighted in the stocks of the market. There will come a time when active managers outperform the passive index, but it is a lot harder now.

INVESTMENT POLICY STATEMENT REVIEW

Mr. Jon Putnam referred to his memo which outlines the staff proposed investment policy revisions. Mr. Putnam reviewed the proposed revisions to The Montana Separately Managed Accounts Policy language. The IPS has been revised throughout changing the name from Separately Managed Investments to Separately Managed Accounts, which is a better description. The other revision of note is in Section 10 Risk Management e) Cash Investments is revised to read "any cash vehicle at the Custodial Bank." The change was also added to Permitted Investments for all accounts. Finally, language was changed throughout the document to be consistent with the Governance Policy and to clean up some abbreviations.

> Member Terry Cohea made a motion to approve the revisions to the Montana Separately Managed Accounts Policy. Member Jeff Greenfield seconded the motion. The motion carried.

Mr. Putnam then reviewed the proposed revisions to the Montana Public Retirement Plans Investment Policy. Changes are similar and will add the language on the custodial bank cash vehicle and cash held provisions will change to be consistent with practice. Schedule II-B changes emerging markets securities from restricted to +10% of the benchmark weight to + or – 10% of the benchmark. There was an underweight manager which had forced staff to buy emerging markets.

Section II-C Private Investments Asset Class changed restriction #1 regarding allocations to single Direct Limited Partnerships. Rather than a limit of 7.5% of the Asset Class, it has been revised to 2.0% of the

Montana Public Retirement Plan. This is consistent with the changes made to the Real Estate and Natural Resources policies made in April and allows for easier tracking on the overall plan.

Member Diane Fladmo made a motion to approve the revisions to the Montana Public Retirement Plans Investment Policy. Member Maggie Peterson seconded the motion. The motion carried.

Mr. Putnam then reviewed the proposed revisions to the Trust Funds Investment Pool Investment Policy. There is one minor material change. In February, the real estate asset class allocation was increased. The intent was to add to the core real estate asset class rather than non-core debt related. When the market changed quickly, staff needed more latitude. The revision changes the core real estate allocation from no less than 85% to no less than 75%.

Member Maggie Peterson made a motion to approve the revisions to the Trust Funds Investment Pool Investment Policy. Member Jim Edwards seconded the motion. The motion carried.

Mr. Putnam next reviewed the proposed revisions to the Montana State Fund Investment Pool Investment Policy. The proposed change adds the same cash investment language to "any cash vehicle at the Custodial Bank" to be consistent with the other policies. There is one exception on a restriction of BBB rated security holdings. Schedule II-D #12 Investment Grade Asset Class changes the limits on BBB rated securities to 30% of the market value of the IG Fixed Income Class rather than 25% of the entire State Fund Investment Portfolio. The math is very close to the same.

Member Jack Prothero made a motion to approve the revisions to the Montana State Fund Investment Pool Investment Policy. Member Terry Cohea seconded the motion. The motion carried.

RVK – EMERGING MARKET DEBT EDUCATION

Ms. Becky Gratsinger stated emerging market debt is an interesting asset class with some unique factors in the current market environment. Emerging markets are defined as a subset of countries that have economic factors similar to the developed world, but lag in some common areas related to size and liquidity of securities, and overall market accessibility.

Notable examples of emerging markets include China due to the size of the market, also India, Brazil and South Africa. Other common factors include the markets and the primary debt issuance. Some are in dollar debt markets. Emerging markets constitute 70% of the worlds land, 80% of the population with 40% of the global GDP, and they produce 60% of world commodities.

Emerging market equity and fixed income tend to have lower correlation to their developed market counterparts. Relative to developed markets, there is a long-term prospect of higher returns due to the growth prospect, although higher risk factors are involved.

A major factor of the enhanced growth is the development of the middle class where previously there was no middle class, only poor and very rich. They sometimes have better habits of saving and investing than developed markets. The regulatory environment is in development and they are making steady improvements which helps further the growth framework. These include things such as accounting frameworks. The perception is of the wild, wild west where companies or organizations are not as rigorous in accounting standards. However, many have adopted accounting frameworks that have been adopted in the developed world.

There is also an openness to foreign investors investing in their economies and they are more welcoming now. The rule of law and flow of funds are improving. There is a need to ensure investors they have some rights and are able to get prospective company information that includes some rigor in the collection of information.

Ms. Gratsinger stated emerging market debt is part of the basket of investments in fixed income and equity as part of the worlds' market cap and is a notable segment. There are different return patterns, offering a diversification benefit. It also offers a better yield, as investors are paid for the additional risk. A large part of the developed world is dealing with negative interest rates, which has caused investors to look at more credit risk in local currencies or debt issued in dollars.

The investor is not taking currency risk if the debt is in U.S. dollars. If it is in the local currency, there is the risk of inflation/depreciation. High inflation erodes your value. You have the option to invest in dollars only or take on exposure with local currency. Various issues can occur with debt. There could be an inflationary environment, there is risk of default, or foreign exchange risk. If the debt is in the local currency, you have exposure.

Some unfavorable conditions for emerging market debt include risk-off capital markets. When investors get scared it will drive down the price of risky assets, emerging market high yield bonds, emerging market debt, or equities. Geopolitical or economic disruptions could also impact repayment ability; sovereign entities can issue protectionist policies. Some countries that are producing commodities, such as has happened recently for energy, can be a problem.

There is favorable global economic growth for emerging market debt with good fundamentals. The environments have discipline and economic independence. This year many things are affecting global markets including the COVID-19 panic, energy prices, and commodities with less demand due to shut down economies. This has been a good time to talk about emerging markets and what happens to these investments when unfavorable events occur. Long term, U.S. yields are looking very low; emerging market debt is a tool when seeking better returns on fixed income.

Member Jack Prothero stated emerging market debt seems very risky and he asked Mr. Putnam how much staff is considering investing and how the risks will be mitigated.

Mr. Putnam replied it will be similar to high yield where you seek to pick a manager who will protect assets on the downside. It is not an asset class that would provide liquidity in times of stress, so we would not be tapping it for cash in down markets. Staff have increased the high yield allocation a bit recently. Staff don't anticipate emerging market debt will make up a large weighting in the portfolio. Yields for core fixed income are not too far off zero at this point.

Chairman Karl Englund asked what the manager world for emerging market debt looks like.

Mr. Voytko stated managers have separately managed accounts. There are global markets where you buy emerging market debt and you can specify the parameters. Emerging markets has been an area of active managers. If a manager makes a big bet which is not diversified, it could have a bad outcome. The due diligence process is thorough.

Mr. Putnam added staff would be happy to share some of the due diligence process with the Board. Given the fact that core fixed income is at 1.0% on the 10-year, it is difficult to see how we can achieve our actuarial rate and remain heavily invested in core fixed income. Staff's recommendation is not fully formed at this point. One benefit of emerging market debt is the higher income stream. To the extent that cash flow can be used for benefits, the positive cash flow could be beneficial. Most return from fixed income is based on the coupon. We could build some cash flow into the portfolio to avoid the need to sell assets.

Mr. Putnam noted staff will not be at a decision point by the August meeting but would like for the Board to allow staff to look further into emerging market debt. Staff have looked at a large swath of managers and have narrowed down the list. We have some good research and due diligence which we would be happy to share. We would likely hire one manager that is broadly diversified across countries. If 1.0% of the portfolio were invested, it would not be a significant portion of the overall pension plan, and we already have some emerging market exposure within our international equity assets. Other similar plans have an average median allocation of 0.8% in emerging market debt which is about what staff have in mind.

INVESTMENT UPDATE (Quarter Ending 3/31/2020)

CIO Update

Mr. Putnam provided an overview of first quarter performance. Performance was down over last year due to the first quarter with a drop in assets under management of approximately $750 million as of March 31st. The drop was driven by a slightly negative return accounting for a $365 million decline and payment of benefits of $385 million.

Over the course of the year, we added to domestic equities and high yield while taking money from Core Fixed Income. Most of the rebalancing came during the 1st quarter when markets were volatile. The downturn lows occurred around March 23rd and then the market started to rebound, rising quickly in April.

Performance across the retirement plans over one year was negative at about -3.38%. For the 10-year and since inception, about 26 years, returns are close to the actuarial rates of 7.5% and 7.75%. The 20-year number is slightly over 5.0%. The 20-year figures include the 2001 recession; a difference of a year or two can make a big difference in long term returns.

Mr. Jim Voytko added the time frame is not only picking up the tech dot com bubble but also the GFC as well as the most recent downturn. With interest rates ratcheting down, during these equity market recovery periods, we see the effect of compounded returns.

Mr. Putnam stated the asset classes are all within approved ranges and were, even during the volatile first quarter. Private equity is an example of an aspirational goal to reach the midpoint. Staff made some good reallocation decisions throughout the quarter, including putting more into high yield and equities. The small cap bias of domestic equity hurt performance as well as the exposure to the MLP index which is related to energy. Exposure to international growth indices was a positive contributor.

Regarding manager selection, domestic equity managers had slight overperformance, whereas international equity managers were slightly under.

Mr. Putnam stated staff are still looking at separate accounts for real estate, where we would directly own real estate and hold for a longer period than the typical life of a private real estate fund. The managers would still manage the properties the same as always, although we would be the owner. Staff will also be looking to hire a new Director of Operations.

Mr. Voytko added the managers finance the properties, pay off the debt, and oversee the sales of properties within the portfolio.

Risk Management

Mr. Dan Zarling reviewed the Federal Reserve Economic Data (FRED) economic indicators. The market environment has changed and there is a wide array of market forecasts. Investors are interested in where the lows are for the economy and the announcement came in February that we are officially in a recession. There was no traditional warning this time with stock market prices. The market shocks included the COVID-19 crisis, the collapse of oil prices and the monetary stimulus. We've experienced an economic tornado. Investors are moving to weekly data sets. Retail sales are connected to consumer consumption and retail sales fell off a cliff in March.

Mr. Zarling reviewed the benchmark valuation for the different asset classes. We look at the benchmark and index information for valuations of price to earnings (P/E), the EV (Enterprise Value) for domestic and international equity, EBITDA for private equity and natural resource transactions on a public platform and CAP rates for real estate property types. CAP rates were low at the end of the first quarter. The lower the CAP rate for real estate, the more expensive the properties. Bond prices are more expensive. The 10-year treasury yield was at an all-time low at less than 1.0%. We look for extremes in valuations and try to predict if they will remain. Interest rates have declined for 30 years and treasuries will not be the usual safe haven as interest rates are going negative. It is not a good outcome for the U.S. dollar and will have an impact. If treasuries were to dramatically rise, there is a lot of duration risk right now. U.S. oil is at a new low, in part due to the collapse of oil prices worldwide, lack of demand, and over supply.

Mr. Zarling reviewed the estimated pension liquidity analysis. The analysis compares the forecast for benefits and private equity capital calls, compared to the source of liquidity, our most liquid investments. The input is the assumptions for inflows, over one year, with no consideration to distributions that are coming in from private investments, which is viewed as a bonus to liquidity. The analysis shows a position for 17 months of liquidity. Assuming staff use the liquid portion of the portfolio, we can meet all our cash flow commitments without the need to liquidate other assets. We do not want to be forced to sell equities when the timing may be disadvantageous. The last market downturn lasted 18 months and so staff prefer sufficient liquidity over that time frame. It is a matter of comfort zone.

Mr. Putnam added it is a worst-case scenario. Staff wanted to look at only treasuries and cash not including bond coupon payments, etc. although other areas would be available. Staff concluded 17 months is a comfortable cushion.

Mr. Zarling reviewed the pension portfolio geography exposure. Emerging market exposure is 4.7%, lower than the MSCI ACWI Index which is around 11%. Emerging market debt makes up about 16% globally. There is some room to add exposure to emerging markets in some capacity without exposure.

Chairman Englund asked Mr. Zarling if he had any concerns with the top 10 managers.

Mr. Zarling replied he did not have any concerns as there are constraints on active managers. Northern Trust and BlackRock have trillions in assets under management.

Cash Management

Mr. Mike Pettit reviewed cash management. Staff had discussions over last summer on cash and cash positions. There is cash in the retirement plans owned directly, and in the cash asset class and within that is a combination of STIP and STIF which was 6.11% as of July 31, 2019. When the market picked up, staff decided to pick up a bit of cash. Cash went down to about 0.75% allocation, then in March and April it increased to 1.0% as opposed to the 3.0% last summer. Over the past few months cash for the total plan and the asset class cash has been around 2.86%. Within the last couple of months, cash was bumped up slightly.

Private investments

Mr. Michael Nguyen reported Private Equity was fairly active in the first quarter, although it slowed in March due to COVID-19. Valuations remain high; staff is focused on high quality deals. Leverage is cooling off, which is a positive. Managers are using less leverage to get deals done. Dry powder remains high; there is a lot of capital held on the side lines. The fundraising front has also cooled off with the lockdown and restrictions in travel. On the ground level, funds that have strong limited partner bases can raise cash from their existing partners, whereas new funds are having some difficulty.

Staff have been speaking with MBOI GPs and all indications show they are holding relatively strong. The second quarter will be interesting. The historical data shows private equity drops about half of what public markets do. Although it is too soon to tell, staff expects our funds have done better than that.

The portfolio market value is holding steady. It remains North America centric and staff are increasing direct exposure, along with a decrease in fund of funds. The focus is on buyouts, credits and sector specialists. Cash flow was negative for the first quarter and is expected to be negative for the foreseeable future. This reflects staff ramping up the private investments portfolio and capital calls outpacing incoming distributions. There were two new commitments which Mr. Winkler presented earlier.

Mr. Nguyen noted with the activation of Centerbridge Special Credit Partners III-Flex. Historical commitment had 30% going into the main fund, and 70% going into the flex component. Timing for this fund was set to expire in May of this year and it was just recently turned on March 18th. This has been a great opportunity for Centerbridge; it captures distress and dislocated markets, which it was meant for.

Chairman Englund asked if the negative cash flow is due to the bad economy and whether it was surprising.

Mr. Nguyen replied no, it is mostly due to contributions and distributions. Distributions were down, which is not a surprise, although contributions are a bit higher than the historical norm and average. There are a lot of deals being held on the side lines. Managers are calling down capital to make investments and to pay down subscription capital call lines.

Real Estate

Mr. Ethan Hurley reviewed Real Estate noting due to the emergency of COVID-19 a lot of transactions were placed on hold into a wait and see mode. Real Estate fundamentals will be uncertain going forward. REITs had a sell off; there is still a lot of dry powder. Prices were down almost 10% in April as markets seized up and spreads widened; fundraising was down as well. Our core managers have seen first quarter values adjust downward. We expect further price declines by as much as 5.0%. Non-core real estate has seen price adjustments from zero to down 14%. It will be hard to predict expectations; we could see declines down 20% before any stabilization.

The portfolio as March 31st had a net asset value of $953 million. The portfolio remains North American centric, broadly diversified, and staff are looking at separate accounts for longer duration holds. No new names are being added at this point; staff are more focused on existing managers. Staff may add to the REIT exposure. The quarter had positive cash flow and all leverage is within policy constraints.

Natural Resources

Mr. Hurley reviewed Natural Resources. Brent crude oil fell 65.6% in the first quarter. OPEC has decided to extend the cut of crude oil to a combined 9.7 million barrels per day. China has bounced back to 90% of pre-COVID-19 energy/oil consumption, although still has a huge amount in storage. A slow return to normalcy is expected; the oil rig count stands at 325, a fall of 52% over the last seven weeks.

Energy/MLP stocks have sold off dramatically. Timber is expected to decline, although there have been some positives. Home building was off in March, although dry powder remains healthy.

Natural Resources are negative for one year; fluctuation has been dramatic. One energy manager had valuations down 12% for the quarter due to pricing of natural gas and oil. Portfolio net asset value for energy was $246 million at quarter end; the Timber portfolio net asset value was $105 million. The Broad Natural Resources portfolio was $8.7 million at quarter end.

The portfolio is North American centric, energy is broadly diversified across the energy value chain, and timber is diversified across species and age class. Cash flow was negative $18 million for the quarter.

New investments for Natural Resources included $25 million to Chickasaw Capital Management and $20 million was added to Mountain Capital Partners II, LP.

The Timber Portfolio leverage was 6.1% as of 12/31/19 which is within policy constraints.

Non-Core Fixed Income

Mr. Rande Muffick reviewed Non-Core Fixed Income. Reams is the one manager in the core portion of fixed income. Staff have discussed their defensive nature – it paid off during the selloff in fixed income. Reams outperformed by over 300 basis points and brought up all prior numbers through all periods. For non-core fixed income high yield spreads blew out, although it has come back to about 550 or 600. Staff took advantage of the widening spread and put money into high yield managers Oak Tree and Neuberger Berman which went into pensions, State Fund and the TFIP. Manager performance was as expected. The market sold off high yield which went down about 11%; although our managers went down less. Our managers have been defensively positioned; however, staff expected they would have done better. We may see more outperformance; default rates are expected to tick up in the high yield space. Overall, staff are happy with the non-core fixed income managers.

Domestic Equity

Mr. Muffick stated domestic equites were covered earlier in the deep dive. The equity markets sold off dramatically in perhaps one of the fastest selloffs ever, followed by a quick recovery. Markets are nearly back to previous highs, with an exceptional rebound.

Valuations for domestic equities are difficult to gauge as we are not sure where earnings will be. We could see a pullback such as if COVID-19 cases pick up, or if there are more issues with China. Markets are still overvalued although could stay level for a while. The main reason for the rebound was action by the Federal Reserve which came to the rescue with lots of money. Some expect a V shaped recovery. It's hard to imagine these hard-hit industries will come back to 100% any time soon and the market has all factors priced in already.

International Equity

Mr. Muffick stated international equity sold off more than U.S. Our portfolio has been domestic centric with our equity exposure, a 1.5 to 2x weighting of domestic vs. international. Investors are avoiding risk – the U.S. continues to perform better with equities. The international equity pool performed fairly well. Of our downside protection managers, Lazard disappointed, although INVESCO did well. Staff put money to work mostly into domestic passive and T. Rowe Price, and input some into international passive as well.

Core Fixed Income

Mr. John Romasko reviewed core fixed income. Spreads on corporate investment grade bonds increased 150 basis points, a blow out, and about 60 basis points for MBS (Mortgage Backed Securities) on erratic trading. Fixed income started the quarter short on duration and overweight treasuries. This was partly due to the change in the benchmark and the reaggregating of the mortgage, corporate and treasuries portfolios. The portfolio was short the index in terms of duration and in corporate bonds. Throughout the quarter staff increased the allocation to mortgages and corporate bonds and reached the desired level in February. Then late March turned into generating liquidity to fund asset reallocation; there were very few options for liquidity except to sell treasuries. At quarter end the portfolio was neutral to short duration and a bit heavy in spread risk.

Short durations were needed as cash on hand for reallocation. You would expect the core fixed income portfolio to track the index; there were dramatic changes and some performance gained. We expect to closely track the index, although the portfolio is underweight the very long end of the curve. If 20- or 30-year rates decline, the portfolio will underperform and realistically will not help return. However, it may tamp down volatility and provide needed liquidity through coupon payments, maturities and mortgage paydowns.

STIP (Short Term Investment Pool)

Ms. Kirsten Haswell reviewed STIP for the quarter. STIP returns were good, both relative and absolute. The STIP yield was 1.33% at the end of March and outperformed the benchmark by 23 basis points. Ms. Haswell noted markets have been more risk off than usual. With lows at historic levels, there is no advantage to putting more in commercial paper and corporates.

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Board Chairman Englund asked if staff has seen any indication from local governments whether they intend to draw down their STIP balances?

Mr. Romasko replied it's unclear as of now. Staff are waiting to see the impact of the CARES Act funds.

Director Villa noted so far there has not been a big dip in the property tax influx. The CARES Act has a new reimbursement program for local government services through the Department of Administration.

Mr. Romasko added staff expect to see the normal seasonality and usual property tax collection at the end of May, then the funds will pay down until the next tax collection.

State Fund
Mr. Jon Putnam reported State Fund had a good positive return for the year, but negative relative to the index driven by the first quarter. The portfolio is typically overweight corporate credit which weighed it down. The good news is much of the performance has come back since quarter end.

Staff spoke with the State Fund Board on Friday. All portfolios are up in credit, but there are a couple of stressed bonds; Ford was downgraded to BB, although staff will likely hold to maturity. Three portfolios are affected. Hertz has filed for bankruptcy; we own ABS bonds although not in high dollar amounts. Those were secured asset back securities secured by their fleet of cars. The credit support is north of 30%; a lot of coverage and more than sufficient to make payments. Staff expect a full recovery, although timing may be uncertain due to the legal process. Another unpredicted occurrence was the travel industry going to zero.

Trust Funds Investment Pool
Mr. John Romasko reviewed the quarter end performance of the TFIP. The largest underperformance was high yield. The index does not hold high yield which shows in the comparison. Real estate is also contained in this portfolio which had a positive return. The investment policy statement was revised to increase the real estate allocation. The first quarter was chaotic, and values were overstated. The real estate team, to their credit, worked with managers to defer capital calls so not as much real estate was added as originally intended. Staff did add more high yield. At quarter end, the portfolio was overweight credit and overweight cash at about 4.5% as it was built up to provide for expected funding. Liquidity reduced the portfolio duration. Going forward staff expect to outperform the index, as there is a yield advantage and more corporates. Real estate will also be increased.

Executive Director Villa reviewed items on the "to do" list for the next Board meeting:

1. If the CARES Act agreement is finalized, the Board will need to meet for a special meeting to sign a resolution.
2. Staff will gather information on the lookback of investment benchmarks as well as look at possible changes to the two other outstanding benchmarks.

Having no further business before the Board, the meeting adjourned at 2:54 p.m.

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Next Meeting
The next regular meeting of the Board will be August 18-19, 2020 in Helena, Montana. Complete copies of reports presented to the Board are on file with the Board of Investments.

MONTANA BOARD OF INVESTMENTS

APPROVE: Karl J Englund
Karl J. Englund, Chairman

ATTEST: Dan Villa
Dan Villa, Executive Director

DATE: December 4, 2020

BOI/drc 6/26/2020