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FY 2024 Annual Investment Plan

Introduction

It is with pleasure that we present the fiscal year 2024 Annual Investment Plan. This year's plan is the twelfth iteration of investment plans written since fiscal year 2013.

The investment plan uses a 7-10 year forward horizon in the development of the outlook for the economy, financial markets, and for the development of longer term investment themes and strategies. It is written with a ranging readership in mind. We focus discussion on the largest of economic and financial market variables -- economic growth, inflation, interest rates and the basic investment markets of stocks and bonds -- with as little industry terminology and jargon as possible. Investment plans for the individual asset classes are presented in a structured format, to ease understanding of expected investment activity across the full portfolio for the fiscal year.

This work is the organized accumulation of investment knowledge, thought and input across as many fund fiduciaries as possible: the Council, the Council investment committee, the investment office management group and investment staff, external investment consultants and external investment managers. It has the purpose of transparency of our investment process as a lead objective, and seeks to be informative, and educational where possible.

Executive Summary

Last year at this time, global stock markets were tumbling, locked in a classic 'lower-highs-lower-lows' downtrend. The bond market--in a Markowitz model-crushing move--was staging a bear market of its own. Inflation hit 5% in the U.S. (on its way to 9%) and the Fed had begun raising the Fed funds rate, with no obvious peak—for either factor--in sight. The venerable '70/30' portfolio was clearly on its way to an awful year in 2022; all told, its worst year since 2008. We delayed publishing this report, normally distributed in late June each year, to September. Mainly because we couldn't figure out how to start this first paragraph. There was just too much to say, to communicate. This sharp turn of direction was something we had been anticipating. We had cautiously--but deliberately and meaningfully--shifted the asset allocations of the Permanent Funds in anticipation of a new environment. And here it was, as often happens, all at once. Uncharacteristically at a loss for words, we paused, took a deep breath, and started last year's Annual Investment Plan from 'the beginning'--with a recap of the last 40 years of economic and investment environment history--and explained how that progression formed the basis of the investment environment turning point we were witnessing.

Here in mid-2023, we feel cautiously confident we will be able to look back on 2022 as 'the pivot' to the new investment environment we've been preparing for. As we will detail below, we continue to expect the current economic expansion to end in recession this year; for that recession to perhaps be stubbornly long, with more pain in the "financial" economy than the "real" economy; and for the early part of the next expansion to be unimpressive relative to the average of previous Early Cycles. By Mid-Cycle of the next expansion, it is our hope that the excess "air" of the "everything bubble"—a global financial bubble built over the last decade-plus and which peaked at the end of 2021--will have been meaningfully relieved and that the economy will again have a short term interest rate (higher than "zero") to provide a basis for proper and efficient capital allocation. Ideally, we would like to see central banks shrink back from their decades-long efforts to be 'Masters of the Universe' to more simply better manage our currencies and credit creation, and for governments to become more disciplined regarding perpetual budget deficits. Though, since this report traffics in facts and probabilities, we will have to categorize that last sentence at the "wishful" level of probability of occurrence.

So, anchoring on last year's expansive explanations and with this year's brief introduction to our expectations regarding our forward 7-10 year investment time frame, let us dig into the details.

Economic Outlook

The Council begins work on developing our economic views with the International Monetary Fund's (IMF) popular twice-annual reports World Economic Outlook and the Global Financial Stability Report. The IMF does excellent work and digs deep (which delights us to no end as macroeconomic analysts and strategists). This forms a baseline from which we examine, challenge and verify every part, extensively tapping ranging resources to get to our views for our specific timeframe of 7-10 years forward (roughly the average length of a full economic cycle, historically).

For purposes of keeping the Annual Investment Plan reasonably short and readable, we limit our discussion of economic expectations and implications to the three major areas of **growth, inflation,** and **interest rates**.

Growth—Perhaps our longest-running theme in this series of Annual Investment Plans is that of 'low [economic] growth'. And we've been correct in that view. Importantly for this sub-section this year, we are changing our view on growth. Unfortunately, the updated view consists of a further deterioration in the outlook.

A structural growth slowdown is (and has been) underway across the world. We've recognized this for several years now, and it is worsening. According to the World Bank, globally, the potential economic growth rate—theoretically the maximum level of growth over the medium term that can be achieved without igniting inflation—is set to soon fall to the lowest levels of the past three decades and stay there over the rest of this decade. Demographics continue to weigh on workforces (a theme our regular readers will recognize from previous reports); worker productivity growth is in the tank; related factors are also not of help including falling workforce participation rates, slowing business investment and slowing international trade. Risk factors to growth such as recession, excess inflation, restricted fiscal and monetary policy and others are, unfortunately, on the table for our expectations horizon.

- *Demographics*--The world is 'short' on young people and 'long' on old people, relative to optimal. It has been this way for a number of years and it is worsening. Difficult demographics exist in some of the largest industrial economies, inclusive of China, Japan, South Korea, Germany. India and much of Africa are far better off demographically and have large populations but are hampered by lesser-to-poor access to growth-supportive economic basics of food and energy. Two thirds of the world's population live in countries with fertility rates below replacement levels—and nearly all of the economically-relevant countries have fertility rates below replacement--and are deteriorating further. This isn't an issue which will correct anytime soon, as it takes 18-25 years to produce an 18-25 year old young person prepared for accretive economic activity, even if pro-population support programs were widely enacted today. With respect to the U.S., we are among the cleaner-shirts-in-the-laundry of large, developed countries with respect to demographics: the fertility rate in the U.S. is 1.7 births/woman (vs 2.1 required for replacement), net immigration is relatively strong, and, probably best of all economically, one of our by-far largest trading partners is Mexico, which has a beautiful, consumption-oriented demographic profile.

- *Productivity*—The heyday of post-war worker productivity in the U.S. was the 1950s and 1960s, where productivity clipped along at a rate of 2.8% per year, on average. The turmoil of the 1970s and early 1980s (inflation, war, social unrest, and four recessions) slowed productivity to a 1.7% average rate. Microprocessors, cell phones, the internet and the hard-working Boomer generation popped productivity back to 2.4% annually on average in the 1990-2009 period, but since then, worker productivity has fallen off a cliff. From 2010 to the present, productivity has averaged 1.4% annually, with some recent years actually below zero. There are three meaningful and ongoing structural issues with productivity at present:
    - de-globalization of the world economy, which began after the 2008-2009 Great Financial Crisis but has picked up in pace with the 2020-2022 pandemic. This is expected to continue to reduce economic efficiency globally;
    - a continuing shift in the structure of the global economy toward areas of activity which have lower potential for productivity improvement;
    - a decline in the dynamism in the broad economy, generally. Measures such as new business formation, mobility of the workforce, patent applications from all but the largest businesses, and others have been in broad decline over the last decade.

  We think the first two factors will continue to restrain productivity over our forward-looking 7-10 year period though the third factor, economic dynamism, has improved somewhat since the pandemic in some areas. Regarding the second factor, we, too, see the potential for advanced technologies--such as artificial intelligence (AI), advanced manufacturing, fusion energy, 5G/6G communications, synthetic biology and others—to help with productivity and indeed we have been making investments in those areas, such as our investment in the America Frontier Fund.

- *Risk Factors*—Other risks to overall economic growth include recessions, financial crises, tighter monetary and fiscal policy, excess inflation, social unrest and other factors. The probability of these risks damaging economic output seems to be increasing, and we are building into our expectations many of these risks to play out in one degree or another in our coming 7-10 year expectations time horizon.

In all, the growth picture is not easy to contemplate, or to report. It will require us to continue to seek investments with lesser dependence on strong economic growth for the investments to succeed.

Inflation—First, two definitions for the purposes of this paper:

- "inflation" is a normal and usual part of an economy where fiat currency is the medium of exchange. Even after 1944 when the U.S. dollar was pegged to gold bullion through the Bretton Woods agreement and before 1971 when the U.S. dollar was de-linked from gold, inflation was a regular part of economic life and averaged of 2.3% annually over the period.
- "excess inflation" is that degree of inflation above a formal or informal "target" for inflation. Historically, when the inflation rate gets above about 3%, the Fed is raising rates to slow things down and below 2% they are cutting rates to speed things up--though the correlation is far from perfect. Over the past couple of decades, the Fed has been targeting 2% inflation and indeed in monthly rolling 10-year periods from 2000 forward, inflation has mainly stayed at 1.5%-2.5% annually, with short periods of excess inflation and under-target-inflation.

Excess inflation returned globally beginning in mid-2020. In the U.S., the CPI inflation rate powered through the 2.5% "resistance line" established over the prior decade, to hit 9% in June 2022. For years investors had been forecasting and expecting for excess inflation to materially re-assert and were giving up on that forecast for being wrong by 2020. We, too, were questioning ourselves regarding its relative absence. We did though, for years and like others, observe the Fed, other central banks, the U.S. and foreign governments vigorously winding the handle on the inflation 'Jack-in-the-box' via massive monetary and fiscal stimulus. Reasonably, we expected at some point that the lid would go "POP!" and out would jump "Jack", with characteristic effect on the handle-winders. Hence, and we write this humbly, by early 2021 we had the Land Grant Permanent Fund--our flagship fund--allocated 12% to Real Estate, 10% to Real Assets (ex-Real Estate), and another 8% to a broad mix of floating-rate credit strategies—all allocations which historically have resisted the negative impacts and corrosive effects of excess inflation.

In last year's Annual Investment Plan, we argued that the Fed should hit this excess inflation in three ways--fast, hard and often--in agreement with the Fed's then-apparent strategy. What dawned on us as the Fed aggressively raised rates throughout 2022 to the present (April 2023) was that not only was this policy working in the traditional way by sending the yield curve higher, slowing the housing market, tightening general lending and dampening consumer demand (for autos, larger household purchases and for maintaining credit card balances), but the speed and strength of the rise was creating an interest rate shock in the economy. We are in hopes that the PhD economists at the Fed planned for this (or understood it as a consequence) beforehand, as an expectation that the banking system at large could handle an interest rate shock would have needed to be in place before pursuing the strategy.

If we can give the economic doctors at the Fed this credit--and if we can assume they are right about the health of the banking system--then we see the prescriptive nature of an interest rate shock. We've long argued (though mostly outside of the confines of these Annual Investment Plans, except to whine within the confines about the expensive stock market and too-low interest rates) that the "free money" of the 2008-2021 period was causing some malinvestment ("malinvestment" meaning badly allocated business investments due to artificially low cost of credit and an unsustainable increase in money supply) and other misallocations of capital in the economy. An interest rate shock and a materially changed cost of capital would cause an immediate re-think of the entire stock of investments and capital allocations, economy-wide. With an impetus to review investments and capital allocations in light of a short term interest rate above zero, rationalization could begin and some of the "air" in the "everything bubble" could start escaping.

One more comment on the present and we can move on to our expectations. The inflation rate in the U.S. has fallen from 9% to 5% in the last few months. The Fed is winning against excess inflation—and despite their recent (May 2023) warning that excess inflation surge is not going to go away easily, we think from a practical perspective the Fed just needs to 'run the clock' until the recession which we expect to start this year finishes off the surge for them. Either way, as we'll see below, excess inflation will unlikely be down for the count.

Now on with our expectations, which we are supposed to be writing about in this section.

Excess inflation is impossible to predict. Historically, (except for the late 1960s through the early 1980s hyperinflation period) excess inflation shows up fast, does its damage, then slinks away. We're always reminded of the major 'fire-fighting' movies when we review excess inflation activity and trends.

In previous reports, we've described our thinking in terms of probabilities of inflation outcomes. We've imagined a "normal" Bell-curve of probabilities, except with "fat" tails—a greater than "normal" probability of excess inflation, a greater than "normal" probability of deflation, and a lesser than "normal" probability of customary inflation. But we admit, while this model has some appeal intellectually, it is not all that helpful practically in developing investment strategy. So, we're dropping that.

In its place is our thinking that with the (hopefully sustainable) end of "free money" (ZIRP, QE, unbridled government deficit-spending) that a re-balancing of value away from financial assets (such as cash/currencies/money supply, bonds and debts—and including the "excessive" portion of equity valuations) and toward real assets (such as real estate, other real assets and labor) is due and can proceed. Since CPI inflation (our measure of inflation) measures only the value of cash/money/currency relative to real assets, we would expect to see structurally higher inflation as this rebalance occurs--more inflation than we've had over the last decade. For our planning and investment strategy purposes, we're considering an average of 3.00% annually for inflation in the U.S., as opposed to the average of 1.50% annually from the 2008-2009 Great Financial Crisis though 2020, and a 2.00% annual average from 2000-2020. While 3% inflation is not "bad" relative to long term history, experiencing 4.5% nominal GDP growth consisting of 3.0% inflation and 1.5% real growth over the next 7-10 years won't feel particularly good, and that potential needs to be addressed in our portfolio allocations and investments.

Interest Rates—With our expectation of low real economic growth combined with structurally higher inflation, we expect interest rates to firm but stay somewhat low relative to long history. Particularly so if our hoped-for scenario emerges with the authorities getting out of the way of interest rate markets--the

Fed and global central bankers backing-off ZIRP and QE on the supply side and governments at least trying to balance budgets and backing-off on the demand side.

True market-driven rates—inclusive of our inflation expectations, a re-think of capital allocation, less intrusiveness of the global central banks and global governments, and a rebalancing between the financial and real economy--might center the 10-year Treasury around 3-4%--but that is just a supposition. Over the last decade, 10-year Treasury rates have averaged 2.2% and have generally stayed below 3% (except for this latest pop in rates) and rates much above 4%-5% could really cause problems with debt loads. Watching the bond market--which is widely considered the "smartest" of markets--and trying to understand what it is doing and telling us is a wise course of action.

Financial Market Implications

With an economic outlook inclusive of…

- a nearer-term recession which could be extended and play out as tougher on the "financial" economy than on the "real" economy;
- a slow start of the next economic expansion due in part to weak demographics/labor, poor productivity growth and high debt loads across the economy;
- more measured monetary policy and a greater focus on controlling government budgets relative to the last decade;
- structurally higher inflation relative to the last decade;
- and the rest of our list of economic challenges as detailed above;

…our financial market outlook is a little bit dour. The U.S. stock market—which investors are supposed to value based upon forward-looking expectations—is meaningfully inflated relative to (at least our) forward-looking expectations. Higher interest rates than over the last decade will likely challenge 'multiples' of all stripes—equity market P/Es, real estate and real asset cap rates, cash flow multiples in private equity. If the authorities move out of the way of markets and allow the establishment a market-based interest rate in the economy, a re-think of capital allocation can move forward, which may initially produce some challenges. Our consultant RVK's long-term capital market assumptions indicate that over time we can earn annually compounded returns in the 7.5% range with our growth portfolios—and we agree with that assessment--but that looks challenged here in the nearer-term as we work through the above-detailed economic and market valuation challenges.

Broad Investment Strategy

In the longer run, as institutional investors of long-term growth portfolios, it is important to stay 'realistically optimistic', always be looking for opportunity, and stay invested in a well-considered portfolio of risk assets.

We readily admit that our nearer-term outlook is hardly optimistic (though, we believe, realistic), but we maintain our optimism for the economy and markets a little farther out. If in the nearer-term we can get some of the "air" out of the "everything bubble", establish a market-based rate of interest in the economy as a basis for making rational investments and other capital allocations, properly manage higher inflation, have central banks stay away from extremes in monetary policy and have governments implement sound fiscal policy, we feel this would form a basis for optimism regarding the economy and markets a little further out in our outlook timeframe.

One more specific issue applies, also, to the forming of our broad investment strategy: projections of consequential new inflows to our funds.

In Part II below, we describe these projections in an aptly-named section *Inflows Analysis*. These new projections are nothing short of a game-changer for the funds that they impact. For our flagship fund, the Land Grant Permanent Fund (LGPF), our projections are that annual inflows over the next decade might meet or exceed the annual statutory distribution. The most important thing this means for the LGPF is that all investment earnings can stay in the fund, creating a 'compounding' effect over the next decade beyond anything previously attainable. Albert Einstein called 'compound interest' "the eighth wonder of the world", and that eighth wonder of the world is operating right now in the LGPF and the Severance Tax Permanent Fund (STPF) with these new inflows.

In the context of the above, our broad investment themes for the coming 7-10 year investment period are as follows:

- **We believe that 2022 will mark an inflection point in the investment environment of the recent past and represents a shift to the environment we will be working in for the foreseeable future.**
    - 1982 to 2007 (25 years): an economic and market environment of falling interest rates, above-average economic growth, disinflation, massive increases in per-share corporate profits and rising equity market (and other) multiples.
    - 2008 to 2021 (14 years): an economic and market environment of dramatically falling growth rates, poor productivity growth, very low interest rates, low inflation. Extreme monetary policy (ZIRP, QE, massive expansion of the money supply) and fiscal policy (in the U.S., the federal government deficit-spent $16 trillion from June 2009 through September 2021) were used to try to stimulate the economy, and had the effect of distorting business investment, capital allocation, and sent investment market multiples to near-records.
    - 2022/2023 to 2030-2033 (last year plus our forward 7-10 year expectations horizon): Our expectations regarding this new environment are for more-or-less a reckoning of the 2008 to 2021 period, and are detailed in the sections above: a nearer-term recession, very slow economic growth, structurally higher inflation, modest interest rates, shrinking market valuation multiples. We allow ourselves some cautious optimism regarding the years toward the end of the period as the Millennial generation in the U.S. come into their full economic power, and the wealth transfer from the Boomer generation to the Millennials matures.
- **We believe the U.S. will be better off than many parts of the world over our 7-10 year expectations horizon and provide a relatively better place to invest. We presently have and expect to maintain significant focus on U.S. dollar-denominated, U.S.-based investments.**
    - While our publicly-traded equity portfolio is diversified into global stock markets, the preponderance of investments in our private asset portfolios—private equity, real estate, real return, private credit—have a strong focus on U.S. dollar-denominated, U.S.-based assets.

  - There will continue to be good investment opportunities overseas, however, and we intend to continue to look overseas and make investments in the good opportunities we can find.
- **The projection of a 'game-changing' level of inflows into the funds for the next decade presents the Council with a rare opportunity in public fund investing to build asset allocations in our growth funds aimed at maximizing the compounding power of our returns. This translates into:**
  - Greater exposure to higher-returning 'risk-assets' over lower-returning 'risk-mitigating/liquidity' assets;
  - Greater exposure to private market assets over publicly-traded assets;
  - We would normally strongly favor equity over credit for compounding power, but given our economic growth concerns, a more balanced approach between these two 'risk-assets' is called for.

Part II: Inflows Analysis

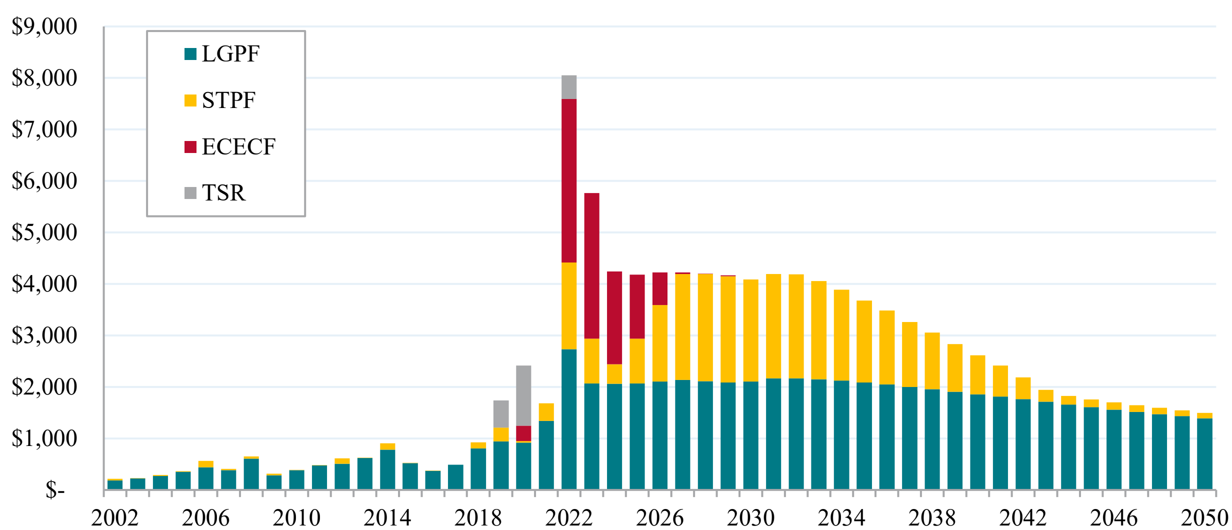
Contributions into the funds we manage topped $8 billion in 2022, far exceeding the previous all-time high of about $2.4 billion in 2020. By comparison, total annual inflows across all funds averaged about $460 million prior to 2018.

Inflows for our largest funds (LGPF, STPF and ECECF) are mainly sourced from tax and royalty collections on oil and natural gas production in the state. While production has been on the rise for some time, last year's record inflows were primarily caused by a spike in oil and natural gas prices due to several economic and other factors. This propelled the value of energy resources produced in the state and led to a surge in oil and gas revenue contributions to several funds under our management.

Although the record inflows experienced in 2022 is likely an anomaly, inflows appear poised to continue above historical norms, raising total fund growth expectations for the forward horizon. With some of the most profitable acreage in the country, oil and natural gas production in New Mexico is expected to continue growing (albeit at a more muted pace) over the next decade before potentially peaking by the early 2030s as the transition to alternative energy sources weighs on global fossil fuel demand. And while commodity prices have come down from their 2022 highs, the current outlook is for a higher price environment than the one experienced from 2015-2021 (wherein New Mexico's oil prices averaged a mere $48.50/bbl). This creates a recipe for strong tax and royalty contributions to the funds.

Given the inherent volatility of energy markets and sensitivity to shocks that cannot be predicted, these estimates are subject to considerable uncertainty. Many factors including supply and demand fundamentals, monetary policy changes, OPEC+ strategy, geopolitical tensions, and the pace toward global transition to renewable energies could ultimately change the outlook—for the better, or worse. We believe the estimates below serve as a reasonable guidepost to inform this year's Annual Investment Plan.

Land Grant Permanent Fund, Severance Tax Permanent Fund, Early Childhood Education and Care Fund, and Tax Stabilization Reserve ($MM)
Inflow History (2002-2022) and Baseline Estimates (2023-2050)

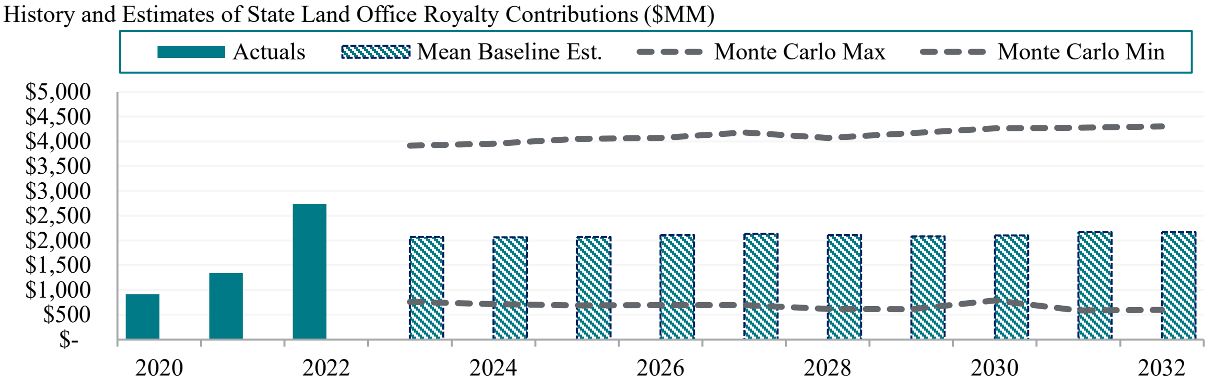


Source: NMSIC staff estimates using data from Oxford Economics, Rystad Energy, U.S. Energy Information Administration, CME Group, NM Consensus Revenue Estimating Group, and DFA Board of Finance. Estimates assume long-term annual average oil price of $60/bbl and average natural gas price of $4.50/mcf.

Land Grant Permanent Fund Inflows – The Land Grant Permanent Fund (LGPF) receives royalty contributions from the State Land Office for mineral production on state trust lands. State Land Office contributions exceeded $2.7 billion in 2022, more than double the $1.3 billion contributed in 2021 and by far the largest single-year contribution in the LGPF's history. Looking forward, baseline estimates of future energy prices and production show royalty contributions from state trust lands could exceed $2 billion annually over the next 10 years. Again, given the volatile nature of the funds' revenue sources, these figures should only be used as a guide.

Land Grant Permanent Fund

History and Estimates of State Land Office Royalty Contributions ($MM)



Source: NMSIC staff estimates using data from Oxford Economics, Rystad Energy, U.S. Energy Information Administration, CME Group, and the NM Consensus Revenue Estimating Group. Estimates assume long-term annual average oil price of $60/bbl and average natural gas price of $4.50/mcf. Monte Carlo simulation assumes annual average oil prices between $30-$120/bbl and annual average natural gas prices between $1.50-$7.00/mcf.

Severance Tax Permanent Fund Inflows – The Severance Tax Permanent Fund (STPF) receives the portion of the state's severance tax revenues that is not used to bond for capital outlay projects. A significant increase in severance tax collections combined with the statutory limits on state bonding capacity resulted in large deposits into the STPF in 2022. Contributions to the fund totaled about $1.6 billion, with more deposited into the fund in that one year than in the prior 20 years combined.

Absent an unexpected energy market shock, we expect sizeable contributions to the STPF from the bonding fund over the 7-10 year period, including a new statutorily required contribution of $92 million/year through 2033.[1] Additionally, the STPF will receive a sizeable bump in the form of a $475 million appropriation from the state's general fund in FY24.

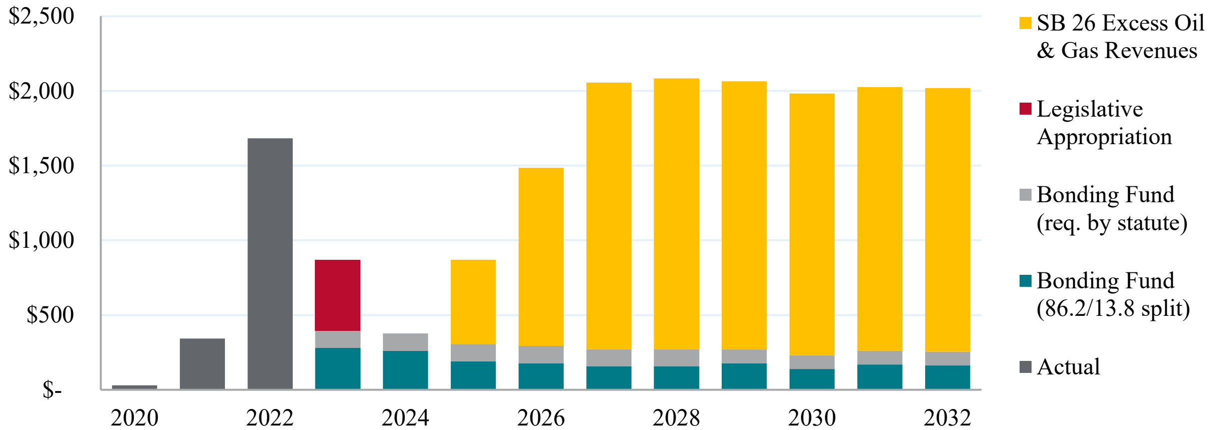
The potential game-changer, however, is the recent passage of new legislation that is expected to significantly increase contributions to the fund going forward. Starting in FY25, the STPF will begin receiving excess revenues from certain oil and gas production taxes and federal royalty payments.[2] Based on the current revenue estimates and energy market outlook, those contributions could exceed $1

[1] Senate Bill 378 of the 2023 legislative session requires an annual contribution of $92 million to the STPF from the severance tax bonding fund from 2023 to 2033. This is in addition to the existing statutorily required annual contribution of $23.69 million to the STPF through 2028.

[2] Senate Bill 26 of the 2023 legislative session sends any revenue above the amount the state general fund received in FY24 from the oil and gas emergency school tax and federal mineral leasing payments to the STPF. The distribution does not change the statutory allocations of these revenues to the Early Childhood Education and Care Fund or the Tax Stabilization Reserve.

billion/year for at least the 7-10 outlook. Again, given the volatile nature of the funds' revenue sources, the same cautions as above apply.

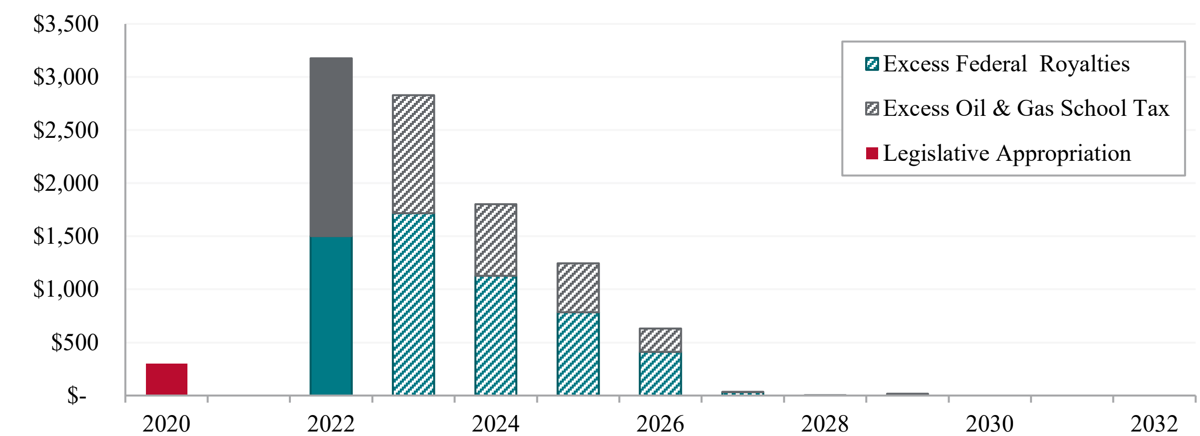
Severance Tax Permanent Fund Fund, Inflow Estimates ($MM)



Source: NMSIC staff estimates using data from Oxford Economics, Rystad Energy, U.S. Energy Information Administration, CME Group, NM Board of Finance, and the NM Consensus Revenue Estimating Group. Estimates assume a long-term annual average oil price of $60/bbl and average natural gas price of $4.50/mcf.

Early Childhood Education and Care Fund Inflows **–** The Early Childhood Education and Care Fund (ECECF) received large distributions of excess production tax collections and federal royalty payments in 2022 as part of a statutory mechanism that invests windfall oil and gas revenues that otherwise flow to the state's general fund. Based on the state's most recent general fund revenue estimate and the current energy market outlook, the ECECF is expected to continue to receive large inflows over the next several years. Because contributions to the ECECF are based on amounts above a five-year average, the inflows are expected to decline over time as the five-year average increases. Again, given the volatile nature of the funds' revenue sources, the same cautions as above apply.

Early Childhood Education and Care Fund, Inflow Estimates ($MM)



Source: NMSIC staff estimates using data from Oxford Economics, Rystad Energy, U.S. Energy Information Administration, CME Group, NM Consensus Revenue Estimating Group. "Excess" revenue refers to the expected amount of oil and gas school tax collections and federal royalty payments exceeding the five-year average. Estimates assume a long-term annual average oil price of $60/bbl and average natural gas price of $4.50/mcf.

New Funds and Other Inflows **–** The legislature recently made several new appropriations to existing funds under the Council's management and directed two new funds for the Council to invest. New one-time appropriations to existing funds that will be deposited in FY24 include $100 million to the Water Trust Fund and $15 million to the Rural Libraries Endowment Fund. A newly created Conservation Legacy Permanent Fund to be managed by the Council was seeded with a $50 million appropriation. Another new fund to be invested by the Council is the Opioid Settlement Restricted Fund, which is expected to receive $300 million to $350 million in one-time settlement revenues, with potential to receive a smaller ongoing amount. The state does not have final estimates of opioid settlement revenues; however, comparisons to other states suggests the ongoing annual contribution could be in the ballpark of $3 million per year.[3]

[3] Source: House Bill 527 Fiscal Impact Report, March 9 2023

Part III: Portfolio Analysis

Land Grant Permanent Fund

Discussion & Asset Allocation – The LGPF ended the 2022 calendar year with a market value of $25.7 billion, relatively unchanged from CY21 despite the market correction that resulted in negative returns for year. Inflows from the State Land Office entirely offset market losses as well as annual distributions, insulating the fund from any year-over-year declines in NAV.

Notably, 2022 marked the fifth consecutive year in which contributions to the LGPF exceeded distributions to the fund's beneficiaries, and our current estimates show inflows could continue to largely offset or exceed distributions for the 7-10 year horizon. This is even after accounting for the increased distribution rate approved by voters in the last general election, which will raise the distribution rate from 5% of the five-year average to a blended rate of about 6.1% beginning in FY24.[4] The ability of inflows to cover all or more of the distributions for an extended period provides the opportunity to capitalize on the compounding power of returns and is the basis for several of the asset allocation changes below.

Land Grant Permanent Fund Asset Allocation			
Asset Class	**Old (%)**	**New (%)**	**Diff.**
Broad US Equity	20	20	--
Broad International Equity	20	20	--
Core Fixed Income	10	6	-4
Non-Core Fixed Income	15	15	--
Real Return	10	12	2
Real Estate	12	12	--
Private Equity	13	15	2
Expected Arithmetic Return	7.7	7.9	0.2
Expected Risk (Standard Deviation)	10.5	10.6	0.1
Expected Compound Return	7.2	7.4	0.2

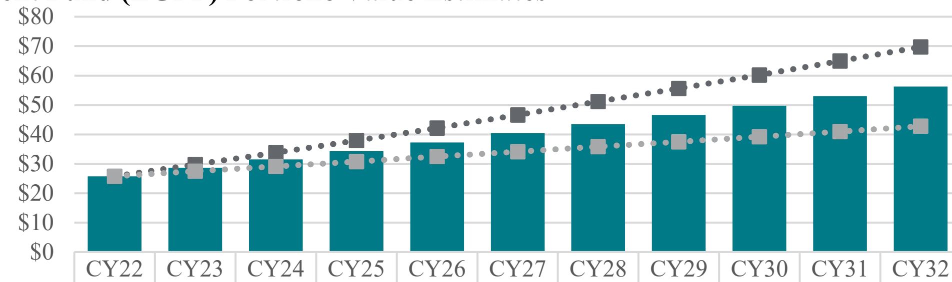
New asset allocation approved by the Council in April 2023. Expected risk and return metrics based on RVK's 2023 capital market assumptions.

Portfolio Value – With inflows poised to exceed distributions for much of the investment horizon, the financial model developed by the Council and consultant RVK for the LGPF projects the fund will grow to roughly $56 billion over the 7-10 year investment horizon, an annualized increase of 7.0%. This projection is based upon the long-term assumptions for investment return, estimated contributions from the New Mexico State Land Office outlined in the inflows analysis section above, and the constitutional distribution policy used in the 25-year Intergenerational Equity Model for the LGPF. Given the increased uncertainty in the economy and financial markets, as well as potential volatility in energy-related fund contributions, these figures should only be used as a guide.

Strong inflows are a significant driver of the fund's expected growth over the investment horizon. To show the impact of the inflow estimates on the fund growth projections, the chart below illustrates the differences in expected portfolio value if contributions to the fund are assumed to be +/- 50% of the estimates in our base case.

[4] Beginning in FY24, the distribution rate from the permanent school fund – which is the largest component of the LGPF – will increase to 6.25% of the five-year average. The distribution rate for all other funds in the LGPF will remain at 5.0% of the five-year average.

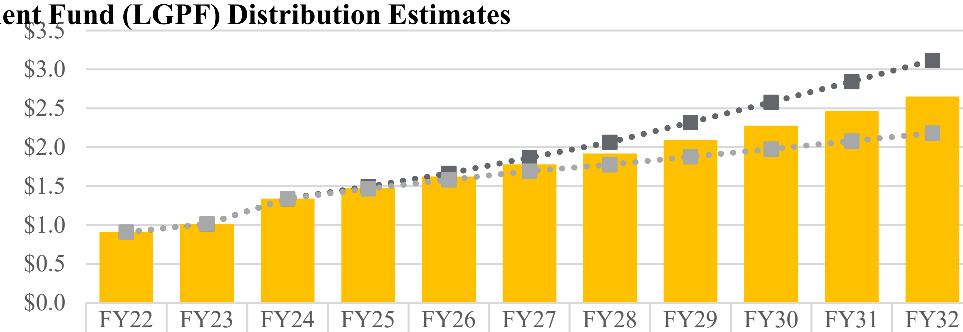
Land Grant Permanent Fund (LGPF) Portfolio Value Estimates
(dollars in billions)



	CY22	CY23	CY24	CY25	CY26	CY27	CY28	CY29	CY30	CY31	CY32
Base Case Contributions	$25.8	$28.6	$31.4	$34.3	$37.3	$40.4	$43.5	$46.6	$49.7	$53.0	$56.3
+50% Contributions	$25.8	$29.7	$33.7	$37.9	$42.2	$46.6	$51.1	$55.6	$60.2	$64.9	$69.7
-50% Contributions	$25.8	$27.5	$29.2	$30.8	$32.4	$34.1	$35.8	$37.5	$39.2	$41.0	$42.8

Distributions **–** Using the same long-term (25-year Intergenerational Equity model) assumptions, annual distributions from the LGPF are expected to rise to roughly $2.7 billion by the end of the 7-10 year investment horizon. This equates to an annualized growth rate of about 7%. Again, the same cautions as above apply.

Land Grant Permanent Fund (LGPF) Distribution Estimates
(dollars in billions)



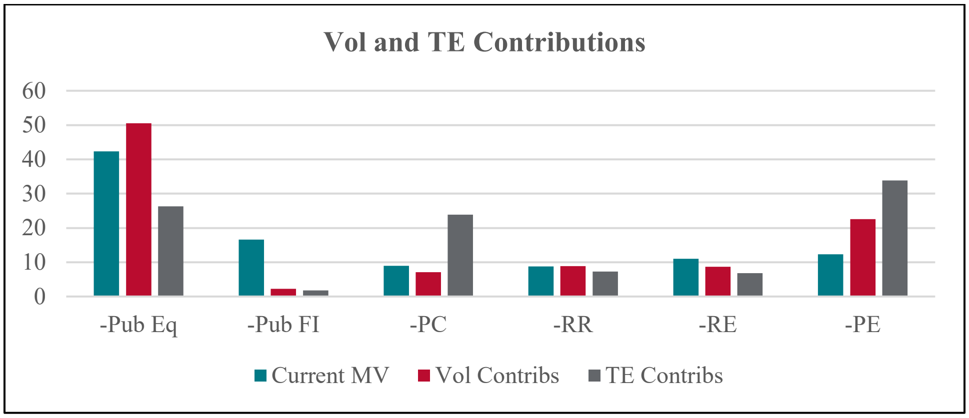
	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Base Case Contributions	$0.91	$1.01	$1.34	$1.48	$1.62	$1.78	$1.92	$2.10	$2.28	$2.46	$2.65
+50% Contributions	$0.91	$1.01	$1.34	$1.49	$1.67	$1.86	$2.06	$2.32	$2.58	$2.84	$3.12
-50% Contributions	$0.91	$1.01	$1.34	$1.47	$1.58	$1.69	$1.78	$1.88	$1.98	$2.08	$2.18

Risk Profile **–** Ex-ante portfolio return volatility (portfolio risk) in standard deviation terms calculated based on BlackRock parametric model is 15.35% for the first quarter of 2023. The corresponding benchmark volatility for the same time period is 12.36%. Portfolio's tracking error is 4.6%, which is within tracking error limit range of 3-5%.

Portfolio	Beta		Portfolio Risk (%)			Benchmark Risk (%)		Active Risk (%)		
	Beta vs Bench	Beta 1Q Chg	Vol	Vol 1Q Chg	Vol Contribs	Vol	Vol 1Q Chg	Tracking Error TE	TE 1Q Chg	TE Contribs
LGPF	**1.20**	**0.03**	**15.4**	**(0.8)**	**100.00**	12.4	**(1.0)**	**4.6**	**0.1**	**100.00**
-Pub Eq	1.03	0.02	18.6	(1.0)	50.50	17.8	(1.4)	2.8	0.8	26.30
-Pub FI	0.72	-0.02	5.3	0.3	2.20	7.4	0.6	2.2	0.3	1.80
-PC	1.70	0.12	19.3	(0.2)	7.10	3.9	0.2	18.3	(0.4)	23.90
-RR	0.72	-0.01	17.2	(1.2)	8.90	20.6	(1.2)	10.3	(0.8)	7.30
-RE	1.01	-0.01	15.8	0.5	8.70	14.0	0.7	6.9	(0.2)	6.80
-PE	0.85	0.04	29.4	(1.1)	22.60	30.6	(2.9)	14.2	(1.2)	33.80

Source: Staff, BlackRock Aladdin

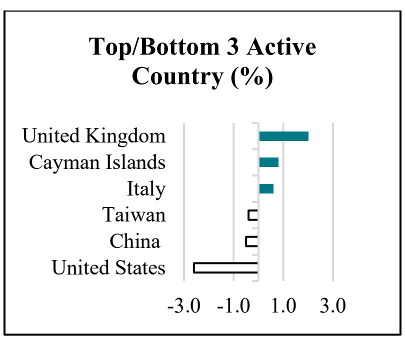
Public Equity and Private Equity are biggest contributors to risk, while Private Credit and Private Equity are two main contributors to tracking error.

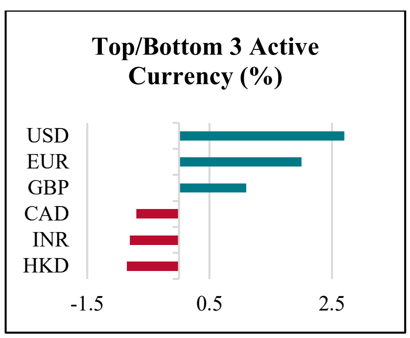


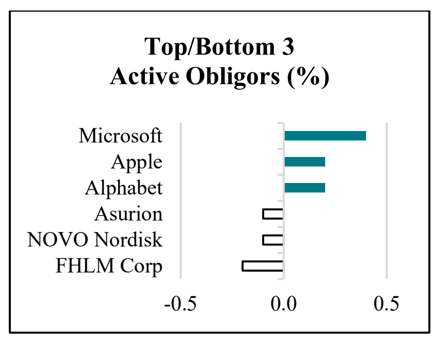
Source: Staff, BlackRock Aladdin

'Marginal Contribution to Risk' and 'Marginal Contribution to Tracking Error' measure the marginal amount of risk a particular asset class contributes to overall risk of the portfolio per unit of weight. While the presence of Private Equity is easily explained by the volatility of underlying strategies, the presence of Private Credit in tracking error contribution category is explained by two factors: a) Private Credit portfolio contains a substantial number of hedge funds (that are unwinding at the moment); and, b) the model used to calculate risk of that portion of the portfolio is based on proxying rather than the analysis of the underlying holdings (the new model will be rolled out in August 2023). Given the nature of these underlying assumptions, we expect private credit's risk to decrease substantially going forward.

The portfolio is very well balanced in terms of active country and active currency characteristics. Portfolio is also very well diversified which is evident from the fact that the highest obligor is less than 0.5% of the total portfolio.

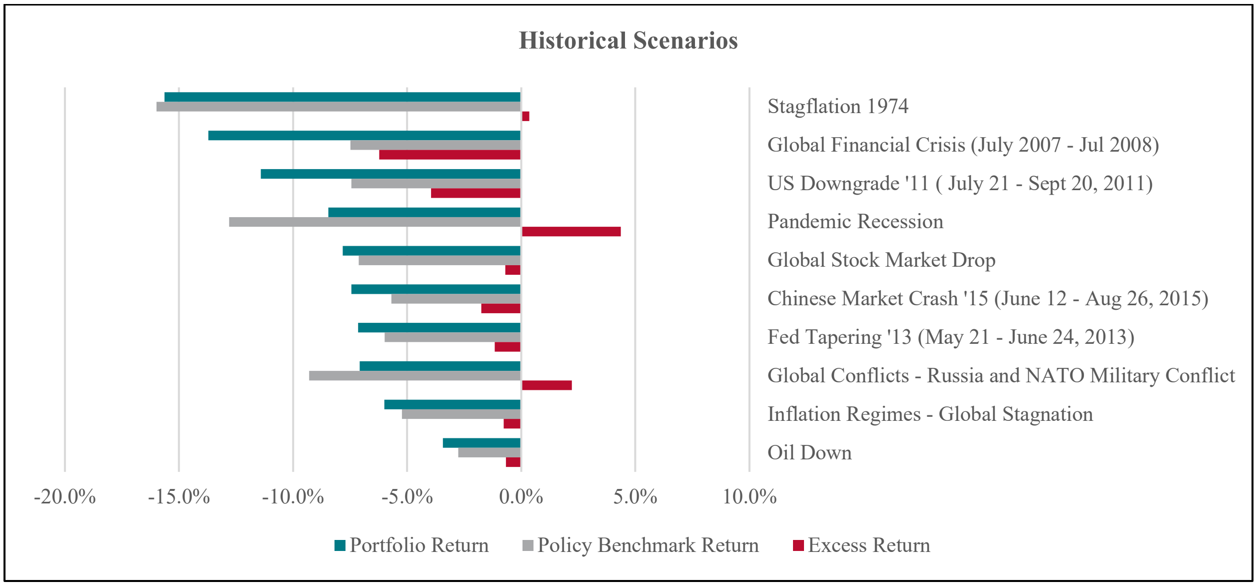






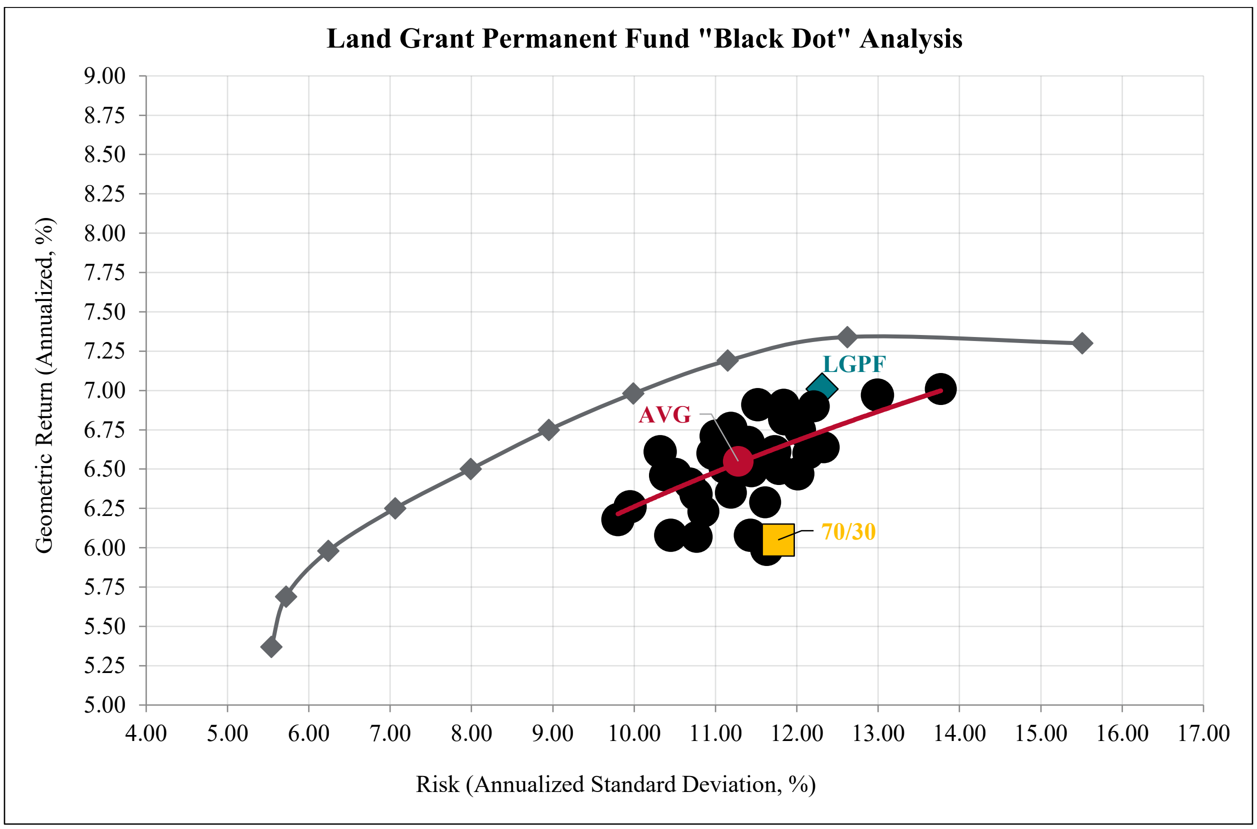
Source: Staff, BlackRock Aladdin

The portfolio's resiliency is evident from multiple historical stress tests. None of the scenarios applied generated loss greater than 15% of total portfolio value. Overall, the portfolio is very well positioned to sustain various types of systemic shocks.



Source: Staff, BlackRock Aladdin

Black Dot Analysis **–** The "Black Dot" analysis utilizes a custom peer group of 36 public investment funds as a point of comparison for the LGPF. Data for each institutional fund is collected from their respective annual reports, and the LGPF's asset allocation is compared with the projected returns and risk profiles of the peer group using RVK's capital market assumptions. As shown in the chart below, the LGPF is among the most efficiently allocated funds when compared to the Black Dot peers.



Severance Tax Permanent Fund

Discussion & Asset Allocation – The STPF ended the 2022 calendar year at $7.6 billion, an increase of over $900 million from CY21 despite the market correction that resulted in negative returns for year. This was because inflows into the STPF more than offset market losses and annual distributions, allowing the fund to end the year with a higher NAV than the previous year.

Remarkably, with the STPF set to receive two new sources of contributions (oil and gas production taxes and federal royalty payments as discussed in the inflows section of this report) in addition to severance tax receipts, contributions into the fund are expected to continue to exceed distributions from the fund for the investment horizon. This is rather extraordinary for the STPF, as contributions have exceeded distributions only three times over the last 22 years.

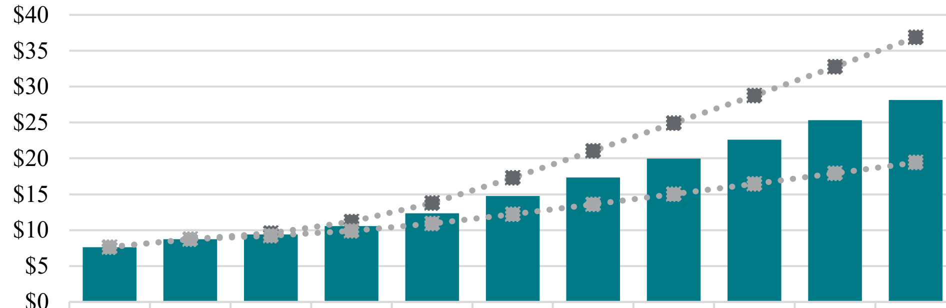
As with the LGPF, this 'game-changing' level of inflows into the STPF provides the opportunity to capitalize on the compounding power of returns and is the basis for several of the asset allocation changes below.

Severance Tax Permanent Fund Asset Allocation			
Asset Class	**Old (%)**	**New (%)**	**Diff.**
Broad US Equity	20	20	--
Broad International Equity	20	20	--
Core Fixed Income	12	5	-7
Non-Core Fixed Income	12	12	--
Real Return	10	12	2
Real Estate	12	12	--
Private Equity	5	10	5
NM Private Equity	9	9	--
Expected Arithmetic Return	7.0	7.4	0.4
Expected Risk (Standard Deviation)	11.9	12.1	0.2
Expected Compound Return	6.4	6.7	0.3
New asset allocation approved by the Council in April 2023. Expected risk and return metrics based on RVK's 2023 capital market assumptions.			

Portfolio Value – The STPF is also modeled in a manner similar to that of the LGPF and, given the new sources of inflows coming into the fund, the results are far more encouraging than in the past. The STPF is projected to grow to roughly $28 billion over the investment horizon, an annualized increase of 12.4%. This projection is based upon the long-term assumptions for investment return, estimated inflows from tax and royalty collections outlined in the inflows analysis section of this report, and the distribution policy used in the 25-year Intergenerational Equity model for the STPF. Given the uncertainty in the economy and financial markets, as well as potential volatility in energy-related fund contributions, these figures should only be used as a guide.

Because of their importance, it is worth reemphasizing that the new revenue sources into the fund are the primary driver of the STPF growth expectations illustrated below. These projections are heavily dependent on the assumption that no changes to the statutory formulas for distributing tax and royalty collections to the STPF are made and that those tax and royalty collections are in line what we are expecting based on the current outlook for oil and natural gas prices and production trends in New Mexico. The chart below illustrates the differences in expected portfolio value if contributions to the fund are assumed to be +/- 50% of the estimates in our base case.

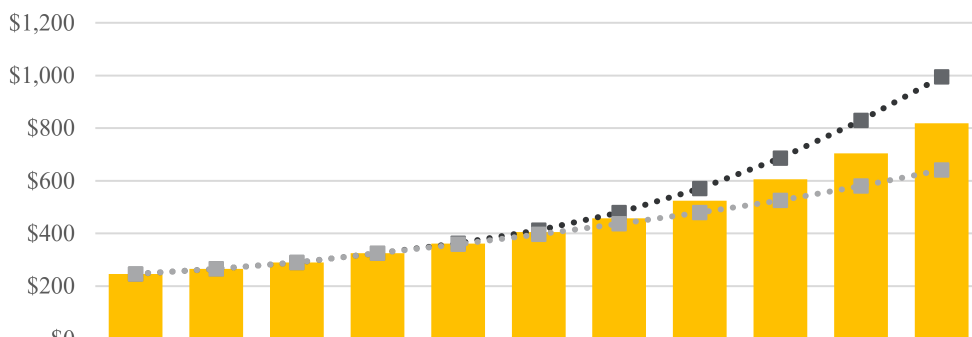
Severance Tax Permanent Fund (STPF) Portfolio Value Estimates
(dollars in billions)



	CY22	CY23	CY24	CY25	CY26	CY27	CY28	CY29	CY30	CY31	CY32
Base Case Contributions	$7.6	$8.8	$9.4	$10.5	$12.3	$14.8	$17.3	$20.0	$22.6	$25.3	$28.1
+50% Contributions	$7.6	$8.8	$9.6	$11.2	$13.8	$17.3	$21.0	$24.9	$28.8	$32.8	$36.9
-50% Contributions	$7.6	$8.8	$9.2	$9.9	$10.9	$12.2	$13.6	$15.0	$16.4	$17.9	$19.4

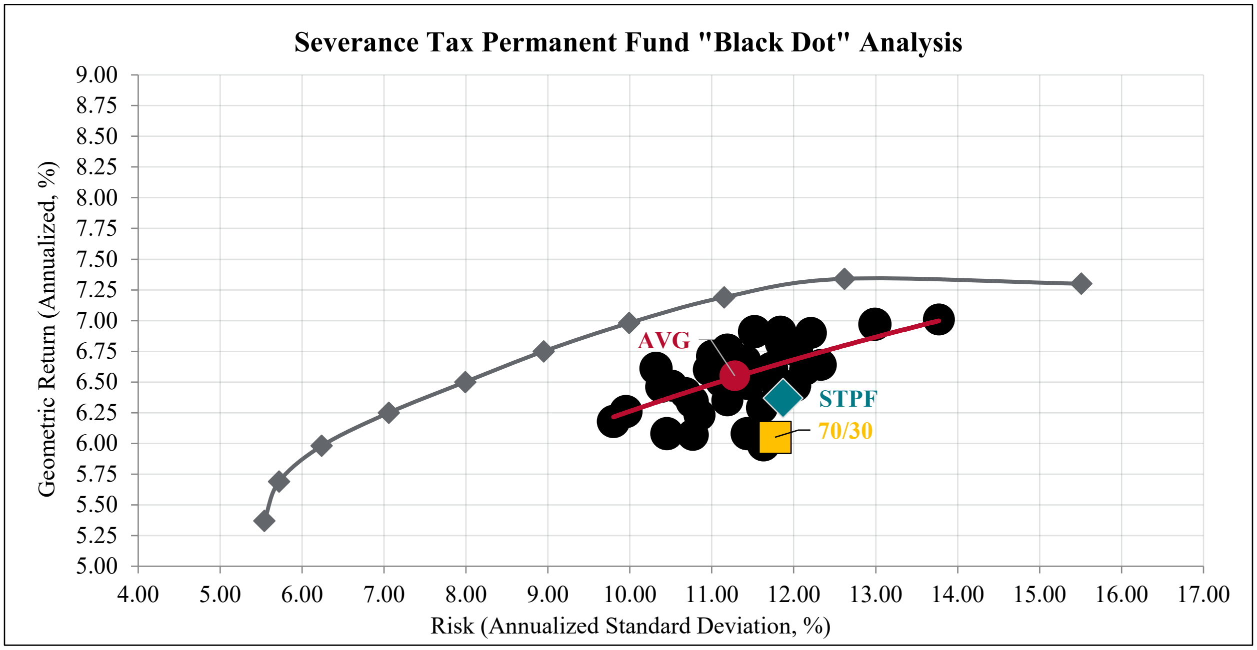
Distributions **–** Using the same long-term (25-year Intergenerational Equity model) assumptions, annual distributions from the STPF are expected to rise to over $800 million by the end of the 7-10 year investment horizon. This equates to an annualized growth rate of about 11.9%. Again, with these estimates heavily dependent upon the new sources of oil and gas tax and royalty contributions, the same cautions as above apply.

Severance Tax Permanent Fund (STPF) Distribution Estimates
(dollars in millions)



	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Base Case Contributions	$246.4	$265.8	$289.6	$325.4	$360.9	$405.0	$457.8	$524.8	$605.3	$704.6	$817.9
+50% Contributions	$246.4	$265.8	$289.6	$325.4	$362.7	$412.9	$479.0	$569.9	$685.4	$829.3	$994.3
-50% Contributions	$246.4	$265.8	$289.6	$325.4	$359.1	$397.2	$436.5	$479.6	$525.3	$579.9	$641.4

Black Dot Analysis **–** Using the same "Black Dot" custom peer group of 36 public investment funds, the STPF's asset allocation is compared with the projected returns and risk profiles of the peer group using RVK's capital market assumptions. As shown in the chart below, the STPF has a somewhat higher-risk, lower-return profile than the average fund in the peer group, largely due to allocations to economically targeted investments that are required by statute.



Early Childhood Education and Care Fund

Discussion & Asset Allocation – The remarkable growth of the ECECF cannot be understated. Seeded with a $300 million legislative appropriation in 2020, the fund ended 2022 with a market value of $3.5 billion due to massive contributions of windfall oil and gas tax and royalty revenues. With the fund on track to potentially receive another cumulative $6 billion in revenue contributions over the next five years, the ECECF has even more potential for significant growth over the investment horizon if current inflow estimates are realized and markets perform as expected.

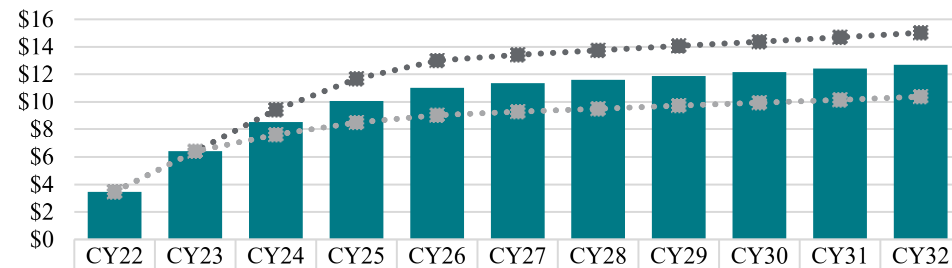
While estimated inflows have the potential to rapidly grow the size of the fund in the near- to medium-term, contributions into the fund are likely to dry up over time as the threshold for transfers to the fund (oil and gas tax and royalty revenues exceeding a five-year average) increases and becomes harder to beat. By the end of the forecast period, the fund will likely need to rely on investment returns to cover distributions, a prospect that underpins many of the asset allocation decisions below.

Early Childhood Education and Care Fund Asset Allocation			
Asset Class	**Old (%)**	**New (%)**	**Diff.**
Broad US Equity	8.5	20	11.5
Broad International Equity	8.5	20	11.5
Core Fixed Income	24	13	-11
Non-Core Fixed Income	25	20	-5
Real Return	10	10	--
Real Estate	12	7	-5
Private Equity	12	10	-2
Expected Arithmetic Return	7.1	7.6	0.5
Expected Risk (Standard Deviation)	7.8	10.1	2.3
Expected Compound Return	6.8	7.1	0.3
New asset allocation approved by the Council in May 2023. Expected risk and return metrics based on RVK's 2023 capital market assumptions.			

Portfolio Value **–** The ECECF is also modeled in a manner similar to that of the LGPF and, given the sizeable contributions that are expected over the next 3-5 years, the growth potential of the fund is rather remarkable, especially considering the fund was created just a few years ago. If future estimated contributions into the fund play out as we expect, ECECF could reach $12 billion over the 7-10 year investment horizon. This projection is based upon the long-term assumptions for investment return, estimated inflows from windfall oil and gas production taxes and federal royalties outlined in the inflows analysis section of this report, and the distribution policy used in the 25-year Intergenerational Equity model for the ECECF.

As with the STPF, we reiterate here that estimated contributions into the ECECF are the primary driver of the expected fund growth. With FY23 almost complete at the time of this writing, the ECECF is likely to receive over $2.5 billion in contributions in 2023, which would bring the size of the fund to over $6 billion by calendar year end. Thereafter, the projections below are heavily dependent on the assumption that no changes to the statutory formula for distributing tax and royalty collections to the ECECF are made and that those tax and royalty collections will exceed their five-year averages for the next several years (which we are expecting based on the current outlook for oil and natural gas prices and production trends in New Mexico). The chart below illustrates the differences in expected portfolio value if contributions to the fund are assumed to be +/- 50% of the estimates in our base case.

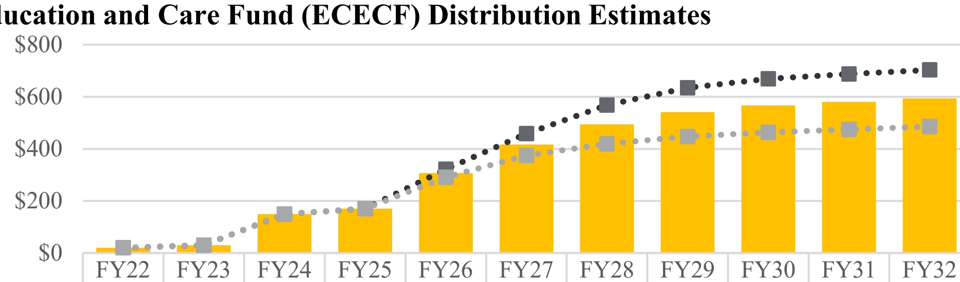
Early Childhood Education and Care Fund (ECECF) Portfolio Value Estimates
(dollars in billions)



	CY22	CY23	CY24	CY25	CY26	CY27	CY28	CY29	CY30	CY31	CY32
Base Case Contributions	$3.5	$6.4	$8.5	$10.1	$11.0	$11.3	$11.6	$11.9	$12.2	$12.4	$12.7
+50% Contributions	$3.5	$6.4	$9.4	$11.7	$13.0	$13.4	$13.7	$14.1	$14.4	$14.7	$15.0
-50% Contributions	$3.5	$6.4	$7.6	$8.5	$9.0	$9.3	$9.5	$9.7	$9.9	$10.2	$10.4

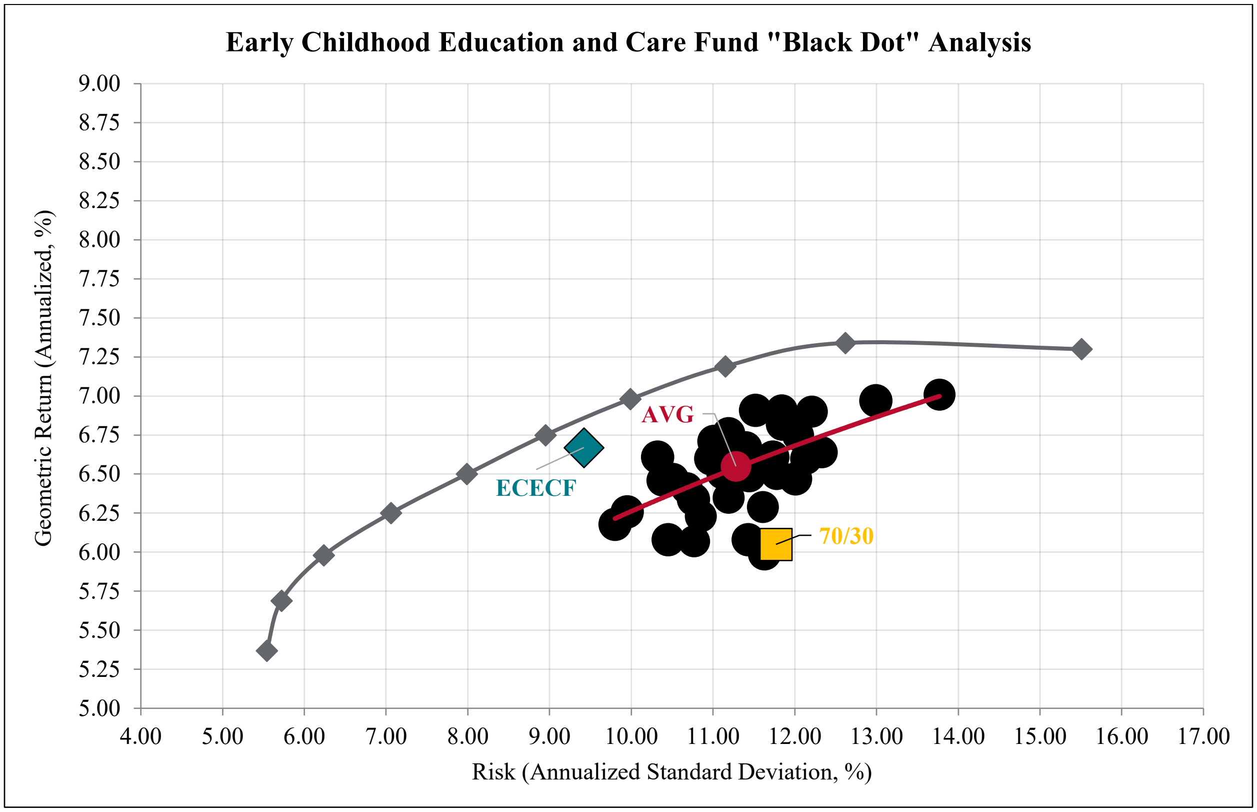
Distributions **–** Using the same long-term (25-year Intergenerational Equity model) assumptions, annual distributions from the ECECF could rise to about $590 million by the end of the 7-10 year investment horizon. Again, with these estimates heavily dependent upon the size of oil and gas tax and royalty contributions, the same cautions as above apply.

Early Childhood Education and Care Fund (ECECF) Distribution Estimates
(dollars in millions)



	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Base Case Contributions	$20.0	$30.0	$150.0	$169.9	$306.7	$417.1	$493.9	$541.0	$566.5	$581.0	$594.4
+50% Contributions	$20.0	$30.0	$150.0	$169.9	$321.9	$458.8	$568.6	$634.9	$669.3	$687.0	$703.0
-50% Contributions	$20.0	$30.0	$150.0	$169.9	$291.6	$375.4	$419.2	$447.0	$463.7	$475.0	$485.8

***Black Dot Analysis* –** Using the same "Black Dot" custom peer group of 36 public investment funds, the ECECF's asset allocation is compared with the projected returns and risk profiles of the peer group using RVK's capital market assumptions. The chart below shows the ECECF is among the most efficiently allocated funds when compared to the Black Dot peers, with above-average expected returns and below-average risk.



Tobacco Settlement Permanent Fund

***Discussion & Asset Allocation* –** The Tobacco Settlement Permanent Fund (TSPF) ended 2022 with a market value of $306.1 million and was one of the few funds to experience positive returns over the calendar year despite last year's market turmoil. This was largely due to the fund's strategic asset allocation, which has lower weights to public equities (providing more insulation from last year's market declines) and higher weights to real estate and real assets (which performed rather well in CY22 relative to public equities).

Although statute requires 50% of tobacco settlement revenues to be deposited into the TSPF, the fund has only received settlement revenue inflows in three of the last 14 years as a result of statutory adjustments made during legislative sessions. Due to the fund's heavy reliance on investment gains to grow in size, the threshold to begin distributing 4.7% of the average year-end market value has not yet been met.[5] However, our models show this threshold (i.e. the ability to send more to the TSPF's beneficiaries under a distribution rate of 4.7% of the five-year average than under a mechanism to distribute half of the tobacco settlement

[5] Current statute sets the distribution rate for the Tobacco Settlement Permanent Fund as the *greater* of 50% of the tobacco settlement revenue in a given fiscal year *or* 4.7% of the five-year average year-end market value of the fund.

revenue) could be met as early as FY27 if, moving forward, the TSPF is allowed to receive it's half of the tobacco settlement revenue and the fund earns positive returns on par with our capital market assumptions.

Tobacco Settlement Permanent Fund Asset Allocation			
Asset Class	**Old (%)**	**New (%)**	**Diff.**
Broad US Equity	10	10	--
Broad International Equity	10	10	--
Core Fixed Income	10	10	--
Non-Core Fixed Income	25	25	--
Real Return	25	25	--
Real Estate	20	20	--
Expected Arithmetic Return	7.3	7.3	--
Expected Risk (Standard Deviation)	9.4	9.4	--
Expected Compound Return	6.9	6.9	--
Asset allocation approved by the Council in April 2023. Expected risk and return metrics based on RVK's 2023 capital market assumptions.			

Water Trust Fund

***Discussion & Asset Allocation* –** The Water Trust Fund (WTF) ended the 2022 calendar year with a market value of $41.3 million, a decline of about $2.7 million from CY21 despite the WTF having the highest performing returns of all funds under the Council's management last year. While laudable relative to other funds, the WTF's positive return of 3.18% net of fees was not enough to offset the $4 million annual distribution required by statute. For years our consultant RVK had cautioned the WTF was on a path of terminal decline due to the fund's aggressive spending policy relative to its size.

Fortunately, in the 2023 legislative session, an additional $100 million was appropriated to the WTF, which is expected to sustain the fund for many years to come and provided the Council with the opportunity to improve the long-term investment risk/return profile, as shown in the asset allocation section below.

Water Trust Fund Asset Allocation			
Asset Class	**Old (%)**	**New (%)**	**Diff.**
Broad US Equity	10	15	5
Broad International Equity	10	15	5
Core Fixed Income	8	7	-1
Non-Core Fixed Income	8	8	--
Real Return	20	15	-5
Real Estate	22	15	-7
Private Equity	22	25	3
Expected Arithmetic Return	7.9	8	0.1
Expected Risk (Standard Deviation)	9.2	10	0.8
Expected Compound Return	7.5	7.6	0.1
New asset allocation approved by the Council in April 2023. Expected risk and return metrics based on RVK's 2023 capital market assumptions.			

Tax Stabilization Reserve

Discussion & Asset Allocation – The Council began managing the Tax Stabilization Reserve (TSR) in 2019 and since then the fund has grown from $527 million to a market value of about $2.3 billion at the end of the 2022 calendar year. The rapid growth of the fund is primarily attributable to large inflows received in 2020 and again in 2022, totaling about $1.2 billion and $460 million, respectively.

There are two statutory mechanisms that automatically contribute funds to the TSR:

1. Revenue in excess of the five-year average from the oil and gas emergency school tax is transferred to the TSR if total general fund reserve levels are below 25% of general fund appropriations (otherwise, when reserves are above 25%, this excess instead goes to the ECECF), and
2. Receives excess revenue from the general fund operating reserve if the operating reserve balance exceeds 8% of prior fiscal year recurring appropriations.

While the TSR has received some excess oil and gas tax revenue, the primary source of contributions has been the cap on the general fund operating reserve. Looking forward, with total general fund reserve balances sitting at healthy levels, the TSR is not expected to receive any additional oil and gas tax revenue, and contributions due to the operating reserve cap are difficult to predict because they depend on legislative actions. Therefore, we are not expecting any additional contributions into the TSR over the investment horizon but recognize that such contributions are possible depending on future circumstances.

Similarly, although the TSR does not have a regular distribution policy, as a reserve fund it is one of the first 'points-of-contact' to shore up the state budget should there be a shortfall of general fund revenue. Such occurrences are difficult to predict, but we recognize the possibility of unexpected drawdowns and have structured the fund's asset allocation with that understanding in mind.

Tas Stabilization Reserve Fund Asset Allocation			
Asset Class	**Old (%)**	**New (%)**	**Diff.**
Low Duration Fixed Income	30	35	5
Core Fixed Income	22	20	-2
Non-Core Fixed Income	28	30	2
Real Estate	20	15	-5
Expected Arithmetic Return	5.4	5.3	-0.1
Expected Risk (Standard Deviation)	5.9	5.4	-0.5
Expected Compound Return	5.2	5.1	-0.1
New asset allocation approved by the Council in April 2023. Expected risk and return metrics based on RVK's 2023 capital market assumptions.			

Rural Libraries Endowment Fund

Discussion & Asset Allocation – The Rural Libraries Endowment Fund (RLEF) was created in 2019, seeded with a $1 million appropriation and since receiving additional appropriations of $2 million and $10 million in 2020 and 2022, respectively. As of the end of the 2022 calendar year, the fund was valued at $13.4 million and will receive another $15 million appropriation in FY24. The RLEF's asset allocation was well positioned to weather the storm last year, earning a positive return of 0.74% net of fees despite broader market declines. The additional inflows, combined with a manageable distribution policy, provided the Council with the opportunity to improve the long-term investment risk/return profile, as shown in the asset allocation section below.

Rural Libraries Endowment Fund Asset Allocation			
Asset Class	**Old (%)**	**New (%)**	**Diff.**
Broad US Equity	0	15	15
Broad International Equity	0	15	15
Low Duration Fixed Income	30	0	-30
Core Fixed Income	22	7	-15
Non-Core Fixed Income	28	8	-20
Real Return	0	15	15
Real Estate	20	15	-5
Private Equity	0	25	25
Expected Arithmetic Return	5.4	8.0	2.6
Expected Risk (Standard Deviation)	5.9	10.0	4.1
Expected Compound Return	5.2	7.6	2.4
New asset allocation approved by the Council in May 2023. Expected risk and return metrics based on RVK's 2023 capital market assumptions.			

Part IV: Pacing Analysis

To better achieve the target allocation for private asset classes, staff developed a proprietary pacing model. The pacing model is based on "the Yale model," as described in a paper published by the Yale University Investments Office.[6] The Yale model has been widely adopted within the institutional investment community. Staff spent a considerable amount of time applying the methodology described in the paper to an Excel-based model. Staff then built upon the methodology to meet the needs of the private asset classes; most notably, the inclusion of open-ended funds and dividend reinvestment plans. The pacing model has been reviewed thoroughly by staff and the private asset class consultants.

The pacing model provides a projection of the minimum annual commitment, adjusted for growth rates, needed to achieve and maintain the target allocation over a given period. The conditions described throughout the plan, along with a desire to achieve target allocations in an accelerated timeframe, have resulted in substantially higher levels of commitment. The tables below contain the commitments and the resulting net asset values and allocations for the private asset classes. The target allocations are achieved in five years and maintained through the end of the ten-year period.

Private Asset Class Commitments (in Millions)

Asset Class	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Private Debt	3,218.30	2,368.09	2,518.26	1,671.87	1,828.72	1,534.21	1,659.40	1,785.60	1,916.38	2,049.46
Private Equity	1,186.70	1,337.33	1,488.14	1,642.29	1,799.58	810.84	878.04	945.70	1,015.79	1,087.05
Real Estate	983.92	1,104.90	1,226.18	1,350.23	1,476.91	1,451.93	1,570.41	1,689.84	1,813.60	1,939.54
Real Return	996.36	1,122.75	1,249.34	1,378.73	1,510.77	556.40	602.52	648.95	697.05	745.95
Total	6,385.27	5,933.07	6,481.92	6,043.12	6,615.99	4,353.38	4,710.37	5,070.10	5,442.83	5,822.00

Private Asset Class Net Asset Values (in Millions)

Asset Class	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Private Debt	4,999.53	6,788.14	8,931.31	10,056.44	11,131.85	12,072.24	12,951.88	13,820.65	14,791.42	15,919.45
Private Equity	3,865.69	4,505.86	5,583.69	6,995.43	8,719.06	10,364.26	11,728.68	12,583.75	12,867.31	12,588.52
Real Estate	4,491.57	5,222.67	6,098.69	7,031.19	8,008.04	8,961.26	9,829.29	10,568.61	11,201.10	11,800.33
Real Return	3,761.85	4,505.87	5,498.98	6,643.97	7,927.01	9,053.43	9,987.28	10,685.24	11,224.50	11,612.95
Total	17,118.65	21,022.54	26,112.67	30,727.02	35,785.97	40,451.18	44,497.13	47,658.25	50,084.33	51,921.25

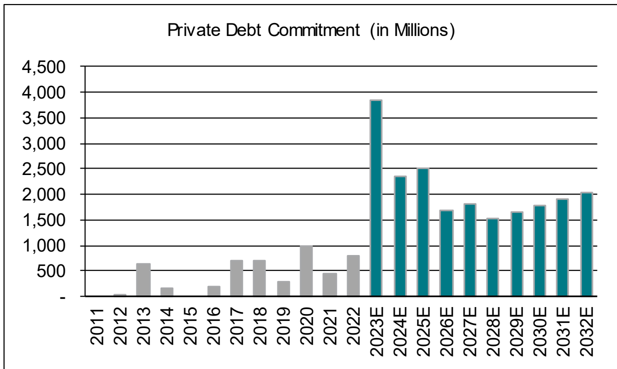
Private Asset Class Allocations

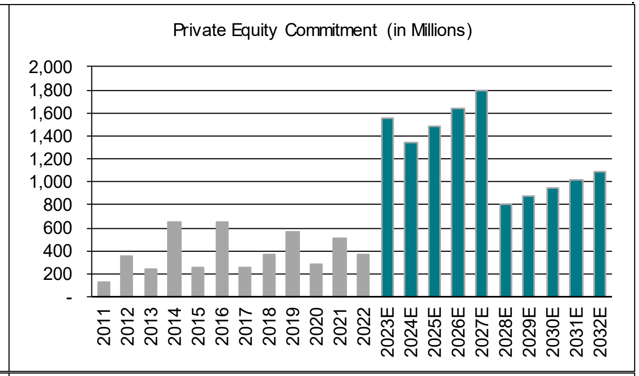
Asset Class	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Private Debt	10.69%	12.93%	15.33%	15.68%	15.86%	15.82%	15.70%	15.56%	15.52%	15.62%
Private Equity	8.79%	9.09%	10.12%	11.49%	13.07%	14.27%	14.91%	14.86%	14.14%	12.93%
Real Estate	9.61%	9.95%	10.47%	10.96%	11.41%	11.75%	11.91%	11.90%	11.75%	11.58%
Real Return	8.49%	9.02%	9.89%	10.83%	11.79%	12.37%	12.60%	12.52%	12.24%	11.84%

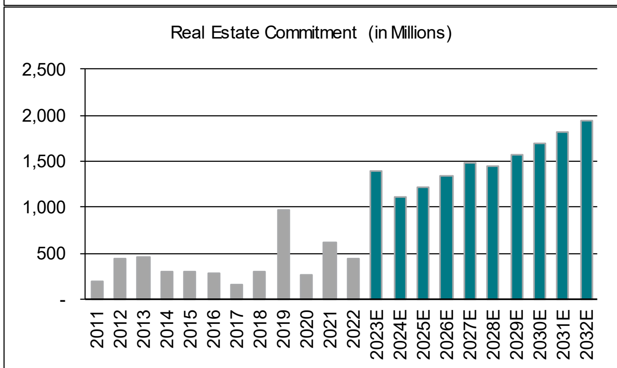
Source: Staff

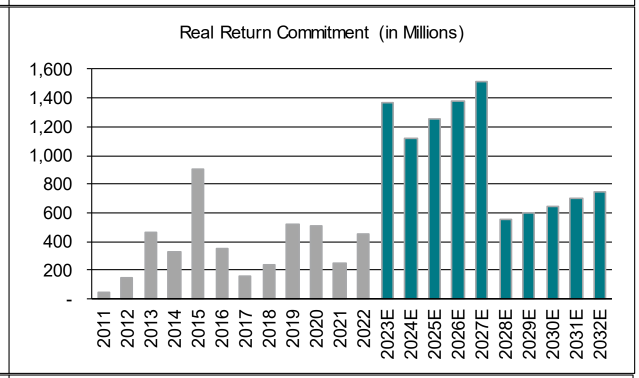
The charts below show the commitments, net cash flows, cumulative net cash flows, net asset values, and allocations since inception for the private asset classes. The contributions from higher levels of commitment result in net cash flows either turning back or remaining negative for longer and deepening, helping to absorb the excess liquidity; leading to a double dip of the j-curve as evidenced by the cumulative net cash flows.

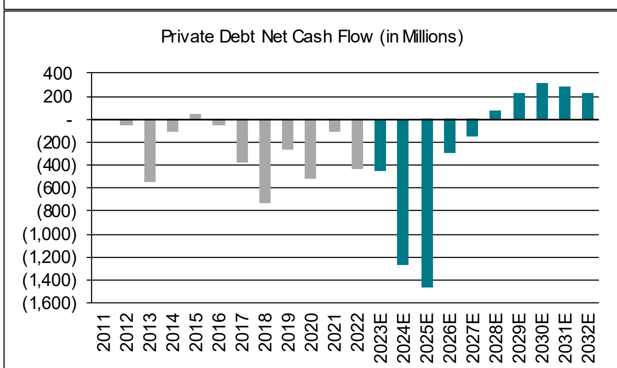
[6] Takahashi, Dean and Seth Alexander. 2001. "Illiquid Alternative Asset Fund Modeling." Yale International Center for Finance and Yale School of Management.

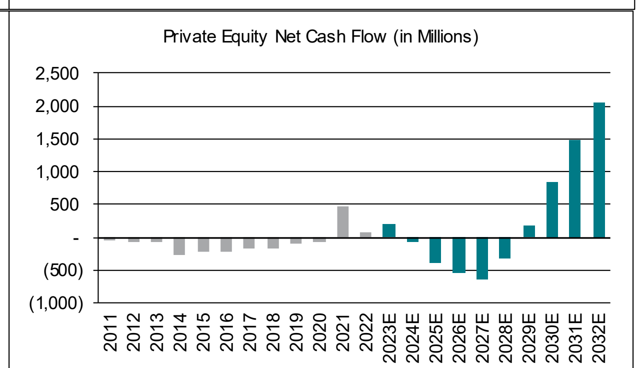


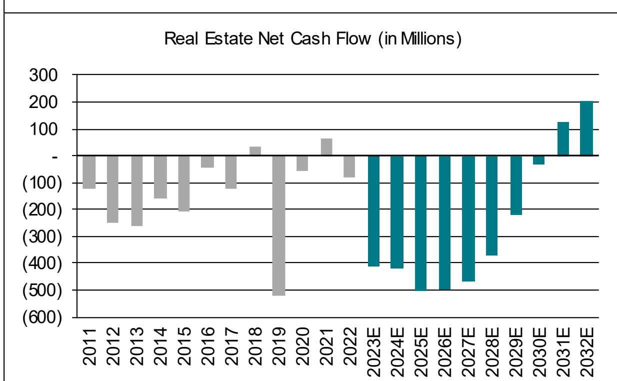


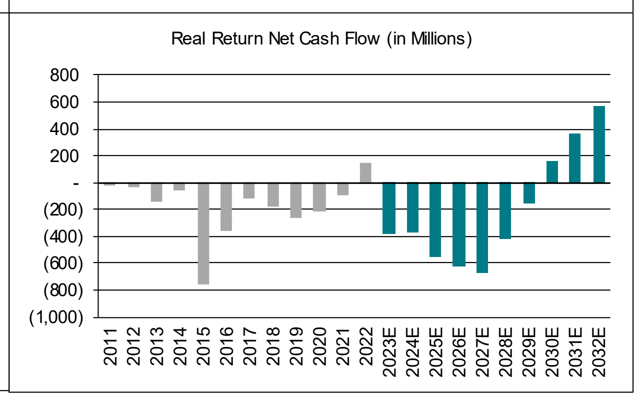




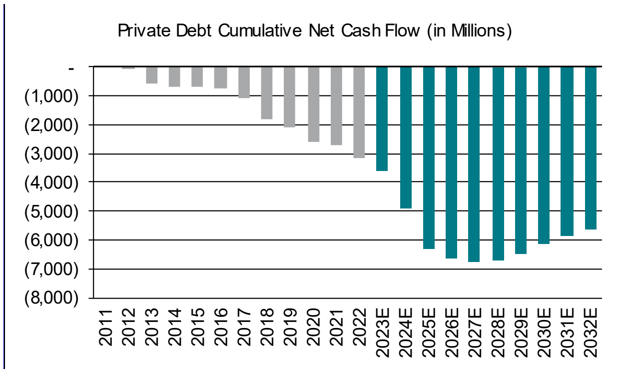


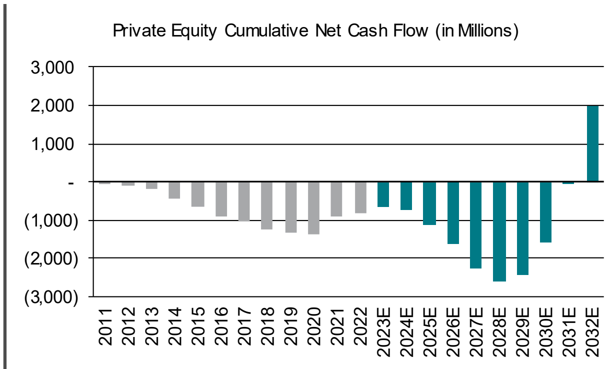


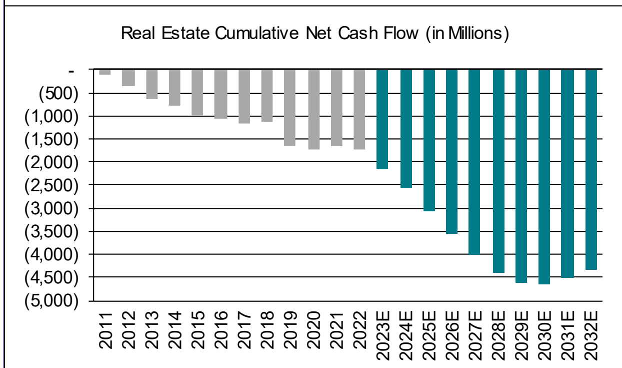


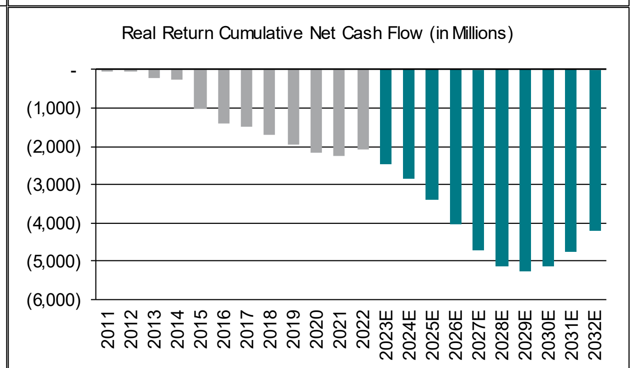


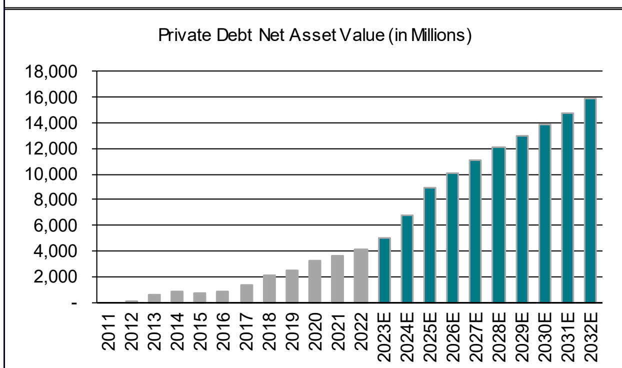
Source: Staff and Invient

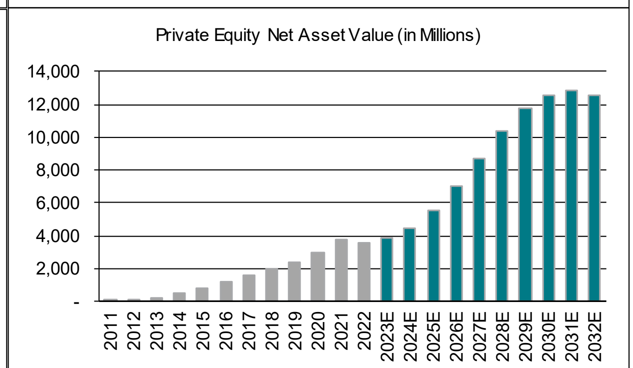


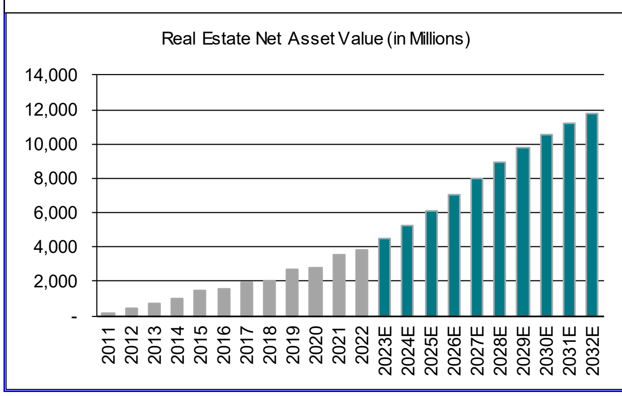


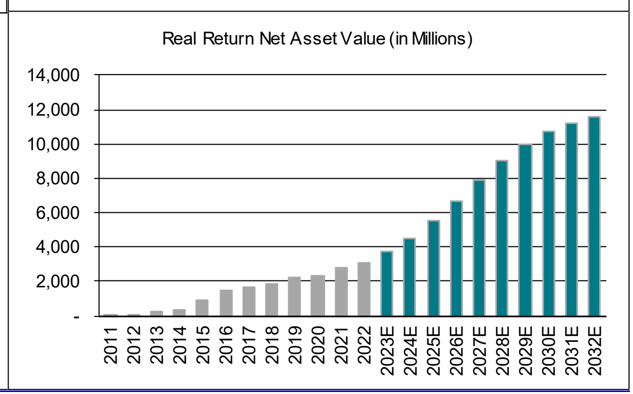












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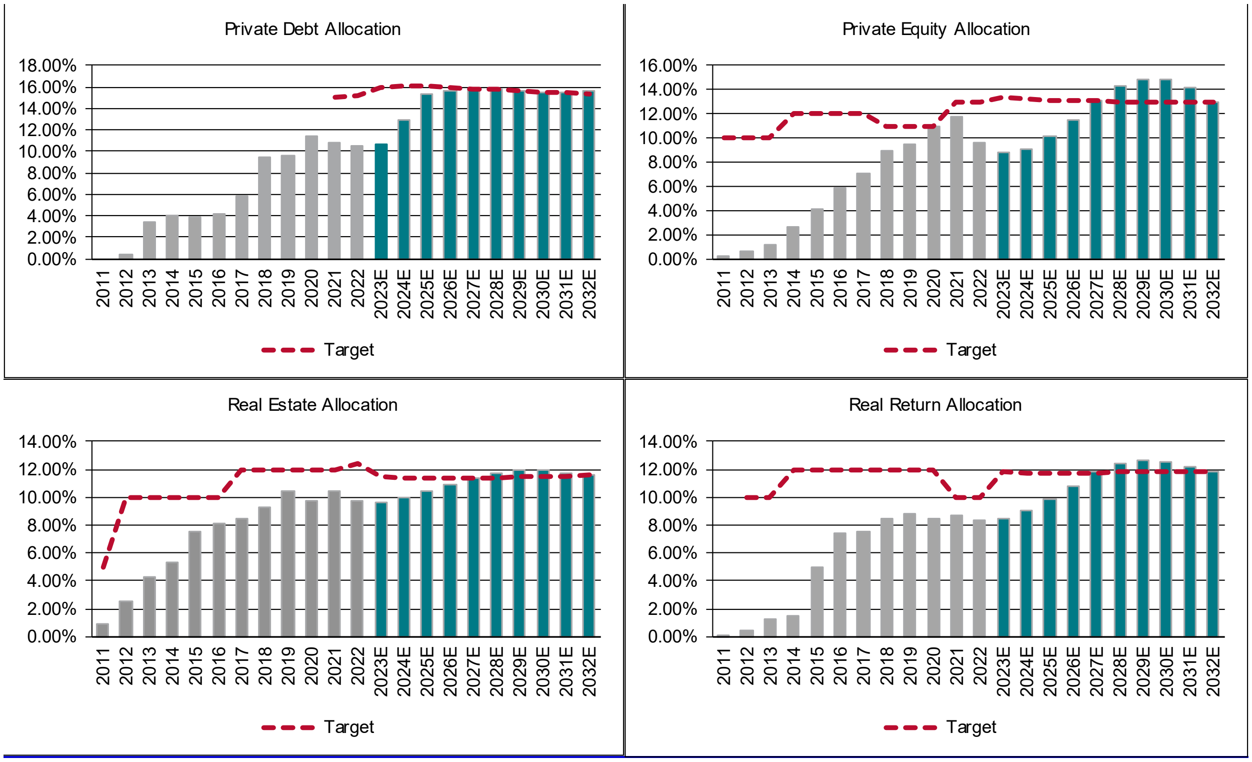

Source: Staff and Invient

With the increase in internal capabilities, pacing is no longer a once-a-year exercise but rather a continuous process where staff and the private asset class consultants work together to update the pacing model with current information and adjust plans accordingly. The pacing model also provides a method to perform scenario analysis and evaluate the impact of changing inflow estimates, commitment levels, and assumptions regarding contributions, distributions, and performance. The pacing model ensures that a consistent methodology is being used and applied across the private asset classes.

Part V: Asset Class Plans

Public Markets: Equity

Asset Class Summary—The publicly traded equity portfolio is the cornerstone investment of the Permanent Funds and the most liquid of the major allocations within the Funds. The role of this portfolio is to generate meaningful real returns through long-term capital appreciation and dividend income.

Equity exposure is achieved through a combination of low-cost passive investment and targeted active management. In more efficient markets, such as US large-cap stocks, the focus is increasingly on capturing market returns through the use of low-cost index strategies. In less efficient areas, such as emerging markets and small-cap stocks, greater focus is given to identifying skilled active managers that we believe can achieve superior risk-adjusted returns.

The public equity asset class has a target allocation of 40% of Land Grant Permanent Fund and Severance Tax Permanent Fund total assets, with current US and ex-US target allocations of 20% each, or 50% of public equity assets each.

The table below shows the actual and target allocations of the public equity portfolio.

		% of Public Equity Asset Class (12/31/2022)				
	Sub-Asset Class	Target (%)	Actual (%)	Target ($m)	Actual ($m)	Strategies (#)
Global					**$11,694**	
US		**50.0%**	**52.3%**	**$5,847**	**$6,115**	
	Active	16.0%	16.5%	1,871	1,935	4
	Market-cap Passive	34.0%	35.7%	3,976	4,180	1
Non-US		**50.0%**	**47.7%**	**$5,847**	**$5,579**	
	Active	45.0%	39.0%	5,263	4,560	8
	Market-cap Passive	5.0%	8.7%	585	1,020	2

Portfolio strategy, markets, and recent performance — The publicly traded equity portfolio is primarily constructed to match the market sensitivity of the benchmark while focusing on the efficient deployment of active risk. In-depth studies have been undertaken by staff with the assistance of the general consultant to identify market segments in which managers can more reliably generate long-term excess returns, with market-cap passive strategies receiving higher allocations in more informationally efficient segments.

Active risk strategies have been evaluated and selected in the context of their respective US or ex-US composites, with the objective of maintaining idiosyncratic stock exposures, managing tracking error and managing factor risks. Individual active risk managers are expected to maintain portfolio exposures consistent with their mandates and established risk budgets, while generating positive excess returns against their respective benchmarks, both in up and down-market conditions. This structure is intended to result in diversified exposures across size, style and geographic categories, allowing the publicly traded equity composite to consistently generate excess returns in all types of market environments.

Calendar year 2022 was a negative year for stocks, as the Russell 3000 Index returned -19.33% – its lowest calendar year return since its return of -37.3% in 2008. The year was characterized by significantly higher volatility with almost half of the year's trading days moving at least 1%. The dispersion in sector returns was the largest since 1999, with Energy being the only positive sector for the year, up 59.75%. Information technology and consumer discretionary were the worst performing sectors in 2022, down -34.7% and -34.6%, respectively. While market returns in 2022 were poor, they do follow a three-year run-up of 99.03% (2021: 25.66%; 2020: 20.89%; 2019: 31.02%). Year-to-date 2023, the index has returned 7.18%, primarily due to strong performance from a few growth stocks, not indicative of a broader market rally heading into an expected recession.

For the twelve months ending December 30th, 2022, SIC portfolio volatility, tracking error, fees and relative performance are in line with peers and largely consistent with expectations. Performance for the US and ex-US composites was within expectations. The US portfolio returned -19.33% versus the Russell 3000's -19.21%, down -0.12% relative for the full year. The portfolio's shortfall can be attributed to US large-cap growth active manager underperformance. This relative performance shortfall was suffered across the US large-cap growth peer universe with 74% of US large-cap growth active managers underperforming for the one-year period (based on data from Jefferies Research and S&P Dow Jones). The broad growth universe underperformance can largely be attributed to an overweight to certain sectors (technology, consumer discretionary, and communication services) that have higher earnings growth levels which performed poorly in 2022. Additionally, active large-cap growth managers had higher portfolio valuations (higher multiple stocks) which was a headwind in 2022 as higher multiple stocks corrected, largely in response to rising interest rates. In keeping a long-term investment perspective, the SIC's US large-cap active growth manager (incepted 6/2012) has ranked in the 10th percentile over the trailing 10 years versus 250 strategies that have been active in the growth universe over that same timeframe. The ex-US portfolio outperformed the MSCI ACWI ex-US IMI return of -16.58 by 1%, largely due to active manager outperformance in the developed market space.

Portfolio activity and forward-looking strategy— Since the substantial restructuring of the US portfolio and re-allocations at the margin in the ex-US portfolio in 2020, other than one manager termination in the ex-US portfolio in 2022, there have been no other manager allocation changes to either portfolio. This afforded staff significant time to monitor current managers and to evaluate potential opportunities for the global equity portfolio, particularly important during a transition to a post-financial bubble investment environment and the transition towards deglobalization.

Staff and RVK have been discussing the impact of the shifting capital market conditions and geopolitical environment on the structure and risk management of public equity portfolios. Historically, globalization has been a major driver of economic growth and reduced levels of inflation. Generally, these trends have been beneficial for global equity investors as low inflation, which allowed for low interest rate policies, pushed asset values higher and companies were able to expand their reach beyond their country and regional borders. As countries increasingly enact protectionist policies and trade disputes cause disruption to corporate relationships, global equity investors need to be prepared to react to rapid risk escalations. Recent history suggests that pockets of geopolitical instability and inflationary pressures, along with their ultimate impact on capital markets, are not easy to predict. For risk mitigation, long-term investors can rely on diversification and use structures which allow capital to flow readily from negatively impacted companies, countries, and regions.

Due to this work in 2022, RVK and staff released a Request for Proposal (RFP) for ACWI ex-USA Large-Cap and Small-Cap managers in April 2023. The RFP will focus on best-in-class managers with global research platforms and experienced product teams that have demonstrated the ability to add value in a variety of market environments over significant periods of time. Currently, the international equity portfolio does not include active strategies within the targeted areas. The size of allocations will be determined following the identification of selected strategies and the completion of the ex-US portfolio structure study, targeted for Q1-2024. A US structure study will also be completed in early 2024. Structure studies are completed every three years and include a deep dive into the purpose, goals, strategy, and individual investments in the portfolio.

Enhancements of internal resources continue. In September 2022, the Council approved a subscription to eVestment Research Management System (RMS) which allows staff to centralize manager research alongside eVestment's comprehensive database of public equity manger data, increasing efficiency, and retaining institutional knowledge. During the implementation process, staff created a document structure, with tags and a rating system, and uploaded over 3,300 documents to the system for approximately 100 current and prospective public equity managers.

To wrap up this year, as part of ongoing manager monitoring of six current active managers, SIC staff and RVK conducted half-day on-site due diligence meetings to discuss firm-level matters (such as, goals, key personnel matters, major projects, and resources) and dig deeper into strategy performance, economic outlook and portfolio positioning. Meetings included interviews with firm leadership, investment professionals across the platform and other key contributors to strategies held in the SIC portfolio. In these meetings, RVK and staff sought to ascertain a clearer understanding of the strengths and potential weaknesses of each strategy. Additionally, an emphasis was placed on understanding the future potential for enhancements to the investment teams and processes at each firm. While visiting on-site at Blackrock, SIC Staff also met with the Aladdin team to review the platform's capabilities. On-site due diligence remains important for monitoring current managers and staff will continue to schedule on-site meetings every three years.

<u>Public and Private Markets: Fixed Income</u>

***Asset Class Summary* –** The objectives of fixed income within the SIC are:

- Protect against the downside volatility of equity risk and provide diversification benefits to the total portfolio thereby acting to preserve the capital of the portfolio.
- Generate income for current outflow needs and reinvestment through economic cycles.
- Provide liquidity for rebalancing and during times of market stress.

Fixed income portfolios seek to achieve these objectives by investing in a variety of government, corporate, and asset-backed debt in the public and private markets. The primary macroeconomic drivers of fixed income performance are interest rates (combination of real rates and inflation), risk of default and liquidity. The portfolio is divided into Core and Non-Core components.

***Core Portfolio* –** The Core allocation is a highly marketable, low credit risk portfolio with the objective of providing liquidity in the event of a severe market dislocation. Consequently, the Core allocation is further subdivided into Core, Core Plus and Short Duration sub-strategies, each with a specific purpose.

- Core Sub-Strategy: Primarily highly liquid treasury securities and is expected to be the most robust source of liquidity in periods of market stress.
- Corp-Plus Sub-Strategy: Enhances current income production with measured exposure to credit risk while maintaining high liquidity to help preserve the real value of capital invested.
- Short Duration Sub-Strategy: Provides both liquidity and a mechanism for managing the portfolio’s interest rate risk.

***Non-Core Portfolio* –** The Non-Core allocation’s primary objective is to generate returns above those available in publicly traded securities by capturing liquidity and complexity premiums while offsetting downside volatility of the SIC’s equity exposures. Investors earn liquidity premia as compensation for making investments that cannot be readily traded in established markets. Similarly, complexity premia are earned by providing custom or specialized capital solutions to borrowers whose financing needs require special structuring. Funds in the Non-Core portfolio typically hold private assets that have a contractual yield component, are secured by an asset such as property or a company and are infrequently traded.

***Current Exposures* –** The Core Fixed Income long-term target allocations are 10% for the LGPF and 12% for the STPF. The Non-Core Fixed Income long-term target allocation is 15% for the LGPF and 12% for the STPF. The portfolio continues to be conservatively positioned with the Core sub-strategy within the Core Portfolio, the portfolio’s primary source of diversification, liquidity, and capital preservation, near the high end of its range. The Short-Duration sub-strategy lowers the portfolio’s interest rate exposure, is slightly above its long-term targeted range but justified given the rising rate environment. The Core Plus allocation which houses more credit sensitive exposures is slightly below the midpoint of the long-term target range.

The table below depicts the changes in exposures over the past fiscal year:

Sub-Sector Strategy	Allocation 6.30.2021	Allocation 12.31.2021	Allocation 6.30.2022	Allocation 12.31.2022	Long-Term Target	Primary Purpose
Core Fixed Income Portfolio						
Core Bonds Pool	36.95%	39.73%	39.53%	36.46%	20% - 40%	Interest rate exposure
Core Bonds Plus Pool	40.95%	37.96%	36.42%	32.95%	25% - 65%	Interest rate & credit exposure
Short Duration Pool	19.41%	22.31%	24.04%	30.59%	10% - 30%	Liquidity/ Duration mgmt.
Non-Core Fixed Income Portfolio						
Lending Strategies	23.43%	19.47%	15.51%	16.20%	20% - 40%	Credit exposure – Corporate emphasis
Distressed & Other	26.95%	28.71%	30.47%	28.75%	20% - 40%	Credit/Alpha exposure
Structured Credit	24.08%	24.74%	25.40%	27.73%	20% - 40%	Credit exposure – Retail and structural emphasis
Public Market Strategies	25.54%	27.08%	28.53%	27.32%	20% - 40%	Duration mgmt./Alpha exposure

Performance **–** CY2022 was a challenging year for (public and private) debt market liquidity driven by central bank interest rate regime change; declining bank reserves driven by quantitative tightening; and uncertainty regarding the economic outlook. Elevated macro policy uncertainty, related to the expected path of monetary policy, both in the US and globally delivered volatility into markets globally. Rising rates and an inverted yield curve caused significant stress in U.S. debt markets.

The benchmark for the Core Allocation is the Bloomberg U.S. Aggregate Bond Index which produced a negative 13.01% rate of return for 2022. Although the Core Allocation also generated a negative return of -11.12%, the SIC Core Allocation portfolio outperformed its benchmark by 189bps. Strategies with greater credit risk and longer duration performed worst. The Non-Core Allocation's positive 0.49% significantly outperformed its custom benchmark (which returned -7.87%) by 836 basis points and helped to alleviate the Core Allocation's negative returns.

Recent Activity and Forward-looking Strategy **–** The Fixed Income portfolio's diversified array of strategies positions it to weather a broad range of economic and liquidity disruptions. Allocations approved by the SIC over the prior year ensure SIC is positioned to be a liquidity provider. The table below summarizes commitments approved in 2022:

Fund Name	Sector	Strategy	Date Effective	Commitment
Arbour Lane Credit Opportunity Fund III	Distressed Debt & Special Situations	Corporate Distressed	1/25/2022	150,000,000
Contract Renewal – Shenkman Capital Management[1]	Short Duration Below IG	Short Duration Below IG	1/25/2022	700,000,000
ACORE Credit Partners II	Real Estate Credit	U.S. CRE Transitional Lending	2/22/2022	150,000,000

Fund Name	Sector	Strategy	Date Effective	Commitment
TSSP TAO	Distressed Debt & Special Situations	PC Special Situations	5/24/2022	250,000,000
400 Capital Asset Based Term Fund III (ABTF III)	Distressed Debt & Special Situations	Opportunistic Structured Credit	5/24/2022	75,000,000
ICG Senior Debt Partners Fund V	Direct Lending	European Direct Lending	7/27/2022	150,000,000
Brookfield Infrastructure Debt Fund III	Infrastructure Lending	Infrastructure Lending	10/25/2022	150,000,000
Silver Point Specialty Credit Fund III	Direct Lending	Corporate Lending	10/25/2022	150,000,000
Strategic Value Capital Solutions Fund II	Distressed Debt & Special Situations	Corporate Distressed	11/22/2022	150,000,000
Ares Pathfinder II	Asset-Based	Collateralized Lending	3/28/2023	300,000,000
Silver Rock Tactical	Tactical Opportunistic	Tactical Opportunistic	4/25/2023	300,000,000

[1]Contract renewal for evergreen separately managed account.

For 2023, Fixed Income is reorganizing into Allocations of Public Market Strategies and Private Market Strategies. This change will help distinguish investments between liquid (Public Market) and illiquid (Private Market) investments and improve performance analysis. Staff recommended and SIC approved \$1.23 billion across eight private debt market commitments in 2022. Due to SIC growth, staff expects to recommend \$1.60 billion in private debt market commitments in 2023.

Private Markets: Real Estate

Asset Class Summary — The Council's Real Estate portfolio has a target allocation of 12% of the Fund. As of CYE 2022 the Real Estate Portfolio's NAV was $3.8 billion, representing approximately 10.4% of the Fund's assets. The Real Estate Portfolio is well diversified by property type, risk profile, and geography. Relative to property type diversification, the portfolio is guided by the diversification of the National Council of Real Estate Investment Fiduciaries (NCREIF) Fund Index for Open-Ended, Diversified, Core Equity (NFI-ODCE), with a 15% plus or minus relative allocation. Within these bands and in consultation with the Real Estate Consultant, staff may over- or under-weight property types to reflect views of operating fundamentals, valuations, or diversification benefits. As an example, below you will note that the funds are overweight in the Other category relative to NFI-ODCE. Staff and consultants believe that many of the property types that comprise the Other category are attractively valued and present a diversification opportunity since their return drivers are less correlated to GDP. The property type composition of the Real Estate portfolio is summarized in the table below:

Real Estate Property Type Exposure as of December 31, 2022

Strategy	Apartment	Industrial	Office	Retail	Other [1]	Total
Core	25.98%	39.94%	11.46%	11.46%	11.17%	100.00%
Non-Core	23.57%	23.67%	13.38%	14.21%	25.17%	100.00%
Total	25.22%	34.84%	12.06%	12.32%	15.56%	100.00%
NFI-ODCE	28.20%	30.90%	23.50%	10.00%	7.40%	100.00%
Difference	-2.98%	3.94%	-11.44%	2.32%	8.16%	0.00%

[1] Other includes data center, debt, hotel, land, life science, manufactured housing, medical office, mixed-use, parking, residential, self-storage, senior living, and student housing.

Source: Staff, eFront, and NCREIF

Recent Performance, Markets and Portfolio Strategy — The Real Estate portfolio was a strong diversifier for the fund in 2022, generating a net return of approximately 5.9%. Nevertheless, this result lagged the ODCE benchmark by 60 basis points, mostly attributable to non-core managers taking more aggressive marks than core fund appraisers. Still, over three year and longer horizons the portfolio continues to perform well.

Fundamentals in industrial and apartment property types remained strong. In both cases, vacancy rates stayed low driving strong rent and NOI growth throughout 2022. The single-family housing market has been characterized by very strong price appreciation over the past two years, 18.9% and 5.6% in 2021 and 2022 respectively as measured by the Case Shiller National Home Price NSA Index. Home ownership and single or multi-family rentals are substitute goods and appreciation in home prices often flows through to rents with a 12-to-18-month lag suggesting the top line strength for the rental market likely persists. High home prices and rising mortgage rates have combined to drive home affordability as measured by the National Association of Realtors to all-time lows. Low affordability of homes tends to reinforce demand for rental properties.

In many instances, the Covid pandemic accelerated trends that were already underway, most notably the ongoing transition from brick-and-mortar retail to on-line shopping. This phenomenon has driven strong returns in the industrial sector, mostly to the detriment of traditional malls. These trends appear to remain largely intact.

The office sector of the real estate market remains under pressure. Most post COVID Back-to-Work arrangements include employee options to work two or three days per week from home. This trend is becoming persistent as employers feel the need to structure work in a way that enables them to attract and retain talent. Consequently, office space utilization is low; office entries are only half of the pre-COVID rates across major metropolitan markets. Excess space will take time to absorb and the pressure this and rising operating costs places on NOI coupled with a challenging refinancing environment will likely contribute to stressed valuations. Bid-ask spreads are wide and transactions are infrequent causing difficulty in ascertaining where markets will clear. Disciplined, opportunistic capital may be able to acquire assets at compelling prices, particularly those in weak hands or needing to be refinanced.

Investors' interest remains focused on industrial and multi-family investments (to the general exclusion of retail and office) due to those segments' comparatively strong operating fundamentals and superior growth prospects. Consequently, according to Green Street, throughout the year apartment and industrial cap rates remained at multi-decade lows. In response to high valuations, investors are exploring alternative property types to help achieve capital deployment objectives. These alternative property types include single family for rent; manufactured home communities; senior housing; student housing; self-storage; cold storage; data centers; and life sciences facilities.

For the year ended December 31, 2022, seven new commitments were made totaling approximately $694MM:

1. €100MM Ares Europe VI (Non-Core)
2. $100MM FPA Apartment Opportunities VIII (Non-Core)
3. $75MM Blackstone Real Estate Partners Asia III (Non-Core)
4. $100MM Blackstone Real Estate Partners X (Non-Core)
5. $100MM Exeter Core Plus Fund IV (Non-Core)
6. $100MM Exeter Industrial Value Fund VI (Non-Core)
7. $100MM Bell Value-Add Fund VIII (Non-Core)

This year saw the Federal Reserve take an aggressive posture with respect to rates to rein in inflation expectations that risked spiraling out of control. The impact on shorter term rates has been substantial. For instance, the Chicago Board Option Exchange 5-Year T-Note Index yield started the year at 1.26% and reached a high of 4.45% in October. Rates have had the desired effect on inflation expectations as measured by five-year tenor inflation swaps. Expectations peaked at approximately 3.7% in June and fell to just over 2.5% at year-end. Inflation can help the top line of real estate enterprises because of their ability to pass on inflation through their leases. Ignoring inflation escalators in lease provisions, most of the inflation benefit derives from the ability to capture a mark to market when leases roll. That can happen quickly for short duration assets like hotels where room rates can reprice daily and can take time in segments like office where lease durations are much longer. Additionally, over time inflation raises the replacement cost of assets and that effect will cause asset values to increase in nominal terms over time.

In liquid secondary markets like the one for REITs, the impact of rate driven valuation changes is much speedier than in the private markets. The Dow Jones US REIT Index, a broad proxy of REIT and real estate related public equities declined 20.02% for the first half of the year while private market returns have largely stayed positive. In the second half of 2022 the index continued its slide, ending the year at -25.17%. According to Green Street, REIT implied cap rates indicate that public real estate is trading material discounts to private market values. This dislocation could close through REIT valuations rising or private valuations falling, or most likely through some of both. This joins observations that cap rate spreads to

Treasuries and bond yields are suggestive of higher cap rates. Staff believe that valuation declines will likely overwhelm NOI growth over the next year and that most private real estate portfolios are likely to generate negative returns.

Recent Activity and Forward-Looking Strategy — The SIC Staff pacing model estimates approximately $983 MM of annual commitments, up from approximately $525 MM last year, will be required to continue to push the invested NAV of the Real Estate portfolio toward the long-term target allocation of 12%. *We caution readers that the output from pacing models is an analytically derived best guess of the rate of capital deployment required to meet long-run allocation targets. It is expected that deployments will deviate from modelled levels based on market conditions and the availability of attractive new offerings.* At year-end 2022, the core component of the NMSIC real estate portfolio represented 69% of the total portfolio against a neutral point of the range at 55%. Appraisal-based valuations which are slow to adjust to major market shifts are an important feature of much of the core real estate market. Staff will likely favor non-core, closed end strategies for new capital deployments until core valuations fully reflect the new environment. Additionally, the expectation of a narrowing of the valuation gap between public and private assets is an argument for considering an intermediate term tactical allocation to a public REIT portfolio.

In terms of targeted sectors, NMSIC expects to maintain under-weight positions in retail and office and to over-weight industrial while seeking to increase exposure to multifamily. These over-weights are driven by the segments' strong operating performance despite facing some valuation headwinds. With respect to geographical distributions, NMSIC expects to expand its exposure to Europe from the current level of 9% to a target range of 10-20%. Relative to Asia/Pacific, NMSIC intends to maintain exposure in the range of 5-15% against a current actual exposure of 6%.

Private Markets: Real Return

Asset Class Summary—The Council's Real Return portfolio is a multi-asset, multi-market portfolio constructed to generate returns based on factors different than those that drive returns of publicly-traded equity and traditional fixed income investments. NMSIC's Real Return portfolio consists of equity investments in infrastructure, energy (conventional and renewable), agriculture, timberland, and financial assets (cash flow yielding investments under-pinned by real assets). Income generation is expected to be a notable part of the total return. These assets are expected to be advantaged over equities and bonds in an economic and financial market environment where growth is a little slower than average and inflation and interest rates are rising.

Recent asset allocation work has revised the Real Return asset class target to 12%, from 10%, for the broad LGPF and STPF portfolios. As of CYE 2022, the Portfolio represents approximately 8.2% of the Fund on a NAV basis. Within that 12% Real Return allocation, 80% is targeted towards Real Assets and 20% to Financial Assets. Starting in 2011, the Council began building investments in Real Assets of timberland, energy, farmland, and infrastructure; and in financial assets via Master Limited Partnerships (MLPs). MLPs are companies that invest in oil and gas pipelines and related energy infrastructure, and their corporate structures resemble REITs. Currently, real estate and real asset debt strategies and liquid real assets may also be considered within the Financial Assets allocation. The table below shows the current allocations of the Real Return portfolio:

	% of Category		Value ($MM)
	Target	Actual	NAV
Financial Assets	**10-30%***	**18.6%**	**$ 577**
MLP's	NA	52.3%	$ 302
Real Estate Debt	NA	47.7%	$ 275
Real Assets	**70-90%***	**81.4%**	**$ 2,521**
Agriculture	0-15%	9.2%	$ 231
Commodities	0-10%	0.0%	$ -
Energy	0-50%	28.2%	$ 712
Infrastructure	0-50%	53.5%	$ 1,350
Timberland	0-20%	7.9%	$ 200
Other	0-15%	1.1%	$ 28
Total		**100%**	**$ 3,098**

Note: Invested Value (NAV) is as of 12.31.2022
**Target Weights for Financial Assets & Real Assets are expressed as a percent of the entire Real Return Portfolio. Real Asset Sub-Sectors are expressed as a percent of the Real Assets Portfolio only. These targets may change pending an upcoming Structure Study and Investment Policy Statement Review.*

Recent Performance, Markets and Portfolio Strategy — During 2022, the Real Return portfolio generated a 15.5% net time weighted return (TWR) while the Real Asset component generated a 13.3% net TWR. The difference is attributable to the MLP dominated Financial Assets bucket that benefitted from an approximately 33.7% increase in value of the MLP position. Strength in oil and gas prices, which were up 19.8% and 60.2% respectively, were the most important driver of these results. Our Infrastructure basket is a collection of partnerships owning a mix of traditional non-energy infrastructure and predominantly midstream assets, so it too benefits from rising Oil and Natural gas prices.

For the year ended 12/31/2022 seven new Real Return commitments were approved totaling $550 MM: [7]

1. $100MM iCON Infrastructure Fund VI (Infrastructure)
2. $100MM Blackrock Global Infrastructure Fund IV (Infrastructure)
3. $100MM Brookfield Infrastructure Fund V (Infrastructure)
4. $100MM Macquarie Infrastructure Partners VI (Infrastructure)
5. $75MM Sandbrook Climate Infrastructure Fund I(Energy)
6. $75MM Sandbrook Climate Infrastructure Fund - Coinvest (Energy).

Recent Activity and Forward-Looking Strategy**—**Currently, SIC Staff's pacing model estimates approximately $996 MM of annual commitments will be required to keep up with capital inflows and to migrate the invested NAV of the Real Return portfolio toward the new long-term target allocation. This compares to the approximate pacing of $300 MM last year. *We caution readers that the output from pacing models is an analytically derived best guess of the rate of capital deployment required to meet long-run allocation targets. It is expected that deployments will deviate from modelled levels based on market conditions and the availability of attractive new offerings.*

Conventional energy has been a roller-coaster for the past couple of years. A demand collapse associated with the Covid pandemic coupled with a too-slow supply response left the globe oversupplied and resulted for the first time in futures prices for oil trading at negative values. A robust recovery from Covid saw prices reach pre-pandemic levels by 1Q21. By early 2022 natural gas prices attained their highest levels in well over a decade as Europe undertook the hard steps to wean itself from Russian supplies in response to the invasion of Ukraine. Volatility, periodic poor returns, and uncertainty related to the path and timing of the energy transition have combined to effectively starve the US oil and gas value chain of capital. It is expected that this capital flight will present interesting opportunities for investors willing to consider the sector.

At the same time, investor interest in the renewables sector continues to grow as corporate and government mandates push for the development of clean energy sources. Accordingly, investment returns have been squeezed in this sector even as re-contracting risks are ignored. While renewable power generation is richly valued, there may be opportunities in supporting/enabling technology such as battery storage and power distribution infrastructure. Finally, the energy transition is likely to be a decades long process and helping to build natural gas infrastructure that enables the marginal substitution of gas for "dirtier" coal or oil is a benefit to the environment.

Infrastructure investments are valued for their resilience and inflation protection attributes. Core infrastructure investments focus on irreplaceable, long-life assets with inflation linked revenue streams, and ideally, volume characteristics that are minimally GDP dependent. Such assets can generate attractive current distribution yields with distributions that can grow over time, and asset values that should appreciate over time at least in line with replacement costs. Further, because infrastructure assets are long lived, they tend to be financed with long term fixed rate debt. This liability structure supports infrastructure fund NAVs in a rising rate environment. Representative infrastructure investments could include utilities, airports, ports, toll-roads, and railroads. The communications sector which includes towers, data centers, has been a strong performer and is fueled by rapid growth in demand for assets to move, process and store data. The growth, prospective returns, and other characteristics of communications businesses give this segment a risk profile that is more core-plus than core.

[7] This figure does not include an additional $100MM add-on to open-end fund Blackstone Infrastructure Partners. The original commitment was approved in 2018. Total commitments for CY22 were $650MM.

Returns in Agriculture have been low but stable as measured by the NCREIF Farmland Index. Over the prior five years, the gross return has been 6.1% annualized. Over longer periods with higher inflation, returns have compounded at low double-digit rates. The Farmland Index has generated negative quarters only twice since 1991. Although viewed as a relatively safe asset class with correspondingly low return expectations, agriculture investments can be exposed to risks from currency movements, sovereign political risks, commodity pricing, regulatory changes, ESG concerns, weather related events, unforeseen supply/demand shocks, consumer preference shifts and shifting geopolitics.

Timberland, as measured by the NCREIF Timberland Property Index, has achieved a 5.4% annualized gross return over the prior five years. Despite modest intermediate term performance, results for CY 2022 were an exceptional 12.96%, the strongest calendar year performance since 2008. The US South makes up the largest component of the index and this region has been hampered by over-supply related to sawmill capacity constraints leading to largely stagnant log prices over the past decade. Recent sawmill capacity additions have eased processing bottlenecks and log prices have improved, benefitting from strong demand from single and multi-family housing.

While returns in Timber and Agriculture over our investment period have been disappointing, both sectors benefit from strong investor interest due to historical inflation protection and environmental benefits such as carbon sequestration.

As mentioned previously, the Financial Asset segment returns have been dominated by the performance of the basket's largest component, the 52% invested in Master Limited Partnerships. Our MLP portfolio, like its comparable benchmark the Alerian MLP Trust, has been a lethargic performer since NMSIC's inception in May of 2015. Strong CY22 results, up 33.7%, leave the Funds with a modestly positive lifetime IRR. Because MLPs are exposed to public equity market and commodity price risks, they tend to be volatile investments. During the year, staff capitalized on the short-run strength of MLPs to rebalance the fund's position, trimming its share of the Financial Assets bucket by one-third. The underlying assets held in MLPs resemble the midstream assets held elsewhere in the portfolio. Consequently, Staff is contemplating a recommendation to consolidate MLPs in an Energy Infrastructure category within Real Assets, potentially eliminating the Financial Assets bucket. This idea as well as the merits and demerits of owning midstream assets through the MLP will be addressed in the next structure study.

In the year ahead, NMSIC's investment focus will be on making new commitments to traditional and energy transition focused infrastructure while exposure to conventional energy, particularly in the upstream portion of the value chain, will likely decline. We will seek to build positions in communications-oriented infrastructure including towers, fiber, spectrum, and non-US data centers where we believe the portfolio is under-represented. Finally, the anticipated growth in our Real Assets portfolio will probably require the addition of investments in Agriculture, Timber, and Metals/Mining/Non-Energy Minerals to maintain appropriate diversification of the portfolio.

Because of the strength of the funds' endowed inflows Staff is in the enviable position of being able to invest when other institutional investors are constrained. We are constantly seeking opportunities to use this position of strength to demonstrate our value as long-term partners with GPs and to seek out arrangements that can be mutually beneficial. Separate accounts, co-investment programs, and secondary transactions could all play a role as we seek to efficiently deploy capital.

Private Markets: Private Equity

Asset Class Summary – The Private Equity portfolio (aka the National Private Equity Program) consists of four categories – Buyout, Growth Equity, Special Situations, and Venture Capital – and continues to serve an important role in enhancing overall portfolio return generation and diversification. This asset class, although correlated to public equity markets, often benefits as private equity managers are afforded additional flexibility to pursue operational excellence and improvement in their company investments, which will likely result in a value creation premium.

Recent Performance, Markets, and Portfolio Strategy – The Private Equity portfolio produced a net IRR of (3.1%) for the 12 months through December 31, 2022. This performance was better than the (8.2%) decline in the Burgiss Global Private Equity Index. The Private Equity portfolio is geared towards buyouts and profitable growth equity funds, which have proven to be more stable over the last year.

Portfolio strategy continues to focus on identifying a set of "core managers" to build longer term relationships for our private equity program. Since inception performance (net IRR) of the five largest GP exposures as of December 31, 2022 is 20.5%, greatly exceeding the historical net IRR of 12.5% for the program. Larger commitments to successful core managers will *eventually* result in a decrease in the number of GP relationships / fund commitments and will be very beneficial for 1) portfolio monitoring and 2) reducing the administrative burden of a large number of relationships.

Recent Activity and Forward-Looking Strategy – Private equity consultant Mercer utilizes a pacing model to help guide the target range of annual commitments for the National Private Equity Program. The pacing model serves two main functions – 1) to ensure adequate vintage year diversification for the portfolio, and 2) to achieve and maintain our long-term target allocation over a reasonable time frame.

The current target allocation for the National Private Equity Program is 15% of LGPF and 9% of the STPF.

This excludes the 9% target allocation in the STPF for the New Mexico Private Equity Program. The total target allocation for private equity in the STPF is 19%, consisting of the 10% for the National Private Equity Program and the 9% for the New Mexico Private Equity Program.

At this time, the pacing model projects near-term annual commitments of at least $1 billion will be necessary to achieve our target for the National Private Equity Program over the intermediate term. The model is re-evaluated annually for potential enhancements.