SUBJECT	Endowment Asset Mix Review – Reference Portfolio and Spend Rate Recommendation
SUBMITTED TO	Finance Committee
MEETING DATE	November 19, 2021
SESSION	Recommended session criteria from Board Meetings Policy: OPEN
REQUEST	Action requested – Approval IT IS HEREBY RESOLVED that the Finance Committee recommends that the Board of Governors approve: *i.* UBC IMANT Investment Framework as presented at the June 8, 2021 Board of Governors Finance Committee meeting which includes the Reference Portfolio approach with a 70% Global Equity and 30% Fixed Income Reference Portfolio for the Main UBC Endowment Pool; *ii.* delegation of authority to approve the Strategic Portfolio to the UBC IMANT Board of Directors; and, *iii.* delegation of authority to the Vice-President Finance & Operations to approve a spend rate within the range of 3.50% to 4.00% for different endowments within the Main Endowment Pool for FY2023.
LEAD EXECUTIVE	Peter Smailes, Vice-President Finance & Operations
SUPPORTED BY	Hubert Lai, Q.C., University Counsel Heather McCaw, Vice-President Development & Alumni Engagement Yale Loh, Treasurer Dawn Jia, President and CEO, UBC IMANT Lisa Pankratz, Chair, UBC IMANT Board Graham Sheppard, UBC IMANT

PRIOR SUBMISSIONS

The subject matter of this submission was most recently considered in December 2020.

The following Executive Summary provides a status update from the date of the most recent submission.

EXECUTIVE SUMMARY

UBC IMANT conducts an asset mix review for the UBC endowment every three to five years to assess the endowment spend rate, the ability to preserve intergenerational equity and the long-term outlook for investment returns. UBC IMANT commenced an asset mix review in December 2020, retaining two external consultants under the guidance of a working group of the UBC IMANT Board of Directors. The asset mix review was conducted for the Main Endowment Pool (the "MEP").

The asset mix review process was designed to be consistent with UBC IMANT's revised investment framework, presented to the Finance Committee on June 8, 2021. Specifically, the Reference Portfolio concept is a foundational component of the investment framework, introduced to facilitate a realignment of governance over the MEP's investment decision-making process that helps clarify the accountability for each component of the investment framework: Reference Portfolio, Strategic Portfolio, and Investment Portfolio.

For clarity, through the approval of UBC IMANT's revised investment framework, UBC IMANT is recommending that approval of the Reference Portfolio rest with the Board of Governors, with approval of the Strategic Portfolio delegated to the UBC IMANT Board of Directors. If approved, changes associated with the revised investment framework will be incorporated into the MEP's Statement of Investment Policy. A draft of the revised Statement of Investment Policy is attached to this memo as Appendix 2 for the Committee's review. Approval will be sought from the Board of Governors at the February 2022 meeting.

The benefits of UBC IMANT's investment framework were presented to the Finance Committee at the June 8, 2021 meeting. The revised investment framework is modelled after other Canadian institutional investors (such as Canada Pension Plan Investment Board and University of Toronto Asset Management) that have implemented similar changes and experienced benefits. In particular, the following benefits are expected for the UBC Board of Governors and the MEP:

(i) a more straightforward approach by which the Board of Governors can align the University's risk tolerance to an investable market portfolio expected to achieve the MEP's financial objectives;

(ii) greater clarity for the Board of Governors with regard to the value generated (or not) by UBC IMANT through active investment management; and,

(iii) increased ability for governance committees to monitor the incremental risk taken by UBC IMANT in the pursuit of excess returns.

Under the Endowment Policy (FM5), the Board of Governors sets the spending rate for the MEP annually based on advice from UBC Finance, UBC Treasury, and IMANT. The aggregate stabilization ratio[1] for the MEP is currently 119%, following the period of particularly strong returns experienced over the past ten years. Expected investment returns in the upcoming five-year period are projected to be below historical averages. The results of the asset mix review indicate that a spending rate of 4.00% can be supported and will result in the aggregate stabilization ratio for the MEP remaining at or above 105%. The target range for the aggregate stabilization ratio is 100% but UBC is comfortable with a aggregate stabilization ratio between 95% and 105%.

Reference Portfolio Recommendation

The objective of the Reference Portfolio is to generate sufficient returns using a simple portfolio of equities and fixed income assets to achieve the MEP's primary financial objectives, namely:

(i) to preserve the real economic value of endowed capital; and,

(ii) to set a competitive spending rate that provides for annual spending stability in real terms and minimizes the risk of declines in year-to-year spending levels.

The Reference Portfolio represents an investable portfolio that could be implemented with minimal operational effort, and therefore serves as a practical benchmark for the Board of Governors to evaluate the value add of UBC IMANT. The Reference Portfolio also sets the risk appetite for the Strategic Portfolio.

Through the asset mix review process, the Reference Portfolio was modelled as a combination of passively managed global equities and Canadian bonds. To identify candidate Reference Portfolios, stochastic modelling was performed using portfolios with varied weights to a broad global equity index and Canadian bond index and spending rate assumptions between 3.25% and 4.5%.

[1] The stabilization ratio is defined as the ratio of the market value of assets to inflation-adjusted growth in endowment capital for an individual endowment. The aggregate stabilization ratio is the average stabilization ratio in consideration of the entire endowment.

Incorporating the MEP's current aggregate stabilization ratio (119% current versus the upper end of the target range, which is 105%), a Reference Portfolio consisting of 70% equity and 30% fixed income is expected to be sustainable over 15 years with a spending rate of 3.75%-4.0%. Specifically, stochastic modelling showed the Reference Portfolio has a 52% probability of exceeding an aggregate stabilization ratio of 105% over 15 years using a spending rate of 3.75% and a 48% probability using a spending rate of 4.0%. The purpose of the aggregate stabilization ratio is to track intergenerational equity for the MEP. The increase in the aggregate stabilization ratio to 119% is primarily as a result of strong market conditions and returning to the 105% target is in line with the University's intergenerational equity goals. While the Reference Portfolio without the 119% stabilization ratio cannot support a 3.75-4.0% spending rate, the Strategic Portfolio increases the expected return and probability of sustaining a 3.75%-4.0% spending rate.

Strategic Portfolio

The Strategic Portfolio represents the target mix of assets for the MEP considering an expanded set of investment products that require professional investment management, such as private asset investments and more sophisticated equity and fixed income programs.

Candidate Strategic Portfolios were evaluated with equivalent or lower risk profiles than the Reference Portfolio to improve the risk and return profile of the MEP's asset mix. Improvements in the risk and return profile over the Reference Portfolio are attributable to greater portfolio diversification as well as access to higher returning investment assets.

The UBC IMANT Board of Directors approved a new Strategic Portfolio on August 12, 2021 (attached as Appendix 1). The new Strategic Portfolio has a stronger expected return profile compared to the Reference Portfolio, increasing the probability of sustaining the 3.75%-4.0% spending rate from around 50% to approximately 65%-70% given the current 119% aggregate stabilization ratio. In addition, the approved Strategic Portfolio exhibits lower total risk (volatility) compared to the Reference Portfolio.

The new Strategic Portfolio is similar to the current Strategic Portfolio developed in 2017, with a slightly lower allocation to fixed income and real assets and a corresponding higher weight in equities. Within equities, the new Strategic Portfolio has no dedicated allocation to Canadian equities and a higher allocation to Emerging Market equities; Canadian equities are represented within the broader global equity universe.

Climate Risk Analysis

To evaluate the severity of the impact of the climate crisis, the endowment asset mix review incorporated a climate risk analysis to estimate the magnitude of climate risk on the endowment's investment assets. After an extensive search, UBC IMANT partnered with Ortec Finance to carry out the analysis. Ortec Finance is a Netherlands-based firm with extensive expertise in climate-risk modelling developed in conjunction with Cambridge Econometrics, Duke University and the Potsdam Institute for Climate Studies. UBC IMANT is among the first institutions in Canada to incorporate in-depth climate risk analysis into the Strategic Portfolio decision-making process.

Climate-risk analysis applies a network of "climate aware" assumptions onto baseline "climate uninformed" capital market assumptions used in traditional economic modelling, and evaluates the impacts of long-term (40-year) climate scenarios on investment portfolio asset mixes. Robust modelling capabilities in this field applied to investment management is relatively new (limited to a few firms globally) and captures systemic climate risk factors that were not present in previous asset mix reviews.

The results of the climate-risk analysis produced several key insights that were incorporated by UBC IMANT into the Strategic Portfolio selection:

(i) Adding a climate lens to climate uninformed models reduces the endowment's expected returns across all climate scenarios, including scenarios where the rise in global temperatures is constrained to below 2°C or whether there is a failed transition where Paris Agreement goals are not met.

(ii) Climate risk is systemic, undiversifiable and cannot be effectively hedged. Stock picking or fossil fuel divestment may improve relative performance in scenarios where the Paris Agreement goals are met but is insufficient to meaningfully protect the endowment's total portfolio returns against climate risk.

(iii) Regional allocation and asset class selection can modestly improve portfolio resiliency to different climate scenarios. Certain countries, such as Canada, are particularly sensitive to climate-policy risks, while asset classes such as private debt, government bonds and real estate are more resilient across scenarios.

Spend Rate Considerations

Given the cyclical nature of financial markets, aggregate stabilization ratios are expected to vary but to generally trend towards the 95% to 105% target range over time. The aggregate stabilization ratio has grown to 119% over the past 10 years as a resultof strong market returns. The results of the asset mix review indicate that a spend rate of 4.0% is expected to be sustainable for the MEP over the next 15-year period.

There are risks to the outlook that may warrant a reduction in the current spending rate in future years:

(i) Expected investment returns in the upcoming five-year period are projected to be below historical averages, following the period of particularly strong returns experienced over the past ten years. The current buffer in the MEP's aggregate stabilization ratio is expected to decrease as a result of lower returns, but spending allocations for endowment funds that do not have a strong buffer may need to be individually adjusted to maintain an acceptable stabilization ratio.

(ii) The results of the climate risk analysis present a material risk to the sustainability of the MEP's current spending rate over short-term or long-term horizons depending on the climate transition pathway that develops. UBC IMANT is in the early stages of developing strategies to monitor key indicators related to different climate risk transition pathways. Nevertheless, there will remain a high degree of uncertainty about the outlook for global temperature changes that may have a significant impact on the endowment's investment returns.

Given that the proposed 4.0% spend rate is only being recommended in relation to a stabilization ratio of 119%, this presents an issue for new endowments which do not have the benefit of an accumulated positive balance in their stabilization accounts. As shown in the table, analysis shows that a new endowment with a starting stabilization ratio of 100% would only have an estimated 56% probability of maintaining real value over 15 years, compared to the 67% probability for the existing MEP given the MEP's current aggregate stabilization ratio of 119%.

Estimated Probability of Maintaining Real Value for New Endowments Over 15 Years	
Spend Rate	Estimated Probability
4.00%	56%
3.75%	58%
3.50%	61%
3.25%	64%

The Endowment Management Policy and Procedures currently contains an adjustment mechanism that allows reduction of spending (annual allocation) for individual endowments if the stabilization ratio for the endowment fund deviates by more than 15% from the aggregate stabilization ratio for the MEP. Currently, there are approximately 3,700 endowment funds in the MEP and only seven of them have stabilization ratios that are more than 15% below the aggregate stabilization ratio for the Main Endowment Pool.

The Vice-President Finance & Operations (VPFO) is currently working with the University Counsel to further refine the mechanisms available to the VPFO to maintain or restore the financial health of an endowment fund. While not finalized, it is expected that this would involve a change to the Procedures under the Endowment Policy so that spending from new endowment funds will not commence until the stabilization ratio for that endowment fund has reached an acceptable threshold, such as 105%. Changes to the Procedures are also being considered that would allow the VPFO, as the designated Responsible Executive for the Endowment Policy, to approve individual adjustments to the spending allocations for any endowment funds with a stabilization ratio that falls below the aggregate stabilization ratio by more than 5%, rather than the 15% that is currently set out in the Procedures. In addition, the review of the stabilization ratio and setting of the spending rate by the Board of Governors each year also mitigates the risk.

Based on the results of the asset mix review, the MEP can support a 4.00% spending rate, based on the aforementioned anticipated risk management mitigations for new endowment funds as well as any other endowment funds whose stabilization ratios fall below a prudent level. While there are investment return and climate change risks, the spend rate is reviewed each year and, if returns are lower than projected or climate risk has a greater negative impact on returns, the spending rate will be reduced. For FY2023, it is proposed that the Board of Governors delegate to the VPFO the authority to approve a spend rate within the range of 3.50% to 4.00% once the aforementioned risk management mitigations are in place.

APPENDICES

1. Strategic Portfolio approved by UBC IMANT Board of Directors
2. UBC Endowment Statement of Investment Policy (DRAFT)

PRESENTATIONS

1. Endowment Asset Mix Review - Reference Portfolio and Spend Rate Recommendation

APPENDIX 1: STRATEGIC PORTFOLIO APPROVED BY UBC IMANT BOARD OF DIRECTORS

	Approved Strategic Portfolio (2021) Target	Current Strategic Portfolio (2017) Target
Cash	2%	2%
Bonds	3%	7%
Private Debt[1]	12.5%	11%
Rates & Credit[1]	**17.5%**	**20%**
Canadian Equity		10%
Global Equity	30%	15%
Small Cap Equity		5%
Emerging Markets Equity	15%	10%
Private Equity	10%	10%
Total Equity	**55%**	**50%**
Real Estate	10%	10%
Infrastructure	10%	12.5%
Real Assets	**20%**	**22.5%**
Absolute Return Strategies	**7.5%**	**7.5%**

[1] Includes UBC Debenture

The University of British Columbia Board of Governors	Policy No: **NTD – to be confirmed with UBC**
Long Title: The University of British Columbia Main Endowment Pool Statement of Investment Policy DRAFT	
Short Title: The Endowment Statement of Investment Policy	

Background and Purpose

Endowments provide ongoing support for UBC programs and students. When UBC donors create an endowment, their gift is invested for the long term and an annual spend is distributed from a donor gift according to the terms established.

Endowment donors create meaningful legacies, and provide stable, dependable support for scholarships, bursaries, professorships, chairs, student programs, research programs, teaching support, strategic initiatives, important capital projects and more. Endowments help to transform the UBC and build a strong foundation for the present and the future.

1. Scope

1.1. The University of British Columbia (the "**UBC**") has established the Main Endowment Pool (the "**Pool**") as one pool of funds within the University's endowment (the "**Endowment**") to support specific aspects of the University's academic activities in perpetuity.

1.2. This document constitutes the Statement of Investment Policy (the "**Policy**") applicable to the assets that make up the Pool.

1.3. The purpose of this Policy is to define the governance structure for the Pool and formulate the principles and guidelines to manage the Pool's assets in accordance with the University Act of British Columbia (the "**Act**"), the Income Tax Act (*Canada*) (the "**ITA**"), all amended from time to time, and with any restrictions imposed by the Government of Canada and Province of British Columbia. This Policy is supplementary to the Act and the ITA.

2. Endowment Description and Return Objectives

2.1. The Pool consists largely of endowed trust funds, which stipulate that the contribution(s) for each fund not be spent. The Pool is the result of philanthropy since 1915 where donors have provided resources to support specific aspects of the University's activities in perpetuity. Donated amounts have been augmented through other programs, including provincial fund matching, and endowing the proceeds from part of the prepaid leasing of residential lands. In summary, the primary sources of cash to the Pool are:

a. donated funds in cash or kind;
b. provincial fund matching;
c. leasing revenues from real property; and
d. investment returns.

2.2. Investment returns are an important funding source and help to maintain the purchasing power of the original contributions. The spending commitment/liability stream is a function of the current spending rate approved by the University. Endowment funds have an indefinite liability stream, with expectations that the stated activities supported by each endowment fund within the Pool will benefit in perpetuity. Maintaining the purchasing power of the Pool's capital against inflation is essential to protect the purchasing power of the funds within the Pool in perpetuity.

2.3. The Pool's objective is to deliver the Return Objective (defined in Section 2.4) at an appropriate level of risk to:

a. honour the wishes of the donors of endowed funds;
b. provide cash flows and capital appreciation that are sufficient to support the Pool's spending objectives; and
c. maintain intergenerational equity by preserving the capital and purchasing power of each endowment fund within the Pool to provide the same level of support in perpetuity.

2.4. The Pool has an expected, five-year target nominal return objective of 4.6% (the "**Return Objective**") determined by the asset mix study carried out in 2021. The Return Objective is expected to support an annual spending rate between 3.5% to 4% over the long term, adjusted for inflation and operating costs (the "**Long-Term Sustainable Spending Rate**"). The Return Objective and Long-Term Sustainable Spending Rate reflects the surplus/deficit position, at the time of the most recent Asset Mix study, as measured by the Stabilization Ratio (defined as the market value of the Pool's assets divided by the inflation-adjusted value of all capital contributions made to the Pool).

2.5. To define a risk tolerance, a reference portfolio approach has been adopted by UBC. The reference portfolio represents a simple, low cost, passive portfolio that is designed to reflect the Pool's long term Return Objective and risk preferences. UBC's risk preferences were incorporated into the reference portfolio design by evaluating different combinations of passive portfolios and the resulting probability of maintaining the Long-Term Sustainable Spending Rate. Therefore, the reference portfolio represents the amount of investment risk that UBC, as the governing fiduciary, is willing to bear in the pursuit of investment returns to achieve its spending objectives in a way that preserves intergenerational equity.

2.6. The reference portfolio is:

a. A set of broad public market investments that reflects the investment returns that can be generated by passive investments in global capital markets;
b. An investable program that can achieve UBC's Long-Term Sustainable Spending Rate with limited oversight and no active management; and
c. A market-based benchmark that can be used to determine the efficacy and success of active management.

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2.7. The University's Reference Portfolio (the "**Reference Portfolio**") for the Pool is represented as follows:

Asset Class	Weight	Benchmark
Equities	70%	MSCI All Country World Total Return Index (net)
Fixed Income	30%	FTSE Canada All Universe Bond Total Return Index

2.8. The Reference Portfolio is expected to achieve UBC's real return expectation over a fifteen-year period. Over shorter periods of time, it is understood that returns returns may deviate from the longer-term expectation. Monitoring the expected future return of the Reference Portfolio, on an annual basis, will assist UBC in identifying threats to its Long-Term Sustainable Spending Rate.

2.9. By design, the Reference Portfolio is not engaged in active investment management decisions and is expected to be revised less frequently than the Strategic Portfolio.

3. Governance

3.1. UBC's Board of Governors (the "**Board of Governors**") is responsible for the overall management of the Endowment, including the Pool. The Board of Governors has established a governance structure and delegated certain responsibilities and powers for investing the funds in the Pool to the University of British Columbia Investment Management Trust ("**UBC IMANT**"). The Board of Governors has allocated its responsibilities in respect of the Endowment as set out below.

3.2. The Pool shall be managed as a perpetual fund with no finite term basis with the prudence and standard of care that requires all fiduciaries, including external investment managers (**"Managers"**), to use the same care and diligence that they would use in managing the property of another person and to apply all relevant knowledge that they possess or by reason of their profession ought to possess

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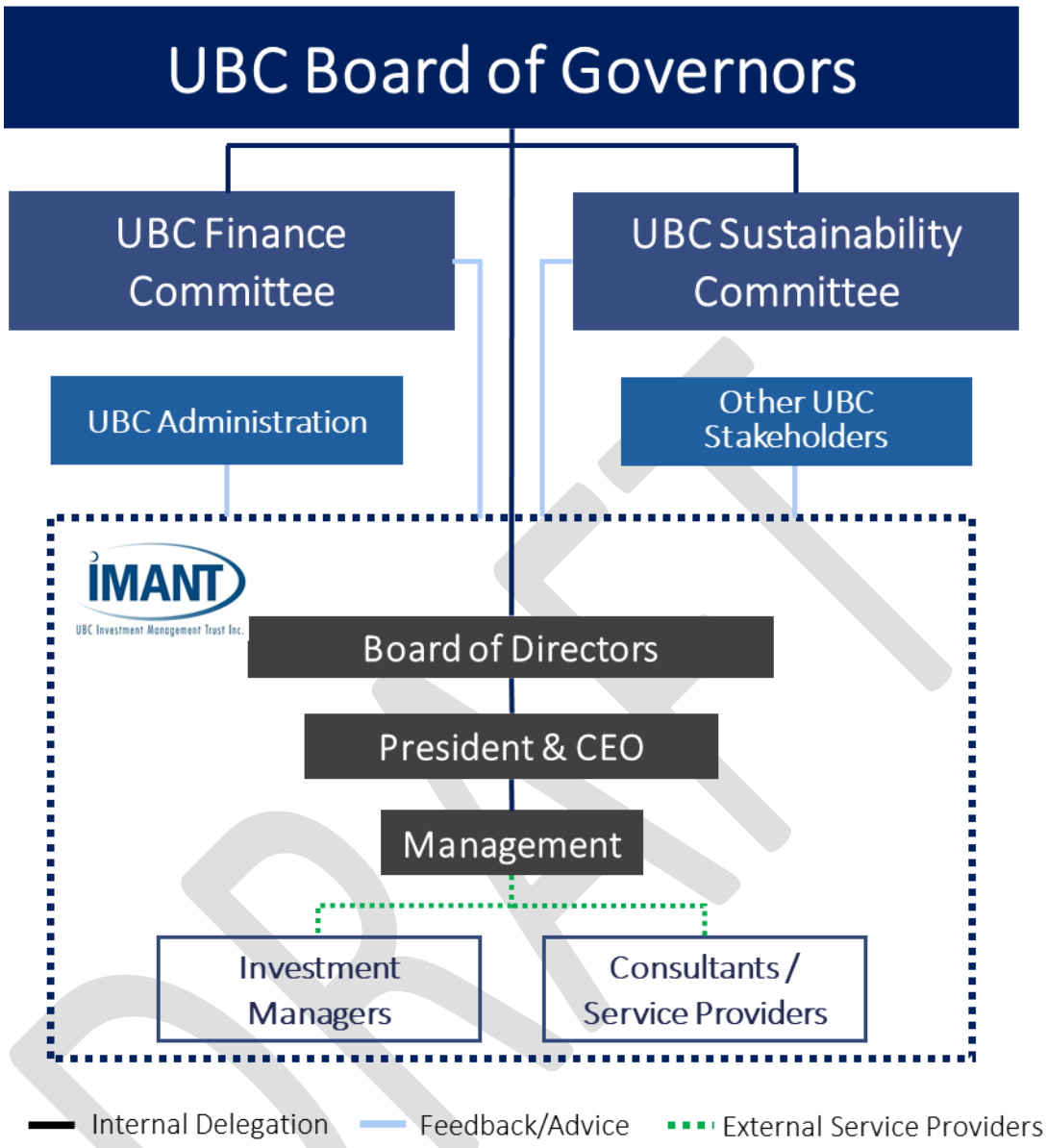

3.3. The Board of Governors are responsible for:

a. Governance with respect to the Pool;
b. Appointing and removing the UBC IMANT Board of Directors (the "**UBC IMANT Board**" and each director on the UBC IMANT Board a "**Director**");
c. Approving this Policy and any changes to this Policy;
d. Approving the Reference Portfolio which represents the amount of investment risk that UBC, as the governing fiduciary, is willing to bear in the pursuit of investment returns;
e. Approving the Return Objective and Long-Term Sustainable Spending Rate; and
f. Monitoring the performance of the Pool against the Return Objective.

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3.4. UBC IMANT is responsible for the design and implementation of the Pool's investment portfolio consistent with the overall risk and return objectives established by the Board of Governors. UBC IMANT acts through UBC IMANT Board who oversees and monitors the activities of the UBC IMANT President & CEO and management ("Management" and collectively the "**UBC IMANT Staff**").

3.5. UBC IMANT Board responsibilities include:

a. Approving investment beliefs to guide UBC IMANT staff in the development of the implementation strategy;
b. Review the Policy, at least annually, and recommend amendments, if any, for approval by the Board of Governors;
c. Appointing UBC IMANT's President and CEO;
d. Recommending a Reference Portfolio to the Board of Governors;
e. Approval of the Pool's Strategic Portfolio (defined in Section 4.2) and Investment Program ranges (defined in Section 4.3);
f. Approval of Investment Program risk parameters and constraints;
g. Approving key service providers such as the custodian and asset mix consultant;
h. Establishing appropriate compensation programs, including performance evaluation, for UBC IMANT Staff; and
i. Monitoring and evaluating investment performance and operational cost-efficiency against objectives and benchmarks.

3.6. UBC IMANT's President and CEO, with the support from Management, is responsible for:

a. Developing and recommending a Strategic Portfolio, and a Reference Portfolio to the UBC IMANT Board;
b. Implementing the Strategic Portfolio;
c. Designing and recommending the Investment Programs specifying investment objectives and operating parameters for distinct asset classes to the UBC IMANT Board;
d. Actively monitoring risk-adjusted performance of the Strategic Portfolio against the relevant benchmarks and reporting on this performance to the UBC IMANT Board and Board of Governors on a regular basis
e. Actively managing the Strategic Portfolio to deliver superior risk-adjusted returns;
f. Appointing, monitoring and, when appropriate, terminating external investment managers and other external advisors, consultants, and service providers within delegated authorities established by UBC IMANT Board and the Board of Governors;;
g. Developing and implementing a responsible investment approach and embedding environment, social, and governance factors into its investment processes;
h. Ensuring efficient and cost-effective day-to-day operations;
i. Recruitment, and development of an effective management team to support UBC IMANT's mission and vision; and
j. Regular reporting to the UBC IMANT Board, the UBC Board of Governors, and other University stakeholders.

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4. Strategic Portfolio

4.1. The Main Endowment Pool investment portfolio is constructed as a diversified portfolio of multiple asset classes that is expected to exceed the risk adjusted return of the Reference Portfolio by embedding greater investment complexity and active management.

4.2. Following the 2021 UBC Endowment asset mix study, the UBC IMANT Board approved the following Strategic Portfolio:

Investment Programs	Asset Class	Target Weight	Range
RATES AND CREDIT	Government Bonds & Cash	5%	min: 12%
	Credit	12.5%	max: 22%
DIVERSIFYING ASSETS	Absolute Return Program	7.5%	min: 5% max: 10%
REAL ASSETS	Real Estate	10%	min: 15%
	Infrastructure	10%	max: 25%
EQUITY	Global Developed Equity	30%	min: 45% max: 65%
	Emerging Market Equity	15%	
	Private Equity	10%	

4.3. **Investment Programs:** Investments in asset classes with a similar risk profile form an investment program ("**Investment Program**"). Asset class allocations within an Investment Program are fungible. Government bonds and Cash are excluded from the minimum portfolio weight requirement as they are held primarily for liquidity management purposes.

5. Permitted Investments, Financing and Securities Lending

5.1. **Cash:** Investments in cash such as deposits with financial institutions, treasury bills, commercial paper, banker's acceptances, and money market securities.

5.2. **Commodities:** Investments in commodity assets such as energy, industrial metals, precious metals, agriculture, livestock, and investments with commodity attributes such as carbon credits.

5.3. **Derivatives:** Investments in derivatives such as futures and forward contracts, options, warrants, swaps, and repurchase agreements. Derivatives may be used for hedging, risk management and portfolio rebalancing, including the hedging of foreign currency exposure. Derivatives may also be used for leverage or as a cost-effective substitute for traditional investments.

5.4. **Equity:** Investments in private and public equities through common shares, income trusts, investment trusts, Global Depository Receipts (GDRs), American Depository Receipts (ADRs), and Preferred Shares.

5.5. **Fixed Income:** Investments in public fixed income assets such as bonds, debentures, notes, asset-backed securities, and term deposits or similar instruments with financial institutions. Investments in non-publicly traded fixed income assets such as senior and subordinated

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loans, mortgages, structured credit instruments, and investments in credit attributes such as royalties, insurance, and litigation finance.

5.6. **Real Assets:** Investments in publicly and non-publicly traded real estate and infrastructure assets.

5.7. **Investment Vehicles:** Pool investments are made indirectly or synthetically through exchange traded funds (ETFs), pooled funds, trusts, limited partnerships, mutual funds, derivatives, segregated funds or other investment vehicles.

5.8. **Borrowing**: Borrowing or providing guarantees on behalf of the Pool is permitted.

5.9. **Pledging:** UBC IMANT may pledge, charge, or otherwise grant a security interest in assets or post margin as required to complete derivatives transactions, complete a short sale or in connection with repurchase transactions. All pledging to be done on a non-recourse basis to UBC.

5.10. **Leverage:** The Pool is permitted to invest up to 10% of its value in assets purchased through borrowing and/or by creating synthetic exposures to existing asset classes. All such forms of leverage may not result in additional debt accruing to UBC.

5.11. **Securities Lending:** Lending securities is permitted provided that a sufficient collateral coverage is maintained at all times in cash or high-quality, liquid securities in accordance with industry standards.

6. Risk Management and Oversight

6.1. The Board of Governors' risk tolerance, as expressed by the composition of the Reference Portfolio, is the primary indicator of the risk and return profile for the Pool.

6.2. The Strategic Portfolio is a diversified, multi-asset class portfolio used to guide UBC IMANT's implementation program and exhibit a level of risk that is similar to the Reference Portfolio. The risk level of the Strategic Portfolio will be compared against the Reference Portfolio periodically to confirm the modelled risk of the Strategic Portfolio is consistent with the Reference Portfolio.

6.3. The Pool employs an active management approach with the objective of earning higher returns than the Reference Portfolio. The Pool's investment portfolio is comprised of a diversified mix of external, actively managed investment funds, guided by the Strategic Portfolio Investment Program ranges and constraints. Given the active management approach of the Pool, it is understood that the risk level of the investment portfolio may, at times, deviate from the risk level of the Reference Portfolio to provide UBC IMANT flexibility and discretion to implement the Strategic Portfolio actively.

6.4. The following risk mitigation mechanisms have been established:

a. Minimum and maximum Investment Program weights;
b. Active Risk limits approved by UBC IMANT Board;
c. Other constraints approved by UBC IMANT Board for each Investment Program; and
d. Ongoing monitoring of performance by the UBC IMANT Board

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7. Responsible Investing

7.1. The Board of Governors and UBC IMANT are committed to responsible investing which incorporates the following principles in the investment decisions:

a. The fiduciary requirement to ensure that the financial requirements of all stakeholders are met is of the paramount importance;
b. Sustainability through the incorporation of best practices in Environmental, Social and Governance ("**ESG**") considerations; and
c. Active ownership and engagement.

7.2. ESG considerations have the potential to impact investment risks and returns. As a manager-of-managers, UBC IMANT works collaboratively with Managers that analyze and understand both the threats and opportunities driven by environmental impacts, social considerations and governance structures. The ESG criteria against which Managers will be evaluated include:

a. Environmental factors, including (but not limited to) climate risk, greenhouse gas emissions, air and water pollution, resource depletion, deforestation and land use;
b. Social considerations, encompassing diversity, labour standards, workplace health and safety and consumer protection; and
c. Governance practices, including cover shareholders rights, conflicts of interest, board structure, board diversity, corruption and executive compensation.

7.3. Active ownership is a cornerstone of implementing responsible investing in practice. UBC IMANT will actively engage with Managers to obtain evidence of ESG integration in investment decision-making. Managers are evaluated with respect to the steps that they take to effect responsible corporate behaviour through proxy voting and direct industry contact. Collectively, UBC IMANT participates, with other like-minded institutions and organizations that promote responsible investing by influencing corporations, governments and regulators.

8. Custody

8.1. The Custodian shall be a trust company registered in Canada. All public investments and assets of the Pool shall be held by the Custodian and registered:

a. in a name that clearly indicates that the investment is held in trust for the Pool and, where the investment is capable of being registered, registered in that name; or
b. in the name of the Canadian Depository for Securities Limited, the Custodian, or a nominee thereof, in accordance with an agreement with the Custodian that clearly indicates that the investment is held for the Pool and provides that:
    i. the investment constitutes part of the Pool;
    ii. the investment shall not at any time constitute an asset of the Custodian or nominee; and
    iii. records shall be maintained by the Custodian that are sufficient to allow the ownership of any investment be traced to the Pool at any time.

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9. Valuation of investments

9.1. Marketable securities shall be valued by the Custodian no less frequently than monthly at their market value.

9.2. Investment in a pooled fund comprising marketable securities shall be valued according to the unit values calculated at least monthly by the Custodian of that pooled fund. The Custodian shall be responsible for requesting and recording the unit values on a monthly basis.

9.3. If a market valuation of an investment is not readily available, an estimate of fair value shall be supplied by the Manager to the Custodian no less frequently than annually. Such fair value may be determined by reference to the most recent independent expert appraisal or by other means such as discounted cash flow or comparison with similar assets which are publicly traded. In all cases the methodology should be applied consistently over time and in accordance with generally accepted industry valuation procedures. This valuation methodology shall also apply to non-tradable investments held directly or through co-investment with other investors.

10. Code of Conduct

10.1. All persons involved in management of the Pool must adhere to code of conducts that comply with the CFA Institute Code of Ethics and Standards of Professional Conduct, or an equivalent or higher standard than that of the CFA Institute.

11. Conflict of Interest

11.1. From time to time, real or perceived conflicts of interest may arise. If any person below listed has or acquires any material interest, direct or indirect, in any matter in which the Pool is invested, or may benefit materially from knowledge of, participation in, or by virtue of an investment decision or holding of the Pool, that person must disclose that interest to the person as follows:

a. any Manager, agent, or advisor to the Pool, to the UBC IMANT President;
b. Management, to the UBC IMANT President;
c. the UBC IMANT President, to the chair of the UBC IMANT Board;
d. a Director, to the chair of the UBC IMANT Board; or
e. the chair of the UBC IMANT Board, to the UBC IMANT President and the chair of the Board of Governors' Governance Committee.

11.2. The chair of the UBC IMANT Board or the UBC IMANT President, as applicable, shall then advise all members of the UBC IMANT Board of the disclosed conflict before the next UBC IMANT Board meeting, and the UBC IMANT Board shall decide on an appropriate course of action prior to discussing the related business matter. Any person making a disclosure will thereafter abstain from any decision making with respect to the area of conflict, unless otherwise determined by unanimous decision of the remaining Directors.

11.3. Every disclosure of interest shall be recorded in the minutes of the relevant UBC IMANT Board meeting.

11.4. The failure of a person to comply with the procedures, described in this Section, shall not of itself invalidate any decision, contract or other matter.

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11.5. The UBC IMANT President shall satisfy herself or himself that an appropriate policy regarding conflicts of interest exists and is followed by any fiduciary of the Pool, including the Managers. As a minimum, the Code of Ethics and Standards of Professional Conduct adopted by the Chartered Financial Analysts Institute shall be expected to apply to such fiduciaries.

12. Related Party Transactions

12.1. For the purposes of this Policy, "**Related Party**" has the meaning given in the Business Corporations Act of British Columbia, but for greater certainty includes:

a. UBC, an affiliate of UBC, or a member of the Board of Governors of UBC;
b. an officer or employee of UBC;
c. a Director; or
d. UBC IMANT Staff.

12.2. The Pool may enter into a transaction with a Related Party only if:

a. the transaction is required for the operation or administration of the Pool;
b. the terms, conditions and monetary value of the transaction are not less favourable than market terms, conditions and value; and
c. the transaction does not exceed 3% of the market value of the Pool at the time of the transaction.

13. Policy Review

13.1. This Policy shall be reviewed at least annually by the UBC IMANT Board in order to determine whether any modifications are necessary or desirable.

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Endowment Asset Mix Review: Reference Portfolio and Spend Rate Recommendation

November 19, 2021

Peter Smailes, Vice-President Finance & Operations
Dawn Jia, CEO, UBC IMANT
Yale Loh, Treasurer

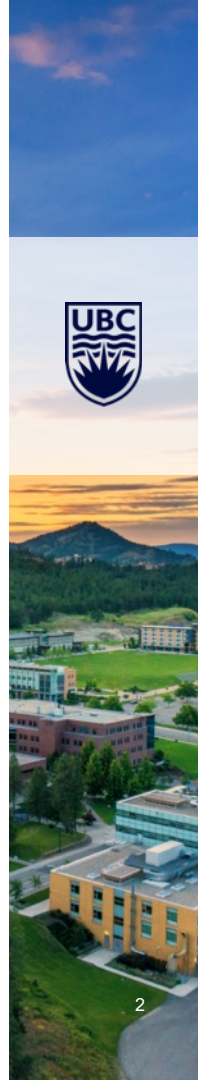
RECOMMENDATION SUMMARY

Approval is being recommended for:

i. UBC IMANT Investment Framework as presented at the June 8, 2021 Board of Governors Finance Committee meeting which includes the Reference Portfolio approach with a 70% Global Equity and 30% Fixed Income Reference Portfolio for the Main UBC Endowment Pool;

ii. delegation of authority to approve the Strategic Portfolio (SP) to the UBC IMANT Board of Directors; and

iii. delegation of authority to the Vice-President Finance & Operations to approve a spend rate within the range of 3.50% to 4.00% for different endowments within the Main Endowment Pool for FY2023.



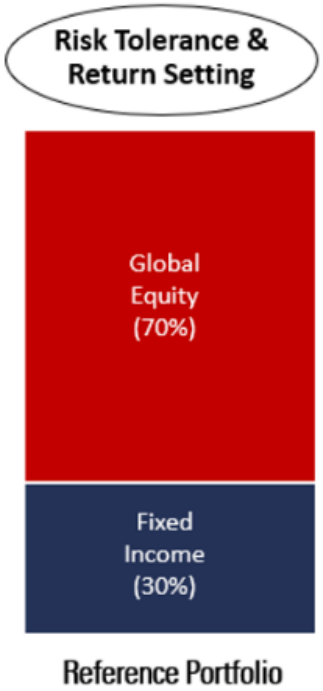
RECOMMENDED REFERENCE PORTFOLIO

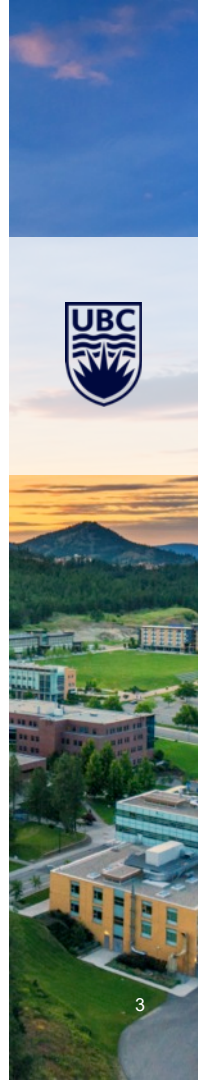
Endowment Objectives:

- Preserve real economic value
- Stable and competitive spend rate

Benefits of the UBC IMANT Investment Framework:

- Straightforward approach for stakeholders to align risk tolerance to a market investable portfolio
- Provides a clear benchmark to assess the value generated by UBC IMANT
- Governance committees can better monitor the incremental risk taken by UBC IMANT in the pursuit of excess returns



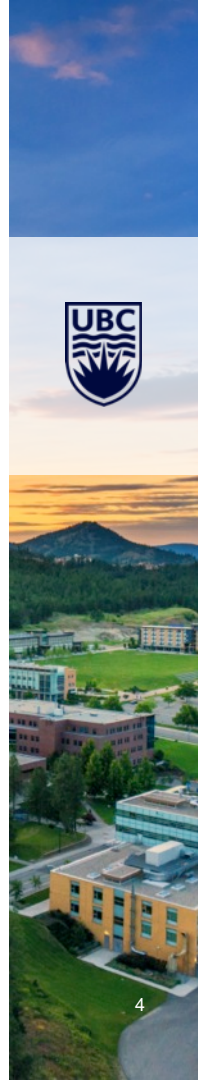


STRATEGIC PORTFOLIO (SP)

	Current SP (2017) Target	Approved SP (2021) Target
Cash	2%	2%
Bonds	7%	3%
Private Debt & Mortgages[1]	11%	12.5%
Total Fixed Income	**20%**	**17.5%**
Canadian Equity	10%	-
Global Equity	15%	30%
Small Cap Equity	5%	-
Emerging Markets Equity	10%	15%
Private Equity	10%	10%
Total Equity	**50%**	**55%**
Real Estate	10%	10%
Infrastructure	12.5%	10%
Real Assets	**22.5%**	**20%**
Absolute Return Strategies	7.5%	7.5%

Metric (annualized)	Reference Portfolio (70/30)	Strategic Portfolio
Expected Real Return (15 YR)	3.7%	5.1%
Expected Nominal Return (15 YR)	5.5%	6.9%
Expected Standard Deviation (15 YR)	12.1%	11.2%

The Strategic Portfolio approved by UBC IMANT Board provides higher expected return with lower risk

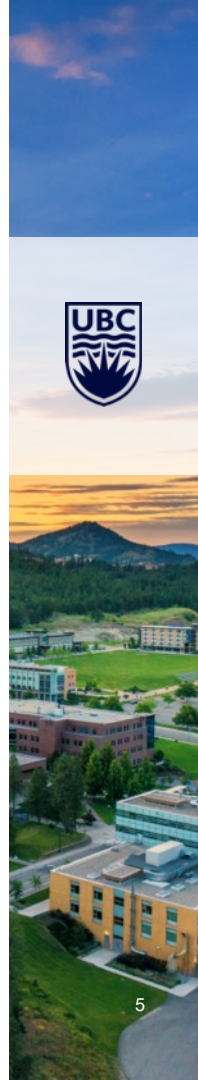


RECOMMENDED REFERENCE PORTFOLIO

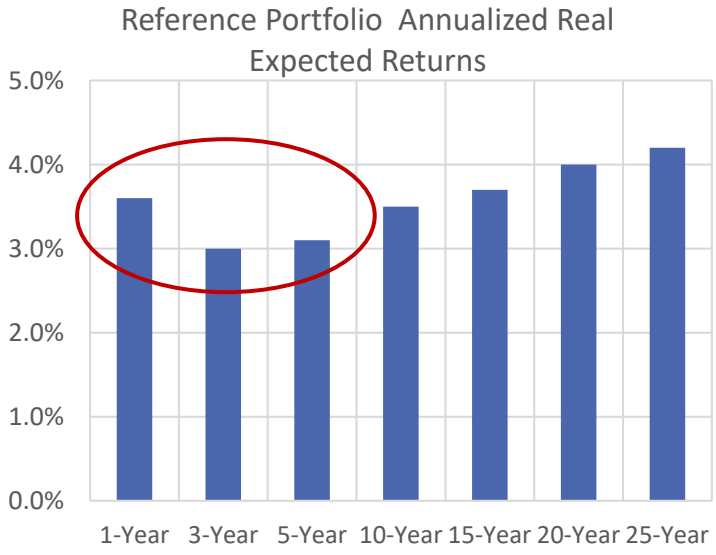
Probability of Stabilization Ratio Exceeding 105%[1]				
Horizon	**Spend Rate**	**Current**	**Reference Portfolio**	**Strategic Portfolio**
1-Year	4.50%	89%	85%	89%
3-Year	4.50%	73%	62%	73%
10-Year	4.50%	58%	43%	62%
15-Year	4.50%	56%	40%	62%
1-Year	4.25%	90%	86%	89%
3-Year	4.25%	74%	63%	75%
10-Year	4.25%	61%	45%	66%
15-Year	4.25%	60%	44%	64%
1-Year	4.00%	90%	86%	90%
3-Year	4.00%	75%	65%	77%
10-Year	4.00%	64%	49%	68%
15-Year	4.00%	64%	48%	67%
1-Year	3.75%	91%	86%	90%
3-Year	3.75%	77%	67%	78%
10-Year	3.75%	68%	53%	71%
15-Year	3.75%	67%	52%	70%
1-Year	3.50%	91%	87%	91%
3-Year	3.50%	78%	68%	79%
10-Year	3.50%	71%	56%	73%
15-Year	3.50%	70%	56%	73%

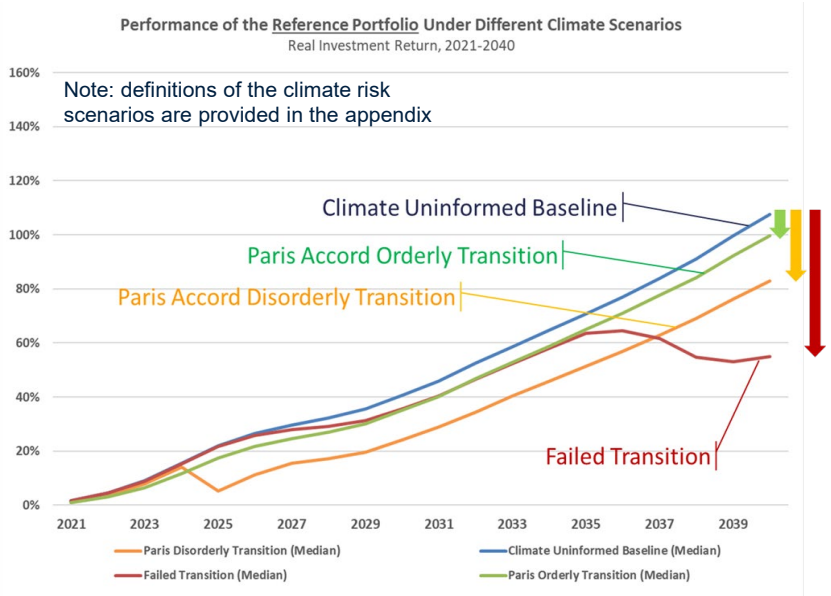
[1] Starting Stabilization Ratio of 119%

- Given the existing 119% stabilization ratio, the Reference Portfolio supports 3.75%-4.0% spend rate
- The Strategic Portfolio improves the probability of exceeding 105% stabilization ratio to 65%-70%



SPENDING RATE CONSIDERATIONS





Strategic Portfolio is expected to support a 3.75%-4.0% spend rate considering the current 119% stabilization ratio, but not without risk:

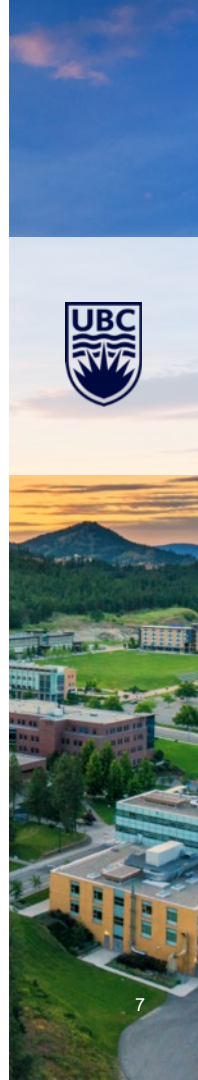
- Lower returns expected over next five years
- Climate risk analysis presents material risk

NEW ENDOWMENT CONSIDERATIONS

Probability of Maintaining Real Value[1]			
Horizon	Spend Rate	119% Stabilization Ratio	New Endowments
1-Year	4.25%	89%	48%
3-Year	4.25%	75%	49%
10-Year	4.25%	66%	53%
15-Year	4.25%	64%	53%
1-Year	4.00%	90%	50%
3-Year	4.00%	77%	51%
10-Year	4.00%	68%	55%
15-Year	4.00%	67%	56%
1-Year	3.75%	90%	51%
3-Year	3.75%	78%	51%
10-Year	3.75%	71%	56%
15-Year	3.75%	70%	58%
1-Year	3.50%	91%	52%
3-Year	3.50%	79%	53%
10-Year	3.50%	73%	59%
15-Year	3.50%	73%	61%
1-Year	3.25%	91%	54%
3-Year	3.25%	81%	54%
10-Year	3.25%	77%	62%
15-Year	3.25%	75%	64%

[1] The Probabilities in this table are for the Strategic Portfolio. For new endowments, probability figures have been roughly estimated through extrapolation of Reference Portfolio modelling results.

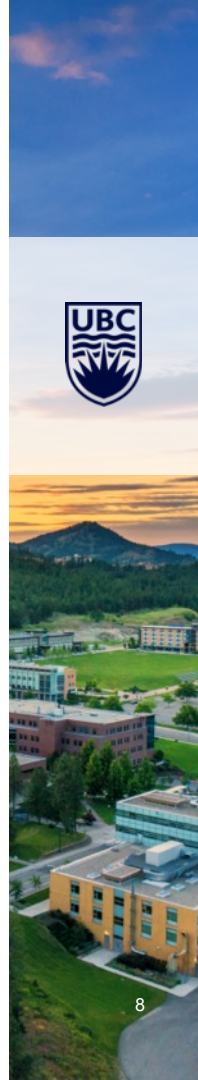
- Given the existing 119% stabilization ratio, the Strategic Portfolio supports 3.75%-4.0% spend rate
- With new endowments, the estimated probability of maintaining real value is only 56% at the 4.0% spend rate
- A lower spend rate for new endowments increases chances that real value will be maintained over time
- There is a need to adjust the spend rate mechanism to protect new endowments while allowing existing endowments to spend down surplus towards 105% target
- Adjustment will involve greater flexibility in adjusting the spend rate for endowments below a 105% stabilization ratio



SPEND RATE RECOMMENDATION

Approval is being recommended for a spend rate of 3.5 to 4.00% for the Main Endowment Pool for FY2023:

- Expected returns of the Strategic Portfolio are higher than the Reference Portfolio, with a higher probability of achieving the endowment's financial objective.
- The Main Endowment Pool has a 119% average stabilization ratio (above the target of 105%). This higher stabilization ratio provides a cushion if the Strategic Portfolio experiences below long term average market returns in the near term with the 4.0% spend rate drawing down the surplus over the longer term. This is consistent with the principles of intergenerational equity.
- The Endowment Policy will be refined to allow the VPFO additional flexibility to adjust spend rates for individual endowments with stabilization ratios below the 105% target, including new endowments



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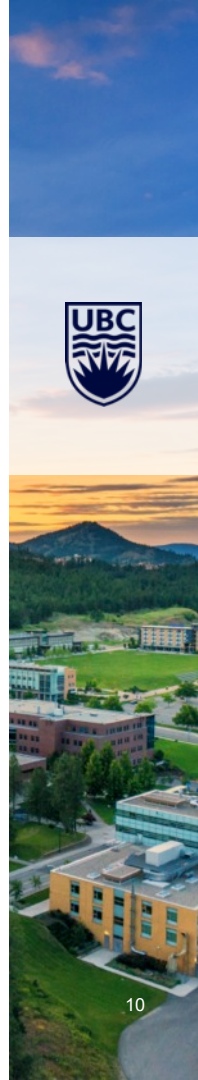
CLIMATE RISK SCENARIO DEFINITIONS

Climate change scenarios focus on two interdependent climate risk drivers:

- **Transition Risk** focuses on the impacts (opportunities/risks) of policies/technology uptake towards a low-carbon economy
- **Physical Risk** focuses on changes in the natural system attributable to global warming, i.e. sea level rise, frequency and severity of extreme weather events.

Scenarios	Failed Transition	Paris Orderly Transition	Paris Disorderly Transition	Climate Uninformed Baseline
Paris Agreement	Paris Agreement goals not met.	Paris Agreement goals met.		The Climate Uninformed scenario is the baseline economic scenario that does not assume a particular climate change pathway or explicitly consider the economic impacts of transition or physical risks.
Global Warming	Average global warming reaches ~ 4ºC by compared to pre-industrial levels.	Average global warming stabilizes below 2ºC above pre-industrial levels.		
Transition Risks	**Limited transition impact** because economies follow business as usual track and no additional new policy measures.	**Large transition impact** due to ambitious carbon policies, high investment in low-carbon technologies, substitution from fossil fuels.		
Physical Risks	**Severe physical impacts** occur, increasing over time as temperatures rise (worker productivity, agriculture, severe weather events).	**Moderate physical impacts** occur up to 1.5º-2.0ºC which are greater than today but much less than under the Failed Transition scenario.		
Impact on GDP	Global GDP significantly lower than climate uninformed scenario (**20% lower** by 2060).	Global GDP is lower than climate uninformed scenario (8% lower by 2060).	In long term, global GDP is slightly worse than in Paris Orderly scenario due to sentiment shock.	
Financial Market Impacts	**Markets price in physical risks** by end of this decade. A second repricing occurs in 2030's as investors factor in severe physical impacts beyond 2050.	Transition is assumed to occur as smoothly as possible. **Market pricing-in** dynamics of transition & physical risks occur smoothed over 2021-25.	Transition has disruptive effects on financial markets with **repricing** of assets followed by sudden **sentiment shock** to financial system in 2025.