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Analysis of Pacific National Funds Investment Strategies and Results: Regional Comparative Study

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The data used for the comparative analysis presenting in the note are a combination of data provided by the funds participating in the study, publicly available information about the funds and their investment strategies or portfolios. The results presented in the note are based on the team's analysis of provided data, market data from publicly available sources, and specialized market data providers.

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Acronyms

$A	Australian dollar
AUM	assets under management
FEMM	Finance and Economic Ministers Meeting (annual)
GFC	Global Financial Crisis (2008)
IMF	International Monetary Fund
IPS	investment policy statement
NACUBO	National Association of College and University Business Officers
NPRT	Nauru Phosphate Royalties Trust
$NZ	New Zealand dollar
NZIPR	New Zealand Institute for Pacific Research
OBAA	objective-based asset allocation
RAMP	Reserve Advisory Management Program (World Bank Treasury)
RFP	request for proposals
RERF	Reserve Equalization Revenue Fund (Kiribati)
SAA	strategic asset allocation
TIAA	Teachers Insurance and Annuity Association of America
TF	trust fund
TTF	Tuvalu Trust Fund
US$	US dollar

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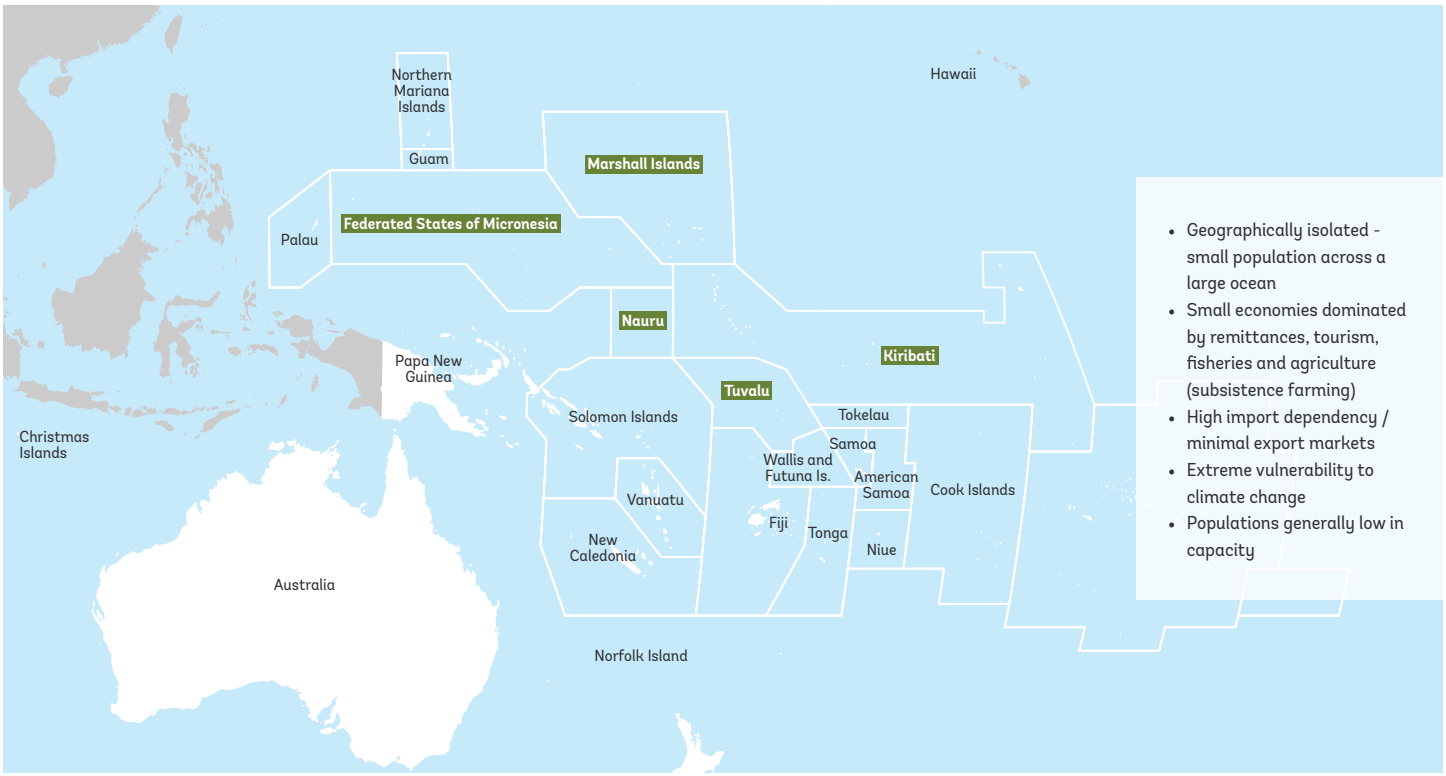
Executive Summary

At the 2019 Finance and Economic Ministers Meeting (FEMM), policy makers called for improved transparency of the Pacific trust funds' management practices and investment results as a way to foster its improved management going forward: "Forum recognizes the need to undertake regional analyses on the comparison of the governance, portfolio management and returns of national trust funds." (FEMM 2019, point 6a). FEMM tasked the World Bank to undertake the study.

Whereas significant progress has been made in establishing international best practices for sovereign or large public funds or both, trust funds in the Pacific are unique in making direct application of those practices challenging. Furthermore, the comparative analysis of the management practices and relevant performance metrics of Pacific trust funds are still lacking. FEMM's objective for disclosing comparative analysis of Pacific funds investment results is to further stimulate collaborative discussion on how to continue to strengthen Pacific funds' management and to inform the design and implementation of relevant reforms. In response to the FEMM request, this note will address the current vacuum of comparable information about Pacific funds' investment management



practices building on (a) the World Bank engagements with the funds over the past five years and (b) relevant information provided by those funds specifically for this analysis.

This comparative study is meant to inform policy and decision-makers governing the funds on the effect of their investment governance decisions on performance of the funds over the medium to long term. The study builds on World Bank's own extensive practitioner experience with managing US$185 billion of its own assets and on behalf of public institutions[1] across different investment objectives and mandates. We acknowledge that Pacific countries had the foresight to set up a number of funds—provident, pension, and other special purpose funds—that play significant role in the Pacific financial sector and are highly heterogeneous in their setups and investment operations. This comparative study focuses on the five national funds—four trust funds and one sovereign wealth fund—and their investment strategies and performance, and it benchmarks them with relevant practices using their current authorized investment parameters. The analysis does not attempt to assess whether these parameters are consistent with the set-out mandates for these funds nor whether these parameters meet national needs.

This comparative analysis covers five national trust funds and a sovereign wealth fund from the following countries: Kiribati, the Marshall Islands, the Federated States of Micronesia, the Republic of Nauru (Nauru), and Tuvalu presented in table ES.1. The five funds selected for the study are designed as perpetual funds with a common objective of balancing distribution of their income for today's spending while preserving equity across generations. Although seen as heterogenous in the Pacific community, from the global perspective of publicly managed funds, these funds share a common thread in their fundamental nature and the similarity of their investment approaches thus providing a sound basis for comparing these funds among one another. We see these funds as distinct from provident and pension funds in the Pacific, which face a somewhat different set of challenges that warrant a dedicated analysis and a separate discussion.

Focusing this note solely on these funds, we will refer to the five funds throughout this note as "the Pacific funds" and "sovereign funds," encompassing both trust funds and a sovereign fund among them.

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TABLE ES.1. - Key Features of Pacific Trust and Sovereign Funds

Fund name and year established	Source of revenuea	Total size, mln	Percentage of GDP	Base currency	Governing board/ committee composition
Micronesia, Fed. Sts., Compact Trust Fund (2003)	Donor contributions	US$ 636	167	US$	Micronesia, Fed. Sts. (2 members), United States (3 members)
Kiribati RERF (1956)	Phosphate, fiscal surpluses	$A 1,171	445	$A	Kiribati Cabinet
Nauru Trust Fund (1968, 2015)	Fiscal surpluses, donor contributions	$A 111	75	$A	Australia (1 member), Nauru (1 member), New Zealand (1 member), Taiwan (1 member)
Marshall Islands Compact Trust Fund (2003)	Donor contributions	US$ 435	198	US$	Marshall Islands (2 members), United States (4 members), Taiwan (1 member)
Tuvalu Trust Fund (1987)	Donor contributions	$A 185	313	$A	Australia (1 member), New Zealand (1 member), Tuvalu (1 member)

Note: $A = Australian dollar; RERF = Reserve Equalization Revenue Fund (Kiribati); US$ = United States dollar.

a. In the case of Pacific trust funds, donors are select national governments that contribute capital to the funds and are represented at the trust fund governing board or committee.

Based on the data provided by the funds for this study, figure ES.1 presents 3- and 5-year returns net of fees[2] and figure ES.2 their external fund management costs.[3] To understand the key factors that contributed to observed differences in Pacific funds investment outcomes over the period, we evaluated the funds' investment choices along the following parameters. First, we assessed the funds' specific investment strategy decision against other potential investment strategy choices consistent with their investment authorizations and measured its effect on the funds' long-term wealth. We further comment on the effect of the funds' decision on implementing their investment policy, notably in relation to the level of active management given to the external fund managers and whether it adds value net of cost to funds over time. We also compare costs of external fund management and discuss financial industry trends.

1 The World Bank, through its Treasury (TRE), manages public assets an asset owner and an asset manager for central banks, sovereign wealth funds, public pension funds, and other public financial institutions. TRE manages a range of portfolios with different investment objectives and mandates across the full spectrum of asset classes, including fixed income, public and private equity, and a wider range of alternative investments. TRE investment operations include both in-house investment management and an external managers program of more than 200 private sector asset managers. TRE brings its own practitioner investment management experience when engaging with public funds in its member countries.

2 It is not clear what costs are excluded by different funds, as asset management costs comprise a number of categories (see next footnote).

3 Total investment management costs include costs of advice, custody, external fund management, internal management and operations, and governance (payments to committee members and travel). As total investment costs are only available from the Marshall Islands and the Federated States of Micronesia funds, we are able to present only the costs of external fund management across the Pacific funds included in this study.

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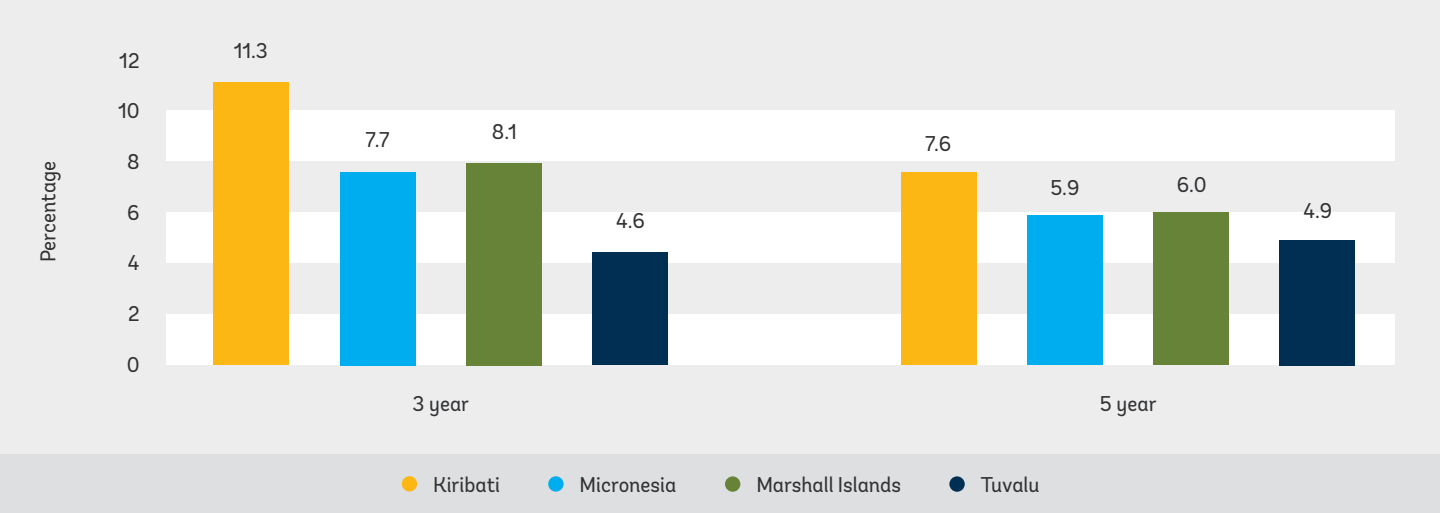
FIGURE ES.1. - Pacific Funds 3- and 5- year Net Returns[a]



Source: World Bank calculations based on data provided by funds.

a. Tuvalu, Micronesia, and Marshall Islands as of September 30, 2019. Kiribati as of November 30, 2019. Return and other data come from each fund's respective data or reporting sources, including custodian reports, annual reports, or other investment management reports. The authors are not in the position to ensure the accuracy of the data from these reports. However, our benchmarking against reference portfolio constructed from publicly available market indices over respective investment horizons provides satisfactory validation that the return data are representative of the funds' investment approaches.

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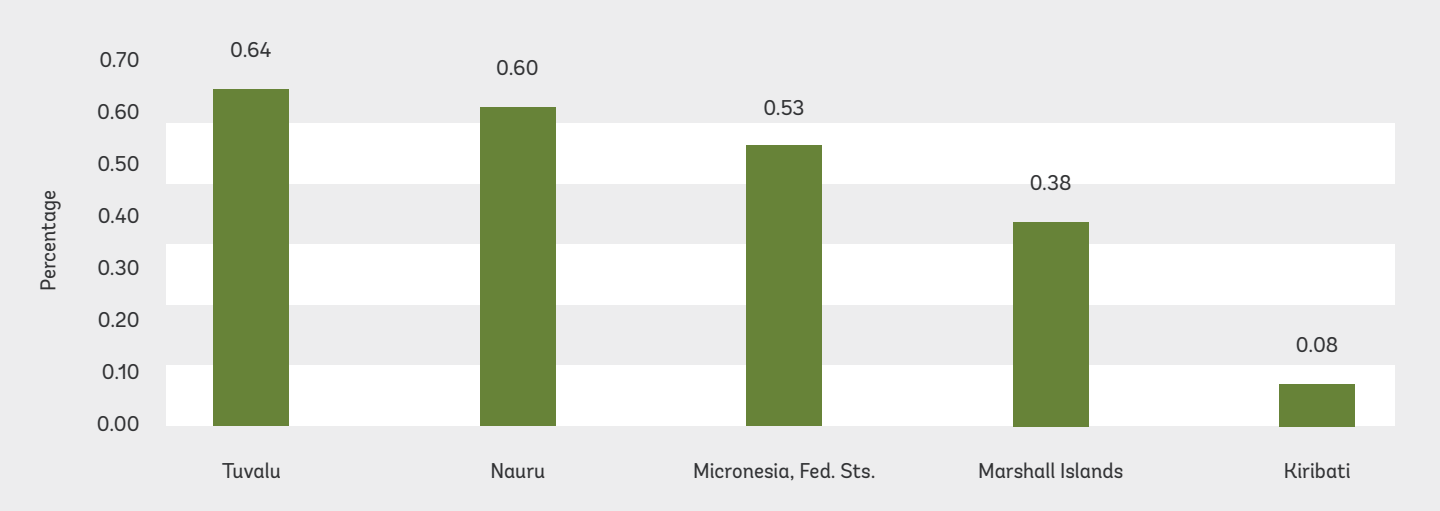
FIGURE ES.2. - Pacific External Funds Management Costs, 2019



Source: World Bank calculations based on data provided by funds.

As evidenced on figure ES.1, Pacific funds' investment outcomes have been quite dispersed, and our proposed benchmarking approach helped illuminate the key factors that led to differences in investment outcomes.

Direct comparison of the Pacific funds' investment returns is challenging because of the funds' different reporting periods and granularity of the available data. However, our approach of using reference portfolios calibrated to specific markets and risk levels allows us to infer the implicit investment benchmarks within each funds' investment approach and to compare them with the available investment alternatives specific to these funds.[4] These implicit investment benchmarks allow us to draw general conclusions about whether the fund's investment approach is in line with the fund's investment objective and whether it fully uses its investment authorization within its risk preferences.

4 One reason for the lack of comparative analysis across the Pacific funds has been cited as the funds' different currencies. We deal with the currencies by selecting appropriate reference portfolios tailored to each fund's circumstance. We also note that the different base currency for these funds is not an issue because the investment portfolios of the considered funds are globally diversified.

Caption: FEMM 2019 | Source: Author

1. Impact of Investment Strategy Decision

The most significant factor explaining the differences in investment outcomes was the investment policies that Pacific funds' boards pursued to achieve their objectives. The Pacific funds followed two different approaches: a traditional strategic asset allocation approach pursued by Kiribati, the Marshall Islands, and the Federated States of Micronesia and an objective-based asset allocation (OBAA) strategy in Tuvalu. In the traditional strategic asset allocation approach, the boards expressed their tolerance for the overall level of risk through an asset allocation mix that was translated into an investment benchmark. In contrast, in the OBAA strategy, which the Tuvalu Trust Fund (TTF) implemented in 2012, the decision on asset allocation was delegated from the board to the asset managers with the view that the managers were in a better position to anticipate the market movements to deliver superior returns rather than if the board set the strategic asset allocation mix.

As summarized in tables ES.2, ES.3, and ES.4, OBAA returns since inception are comparable with a conservative portfolio and are materially lower than comparable returns of its regional peers, which have delivered returns in line with balanced or growth investment strategies. In fact, if the TTF board had set a simple and easy to implement benchmark, for example, of 50 percent global equities and 50 percent global investment grade fixed income, it would have delivered 10.6 percent per annum returns versus the OBAA strategy's 6.1 percent per annum since inception. Thus, our analysis revealed that implicit benchmark for the OBAA strategy is a highly conservative investment strategy that the TTF board could have pursued by implementing a passive portfolio, for example, $A Morningstar Conservative Index[5] or 80 percent fixed income/20 percent global equity, for a fraction of the cost, as discussed later in this paper. In contrast, the returns of the funds of Kiribati, Marshall Islands, and Federated States of Micronesia pursued an explicit investment growth strategy. The implicit benchmarks of these funds were in line with having 50 percent to 80 percent growth assets.

5 Appendix B provides specific details about Morningstar indexes that are constructed for different level of risk tolerance and comprise Australian and global asset classes including cash, fixed income, public equity, and listed and unlisted property.

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TABLE ES.2. - TTF's Investment Returns vs. Alternatives[a]

	3 year	5 year	Inception (April 2012)
TTF - Tuvalu	**4.6%**	**4.9%**	**6.1%**
$A Morningstar — Conservative	4.8%	5.1%	5.8%
$A Morningstar — Moderate	6.1%	6.2%	7.0%
$A Morningstar — Balanced	8.4%	8.1%	9.1%
$A Morningstar — Growth	10.0%	9.2%	10.7%
$A Morningstar — Aggressive	12.0%	10.8%	12.4%
$A Global Equities 50% / Fixed Income 50%	9.3%	9.0%	10.6%

Source: World Bank calculations.
Note: TTF = Tuvalu Trust Fund.
a. Differences in reporting cycle dates for the Pacific funds and their different base currencies are the reason for differences in returns of reference portfolios across tables ES.2, ES.3, and ES.4. Pacific funds returns are net of fees, whereas reference portfolios returns are based on index returns. Implementation of reference portfolios could range between several basis points for passive index replication strategies to 30 basis points (bps) as assumed by New Zealand Super Fund for its reference portfolio.

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TABLE ES.3. - RERF's Investment Returns vs. Alternatives[a]

	3 year	5 year	Inception (June 1995)
RERF-Kiribati	**11.3%**	**7.6%**	**6.0%**
$A Morningstar — Conservative	5.5%	4.8%	6.5%
$A Morningstar — Moderate	6.9%	6.0%	6.8%
$A Morningstar — Balanced	9.3%	7.9%	7.5%
$A Morningstar — Growth	11.0%	9.2%	7.8%
$A Morningstar — Aggressive	13.0%	10.8%	8.0%
$A Global Equities 50% / Fixed Income 50%	10.0%	8.7%	7.5%

Source: World Bank calculations.
Note: RERF = Reserve Equalization Revenue Fund.
a. Differences in reporting cycle dates for the Pacific funds and their different base currencies are the reason for differences in returns of reference portfolios across tables ES.2, ES.3, and ES.4. Pacific funds returns are net of fees, whereas reference portfolios returns are based on index returns. Implementation of reference portfolios could range between several basis points for passive index replication strategies to 30 basis points (bps) as assumed by New Zealand Super Fund for its reference portfolio.

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TABLE ES.4. - Federated States of Micronesia and Marshall Islands TF Investment Returns vs. Alternatives[a]

	3 year	5 year	FSM Inception (Sept 2004)	RMI Inception (June 1995)
FSM — Micronesia, Fed. Sts.	**7.7%**	**5.9%**	**5.5%**	
RMI - Marshall Islands	**8.1%**	**6.0%**		**6.0%**
US$ Diversified Risk 20%	4.8%	4.9%	5.3%	5.0%
US$ Diversified Risk 40%	6.0%	5.5%	6.0%	5.6%
US$ Diversified Risk 60%	7.0%	6.2%	6.6%	6.1%
US$ Diversified Risk 80%	8.1%	6.8%	7.2%	6.4%
US$ Global Equities 50% / Fixed Income 50%	7.1%	5.8%	6.1%	5.7%

Source: World Bank calculations.
Note: TF = trust fund; US$ = US dollar.
a. Differences in reporting cycle dates for the Pacific funds and their different base currencies are the reason for differences in returns of reference portfolios across tables ES.2, ES.3, and ES.4. Pacific funds returns are net of fees, whereas reference portfolios returns are based on index returns. Implementation of reference portfolios could range between several basis points for passive index replication strategies to 30 basis points (bps) as assumed by New Zealand Super Fund for its reference portfolio.

Caption: Kiribati Parliament. | Source: Author

Since its inception, the cumulative effect of OBAA strategy on TTF has been significant compared with other investment alternatives. At $A 185 million, TTF is about 313 percent of Tuvalu's GDP. Thus, every additional 1 percent in investment returns corresponds to about 3 percent of GDP in additional income to Tuvalu per annum. Compared with $A 50 percent /50 percent passive strategy that would have costed only several basis point to implement,[6] TTF underperformed by 4.5 percent per annum, which is equivalent to about 14 percent of GDP for any year that OBAA has been in place. Since OBAA implementation in April 2012, $A 50 percent /50 percent strategy would have delivered about 113 percent of GDP in additional wealth for Tuvalu. This amount is significant national wealth that Tuvalu has not accumulated as a result of its choice of the OBAA strategy.

With that in mind, over the past several years the TTF board has been engaging different partners and institutions to assess the appropriateness of its current investment approach and potential alternatives. As a part of these efforts early in 2020, TTF undertook a competitive selection process for its investment monitor that has a critical role in investment oversight: the selection continued despite the pandemic, and TTF selected a global firm in June 2020. These steps are important in improving TTF investment governance, and this comparative analysis could help TTF's design of an appropriate investment approach going forward.

2. Impact of active management decision and management costs

Another contributing factor to the returns difference was the Pacific funds' different approaches to implementing their investment strategies. All examined investment managers underperformed their benchmarks, and in some cases they underperformed significantly (Tuvalu) or suffered outright default (Kiribati). The level of underperformance was directly related to the level of the investment mandate's complexity or degree of allowable active risk. More complex or active mandates require significant in-house skills to implement and monitor on an ongoing basis. As a result of these experiences, and in line with trends globally, the Pacific funds in our study, with the exception of Tuvalu, have either moved entirely to passive mandates (Kiribati) or have been reducing the overall level of active risk for the total portfolios (Marshall Islands and Federated States of Micronesia). The level of complexity of the investment mandates is also the main factor explaining the differences in investment costs. For Marshall Islands, Federated States of Micronesia, Nauru, and Tuvalu, their higher fees are reflective of their investment in alternative asset classes or higher complexity mandates, whereas Kiribati's low costs reflects fully passive mandates. Furthermore, Kiribati was able to further reduce its managers' fees through competitive process RFP. This is a standard market practice globally, which would bring value to Pacific funds in general.

6 "One basis point" is 1 percent of 1 percent—that is, 1bp = 0.01%.

Caption: Market in Vanuatu. | Source: IFC

KEY TAKEAWAYS

Key takeaways for the Pacific funds from this benchmarking study are consistent with best practices for long-term investors:

- To ensure long-term sustainability of Pacific funds, **the investment strategy should reflect the fund's investment purpose, which should have in place a well-defined investment governance framework** to ensure the strategy is formalized, implemented, and monitored in line with global best practices.

- **Investment benchmark, representing replicable strategic asset allocation based on the investment policy, typically accounts for 80 percent to 90 percent of the returns and risk of the portfolio.**

- **More complex investment approaches and mandates are costly and require more sophisticated governance and ongoing efforts to oversee and manage these mandates.** Boards should ensure that they have the required time, inclination, and knowledge to oversee such mandates and that these approaches add value net of cost to the fund over time

- **OUTSOURCING IS NO SUBSTITUTE FOR ACCOUNTABILITY: boards have a fiduciary responsibility to the fund's beneficiaries and are ultimately responsible for investment decisions, including those that are outsourced**. As such, they need to ensure ownership of the risks that are being delegated and ensure that robust processes are followed to select and monitor service providers in line with the fund's needs.

- **HIGH-QUALITY GOVERNANCE** of the investment process is necessary for the long-term success of investment funds. **Statutory governance**—that is, clearly defined rules and investment parameters—should be well articulated to provide clarify and accountability to manage the funds. **Operational governance**—quality of day-to-day decision making and exercising fiduciary responsibility—will directly affect the financial results of the funds. **The frameworks should be reviewed periodically by impartial and independent parties to ensure that investment parameters evolve with the evolving market and policy contexts.**

1.

Caption: Workday in the Pacific | Source: Climate Investment Funds

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Note Objective

At the 2019 Finance and Economic Ministers Meeting (FEMM), policy makers called for improved transparency of the Pacific trust funds' management practices and investment results as a way to foster their improved management going forward. FEMM adopted the resolution that "Forum recognizes the need to undertake regional analyses on the comparison of the governance, portfolio management and returns of national trust funds" and tasked the World Bank to undertake the study (FEMM 2019). FEMM's is disclosing the results of the comparative analysis of Pacific funds investment to further stimulate collaborative discussion on how to strengthen the Pacific funds' management and how to inform the design and implementation of necessary reforms.

The first time FEMM considered the management of the Pacific trust and sovereign funds was in 2014 with the World Bank presenting a comparative analysis of the funds with high-level observations of the funds' governance, investment policy, and portfolio construction against the backdrop of increasing focus on improving the management of national funds. The Asia Pacific Association for Fiduciary Studies (APAFS), established in 2000, has been promoting good governance, trainings, and sharing of information for its members.[7] More recently, a regional coalition of provident, superannuation, trust, and sovereign funds—Pacific Islands Investment Forum (PIIF)[8]—has been set up to improve collaboration and investment practices and to increase cross-border regional coinvestment. Despite this regional progress, publicly available information about the management of the five Pacific funds was limited as was a comparable analysis of their practices, even though these funds had been managed for several decades and Kiribati's Revenue Equalization Revenue Fund (RERF), established in 1956, was one of the longest managed sovereign funds globally.

Whereas significant progress has been made in establishing international best practices for sovereign or large public funds, such as the Santiago Principles,[9] the Pacific funds are unique in making direct application of international practices challenging. With input from the World Bank and others, in 2015 the New Zealand government sponsored New Zealand Institute for Pacific Research (NZIPR) to develop best practices tailored specifically to the Pacific funds. The initiative produced a three-part study that (a) examined the role of the sovereign funds in the Pacific Islands; (b) developed an assessment framework and reference portfolios to evaluate the

7 Members of APAFS are found at https://www.apafs.org/default.asp?secID=115.
8 See The Pacific Islands Investment Forum, https://www.pacificinvestmentforum.com/.
9 The Santiago Principles for Sovereign Funds (IWG 2008) outline a set of high-level principles around the legal establishment of a fund and its objectives; its governance structure; investment, and risk management; and a fund's coordination with broader macroeconomic policies.

management of Pacific funds; and (c) applied the assessment framework and tools to assess the Tuvalu Trust Fund (TTF), the Niue International Trust Fund, and the Tokelau International Trust Fund (Drew and Frijns 2017).

These studies and recommendations have significantly advanced the understanding of the regional sovereign and trust funds and proposed a framework for their evaluation, serving as a strong foundation for comparative analysis of investment practices across the Pacific funds. In response to the FEMM's request, this note addresses the current vacuum of comparable information about Pacific funds' management practices building on the NZIPR framework and on the World Bank engagements with these funds since 2013. The comparative analysis brings together analysis of relevant data provided by those funds specifically for this analysis, publicly available information, and the World Bank's own extensive practitioner experience with managing US$185 billion of its own assets and assets of other public institutions[10] across different investment objectives and mandates.

This comparative study is designed to inform policy and decision-makers governing Pacific funds about how crucial their investment strategy decisions are for the performance of the funds over the medium to long term. Whereas we also provide insights from relevant practical experiences and observations that are relevant to the Pacific funds, this study does not attempt to diagnose investment issues, nor does it provide advice on appropriate reforms to address those issues. Further, this analysis focuses on investment strategies and implementation consistent with the respective funds' current designs, authorizing environment, and investment mandates rather than attempting to assess whether these design parameters are meeting the national needs.

10 The World Bank, through its Treasury (TRE), manages public assets both an asset owner and an asset manager for central banks, sovereign wealth funds, public pension funds, and other public financial institutions. TRE manages a range of portfolios with different investment objectives and mandates across the full spectrum of asset classes, including fixed income, public and private equity, and a wider range of alternative investments. TRE investment operations include both in-house investment management and an external managers program of more than 200 private sector asset managers. TRE brings its own practitioner investment management experience when engaging with public funds in its member countries.

2.

Caption: Tuvalu resident. | Source: IFC

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Introduction and Pacific Funds Context

Our comparative analysis covers a select set of national trust funds and a sovereign fund presented in table 2.1 from the following countries: Kiribati, the Marshall Islands, the Federated States of Micronesia, Nauru, and Tuvalu. Throughout the note we will refer to these funds collectively as "the Pacific funds" and "sovereign funds," encompassing both trust funds and a sovereign fund among them.

The Pacific countries had the foresight to set up a number of funds—provident, pension, and other special purpose funds—that play a significant role in the Pacific financial sector and that are highly heterogeneous in their setups and investment operations. We are limiting our comparative study to the five national funds—trust funds and a sovereign wealth fund— for the following reasons. First, over $A 3 billion is currently invested in these funds, which is equivalent to 230 percent of these countries' combined GDP, making them collectively a significant source of public capital for these countries. This is similar to the relative size of Norway's sovereign funds (US$1,063 billion), which is about 255 percent of its GDP. In contrast, sovereign funds of Australia (US$161 billion) and New Zealand (US$23 billion) are just over 10 percent of these countries' economies. Except for the Nauru trust fund, which was recently reestablished following its depletion in the 1980s, the four other funds range between 75 percent to nearly five times of these countries respective GDPs. Kiribati's RERF is the largest in absolute size with the current balance of about $A 1.2 billion. Most of the other funds are about $A 100 million to nearly $A 1 billion.

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TABLE 2.1. - Key Features of Pacific Trust and Sovereign Funds

Fund name and year established	Source of revenue	Total size, mln.	Percentage of GDP	Base currency	Board composition
Micronesia, Fed. Sts., Compact Trust Fund (2003)	Donor contributions	US$636	167	US$	Micronesia, Fed. Sts. (2 members), United States (3 members)
Kiribati RERF (1956)	Phosphate, fiscal surpluses	$A 1,171	445	$A	Kiribati Cabinet
Nauru Trust Fund (1968, 2015)	Fiscal surpluses, donor contributions	$A 111	75	$A	Australia (1 member), Nauru (1 member), New Zealand, (1 member), Taiwan (1 member)
Marshall Islands Compact Trust Fund (2003)	Donor contributions	US$ 435	198	US$	Marshall Islands (2 members), United States (4 members), Taiwan (1 member)

Sources: Fund size taken from annual reports or other funds' reporting provided to the World Bank team. GDP figures from IMF, 2019.
Note: RERF = Reserve Equalization Revenue Fund.

Second, although seen as heterogenous in the Pacific community, from the perspective of publicly managed funds globally, these Pacific funds are quite homogeneous despite some differences in their institutional set-up. From the perspective of international sovereign wealth funds, their governance is similar because their boards are composed of government officials with high reliance on external advisers. This arrangement is strikingly different from international best practices where board members appointed typically have relevant experience and are at arm's length from the government. In contrast, in these Pacific funds most people in governance roles have little if any industry experience, and many have had no formal training in investment governance. In particular, the board of TTF consist of Tuvalu's finance minister and representatives from Australian and New Zealand aid agencies, supported by the TTF secretariat housed in Tuvalu's finance ministry. Similarly, the boards of the Marshall Islands and Federated States of Micronesia are composed of donor countries and national representatives, supported by an executive administrator in Washington, D.C., who also runs day-to-day operations for both funds. In contrast, the government of Kiribati, as both the trustee and a beneficiary, has complete control over the RERF. The Kiribati Cabinet, chaired by the president, is the highest-level governing body responsible for key decisions and is supported by a small team in the Finance and Economic Development Ministry that also has other responsibilities.

Despite these differences in governance setups, these Pacific funds share commonality in their fundamental nature[11] and similarity in investment approaches that provide a sound basis for comparing them with one another. The five funds selected for the study are designed as perpetual funds with a common objective of balancing distribution of their income for today's spending while preserving equity across generations. The geographical remoteness of Pacific islands from financial centers has further affected their national funds' access to financial markets and quality of provided services, whereas low technical capacity makes these funds dependent on external expertise and specialized services providers.

Finally, given their common objectives, it's not surprising that these funds follow similar investment approaches. In particular, to grow their capital base and to fund their national development needs, 100 percent of the funds' capital is invested abroad in international markets across the full risk spectrum of financial assets.

Consequently, this study focuses on comparative analysis of the main investment decisions that drive the Pacific funds investment results over the medium to long term, while accepting that unique features of individual funds would contribute to some variations in investment results over the short term. Thus, we compare investment outcomes of Pacific funds over the recent period.

To understand the key factors that contribute to observed differences in Pacific funds investment outcomes over the period, we evaluate the funds' investment choices along the following dimensions. First, we propose a methodology to assess the funds' investment strategy decisions against clearly defined and implementable alternatives. We further comment on the effect of the funds' decisions in implementing their investment policy, notably in relation to the level of active management given to the external fund managers and whether that management adds value net of cost to funds over time. We also compare the funds' costs of external fund management and discuss financial industry trends in that regard.

The rest of the paper is structured as follows. "Note on the Use of Individual Fund Data in Comparative Analysis" presents the data that were used for the comparative study and the team's treatment of the data to ensure comparability across the funds. The section also addresses the limitations of the existing dataset and its effect on the results of the analysis. "Methodology for Comparative Analysis" (a) presents the case for focusing the comparative analysis on the funds' selection of their investment benchmarks, (b) outlines the overall methodology used for the study, and (c) addresses the effect of the recent market volatility owing to COVID-19 on the interpretation of the study. "Benchmarking of Pacific Funds" presents the peer comparison of the five funds' investment outcomes and benchmarking of each of the fund's investment outcomes against relevant investment alternatives. The section also shares insights from the evolution of the funds' investment practices based on provided documents and on the World Bank engagement with these funds since 2013. Finally, the section provides an overview of the funds' investment management costs and discusses trends in the investment management industry. The final section concludes with key takeaways from this study for the Pacific funds consistent with best practices for long-term investors globally.

The following four sections are tailored to policy and decision-makers at the highest level of governance of the Pacific funds responsible for determining the funds' overall investment strategies and level of risk. Appendixes A through E provide extensive technical details and the underlying analyses that informed the paper's findings that would interest investment practitioners and technical advisers.

11 There are some variations in the design of trust funds in the Pacific. For example, Nauru's Compact Trust Fund is designed as a sinking fund. Nauru's fund predates the Compact Trust Funds of the Federated States of Micronesia and the Marshall Islands that are designed as perpetual funds.

3.

Caption: Marshall Islands, Coastline aerial | Source: https://earthview.withgoogle.com

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Note on the Use of Individual Fund Data in Comparative Analysis

The World Bank team requested relevant data from each of the funds to be used in this comparative analysis. Monthly return data and granular breakdown of asset management costs were provided by the funds' administrators of the Federated States of Micronesia and the Marshall Islands. Tuvalu and Kiribati shared investment reports from their custodian or service providers that, among other data, provide aggregated 1-year, 3-year, 5-year rolling returns over their respective fiscal years (which are different), but not monthly returns. The team also got the costs of external asset management for these funds, which is a small component of total asset management costs that were provided by the Marshall Islands and the Federated States of Micronesia. Nauru referred the team to the fund's website with its 2019 annual report and publicly available information, which is significantly more limited than information that was made available by other funds.

We are not in the position to ensure the accuracy of the data from these reports. However, our benchmarking against reference portfolios constructed from publicly available market indices over respective investment horizons provides satisfactory validation that the return data are representative of the funds' investment approaches. Table 3.1 provides details about each fund's data availability, inception, frequency, and sources.

FREQUENCY OF AVAILABLE DATA. As the frequency of the provided data and the level of aggregation are different across the funds in this study, a granular analysis with a high degree of accuracy is not possible at this stage. To provide a comparative analysis with the current data limitations and without the benefit of monthly granular data, the team—to the extent possible—aligned the return data for different funds across compared periods and validated results of the analyses through publicly available market indices as appropriate.

DIFFERENT REPORTING CYCLES. Another data challenge with the current data given its annual frequency is different reporting cycles for the funds. To address this issue for the aggregate 1-year, 3-year, 5-year returns and returns since inception that are linked to the funds' respective reporting dates, we aligned returns of reference portfolios with each of the respective funds' reporting periods. The difference in reporting cycle dates is one of factors contributing to differences in returns of reference portfolios in the respective funds Investment Returns vs. Alternative tables presented in the Executive Summary and in Section V.

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TABLE 3.1. - Funds Data Details

Fund Name	Financial Performance Data Sources	Financial Performance Data Description	Fees Data Source	Fees Data Description
Federated States of Micronesia Compact Trust Fund	Annual Report FY19	Annual Returns from FY06 to FY19. 1-year, 3-year, 5-year, and since inception returns for the fund, asset classes. Fund reporting inception September 30, 2004, data as of September 30, 2019	Annual Report FY19	Detailed breakdown of administrative expenses, broken down by the subcomponents of Investment Expenses and Administrative Expenses on a fiscal year basis, since inception (FY04)
Kiribati RERF	Performance Report from fund custodian, as of November 30, 2019	1-year, 3-year, 5-year, 10-year, and since inception returns for the fund, asset classes. Fund reporting inception June 1, 1995, data as of November 30, 2019	Investment expense data from Request for Proposal (RFP).	Manager fees from RFP, weighted by assets. No data available on administrative costs.
Nauru Trust Fund	Annual Report FY19	Returns data available for 1 year, and since inception (April 2016). Data as of June 30, 2019	Annual Report FY 2019	Calculated as fees paid as a percentage of fund size.
Republic of the Marshall Islands Trust Fund	Annual Report FY19	Annual Returns from FY04 to FY19. 1-year, 3-year, 5-year, and since inception returns for the fund, asset classes. Fund reporting inception September 31, 2005, data as of September 30, 2019	Annual Report FY 2019	Detailed breakdown of administrative expenses, broken down by the subcomponents of Investment Expenses and Administrative Expenses on a fiscal year basis, since inception (FY05)
Tuvalu Trust Fund	Quarterly Report 3Q19	1-year, 3-year, 5-year, and since inception returns for the fund, and its two managers. Fund reporting inception April 1, 2012, data as of September 30, 2019	"Tuvalu Trust Fund - Investment Review" by Vinstar, November 2011, and information on asset managers websites	Calculated as fees paid as a percentage of fund size.

DIFFERENT BASE CURRENCIES. The Pacific funds included in the analysis include both US$-based funds (Marshall Islands and Federated States of Micronesia) and $A-based funds (Kiribati, Nauru, Tuvalu). When benchmarking funds against publicly available market indices, we compared US$-based funds with respective indices in US$ currency and $A-based funds with $A indices or returns hedged into $A. The currency difference is another contributing factor to the reference portfolios' returns being different from the Pacific funds in the tables in the Executive Summary and Section V.

The use of the lower frequency aggregated data over slightly different time periods introduces some level of distortion when comparing funds' investment returns. However, the team is confident that proposed framework is robust enough to assess fundamental differences driving the funds' long-term value because of the high-level investment benchmark decisions of the Pacific funds over the medium- to long-term horizons (three years and more). Using the monthly data would have allowed the team to provide risk-adjusted analyses and further insights into investment management practices of each fund. Still, using monthly data for comparative analysis would not fundamentally change the study's conclusions, nor specific recommendations for how to improve the management of individual funds. As monthly return data for each of the participating funds becomes available, the team stands ready to extend this comparative analysis on a risk- and cost-adjusted basis.

TREATMENT OF RETURNS DATA NET OF COSTS. The Pacific funds returns data provided to the team are net of fees, although it's not clear what costs are excluded by different funds as the total asset management costs include investment advice, custody, external fund management, internal management and operation, and governance (payments to committee members, travel, other relevant expenses). In constructing reference portfolios, we use the index return data and assume these returns to be before fees. Thus, readers need to assume some costs for implementing the reference portfolios. By way of guidance, the New Zealand Superannuation Fund (NZ Super Fund) estimates implementation of its reference portfolio benchmark is around 29 basis points (NZ Super Fund 2020). For the passive $A 50 percent /50 percent portfolios that could be implemented through passive index funds, implementation cost including asset management and custody would amount to several basis points.

4.0

Caption: Road in Kiribati. | Source: Author

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Methodology for Comparative Analysis

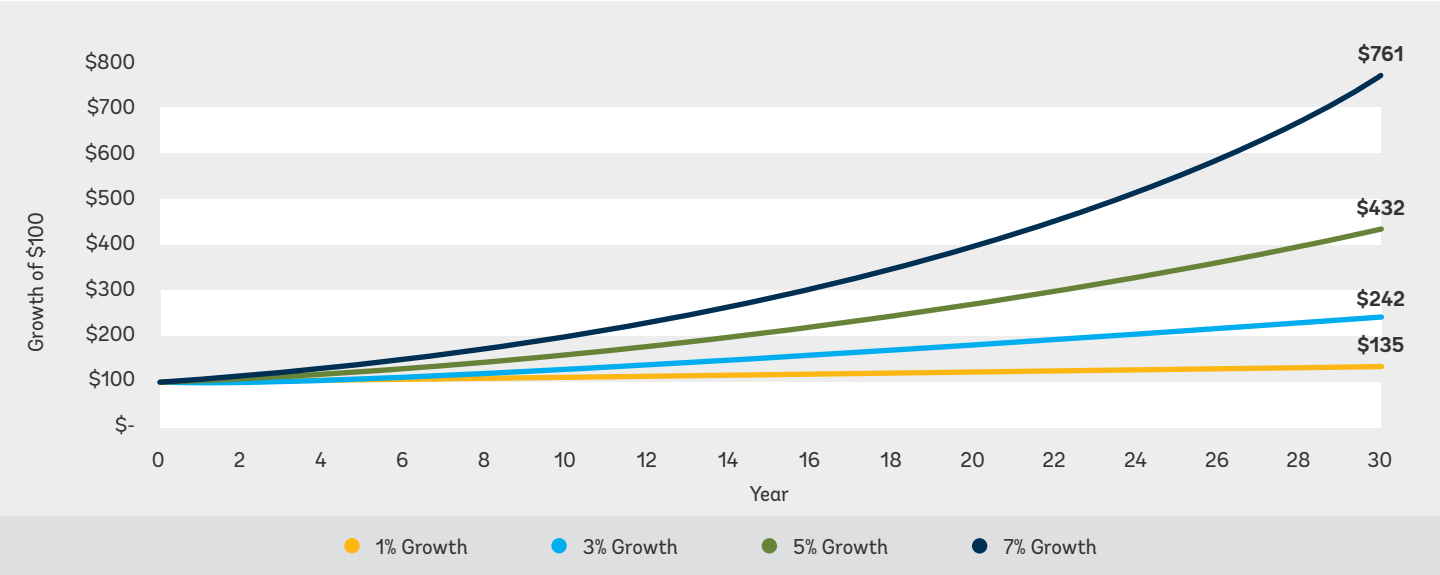
1. Role of Investment Benchmarks

It has been widely documented that selection of an appropriate benchmark is the most crucial investment decision for a fund or a portfolio that will determine its future performance (Scott et al. 2017). In selecting and following a benchmark, a fund basically defines its strategic asset allocation, the level of its expected future return and the degree of uncertainty around investment outcomes—that is, the level of risk. There are variations in internal processes across investment funds globally to come up with an appropriate investment benchmark, as well as in the use of terminology depending on the purpose of a fund, its size and investment philosophy. Some funds define their investment benchmarks through the process of strategic asset allocation, others through the construction of a reference portfolios, while others define specific investment benchmark within their investment policy objective statements. While there are nuances to each of these approaches, their underlying objective is to come up with an implementable portfolio to guide the funds' investment management operations. In this note we will use the term "benchmark" to represent a benchmark portfolio against which performance of a fund could be assessed, regardless of the process through which it was established.

While there is a growing supply of complex investment products promising to outperform the market, the choice of benchmarks continues to explain 80 percent to 94 percent of their return variations across global markets and all types of portfolios, as presented in the table 4.2. As a result, the investment benchmark is the most crucial decision particularly for long-term funds because of the cumulative impact of every additional percentage point of investment returns over its investment horizon. As illustrated on figure 4.1, cumulative wealth of a hypothetical US$100 invested with different rate of returns have remarkably different outcome at the end of the 30-year investment period. For example, investment return of 5 percent leads to nearly twice the size of the portfolio (US$432) as opposed to 3 percent return (US$243), whereas 7 percent returns to US$761.

> > >

FIGURE 4.1. - Growth of $100 Over 30-year Horizon



Source: World Bank calculations.

> > >

FIGURE 4.1. - Growth of $100 Over 30-year Horizon

	United States	Canada	United Kingdom	Australia	Japan	Brinson, Hood, and Beebower 1986
Number of balanced funds in each market sampe	709	303	743	580	406	91
Median percentage of actual-return variation explained by policy return	91.1%	86.0%	80.5%	89.1%	87.9%	93.6%

Sources: Vanguard calculations, using data from Morningstar, Inc.; Scott et al., 2017.
Note: For each fund in our sample, a calculated adjusted R^2 represented the percentage of actual-return variation explained by policy-return variation explained by policy-return variation. Percentages shown in the figure—91.1% for the United States, 86.0% for Canada, 80.5% for the United Kingdom, 89.1% for Australia, and 87.9% for Japan—represent the median observation from the distribution of percentage of return variatin explained by asste allocation for balanced funds. For the period January 1990—September 2015, the sample included the following: for the United States, 709 balanced funds; for Canada, 303; for the United Kingdom, 743; for Australia, 580; and for Japan, 406. Calculations were based on monthly net returns, and policy allocations were derived from a fund's actual performance compared with a benchmark using returns-based style analysis (as developed by William F. Sharpe) on a 36-month rolling basis. Funds were selected from Morningstar's Multi-Sector Balanced category. Only funds with at least 48 months of return history were considered in the analysis. The policy portfolio was assumed to have a U.S. expense ratio of 1.5 basis points (bps) per month (18 bps annually, or 0.18%) and non-U.S. expense ratio of 2.0 bps per month (24 bps annually, 0r 0.24%).

Thus, the focus of our comparative analysis is on the Pacific funds' decisions with respect to their investment strategies, expressed through their investment benchmarks.

Caption: School kids in Tuvalu | Source: IFC

2. Defining Reference Portfolios for Funds with Different Risk Tolerance Parameters

To compare investment outcomes across the Pacific Funds we build on the reference portfolio approach recommended by Drew and Frijns (2017). We construct several reference portfolios with different risk profiles representing alternative investment choices for the funds against which we benchmark their decision. The key advantage of the reference portfolio approach is that it incorporates best practice features and can be implemented easily and cost effectively (Drew and Frijns 2017). Appendix A provides details of how we construct reference portfolios for benchmarking both US$-based and $A-based Pacific funds, their asset composition, historic risk and return characteristics and other relevant parameters.

We used two different types of reference portfolios that are relevant for the Pacific funds: (a) a simplified and cost effective to implement option and (b) a more diversified range of options for different risk tolerance levels that would require more technical capacity to design and implement.

The first and most simple reference portfolio is constructed as a passive 50 percent global equity/50 percent global fixed income exposure, which allows for a relatively high level of global diversification at very low cost. This simple structure also does not require a significant level of technical expertise to maintain and monitor.

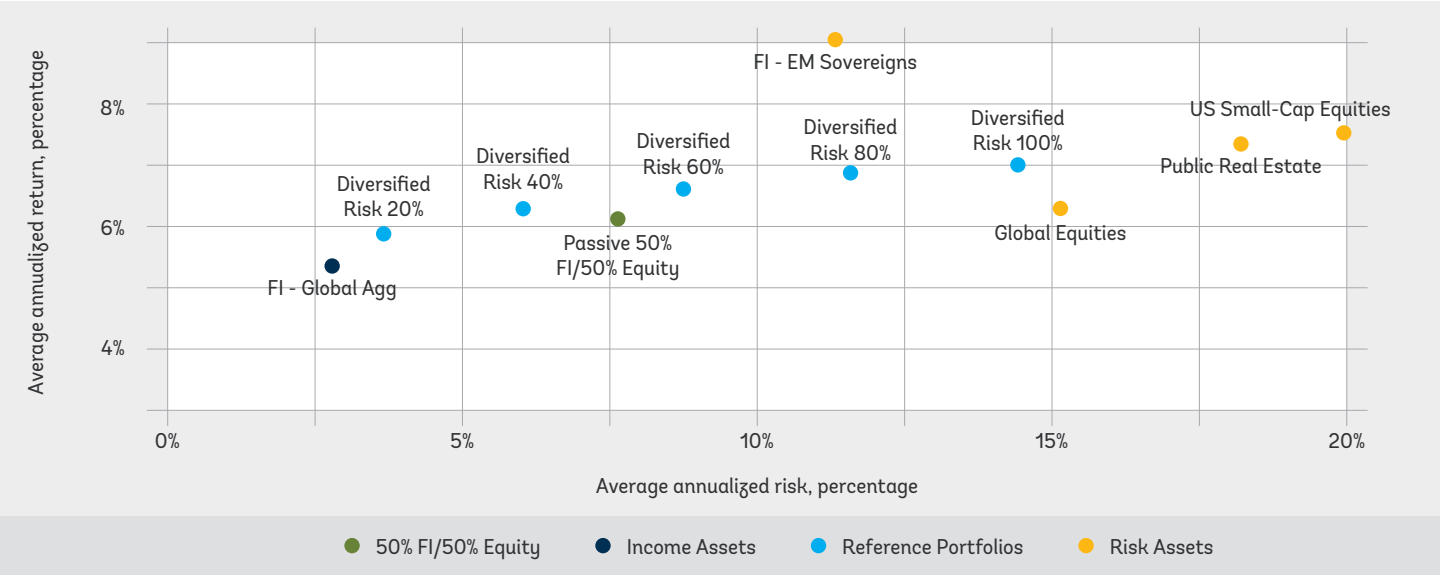
The second set of reference portfolios are constructed using a broader mix of asset classes to increase diversification but would require more sophisticated governance and technical expertise to implement and manage on an ongoing basis. These reference portfolios also allow us to scale the level of market risk from low exposure to risk assets (say, 20 percent of the total portfolio) to high risk (100 percent of the portfolio), as such representing a broader range of investment alternatives for governing boards to express their differing fund purposes and necessary risk levels.

Figures 4.2 and 4.3 present historical returns versus two risk measures for these reference portfolios over the period 1995–2020. Not surprising, portfolios with a higher level of risk generated a higher level of returns over the period. Further, reference portfolios with a broader range of asset classes benefited from diversification when compared with the passive 50 percent/50 percent portfolio with higher returns for a given level of risk across both risk measures. Presented risk and returns data incorporate the effects of COVID 19 on the global markets up to April 30, 2020.

The key takeaway from these figures is that while diversified portfolios provide somewhat better risk adjusted returns, in downside protection and in volatility of returns over an investment horizon, the main decision that an investor makes that drives its investment results is the allocation to growth (risky) versus income (or defensive) assets.

> > >

FIGURE 4.2. - Return vs. Risk (as Volatility of Returns) of Asset Classes and Reference Portfolios



Source: World Bank calculations.

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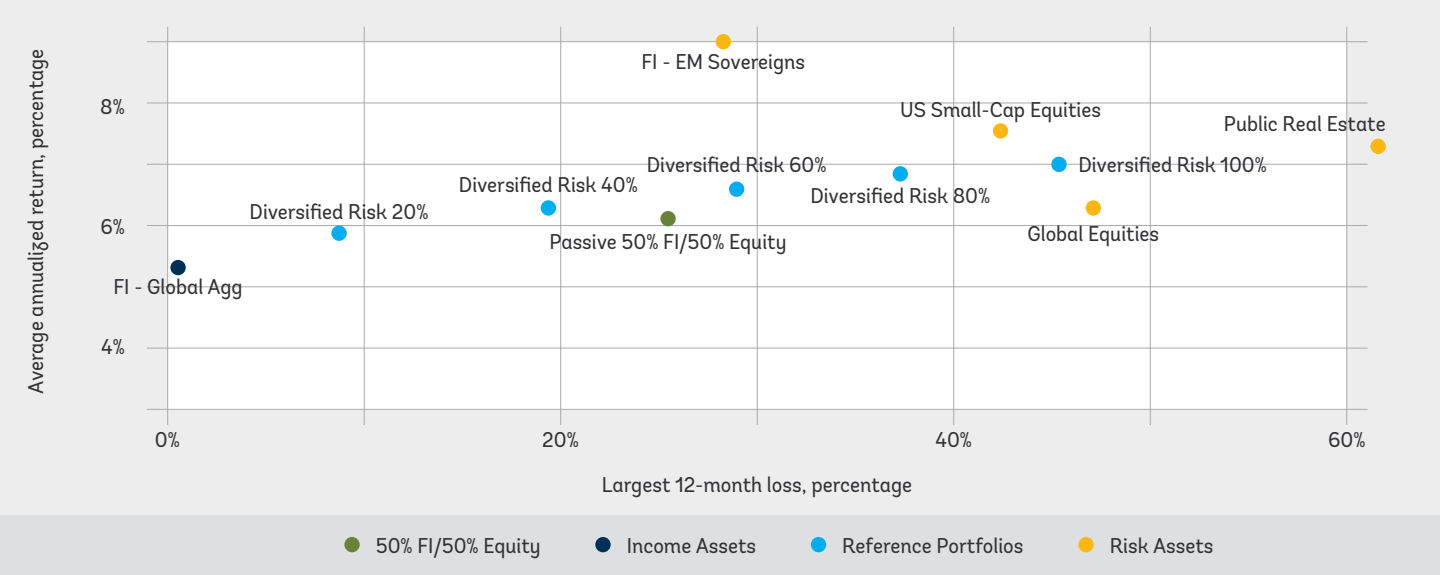
FIGURE 4.3. - Returns vs. Downside Risk of Asset Classes and Reference Portfolios



Source: World Bank calculations.

3. Impact of COVID-19 on Market Volatility and Returns

As this note is being prepared based on the analysis conducted during April 2020 through June 2020, global markets have been volatile owing to the ongoing global pandemic. At the onset of the pandemic in March 2020, the markets experienced a significant drop with equity markets losing nearly 30 percent over the short period.

The Pacific funds' risk and return numbers provided to the team for the comparative analysis as of late 2019 preceded the market drop during the pandemic. The team would be ready to update this comparative analysis when investment performance numbers for individual funds incorporating the COVID-19 period become available. In the meanwhile, we place our comparative analysis in the current market context and address the potential effects of the current market drop on Pacific funds' investment returns.

As figures 4.4 and 4.5 demonstrate, the immediate market drop owing to the pandemic has been dramatic and presents significant market shock and volatility challenges over the immediate term; yet as of June 2020 measured over the medium to longer term, the pandemic's effect is comparable with other market events that long-term investors have dealt with in the past. As of June 15, 2020, the US equity market has been fluctuating around its prepandemic levels, and equity markets in other regions have recovered from their lows as presented in figure 4.4. Figure 4.5 presents the three-year rolling returns incorporating current market volatility up to April 30, 2020, when the market was near its lows, and shows that even for portfolios with 80 percent risk allocation the returns are positive. Over 10-year horizons, the portfolios with the highest level of risk still demonstrate the highest level of returns.

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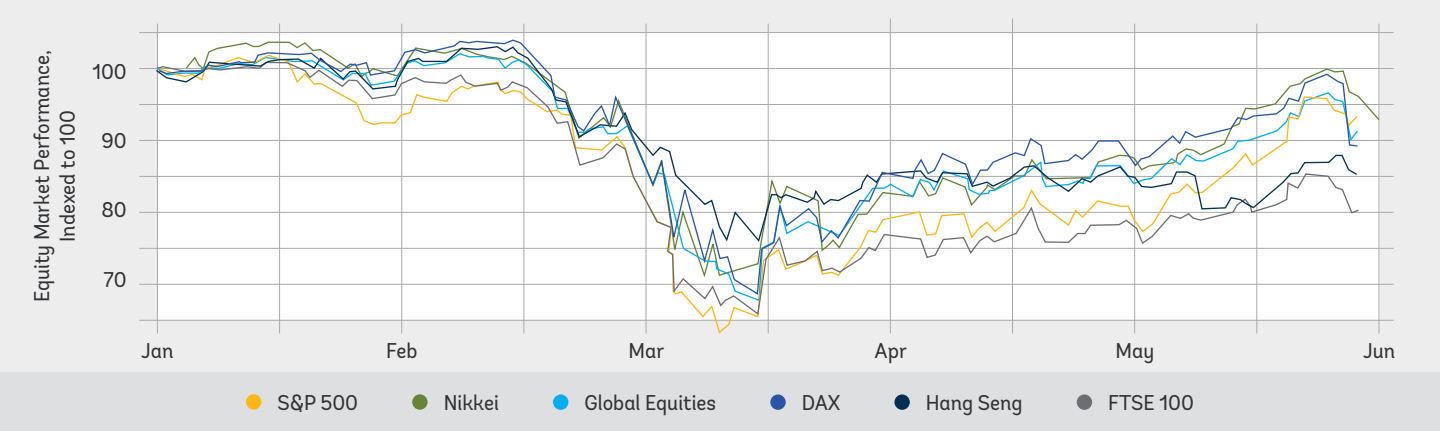
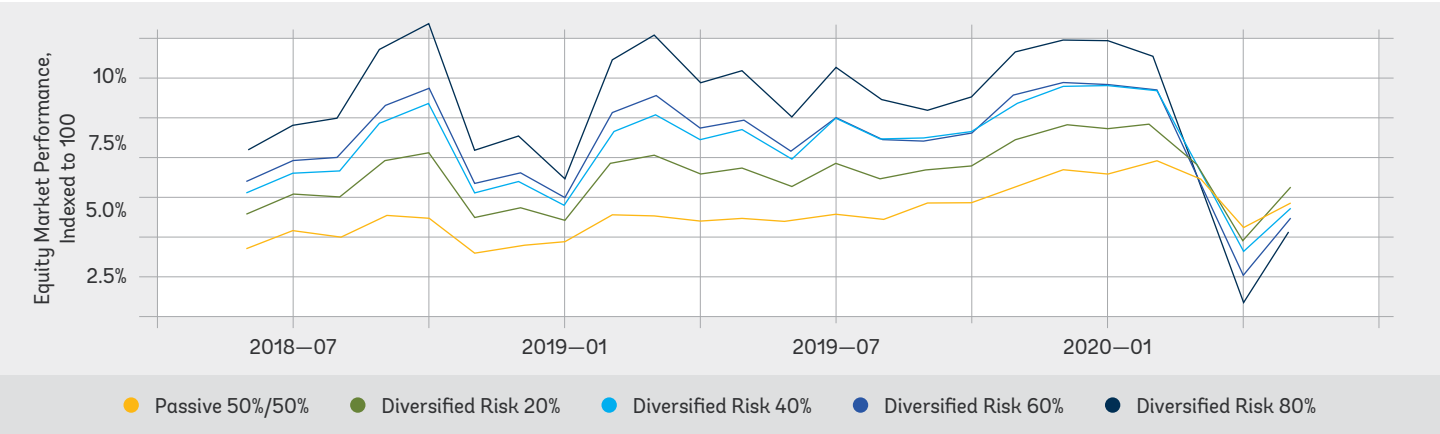
FIGURE 4.4. - Movement of Equity Market (January 2020 to June 2020)



Source: World Bank calculations.

> > >

FIGURE 4.5. - Effects of COVID-19 on Rolling 3-year Return for Reference Portfolios (April 2018 to April 2020)



Source: World Bank calculations.

5.

Caption: Kiribati Copra Mill | Source: Author

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Benchmarking of Pacific Funds

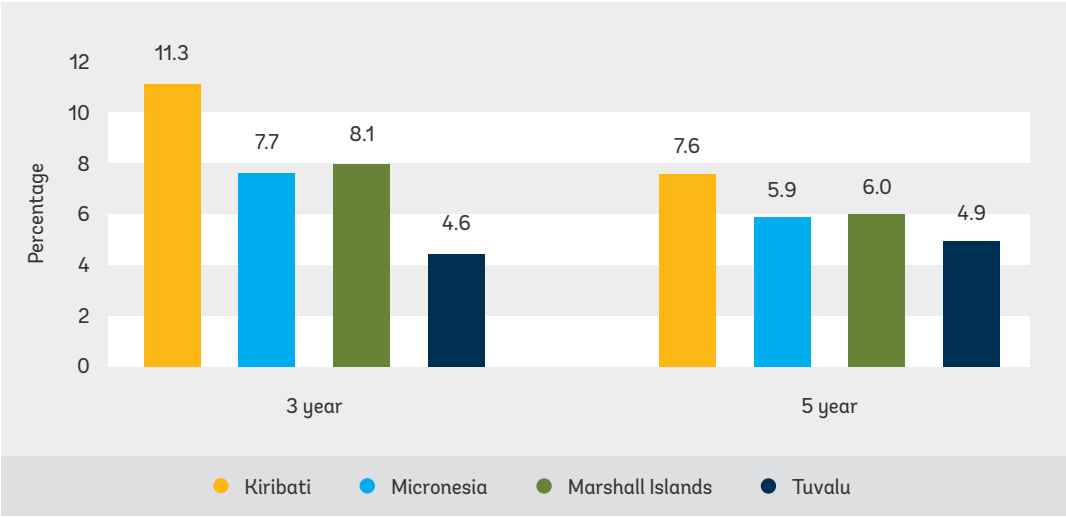
1. Pacific Funds' Peer Comparison

In this section we provide comparative statistics for the funds' investment returns over medium to longer time periods and explain the variation across returns.

As presented in figure 5.1, Pacific funds demonstrated quite different returns with two $A-based funds, Kiribati and Tuvalu, exhibiting the most contrasting outcomes over the considered period of five years, but particularly over the more recent periods. The two US$-based funds of Marshall Islands and Federated States of Micronesia displayed quite similar returns over each of those horizons, illustrating similarity of the overall investment strategy, whereas small deviations illustrate variations in the funds' individual fund portfolio implementation.

> > >

FIGURE 5.1. - Pacific Funds Peer Comparison: 3- and 5-year Net Returns



Source: World Bank calculations based on data provided by funds.
Note: The Tuvalu, Federated States of Micronesia, and Marshall Islands funds are as of September 30, 2019. The Kiribati fund is as of November 30, 2019.

When comparing the Pacific funds' allocation across different asset classes (table 5.1), it's not surprising that different funds' returns differ given their different exposures to risky assets.[12] Funds based on US$—the Marshall Islands and the Federated States of Micronesia—have similar risk levels to the large regional sovereign wealth funds, such as the Australian Government Future Fund ($A) and New Zealand's Super Fund ($NZ), and similar to that of US university endowments, especially those of comparable size to the Marshall Islands and the Federated States of Micronesia funds. The difference in outcomes for Kiribati versus Tuvalu is quite striking considering that these funds have similar exposure to risky assets (about a half of the portfolio) and, as $A-based funds, manage across similar investable universe. Table 5.1 represents the current or recent asset composition, whether as a strategic asset allocation (SAA), such as in Australia and Kiribati; reference portfolio as in New Zealand; actual portfolio compositions, such as in university endowments, the Marshall Islands, and the Federated States of Micronesia; or an alternative OBAA strategy pursued by Tuvalu. These numbers are illustrative to provide a static insight into these funds' current asset allocation, as they are not sufficient to explain significant difference in returns displayed on figure 5.1.

As some of these funds have been considering whether to adopt an endowment model, in appendix E we provide relevant information about US universities and colleagues endowments' investment approaches and detailed results. As a point of comparison, US university and college endowments of similar size to these Pacific funds (US$250 million to US$1 billion), which are quite similar in their purpose and investment approach, have generated an average return of 8.9 percent over a three-year period and around 5.2 percent over the five-year period.[13]

> > >

TABLE 5.1. - Strategic Asset Allocation for Pacific Funds and Comparable Peers

	Micronesia, Fed. Sts.	Kiribati	Nauru	Tuvalu	Marshall Islands	Australia	New Zealand	University endowments, >US$1 billion	Small university endowments
Fixed income	18%	50%	18%		25%	20%	20%	10%	22%
Equities	58%	50%	60%		66%	35%	80%	32%	56%
Private markets	24%		22%		9%	45%		58%	22%
OBAA				100%					
Income assets	18%	50%	15%		25%	20%	20%	10%	22%
Risk assets	82%	50%	85%		75%	80%	80%	90%	78%

Sources: Trust Fund for the People of the Republic of the Marshall Islands, 2020; Trust Fund for the People of the Federated States of Micronesia, 2020; Kiribati from November 30, 2019 Custodian Report; Tuvalu 3Q19 Investment Report, with "Defensive" allocated to fixed income, "Growth" allocated to equities, and "Diversified" allocated to Private Markets; Australian Government Future Fund, 2019—cash added to fixed income and figures rounded; New Zealand from the NZ Super Fund, 2014; Nauru from the 2019 Annual Report, with the Mercer Growth fund allocated among the neutral weights as listed on the Mercer Growth fund's product disclosure statement; university endowment data from the NACUBO-TIAA Study of Endowments 2019.
Note: OBAA = objective-based asset allocation.

Comparing returns of these funds against reference portfolios within their respective currencies ($A for Kiribati and Tuvalu and US$ for Marshall Islands and Federated States of Micronesia) over different investment horizons reveals different levels of total risk across the Pacific funds, which explains variations in their returns. In the next section, we examine the Pacific funds' individual investment choices and the effects of those decisions on investment outcomes over the period.

12 Definition of risky assets for the purposed of this study are defined in appendix A. There could be differences in qualification of respective asset classes into risk versus other assets leading to potentially different percentages across income and risk assets.

13 We provide results of US universities and college endowments owing to their high level of transparency and availability of the periodic analysis of 802 institutions managing endowments ranging from US$25 million assets under management to more than US$1 billion, making it the largest and most comprehensive study of its kind. As there are some regional biases in investment approaches across asset owners, we suggest that the Universe of Australasian midsize foundations could be a better comparator for the Pacific funds.

Caption: Tuvalu Delegation to Tokyo Olympics 2021 | Source: Tuvalu.TV

2. Benchmarking Tuvalu's Investment Approach: OBAA Strategy and Its Effects

The Tuvalu Trust Fund was established in 1987 to provide a source of recurrent revenue to the government of Tuvalu, which had extremely limited alternative sources of revenue at its disposal when it achieved independence in 1978. Tuvalu started developing a case for a trust fund with its donor partners in 1982. Following negotiations, the International Trust Fund Agreement was signed June 16, 1987, by Australia, New Zealand, Tuvalu, and the United Kingdom as the original parties. The fund itself was invested on August 21, 1987, with an initial value of $A 27.1 million of which $A 1.6 million was contributed by Tuvalu, $A 8 million by Australia, NZ$ 8.3 million by New Zealand, $A 8.5 million by United Kingdom, $A 0.7 million by Japan, and $A 31,000 by the Republic of Korea. Since inception, the fund has been receiving additional contributions from the parties to the fund (TTF 2019).

As set out in part I, article 2 of the trust fund agreement, TTF has the objectives to (a) assist the government to achieve greater financial autonomy in the management of its recurrent budget; (b) enable the government to maintain, and if possible, improve existing levels of social infrastructure and services; (c) enhance the capacity of the government to receive and effectively use external capital development and technical assistance; (d) enable the government to meet long-term maintenance and operating costs of social and economic infrastructure and services; and (e) assist the government to develop the economy of Tuvalu (TTF 2019).

As presented in table 5.2, since 2012 TTF returns are comparable with the most conservative of reference portfolios. The defining decision that affected TTF returns over this period was the implementation of the objective-based asset allocation (OBAA) strategy in 2012.

> > >

TABLE 5.2. - Tuvalu's Returns vs. Reference Portfolios

	3 year	5 year	Inception (April 2012)
TTF	**4.6%**	**4.9%**	**6.1%**
US$ Diversified Risk 20%	5.7%	6.6%	7.5%
US$ Diversified Risk 40%	7.7%	8.3%	9.5%
US$ Diversified Risk 60%	9.8%	9.9%	11.5%
US$ Diversified Risk 80%	11.8%	11.5%	13.4%
Global Equities 50%	9.3%	9.0%	10.6%

Source: World Bank calculations.
Note: TTF = Tuvalu Trust Fund.

The foundation of the OBAA strategy is that instead of the TTF board deciding on strategic asset allocation mix consistent with their view of the TTF risk tolerance and investment objective, the board delegates the asset allocation decision to investment managers. The asset managers are given significant leeway in changing allocation across different market sectors. In embracing the OBAA strategy, the TTF board adopted the view that asset managers are in a better position to deliver required returns by actively managing the portfolio, rather than by setting the strategic asset allocation mix for the fund itself. Implementation of the OBAA strategy resulted in TTF restructuring its governance structure, investment management, and portfolio monitoring. The terms of reference of relevant governance and technical bodies, including the board, the advisory committee, investment committee, investment monitor, and the secretariat were revised to reflect the shift of decision making from the governing structures to the implementing structures, that is, from the public sector fiduciary to the private sector agents.

Before the 2012 restructuring, TTF followed a more traditional asset allocation approach in which the TTF board was responsible for setting the risk tolerance of the fund and expressing it through the fixed allocation between "growth" and "defensive" assets (or "income" assets in our terminology), which was 60 percent in growth assets and 40 percent in fixed assets at the time of the OBAA strategy implementation. Before that, the target asset allocation varied over time depending on board decisions from relatively conservative 30 percent /70 percent to 70 percent /30 percent —the highest level of risk taken by TTF. This asset allocation was implemented with passive mandates (for example, for Australian equities) with asset managers replicating respective market indices for their sectors. Performance of asset managers was reviewed regularly, and they were periodically replaced for underperformance.

To implement the OBAA strategy, the TTF reduced its number of external managers from seven to two. One manager was an incumbent managing an Australian equity mandate, and the second was given a mandate without a competitive process. Since the OBAA strategy was put in place, several reviews of TTF have occurred, including a desk review by the World Bank's Reserve Advisory Management Program (RAMP) team in 2016, that found that OBAA strategy may not be an appropriate strategy for TTF because it was not aligned with the funds objective to deliver real returns over a long-term investment horizon. The review by the New Zealand Institute for Pacific Research (NZIPR) found that "there has been an unusually high level of delegation down of investment governance responsibilities (e.g. asset allocation, benchmarks, permitted asset classes, etc.) by the Board to Fund Managers, the Monitoring Consultant and Investment Committee representatives" (Drew 2017).

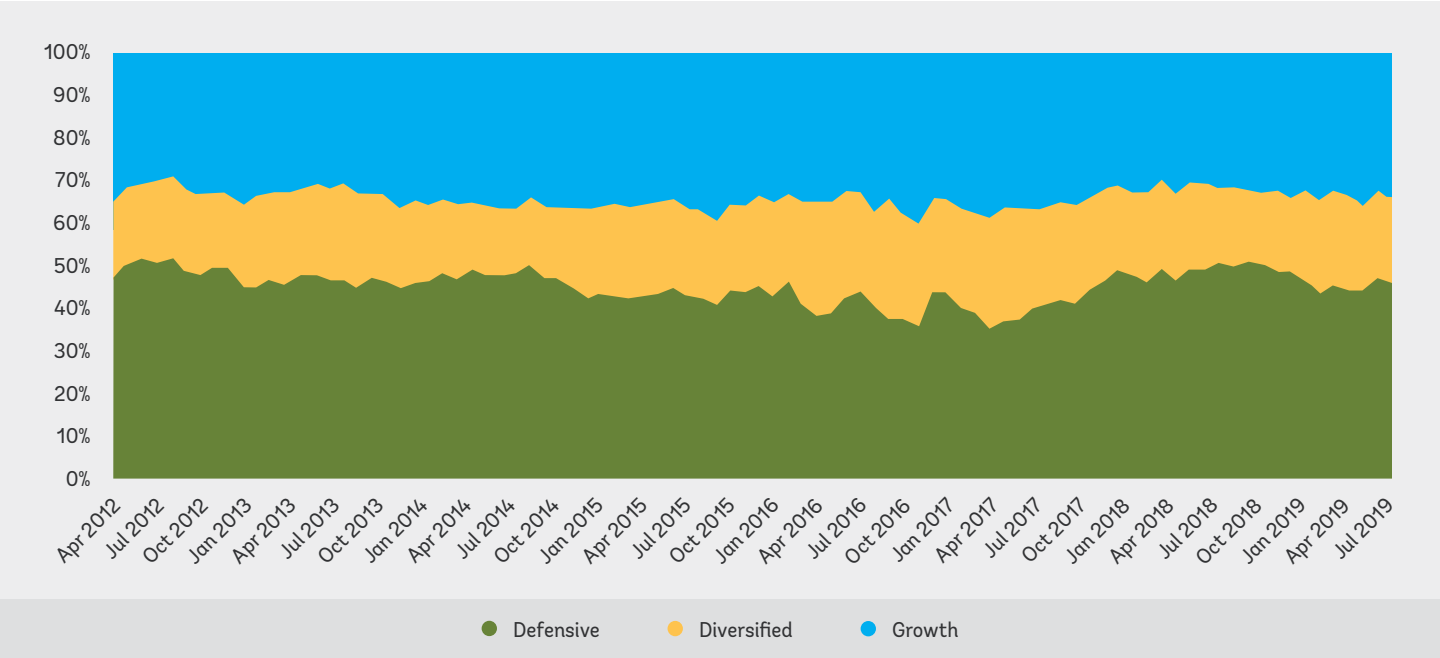
The two managers' publicly available information on this strategy describes their investment objectives as to "increase exposure to rising assets and reduce risk by avoiding or selling unattractive assets"[14] with the expectation that this strategy will capture the upside of the market (that is, will deliver high returns when markets rally) and will protect the portfolio from investment losses at the times of the market sell-offs. The two managers have an investment target, or a benchmark, such as the consumer price index (CPI) + 5 percent. The 2012 TTF review that advocated (successfully) for transitioning to the OBAA strategy also promised that, in addition to reducing the downside risk, the OBAA strategy would reduce the overall volatility of TTF portfolio returns.

In fact, despite having significant discretion to reallocate across different asset classes, on the aggregate the two managers have maintained about 50 percent allocation to defensive assets, about 20 percent to diversified assets and about 30 percent to growth assets as figure 5.2 illustrates. Small temporary deviations from those ranges have occurred while the market had significant movements during the period.[15]

14 See AMP Capital Multi-Asset Class fund, https://www.ampcapital.com/au/en/investments/funds/multi-asset-and-diversified/amp-capital-multi-asset-fund.
15 This abstracts from any derivative positions the managers may have had in place over time to manage risk levels.

> > >

FIGURE 5.2. - Movement of TTF Asset Category Allocation Since Inception of OBAA Strategy



Source: TTF Quarterly Report, September 2019.
Note: OBAA = objective-based asset allocation; TTF = Tuvalu Trust Fund.

Thus, the assumption that if given leeway, investment managers would have the incentive to make changes to their asset allocation and the foresight to anticipate the market movements—both of which would be required to deliver on the OBAA strategy—have not materialized. Both OBAA managers are paid a fixed fee (relatively high, as discussed in the section "Benchmarking of Investment Management Costs") whether or not they deliver on their performance objectives. To introduce incentives for these types of mandates, the market practice is to add a performance component to the asset management fee, making the payment depend on them delivering their return objectives. The level of market foresight and the skill required to deliver value net of fees over the broad market—both required to deliver on such a mandate—are discussed in great depth in appendix D.

Our reference portfolios are constructed to reflect the global nature of financial markets and were constructed using global risk and income assets reflective of the full spectrum of investment options accessible to the Pacific funds. Still, we acknowledge that $A-based Pacific funds might want to have greater exposure to regional $A investments. To accommodate such a scenario, we also provide comparison of TTF returns versus $A Morningstar investment portfolios with comparable levels of risk, including conservative, moderate, balanced, growth and aggressive portfolios. We also included these indices because they are used by the TTF investment monitor to compare TTF returns against in their quarterly investment reports. Appendix B provides specific details on the composition of these portfolios, their characteristics and historical risk and return statistics.

Morningstar indices and our reference portfolios share the common approach to building portfolios with increasing level of exposure to risky assets, while only differing on the geographic origin of these assets. Returns of Morningstar indices and our reference portfolios of similar risk levels correlate between 0.8–0.85 confirming once again that it's the risk level that drives returns over investment horizons rather than geographic exposure in this case. Table 5.3 presents comparisons of TTF returns versus the $A Morningstar investment strategies and, consistently with the results using our reference portfolios, TTF returns correspond to the most conservative of the Morningstar portfolios.

Caption: School Kids in Tonga | Source: Climate Investment Funds

> > >

TABLE 5.3. - Comparison of TTF Returns vs. $A Morningstar Investment Strategies

	3 year	5 year	Inception (April 2012)
TTF - Tuvalu	**4.6%**	**4.9%**	**6.1%**
$A Morningstar — Conservative	4.8%	5.1%	5.8%
$A Morningstar — Moderate	6.1%	6.2%	7.0%
$A Morningstar — Balanced	8.4%	8.1%	9.1%
$A Morningstar — Growth	10.0%	9.2%	10.7%
$A Morningstar — Aggressive	12.0%	10.8%	12.4%
$A Global Equities 50% / Fixed Income 50%	9.3%	9.0%	10.6%

Source: World Bank calculations.
Note: $A = Austalian dollar; TTF = Tuvalu Trust Fund.

Furthermore, the OBAA strategy significantly underperformed a simple easy to implement strategy of 50 percent global equities and 50 percent fixed income. Since its inception, the cumulative effect of OBAA strategy on TTF has been significant compared with other investment alternatives. At $A 185 million, TTF is about 313 percent of Tuvalu's GDP. Thus, every additional 1 percent in investment returns corresponds to about 3 percent of GDP in additional income to Tuvalu per annum. Compared with $A 50 percent /50 percent passive strategy, which would have cost only several basis points to implement, TTF underperformed by 4.5 percent per annum, which is equivalent to about 14 percent of GDP for any year that OBAA has been in place. Since OBAA's implementation in April 2012, $A50 percent/50 percent strategy would have delivered about 113 percent of GDPP in additional wealth for Tuvalu. This is significant national wealth that Tuvalu has not accumulated as a result of its choice of the OBAA strategy.

With that in mind, over the past several years, the TTF board has engaged different partners and relevant institutions to assess the appropriateness of its current investment approach and potential alternatives. As a part of these efforts in early 2020, TTF undertook a competitive selection process for its investment monitor that plays a critical role in investment oversight: the selection continued despite the pandemic and TTF selected a global firm in June 2020. These important steps will improve TTF investment governance, and this comparative analysis could inform TTF efforts in designing appropriate investment approach going forward.

3. Benchmarking Kiribati's Investment Approach: 2013–2016 Restructuring and Its Impact.

The sovereign wealth fund of Kiribati—the Reserve Equalization Revenue Fund (RERF)—is one of the longest functioning sovereign wealth funds in the world. It was set up in 1956 by the then colonial government of the Gilbert (now Kiribati) and Ellice (now Tuvalu) Islands to hold revenue from phosphate mining with an initial allocation of US$555,580.[16] Additional payments into the fund between 1973 and 1979 were from tax revenue. Since the end of phosphate mining operations in 1979, returns from RERF, particularly the investment returns, have been used to finance recurrent operations of the government.

Legislation passed in 1983 formalized RERF's governance structure and the roles of relevant bodies and institutions (Kiribati's Public Finance [Revenue Equalization Reserve Fund] Rules, 1983). The legislation did not address the purpose of the fund nor its investment universe, which were subsequently periodically reviewed and defined by the cabinet chaired by the president as described later in this section.

Comparing RERF returns over different investment horizons presented in table 5.4 reveals distinct investment patterns over the medium horizon versus over the past 25 years: over the past three to five years, RERF returns were consistent with medium- to high-risk reference portfolios, while before that its returns had been lower than the conservative strategy.

> > >

TABLE 5.4. - Kiribati's Returns vs. Reference Portfolios

	3 year	5 year	Inception (June 1995)
RERF	**11.3%**	**7.6%**	**6.0%**
US$ Diversified Risk 20%	6.4%	6.1%	7.6%
US$ Diversified Risk 40%	8.4%	7.8%	7.8%
US$ Diversified Risk 60%	10.5%	9.4%	8.0%
US$ Diversified Risk 80%	12.5%	11.1%	8.0%
Global Equities 50%	10.0%	8.4%	7.5%

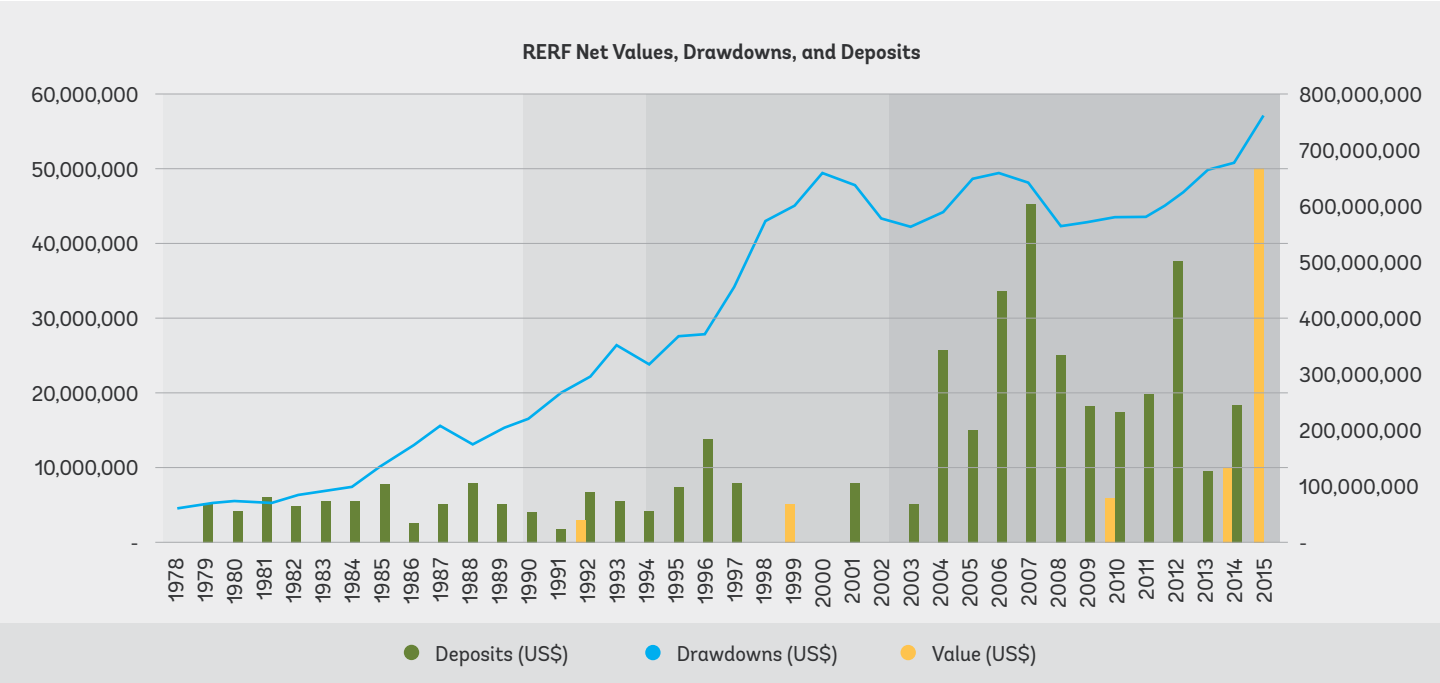
Source: World Bank calculations.
Note: RERF = Revenue Equalization Reserve Fund.

The explanation for such different outcomes over these years is that, similarly to TTF, RERF had evolved its investment approach over time and, in particular, undertaken significant restructuring during 2013–2016 following a review by the International Monetary Fund (IMF). In 2011, the IMF reviewed the management of the RERF and found significant issues with how the fund was managed. The IMF concluded that unless these issues were addressed, the RERF could be depleted in the foreseeable future. According to the IMF, at the time of their review the RERF strategic asset allocation reflected the advice received from an external consultant in 1995, albeit with some modifications, and that the advice had been too conservative. The IMF further detected large risks owing to active risk taking by asset managers that went undetected. Those risks were eventually materialized as losses in large part because of the Global Financial Crisis. The IMF also identified unsustainable drawdowns to finance the government's recurrent expenditures. The level of drawdowns increased significantly during the first decade of the 2000s and was compounded by investment losses during financial crises in 2001 and 2007–2008 as figure 5.3 illustrates.

16 Amount of initial allocation is approximate owing to missing information on what currency was used.

> > >

FIGURE 5.3. - Growth of RERF Before 2013–2016 Restructuring



Source: RERF data.
Note: RERF = Revenue Equalization Reserve Fund.

At the time of the IMF review, RERF assets were managed by two external asset managers each of whom managed roughly one-half of the portfolio. The RERF's assets were actively managed with the expectation that active management would add value. One of the managers had managed the RERF's assets since the fund's inception and the second one was hired in 1995. Initially, the asset managers had similar investment agreements with identical benchmarks, but after a number of changes over the years their respective portfolios started to diverge. These differences had grown over time, initiated partially by the asset managers proposing changes to their benchmarks or allowable investment universe.

Over time, both asset managers had significantly underperformed their benchmarks before fees. One of the managers suffered a large irrecoverable loss when the three largest banks in Iceland, in which the manager had a sizable position, defaulted on their debt in the fall of 2008, and the Icelandic króna became nonconvertible. Management fees—higher for active management than for passive management—had further eroded the RERF's balances. Table 5.5 presents the extent of portfolio underperformance versus investment benchmarks soon after the IMF review.

> > >

TABLE 5.5. - RERF Policy (Benchmark) Return vs. Portfolio Net Return Before 2013 SAA Review

	1-year return	3-year return	5-year return
Kiribati (policy return)	**15.40%**	**12.90%**	**8.00%**
Kiribati (portfolio net return)	7.70%	7.85%	7.26%

Source: FEMM 2014.

The IMF recommended that RERF's conservative asset allocation be revised to be better aligned with the fund's long-term purpose. It also recommended switching from active investment strategies to passive strategies so the risk of underperformance would be significantly reduced, asset management costs would be cut, and ongoing monitoring and oversight of the managers would be simplified.

With capacity building from the World Bank's Reserve Advisory Management Program (RAMP), in June 2013 RERF Investment Committee recommended to cabinet and the cabinet approved to (a) confirm the objective of the fund as budget support and sustaining the value of the fund for future generations; (b) limit eligible asset classes to government bonds and public equities; and (c) set the strategic asset allocation to 50 percent bonds and 50 percent global public equities. Following further evaluation of potential options and with ongoing support from RAMP, over the course of 2014–2016 RERF undertook full portfolio restructuring implementing the cabinet's decisions, which resulted in termination of prevailing active managers and selection of new passive managers through a public tender process.

Thus, the three-year returns in table 5.6 and 5.7 correspond to the revised investment approach centered on explicitly defined asset allocation target and passive investment mandates. The five-year return still captures the transition from conservative asset allocation and underperforming asset managers to the new approach. Inception returns reflect predominately investment before the 2013–2016 restructuring.

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TABLE 5.6. - Comparison of RERF Returns vs. $A Morningstar Investment Strategies

	3 year	5 year	Inception (June 2015)
RERF — Kiribati	**11.3%**	**7.6%**	**6.0%**
$A Morningstar — Conservative	5.5%	4.8%	6.5%
$A Morningstar — Moderate	6.9%	6.0%	6.8%
$A Morningstar — Balanced	9.3%	7.9%	7.5%
$A Morningstar — Growth	11.0%	9.2%	7.8%
$A Morningstar — Aggressive	13.0%	10.8%	8.0%
$A Global Equities 50% / Fixed Income 50%	10.0%	8.7%	7.5%

Source: World Bank calculations.
Note: $A = Australian dollar; RERF = Revenue Equalization Reserve Fund.

4. Benchmarking Federated States of Micronesia and the Marshall Islands Investment Process: Gradual Evolution.

The Compact of Free Association[17] provides for the establishment of the Marshall Islands and the Federated States of Micronesia compact trust funds in accordance with the trust fund agreement between the original parties: (a) the United States government and the Federated States of Micronesia government and (b) the United States government and the Marshall Islands government. Sections 215 through 218 of the amended compact set forth the funding to be contributed to the funds by the three governments through 2023.[18]

The Marshall Islands and the Federated States of Micronesia funds were incorporated as nonprofit corporations under the laws of the District of Columbia in August 2004. The two trust fund agreements are supported by a set of bylaws initially approved by the respective committees on March 24, 2006, and August 19, 2005, respectively. Resolutions are considered and approved periodically to improve the overall management and operations of both funds, as determined by the respective committees. The investment policy statements (IPSs) provide both funds with main investment guidance. The Federated States of Micronesia IPS was amended in April 2019 and the Marshall Islands IPS was amended June 15, 2017, and implemented in July 2017 (Trust Fund for the People of the Federated States of Micronesia 2020; Trust Fund for the People of the Republic of the Marshall Islands).

The trust fund agreements define the purpose of both trust funds as to "contribute to the economic advancement and long-term budgetary self-reliance" of the two states "by providing an annual source of revenue, after Fiscal Year 2023."[19] Both funds contract an executive administrator who serves in support of the governance, administration, and operations of the fund. The current executive administrator is based in the Washington, D.C., area and has been providing services since April 2011.

IPSs for both funds codify their investment objectives and specify their strategic asset allocation, which are reviewed annually. IPS investment objectives are identical for both funds to do as follows:

> . . . maximize investment returns and assets in the Trust Fund through the period ending fiscal year-end September 30, 2023, subject to the total portfolio risk parameters defined in the section Risk Definition. Over shorter periods, outperformance will be sought relative to the notional return on a benchmark portfolio designed to reflect the risk profile according to which the assets are invested at the time. Post-fiscal year 2023, the broad investment objective will be to produce a level of return sufficient to maintain levels of spending from the Trust Fund consistent with the desires of the members and consistent with risk parameters and spending policy to be defined at that time.[20]

IPSs are prepared by the investment adviser in consultations with the TF committees.

Both funds have been investing across a diverse set of global asset classes and, in contrast to RERF and TTF, currently invest in alternative asset class through private equity (Marshall Islands and Federated States of Micronesia) and hedge funds (Federated States of Micronesia). The list of asset managers for both funds, their investment products and costs are included in appendix C. Whereas the Marshall Islands and the Federated States of Micronesia compact trust funds' investment approaches have evolved, their changes have been gradual with marginal impact on the variability of returns during the tenure of the current administrator since 2011. Before that, the Marshall Islands was investing in public equity and fixed income and has since added two private equity funds to that allocation. The Marshall Islands had a hedge fund allocation that was liquidated with proceeds allocated to passive low-cost products in 2017. The Federated States of Micronesia had an earlier experience with a complex portfolio of private equity, hedge funds, real estate, and some debt funds that was later restructured for underperformance and optimization of costs and management.

Most recent investment changes in the compact trust funds have continued to reduce active risk taking and move to pas-

17 The Compact of Free Association, amended as the "Amended Compact," is codified in the Compact of Free Association Amendments Act of 2003 (U.S. Public Law 108-188, December 17, 2003; "the Amended Compact Act") under Title Two: Economic Relations, Sections 215 and 2016,
18 Federated States of Micronesia TF FY19 Annual Report, March 2020; the Marshall Islands TF FY19 Annual Report, March 2020.
19 FSM FY19 annual report, 4.
20 RMI FY19 annual report, 4–5.

sive mandates. In particular, in 2019 the Federated States of Micronesia compact trust fund asset allocation was adjusted with "the objective of improving performance and reducing investment fees" (Trust Fund for the People of the Federated States of Micronesia 2020, 11). The changes were to (a) convert the US small/mid cap and emerging market asset strategies from active to passive and (b) reduce the opportunistic fixed income asset strategy from 16 percent to 5.0 percent and a corresponding increase in the core fixed income fund (Trust Fund for the People of the Federated States of Micronesia 2020).

As presented in table 5.7, over the past three to five years, returns for both compact trust funds are in line with the funds' growth approach corresponding to returns of reference portfolios with 60 percent to 80 percent risk levels. Before that, the Federated States of Micronesia returns were lower and investments in more complex and costly investment products that may have contributed to that outcome. Implementing a more robust investment process, through annual reviews and optimization of complexity and costs have led to returns being in line with the growth objectives for both compact trust funds.

> > >

TABLE 5.7. - Federated States of Micronesia and Marshall Islands' Returns vs. US$ Reference Portfolios

	3 year	5 year	FSM Inception (Sept 2004)	RMI Inception (June 1995)
FSM — Micronesia, Fed. Sts.	**7.7%**	**5.9%**	**5.5%**	
RMI - Marshall Islands	**8.1%**	**6.0%**		**6.0%**
US$ Diversified Risk 20%	4.8%	4.9%	5.3%	5.0%
US$ Diversified Risk 40%	6.0%	5.5%	6.0%	5.6%
US$ Diversified Risk 60%	7.0%	6.2%	6.6%	6.1%
US$ Diversified Risk 80%	8.1%	6.8%	7.2%	6.4%
US$ Global Equities 50% / Fixed Income 50%	7.1%	5.8%	6.1%	5.7%

Source: World Bank calculations.

5. Nauru: Reestablishing Trust Fund

The Intergenerational Trust Fund for the People of the Republic of Nauru, or Nauru Trust Fund, in its current incarnation is the newest addition to the Pacific trust and sovereign fund family, reestablished on November 6, 2015, with "the objective to generate investment earnings that can be used to provide a source of revenue to the Republic of Nauru post 2033 (or at a time sooner as determined by the Committee) for investment in education, health, environment and infrastructure" (Intergenerational Trust Fund for the People of the Republic of Nauru 2019, 3).

The original Nauru trust fund—the Nauru Phosphate Royalties Trust (NPRT)—was established in 1968 at the time of independence in 1968. Similar to Kiribati's RERF, the trust fund was established to hold revenue from phosphate mining. The NPRT was composed of four funds, established for separate reasons: the Long–Term Investment Fund, the Land Owners' Royalty Trust Fund, the Housing Fund, and the Rehabilitation Fund. Whereas formally the NPRT and the state's budget were separate, in practice there was little distinction (Gould 2014).

Because of the fall in phosphate exports in the 1990s, the government revenue fell while expenditures continued to increase thereby leading to significant budget deficits. The value of the trust fund declined from an estimated $A 1.3 billion in 1990 to $A 300 million in 2004. The investment strategy of the NPRT was to invest phosphate revenue in international property, rather than financial assets such as bonds and equities. Investments in property saw significant losses in the 1990s and Nauru's property portfolio was seized by receivers in 2006 as the country's debts rose. The Nauruan government also borrowed at high interest rates against the NPRT to finance public expenditures. In 2009 Nauru's public debt was at $A 869 million, around 30 times GDP, and NPRT was wound down (Gould 2014).

Since its reestablishment in 2015, Nauru trust fund has been developing its investment operations and building its investment portfolio. Nauru's finance ministry referred the World Bank team to its 2019 annual report that has limited information about the composition of the fund and its investments. The team used the financial statements in the annual report and publicly available information about relevant investment products that Nauru trust fund has been investing in to deconstruct the level of its total risk level and its investment costs. Given that the Nauru trust fund is in the early stages of building up its portfolio, we are not in the position to benchmark its performance and risk characteristics versus appropriate reference portfolios as it would require a longer time period. At this stage we can only comment that Nauru trust fund is pursuing the growth investment strategy with 85 percent allocation to risk assets and relatively high allocation to private markets at 22 percent, as summarized in table 5.8, and that their costs are among the highest in our Pacific sample, a close second to Tuvalu's (as discussed in the next section).

> > >

TABLE 5.8. - Implementation of Nauru Trust Funds Asset Allocation, 2018–2018.

	2019	2018
Fixed Income	18%	25%
Public Equity	60%	60%
Private Markets	22%	15%
Total	100%	100%
Income Assets	15%	21%
Risk Assets	85%	79%

Source: World Bank estimates based on the annual report and the fund website.

6. Benchmarking of Investment Management Costs

Investment expenses, like investment returns, compound over time, thereby affecting wealth accumulation over the investment period. Managing costs are particularly important for small funds. Whereas in the past the small funds lacked pricing power compared with their large peers, with the development of the passive index industry these funds are positioned to get similar costs for their passive mandates just as the large funds do. This development is one reason for the fast growth of the passive low-cost mandates that we discuss later in the section.

Among the Pacific funds only the Marshall Islands and the Federated States of Micronesia funds have transparent cost structures and comprehensive accounting of all relevant costs, included in their annual reports and presented in appendix C. The team was able to reconstruct the Pacific funds' asset management fees—a subset of total costs—from several sources. Figure 5.4 presents the aggregate asset management fees for the five Pacific funds. Kiribati's fee is by far the smallest since RERF replaced its active mandates with passive benchmark replication strategies. The Tuvalu Trust Fund's costs are the highest reflecting the cost of the OBAA strategy. Asset management fees for the Marshall Islands and the Federated States of Micronesia reflect a combination of higher-cost strategies and transition from higher-cost active mandates to low-cost passive mandates.

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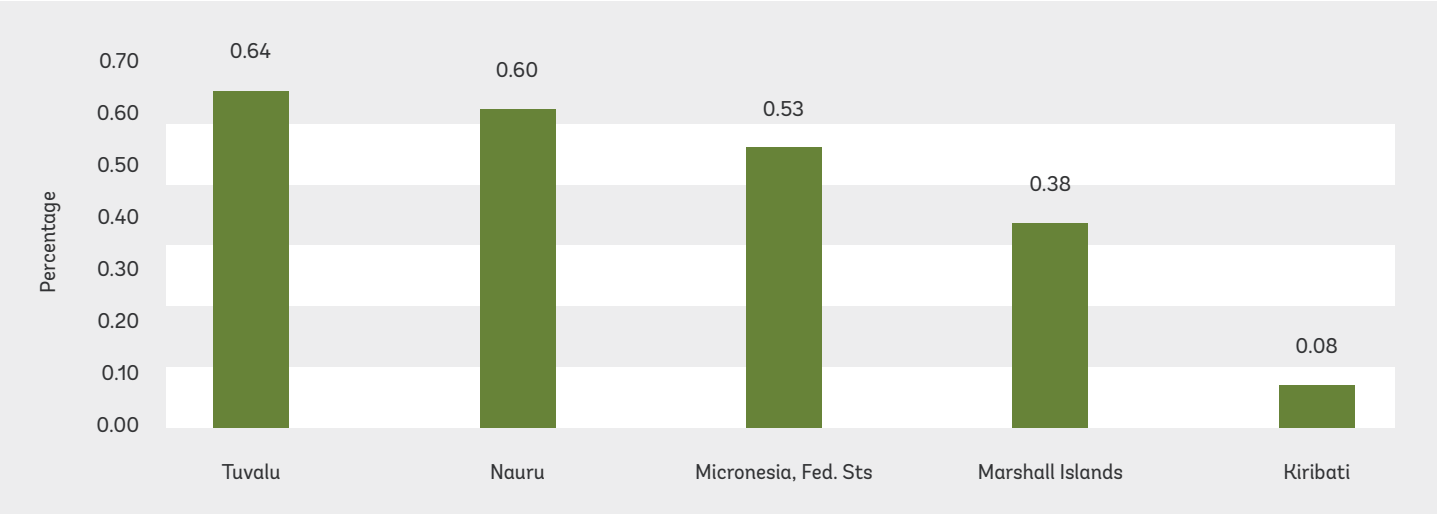
FIGURE 5.4. - Pacific External Fund Management Costs, 2019



Source: World Bank calculations based on data provided by funds.

The cost effectiveness of asset management is not about minimizing costs, but about generating value for the portfolio net of costs. Thus, evaluation of asset management costs should be done considering the broader context of the funds' investment approach and what net value is being generated through higher-cost services.

One important tool to manage investment management fees for Pacific Funds is a public competitive selection of investment managers based on well-defined requirements. In 2015, as a part of its fund restructuring, Kiribati's RERF undertook a public procurement process, or request for proposals (RFP), to replace its two incumbent active asset managers who were no longer meeting RERF's objectives. To realign RERF's new requirements with the industry's best practice, an RFP specified detailed investment requirements and was issued to all market participants. RFP criteria included (a) a manager's capacity to provide relevant investment options, (b) demonstrated service capability and commitment to clients' needs, (c) experience with similar regional or sovereign wealth funds, and (d) total costs and fees. Formal proposals were received from one regional and seven global asset managers, of which four were shortlisted for further due diligence and interviews. Two were selected to manage public equity and fixed income mandates. As a result of the RFP, RERF realized significant reductions of fees from the incumbent managers' 0.22 percent and 0.17 percent down to 0.06 percent and 0.10 percent for the two selected global asset managers, resulting in about $A 1 million[21] savings in asset management fees annually for the country.

Following the Global Financial Crisis (GFC), the financial industry has been experiencing significant reduction in asset management fees for a number of reasons, including (a) greater efficiency in public markets, (b) fee pressures within the industry owing to higher competition and lower yield levels, (c) an increasing role of technology and intermediates, (d) greater access to market information through multiple platforms, and (e) a growing awareness of market participants. More specifically, according to Bloomberg, investors are paying roughly half as much for the same investment strategies as they were nearly two decades ago and about a quarter less than five years ago (Waite, Massa, and Cannon 2019). figure 5.5 presents the reduction of investment fees over the decade since GFC for public equity and fixed income investment products.

Passive strategies' share of the investing universe continues to increase at the expense of active strategies, as figure 5.6 demonstrates. Furthermore, demand for active management has been shifting to come from more sophisticated investors that have demonstrated their institutional ability to extract value from active management at an appropriate price, as active management has not added value on average.

> > >

FIGURE 5.5. - Evolution of Investment Fees (Expense Ratios) Since GFC

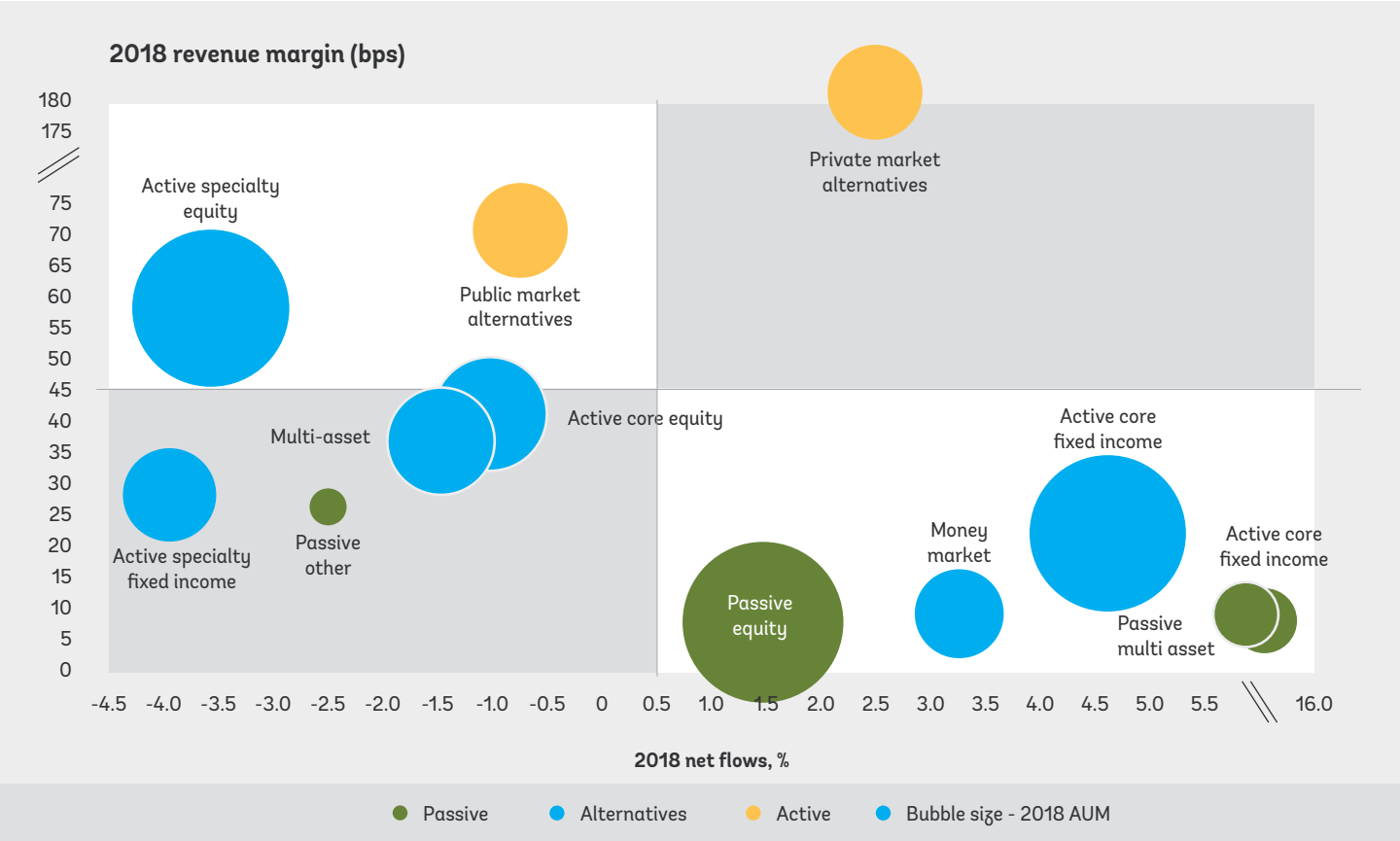
Type	2018 average expense ratio	Change since 2008 (percentage points)	Trend
Active equity funds	0.76%	-0.18	
Active bond funds	0.55%	-0.10	
Index equity ETFs	0.20%	-0.09	
Index bond ETFs	0.16%	-0.03	
Index equity funds	0.08%	-0.10	
Index bond funds	0.07%	-0.09	

Source: Waite, Massa, and Cannon, 2019.
Note: GFC = Global Financial Crisis; ETF = exchange traded fund.

21 This savings amount is based on the $A 750 million RERF assets under management at the time.

> > >

FIGURE 5.6. - Shift in Market Demand for Lower-Fee Products



Source: Baghai et al., 2019.
Note: AUM = assets under management; bps = basis points.

In its analysis of the global asset management industry, McKinsey & Company described a further paradigm shift in asset management fees during 2018 with significant implications for the industry going forward: a move from the market where investment performance ruled above all else—investors seeking "good performance at a fair price"—had shifted to "good performance at the best price" (Baghai et al. 2019). Overall, investors have been taking their money out of active strategies and only a few top performing funds at the lowest costs have seen some inflows. Thus, strategies to optimize investment costs deployed by the Marshall Islands and the Federated States of Micronesia funds and complete shift from active to passive mandates by Kiribati's fund are in line with the industry evolving practices. Tuvalu's fund continues to employ high-cost asset managers, despite their consistent underperformance on their mandates since its inception.

6.

Caption: Kiribati couple | Source: Author

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Conclusions

Pacific funds' investment outcomes have been diverse, and our proposed benchmarking approach helps to better understand the key contributing factors to this divergence.

A direct comparison of the Pacific funds' investment returns is challenging because of the funds' reporting periods and granularity of the available data. Hence, our approach of using reference portfolios calibrated to specific markets and funds' risk parameters allows us to infer the implicit investment benchmarks for each funds' investment approach and to compare them with the available investment alternatives specific to each fund. These implicit investment benchmarks allow us to draw general conclusions about whether the fund's investment approach is in line with the fund's investment objective and fully uses its investment authorization and its risk parameters.

The most significant factor explaining the differences in investment outcomes is the Pacific funds' investment strategies that their boards pursued to achieve investment objectives. The Pacific funds followed two approaches: (a) a traditional strategic asset allocation approach pursued by Kiribati, the Marshall Islands, and the Federated States of Micronesia and (b) an objective-based asset allocation (OBAA) strategy in Tuvalu. In the traditional strategic asset allocation approach, the boards expressed their tolerance for the overall level of risk through an asset allocation mix that was translated into an investment benchmark. In contrast, in the OBAA strategy, which the Tuvalu Trust Fund approved in 2012, the decision on asset allocation was delegated from the board to the asset managers. The thinking was that the managers were in a better position to anticipate the market movements and deliver superior returns versus if the board pursued the traditional asset allocation approach.

OBAA returns since inception are comparable with a conservative portfolio and are lower than comparable returns of its regional peers that have delivered returns in line with balanced to growth investment strategies. In fact, if the TTF board had set a simple and easy to implement benchmark of 50 percent global equities and 50 percent fixed income, it would have delivered 10.6 percent returns versus the OBAA strategy's 6.1 percent since its inception in 2012. Thus, our analysis revealed that the implicit benchmark for the OBAA strategy is a highly conservative investment strategy that the TTF board could have pursued by implementing a passive portfolio. For example, the TTF board could have pursued the $A Morningstar conservative index or 80 percent fixed income/20 percent global equity, for a fraction of the cost. In contrast, the funds of the Marshall Islands, the Federated States of Micronesia, and Kiribati pursued an explicit investment growth strategy, and these funds' implicit benchmarks were in line with having 50 percent to 80 percent growth assets.

Another contributing factor to the returns difference was the Pacific funds' different approaches to implementing their investment policies. All examined funds experienced cases of significant underperformance of their respective benchmarks (for example, Tuvalu) or suffered outright default (for example, Kiribati). The level of underperformance was directly related to the level of the investment mandate's complexity or degree of allowable active risk. Consistent with global experience, more complex or active mandates require significant in-house skills to implement and monitor. As a result of these experiences and in line with trends globally, Pacific funds, with the exception of Tuvalu, have either moved entirely to passive mandates (Kiribati) or have been reducing the overall level of active risk for the total portfolios (Marshall Islands and Federated States of Micronesia). In fact, the level of complexity of the investment mandates is one of the main factors explaining the differences in investment costs. For the Marshall Islands, the Federated States of Micronesia, Nauru, and Tuvalu, higher fees are reflective of their investment in alternative asset classes or higher complexity mandates, whereas Kiribati's low costs reflect fully passive mandates. Furthermore, Kiribati was able to further reduce its managers' fees through a competitive selection process. As a market practice globally, competitive selection reduced asset management fees for Kiribati and would bring value to the Pacific funds.

KEY TAKEAWAYS

Key takeaways for the Pacific funds from this benchmarking study are consistent with best practices for long-term investors:

- To ensure long-term sustainability of Pacific funds, **the investment strategy should reflect the fund's investment purpose, which should have in place a well-defined investment governance framework** to ensure the strategy is formalized, implemented, and monitored in line with global best practices.

- **Investment benchmark, representing replicable strategic asset allocation based on the investment policy, typically accounts for 80 percent to 90 percent of the returns and risk of the portfolio.**

- **More complex investment approaches and mandates are costly and require more sophisticated governance and ongoing efforts to oversee and manage these mandates.** Boards should ensure that they have the required time, inclination, and knowledge to oversee such mandates and that these approaches add value net of cost to the fund over time

- **OUTSOURCING IS NO SUBSTITUTE FOR ACCOUNTABILITY: boards have a fiduciary responsibility to the fund's beneficiaries and are ultimately responsible for investment decisions, including those that are outsourced**. As such, they need to ensure ownership of the risks that are being delegated and ensure that robust processes are followed to select and monitor service providers in line with the fund's needs.

- **HIGH-QUALITY GOVERNANCE** of the investment process is necessary for the long-term success of investment funds. **Statutory governance**—that is, clearly defined rules and investment parameters—should be well articulated to provide clarify and accountability to manage the funds. **Operational governance**—quality of day-to-day decision making and exercising fiduciary responsibility—will directly affect the financial results of the funds. **The frameworks should be reviewed periodically by impartial and independent parties to ensure that investment parameters evolve with the evolving market and policy contexts.**

7.

Caption: Kiribati community | Source: Author

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Appendix A.
Reference Portfolios: Definition and Construction

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Appendix A.
Reference Portfolios: Definition and Construction

Our comparative analysis approach draws on the recommendations from Drew and Frijns (2017) for Pacific funds to use reference portfolios as governance benchmarks.

The reference portfolio approach is a method for formulating a portfolio governance benchmark that limits the assets being used to publicly available asset classes that could be cheaply and simply implemented as a passive portfolio. This approach was pioneered by the New Zealand Super Fund in 2010 (Iverson et al. 2020). In 2017 New Zealand Institute for Pacific Research (NZIPR) released a study on the relevance of the reference portfolio approach for Pacific Island Nations (Drew and Frijns 2017). Table A.1 describes the key attributes of reference portfolios.

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TABLE A.1. - Key Attributes of a Reference Portfolio

Characteristic	Description
Be a simple and low cost portfolio that could be implemented passively	The reference portfolio should contain public asset classes where the fund can replicate the exposure using low-cost passive management. This makes the reference portfolio a realistic and viable option
Be diversified	The benchmark indexes should represent broad market representation of the asset classes, ensuring a high level of diversification for the overall reference portfolio
Reflect an appropriate risk level for the Fund, given its purpose	A reference portfolio should be constructed with a risk profile in line with the fund's purpose
Relevant to its home investor	The reference portfolio needs to be considered from a home market perspective. This may include domestic legislative constraints, the inclusion/exclusion of domestic assets, and currency hedging needs.
A long run concept	The reference portfolio should reflect a long-term perspective or expectations of the risk and returns of asset classes and the resulting portfolio.

Source: Drew and Frijns, 2017.

Reference portfolios can serve two purposes. First, given their design, they can be passively implemented at a low cost. However, they can also be used as a policy benchmark to analyze the value added or subtracted by active managers. Traditionally benchmarks may include measures that are not directly investable—such as the use of the S&P + 3 percent as a private equity benchmark or the use of the consumer price index (CPI) +3 percent for objective-based asset allocation (OBAA) strategies used for Tuvalu Trust Fund (TTF). Because reference portfolios are limited to investable public asset classes, they represent a credible investment alternative.

A reference portfolio is a simplified strategic asset allocation process that imposes straightforward limits on the asset classes being used, such that it could be implemented as a simple, cost-effective, and passively managed fund.

Particularly relevant for Pacific funds, the advantages of using the reference portfolio approach are as follows:

- It represents an easily replicable passive portfolio tailored to the fund's individual risk tolerance parameters, which could be used as a default investment strategy that would not require significant resources to implement and manage on ongoing basis.
- Because all Pacific Funds often use external managers, reference portfolio allows to quantify the value-add of these managers, net of fees, against this benchmark, particularly if they are given active management mandates.
- It provides a long-run construct and removes undue influences to formulate a benchmark that is overly prejudiced by short-term tactical or other considerations.
- To simplify Pacific funds administration and optimize operational costs through the use of widely available transparent market indices, this approach makes fund performance measurement and monitoring much easier.

Building Reference Portfolios for Pacific Funds

To construct reference portfolios for the Pacific funds we used widely diversified indices of risk assets and income assets defined in the table A.2. Risk assets have higher long-term growth, but greater volatility of returns in the short term. Income assets have lower, but more steady, long-term growth and a lower likelihood of loss in the short term.

> > >

TABLE A.2. - Definition of Income and Risk Assets

Building block	Description	Examples
Income assets	Defensive assets that have lower, but more steady long-term growth	• Investment-grade government and corporate bonds • Cash
Risk assets	Assets with higher return, but also higher risk	• Equities • Public real estate • Subinvestment grade government and corporate bonds

Source: World Bank.

We create two different reference portfolio types.

- **Type 1:** Passive 50 percent Global Equity/50 percent Global Fixed Income

The first, and most simple reference portfolio is constructed of 50 percent global equities as the risk asset, and 50 percent global fixed income as the income asset. Portfolio returns are calculated with monthly rebalancing. For global fixed income, we use the Bloomberg Barclays Global Aggregate, which is a globally diversified index of investment grade government and corporate bonds. This index is highly diversified and represents a proxy for the entire global investment grade fixed income universe. For the risk assets we use MSCI World,[22] which is an equity index that includes companies from 23 developed nations.

The passive 50 percent global equity/50 percent global fixed income reference portfolio allows for a relatively high level of global diversification with simple to understand and implement cost-effective structure, which serves as a useful baseline. This simple structure gives an investable portfolio option that does not require a significant level of technical expertise to maintain and monitor, while providing exposure to key market factors that will drive portfolio returns over its investment horizon.

- **Type 2:** Diversified Risk Basket Covering Full Range of Risk Level Exposure

A second approach uses a larger mix of risk assets to increase diversification to improve risk-adjusted returns and to provide public proxies for commonly used private market assets. These reference portfolios offer a more complicated structure than type 1 described previously requiring slightly more technical capacity to develop, maintain, and monitor while providing higher risk adjusted returns or lower downside risk.

For risk assets, this reference portfolio approach creates a diversified risk basket. Similar to the first approach, the core of the basket remains global equities and the Bloomberg Barclays Global Aggregate is used for the income asset. In addition, three other asset classes are added to the portfolio to increase diversification and improve risk adjusted returns.

Diversified Risk Basket includes the following asset classes:

- *Global equities (70 percent):* The core of the basket is MSCI World, to provide a globally diversified exposure to equities.
- *Public real estate (10 percent):* According to CEM Benchmarking (Beath and Flynn 2018), listed equity real estate investment trusts (REITs) have a .91 correlation with private real estate and result in higher after-fee returns. We use the FTSE EPRA Nariet Global REITs Index.
- *US small-cap equities (10 percent):* According to CEM Benchmarking data, US small-cap equities have a .89 correlation with private equity returns,[23] and higher net-of-fee returns for funds under US$2 billion. We use the Russell 2000 index.
- *Emerging market US$ debt (10 percent):* We add US$-denominated bonds from emerging market governments because the asset class has relatively high risk-adjusted returns and a lower level of correlation compared with the other risk assets in the basket. We use the JP Morgan EMBIG Index, which includes the US$-denominated bonds of over 60 emerging market governments and wholly owned government enterprises.

Table A.3 presents correlation of asset classes included in the reference portfolio that highlights the source of risk diversification: risky and income assets have exhibited negative correlation of monthly returns over the past 25 years.

> > >

TABLE A.3. - Correlation of Monthly Returns for Income Assets and Risk Assets, December 1995–April 2020.

R - Global Agg	0.12						
R - EM Sovereigns	0.03	0.33					
Public Real Estate	-0.05	0.20	0.61				
US Small-Cap Equities	-0.04	-0.10	0.51	0.71			
R - Global High Yield	-0.07	0.17	0.81	0.73	0.67		
EM Equities	-0.05	-0.04	0.68	0.69	0.71	0.77	
Global Equities	-0.03	-0.03	0.58	0.75	0.83	0.75	0.82
		Cash (US$)	FI - EM FI - Global Agg	Public Real Sovereigns	US Small-Cap Estate	FI - Global High Yeld	BM Equities

Source: World Bank.
Note: Agg = aggregate; EM = emerging market; FI = fixed income; HY = high yield.

Reference portfolio returns are calculated using monthly rebalancing.

22 Another option would be to use the MSCI ACWI (All Country World Index), which also includes Emerging Markets equities. In practice, MSCI World and MSCI ACWI have had nearly identical return profiles.
23 CEM Benchmarking's methodology accounts for reporting lags for illiquid assets in private markets.

Scaling the approach to different risk and return tolerances

An advantage of this approach is that it can easily be scaled to different risk tolerances by combining different levels of income assets and the diversified risk basket. At the margins the diversified risk 0 percent portfolio is made up entirely of income assets basket (Bloomberg Barclays Global Aggregate), and the diversified risk 100 percent portfolio is made up entirely of the diversified risk basket. Iterations in between are made up of mixes of the returns of these two baskets, rebalanced monthly. For example, as illustrated below, the diversified risk 60 percent portfolio contains a 60 percent weight for the diversified risk basket, and a 40 percent weight for the income assets basket. Tables A.4 and A.5 present asset composition of these reference portfolio for different risk levels and their historic risk and returns characteristics.

> > >

TABLE A.4. - Asset Composition of Reference Portfolios for Different Risk Levels

		Diversified Risk 0%	Diversified Risk 20%	Diversified Risk 40%	Diversified Risk 60%	Diversified Risk 80%	Diversified Risk 100%
Overall Mix	**Diversified Risk Basket %**	**0%**	**20%**	**40%**	**60%**	**80%**	**100%**
	Income Basket %	100%	80%	60%	40%	20%	0%
Asset Class Weights	**FI - Global Agg**	100%	80%	60%	40%	20%	0%
	Global Equities	0%	14%	28%	42%	56%	70%
	Public Real Estate	0%	2%	4%	6%	8%	10%
	US Small Cap Stocks	0%	2%	4%	6%	8%	10%
	EM US$ Sovereign Debt	0%	2%	4%	6%	8%	10%
	Total	100%	100%	100%	100%	100%	100%
Income Basket	**Inccome Assets**	100%	100%	100%	100%	100%	100%
	FI - Global Agg	100%	100%	100%	100%	100%	100%
Risk Basket	**Diversified Risk Basket**	100%	100%	100%	100%	100%	100%
	Global Equities	70%	70%	70%	70%	70%	70%
	Public Real Estate	10%	10%	10%	10%	10%	10%
	US Small Cap Stocks	10%	10%	10%	10%	10%	10%
	EM US$ Sovereign Debt	10%	10%	10%	10%	10%	10%

Source: World Bank.
Note: Agg = aggregate; EM = emerging market; FI = fixed income.

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TABLE A.5. - Risk and Return Characteristics for Income Assets, Risk Assets, and Reference Portfolios, December 1995–April 2020.

Asset	Category	Average annualized returns	Average risk	Minimum 12m return	Maximum 12m return	Frequency of negative 12m return
Cash (US$)	Income Assets	3%	1%	0%	7%	0%
FI - Global Agg	Income Assets	5%	3%	-1%	12%	2%
Global Equities	Risk Assets	6%	15%	-47%	54%	26%
Public Real Estate	Risk Assets	7%	18%	-62%	89%	21%
US Small-Cap Equities	Risk Assets	8%	20%	-42%	64%	27%
FI - EM Sovereigns	Risk Assets	9%	11%	-28%	43%	18%
Passive 50% FI/50% Equity	Reference Portfolios	6%	8%	-25%	29%	18%
Diversified Risk 20%	Reference Portfolios	6%	4%	-9%	16%	4%
Diversified Risk 40%	Reference Portfolios	6%	6%	-19%	25%	12%
Diversified Risk 60%	Reference Portfolios	7%	9%	-29%	35%	18%
Diversified Risk 80%	Reference Portfolios	7%	12%	-38%	45%	23%
Diversified Risk 100%	Reference Portfolios	7%	14%	-45%	56%	25%

Source: World Bank.
Note: Agg = aggregate; EM = emerging market; FI = fixed income.

Calculating US$ and $A Returns for Reference Portfolios

Because our objective it to use these reference portfolios to benchmark Pacific funds with both US$- and $A-base currencies, we need to adjust returns of the reference portfolios to $A when using for comparing returns of Kiribati's Reserve Equalization Revenue Fund (RERF) and Tuvalu's TTF. To calculate the returns in $A, we use the US$ returns for each index and translate these into $A using the $A currency returns for the month. The exception to this is the Bloomberg Barclays Global Aggregate, where we use the $A-hedged returns directly from Barclays as summarized in table A.6.

> > >

TABLE A.6. - Treatment of $A Returns for Reference Portfolios

Name	Index	Description	Source	$A Returns
FI - Global AGG	Barclays Global Aggregate	Global IG bonds	Barclays	Uses the $A Hedged return provided by Barclays
US Small-Cap Equities	Russell 2000	US Small Cap	Bloomberg	Calculate $A returns from US$ returns
FI - EM Sovereigns	JPM EMBIG	Emerging Market US$ Sovereign Bonds	Bloomberg	Calculate $A returns from US$ returns
Public Real Estate	FTSE EPRA Nareit Global REITs Index	Public Real Estate	Bloomberg	Calculate $A returns from US$ returns
Global Equities	MSCI World	Global Equities	Bloomberg	Calculate $A returns from US$ returns

Source: World Bank.
Note: $A = Australian dollar; Agg = aggregate; BBG = Bloomberg; EM = emerging market; FI = fixed income; FTSE EPRA = Financial Times Stock Exchange European Public Real Estate; IG = investment grade; JPM EMBIG = JPMorgan Emerging Market Bond Index Global; m = month; REIT = real estate investment trusts.

Appendix B.
Morningstar $A Multi-Sector Market Indices

Key Benefits

- Enable more accurate and appropriate comparisons and contrasts between the funds in each multi-sector Morningstar Category
- These indices are available in Morningstar DirectTM, and on Morningstar's proprietary fund profiles.

Multi-Sector Fund Performance Benchmarks

Morningstar calculates and publishes proxy market benchmarks for multi-sector funds. These Morningstar Multi-Sector Market Indices incorporate weighted averages of existing market indices.

These indices enable investors and their advisers to make accurate and appropriate comparisons between multi-sector funds and provide a meaningful performance benchmark for the five Morningstar multi-sector fund categories.

These five Multi-Sector Market Indices are:

- Morningstar Aus Msec Conservative TR $A (XIUSA04GIY) (ticker 95244)
- Morningstar Aus Msec Moderate TR $A (XIUSA04GIZ) (ticker 95245)
- Morningstar Aus Msec Balanced TR $A (XIUSA04GJ0) (ticker 95246)
- Morningstar Aus Msec Growth TR $A (XIUSA04GJ1) (ticker 95247)
- Morningstar Aus Msec Aggressive TR $A (XIUSA04GJ2) (ticker 95248)

These indices are available in Morningstar Direct™, and on Morningstar's proprietary fund profiles.

How They're Calculated

We use identical calculations to determine daily returns for the five indices. We begin the calculation process by breaking each index into nine broad asset classes. We then assign a weighting to these asset classes on the basis of the category's average asset allocation, and then apply a widely-used market index to each broad asset class. Finally, we add these asset classes together to construct the daily return for each Multi-Sector Market Index. Each category's average asset allocation is updated twice-yearly (on 1 March and 1 September) and the market indices for each asset class are updated daily.

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Asset Class Components and Market Indices

Asset Class	Market Index
Australian Shares	M&P/ASX 300 TR
International Shares	MSCI World Ex Australia NR $A
Australian Listed Property	S&P/ASX 300 A-REIT TR
International Listed Property	FTSE EPRA/NAREIT Developed NR Hdg $A
Unlisted Property	S&P/ASX 300 A-REIT TR
Australian Fixed Interest	Bloomberg AusBond Composite 0+Y TR $A
International Fixed Interest	BarCap Global Aggregate TR Hdg $A
Australian Cash	RBA Bank accepted Bills 90 Days

Multi-Sector Index Asset Allocation
as at 31 December 2018

Asset Class	Conservative	Moderate	Balanced	Growth	Aggressive
Australian Shares	6 .11	11.44	21.95	29.03	36.73
International Shares	6.23	13.10	24.04	32.06	45.65
Australian Listed Property	1.47	2.00	2.29	2.78	2.24
International Listed Property	0.67	1.55	1.65	2.39	2.35
Unlisted Property	0.63	1.09	1.24	2.71	0.89
Australian Fixed Interest	26.41	28.63	20.46	12.37	3.82
International Fixed Interest	26.55	16.69	13.61	8.85	3.14
Australian Cash	31.92	25.49	14.75	9.80	5.18

Source: Morningstar, https://www.morningstar.com/content/dam/marketing/apac/au/pdfs/Legal/MultiSector_IndicesAU_2018-06.pdf.

Appendix C.
Total Costs and Asset Managers Fees for Federated States of Micronesia and Marshall Islands Trust Funds

Information in the tables in appendix C comes from the FY19 Annual Reports of the Marshall Islands and the Federated States of Micronesia (Trust Fund for the People of the Republic of the Marshall Islands 2020; Trust Fund for the People of the Federated States of Micronesia 2020).

> > >

TABLE C.1. - Federated States of Micronesia Trust Fund's Investment and Administrative Costs, FY18 and FY19

	FY18	FY19	% Change
Investment Expenses	**$5,013,172**	**$4,930,063**	**-1.7%**
Custodian	141,639	149,990	5.9%
Investment Adviser	253,851	1,119,368	374.6%
Money Manager	1,005,409	1,214,399	20.8%
Money Manager*	3,630,273	2,446,206	-32.6%
Investment Adviser - Indirectly Billed	1,201,403	0	-100.0%
Managers - Directly Billed	1,283,651	944,975	-26.4%
Managers - at NAV (estimated)	1,145,219	1,501,331	31.%
% of Net Position	*0.79%*	*0.72%*	*-9.3%*
Administrative Expenses	**$172,844**	**$171,894**	**-0.5%**
Executive Administrator	110,460	110,898	0.4%
Audit Fees	44,833	46,163	3.0%
Accounting Fees	5,484	5,983	9.1%
Legal Fees	$940	$940	0.0%
Miscellaneous Fees**	10,676	7,784	-27.1%
% of Net Position	*0.03%*	*0.02%*	*-8.2%*
Total expenses	**$5,186,016**	**$5,101,957**	**-1.6%**
Total % of Net Position	*0.82%*	*0.74%*	*-9.2%*

Note: Amounts rounded to nearest dollar.
Souce: FY18 and FY19 Audited Annual Financial Statements and Fund Data Collection.
**Money Manager fees directly subtracted from individual fund asset values. Note change in investment expense categories based on revised fee accounting and invoicing to further breakdown fees between Investment Adviser and Money Managers and improve transparency.*

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TABLE C.2. - Marshall Islands Trust Fund's Investment and Administrative Costs, FY18 and FY19

	FY18	FY19	% Change
Investment Expenses	**$1,563,073**	**$1,670,636**	**6.9%**
Custodian	-	(122)	0.0%
Investment Adviser	118,045	122,088	3.4%
Money Manager*	1,445,028	1,548,671	7,2%
% of Net Position	*0.39%*	*0.38%*	*-1.0%*
Administrative Expenses	**$159,380**	**$153,090**	**-3.9%**
Executive Administrator	108,366	109,556	1.1%
Audit Fees	41,204	35,000	-15.1%
Accounting Fees	3,980	2,411	-39.4%
Legal Fees	559	127	-77.3%
Miscellaneous Fees**	4,330	5,053	16.7%
% of Net Position	*0.04%*	*0.04%*	*-11.1%*
Total Dollar Expenses	**$1,722,452**	**$1,823,726**	**5.9%**
Total % of Net Position	*0.43%*	*0.42%*	*-2.0%*

Souce: FY18 and FY19 Audited Annual Financial Statements and Fund Data Collection.
Note: Custodian line includes a $122.10 fee reimbursement made by State Street, the Fund's former Custodian, in FY19 for a FY17 revised fee calculation.
Note: Amounts rounded to nearest dollar.
**Money Manager fees directly subtracted from individual fund asset values.*

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TABLE C.3. - Federated States of Micronesia Trust Fund's Asset Managers' Fees, FY18 and FY19

Portfolio Assets	Total Expense Ratio in Basis Points
Managed Assets	
Equity	
Domestic	
SSgA S&P 500 Index	0.6
SSgA Russell 2000 Index	2.7
International	
Mercer Non-US Core Equity	42
SSgA Emerging Markets Index	12
Global	
Acadian Global Managed Volatility	20
Fixed Income	
Mercer Opportunistic Fixed Income	44
Mercer Core Bond	18
Alternatives	
Mercer Hedge Fund Investors	150
Mercer Private Investment Partners III	241
Mercer Private Investment Partners IV	250
Mercer Private Investment Partners V	235
Non-Discretionary Assets	
Real State	
Prudential Real Estate Investors	93
Alternatives	
HarbourVest Partners VIII Venture Fund	265
HarbourVest Partners VIII Buyout Fund	265
HarbourVest Partners VIII Mezzanine & Distressed Fund	265
HarbourVest Partners VIII Inti Private Equity Fund	265
Portfolio Advisors Private Equity Fund IV	270
Mercer Managed Asset Fee (per tiered fee schedule)	*18*
Mercer Non-Discretionary Fee	0
Total Fee Rate	69

Souce: Trust Fund for the People of the Federated States of Micronesia, "FY2019 Annual Report," 2020.
Note: Total fees are an estimate based on 9/30/19 asset values and assumptions around application of fees for the alternative allocations. Does not include carried interest. Total fees will vary over time based on the fee schedule.

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TABLE C.4. - Marshall Islands Trust Fund's Asset Managers' Fees, FY18 and FY19

Portfolio Assets	Total Expense Ratio in %
Equity	
Domestic	
Vanguard® Total Stock Market Index Fund Institutional Shares	0.030
Vanguard® PRIMECAP Fund Admiral™ Shares	0.310
Vanguard® Windsor™ Fund Admiral™ Shares	0.210
International	
Vanguard® Total International Stock Index Fund Institutional Shares	0.080
Vanguard® International Growth Fund Admiral™ Shares	*0.320*
Vanguard® International Value Fund	0.380
Fixed Income	
Vanguard® Total Bond Market Index Fund Institutional Shares	0.035
Vanguard® Short-Term Investment-Grade Fund Institutional Shares	0.100
Vanguard® Inter-Term Investment Grade Fund Admiral™ Shares	0.070
Alternatives	
Mercer Private Equity Partners III	2.41
Mercer Private Equity Partners IV	2,50
Investment Advisory Fee	
Total	**0.39**

Souce: Trust Fund for the People of the Republic of the Marshall Islands, "Annual Report FY2019," 2020.

Appendix D.
Do Active Managers Add Value Net of Fees Over Time?

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The aim of active managers, over time, is to dynamically allocate assets between risk assets and defensive assets to capture greater upside and buffer downside risk, whether on a specific benchmark or on the total return. If a manager is successful in delivering (excess) returns and does it consistently, this manager has demonstrated a skill in that particular investment strategy. The role of investors is (a) to select managers that have demonstrated persistent skill, (b) to monitor their performance on ongoing basis, (c) to evaluate whether the managers continue to meet their agreed performance metrics, and (d) to terminate the manager if the manager does not meet the metrics.

There is extensive academic literature on fundamental challenges for investment managers to persistently beat the market after fees. In 2019, Bloomberg reported that only 17.9 percent of US large-cap equity funds outperformed the S&P 500, and only 19.8 percent European equity funds beat their benchmark (figure D.1). Even if some managers demonstrate excess performance under specific conditions, persistence of outperformance is extremely low as quantified in a study by the World Bank Treasury. For the sample of 86 active equity fund managers in the top quartile of performance from 1999–2004, there is very low persistence of outperformance over the subsequent 10 years. More managers migrated to the bottom quartile of performance in the subsequent period than remained in the top quartile. By the third period (2009–2014), only 3 of the initial 86 managers remained in the top quartile (figure D2).

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FIGURE D.1. - Percentage of Actively Managed Funds That Outperformed the Market

Source: Bloomberg.
Note: Based on five-year returns through December 31, 2018, relative to the S&P 500 and S&P Europe 350.

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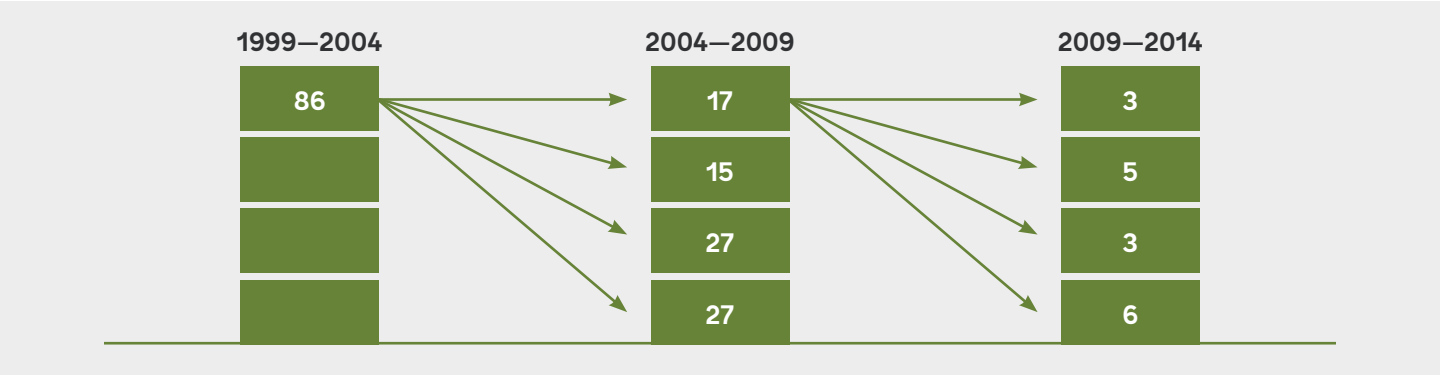
FIGURE D.2. - Migration of Top Quartile Managers Over Investment Horizon



Source: World Bank calculations.

There are three potentially overlapping explanations for this phenomenon. The first reason is context-specific skill. An active manager may, in fact, have real skill to profitably navigate a particular market environment. When that specific market environment changes, the advantage that the manager has may go away. The second reason is market efficiency. The third explanation is that the outperformance may be due to luck, not skill.

Practical implications when evaluating whether to select active mandates include the following:

- *Active management returns are only a fraction of the overall returns.* While the expectation is that skilled active managers can add value over time, these returns are modest in size compared with the magnitude of the overall returns because of setting the (benchmark) risk level as illustrated on figure 4.2 and because the managers lack persistency in their performance results.
- *(High) fees erode value from active management.* The higher the level of a manager's fees, the higher the level of skill necessary to generate net returns above the benchmark.
- *Behavioral biases mean that managers can have negative skill.* Behavioral economics has catalogued a series of cognitive biases, such as loss aversion, that may lead investors to make choices that are actively worse than simply making a random choice (Kahneman 2003). Managers may have negative skill that actively destroys value.
- *Fooled by randomness.* An active investment manager who has a positive track record may be skilled or may simply be lucky (Taleb 2004). Given the probability distribution, it is very difficult to know whether modest levels of outperformance are due to luck or to skill.
- *Cost of monitoring active managers.* A fund employing active managers will need to spend money and resources managing their active managers and replacing them if they persistently underperform. In contrast, a passive mandate has high certainty to replicate an index's return (with a small level of tracking error) for a low cost.
- *It is better to pursue active managers in markets that are inefficient (for example, private markets in general) wherein the average manager can still likely add value.*

Appendix E.
Comparison with Endowment Model

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Appendix E. Comparison with Endowment Model

The five funds selected for the study are designed as perpetual funds with a common objective of balancing distribution of their income for today's spending while preserving equity across generations. University endowments funded by financial gifts from alumni or other donors play a vital role in helping to support academic institutions' long-term missions and goals.[24] Trustees, chief business officers, and other decision-makers have a fiduciary duty to develop investment strategies and spending policies that best position their endowments to meet the long-term objectives of their institutions. For most, that means achieving two goals: (a) ensuring that the endowment provides appropriate resources for current operations and (b) preserving, on an inflation-adjusted basis, the purchasing power of the endowment in support of future generations.

As a result, some Pacific funds, Kiribati and Tuvalu in particular, have been exploring whether they should explicitly adopt an endowment model. These funds encountered some challenges when considering this alternative and how to operationalize it. For example, the most typical examples of an endowment model are sophisticated institutions with large endowments, such as Harvard University (~US$37 billion), Yale University (~US$27 billion), Stanford University (~US$25 billion) and Princeton University (~US$23 billion). Whereas these endowments have certainly been the leaders in the field of endowment investment, a significant number of universities and colleges have much smaller endowments; many of them have endowments that are comparable in size or even smaller than Pacific funds, thereby making them a relevant comparator to learn from. This section presents the key results from the 2018 study of US University and Colleges endowments undertaken by National Association of College and University Business Officers (NACUBO)[25] and Teachers Insurance and Annuity Association of America (TIAA)[26] that is based on the analysis of 802 institutions managing endowments with a range of assets under management from US$25 million to more than US$1 billion, making it the largest and most comprehensive study of its kind (NACUBO-TIAA 2018).

24 For further information on this topic, see NACUBO-TIAA (2018; 2019).
25 NACUBO is a membership organization representing more than 1,900 institutions, www.nacubo.org.
26 TIAA is a Fortune 100 financial services organization that is the provider of financial services in academic, research, medical, cultural, and government fields www.tiaa.org.

The data collected by the survey are used to evaluate endowment investment returns, asset allocation, and investment strategies, as well as governance and management issues. The data collected by the study are an important indicator of the extent to which campus leaders are managing their endowed funds in ways that achieve institutional goals. For our purposes, the study offers a wealth of insights into key practices employed by endowments and on the range of investment outcomes across these institutions. Table E.1 presents the summary of investment returns over different investment horizons (1, 3, 5, and 10 years) for portfolios of different sizes.

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TABLE E.1. - FY19 Net Investment Returns for Different Size Endowments

	Total institutions	Over $1 billion	Over $500 million— $1 billion	Over $250 million—$500 million	Over $100 million—$250 million	Over $50 million—$100 million	Over $25 million—$50 million	$25 million and under
1-year (FY19)	**5.3%**	**5.9%**	**5.1%**	**5.0%**	**5.1%**	**4.9%**	**5.5%**	**5.8%**
3-year	8.7%	9.6%	8.9%	8.9%	8.5%	8.3%	8.3%	8.3%
5-year	5.2%	6.1%	5.1%	5.3%	5.0%	4.9%	4.9%	5.5%
10-year	8.4%	9.0%	8.5%	8.4%	8.3%	8.2%	8.4%	7.7%

Source: NACUBO-TIAA 2018, 2019).

Consistent with the long-term nature of endowments' investment portfolios, their annual returns fluctuate from year to year depending on the market environment (figure E.1). Consistent with their long-term investment horizon, the endowments exhibit negative annual returns during times of market downturns. However, over a longer investment horizon (10 years) these portfolios benefit from being invested in the full range of investment choices (figure E.2).

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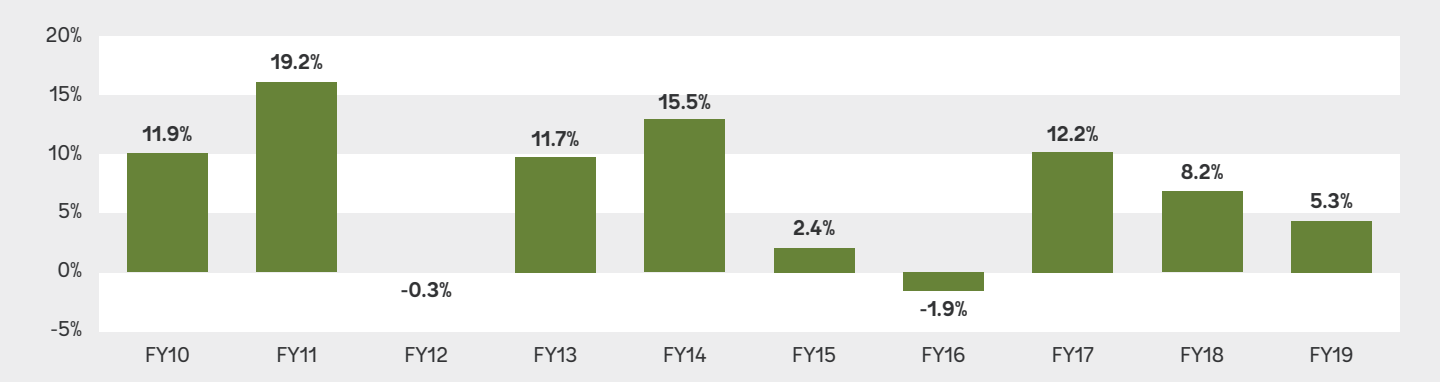
FIGURE E.1. - Average Annual Endowment Returns, FY10–FY19



Source: NACUBO-TIAA 2018, 2019.

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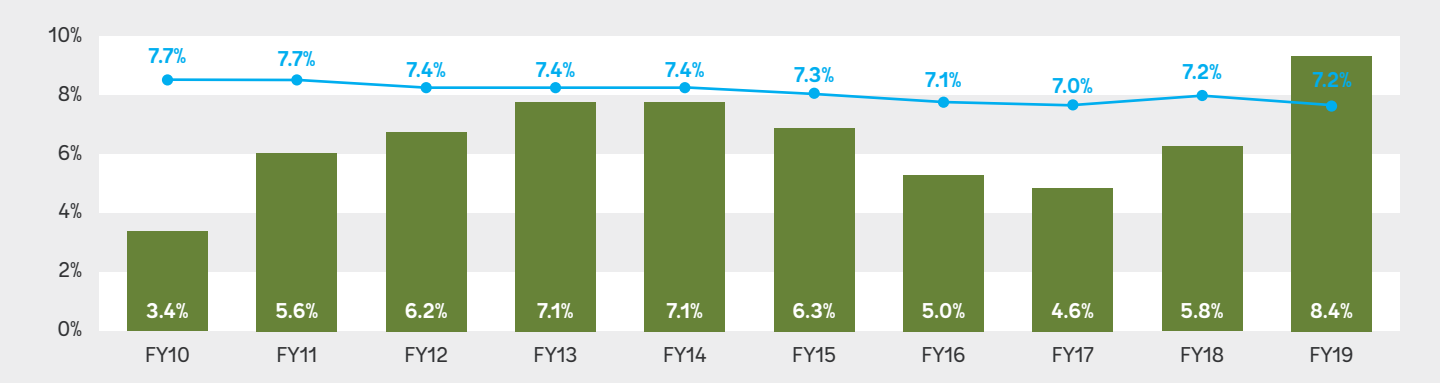
FIGURE E.2. - Average 10-year Endowment Returns, FY10–FY19



Source: NACUBO-TIAA 2018, 2019.

As discussed throughout the note, the relative performance of investment institutions depends on many variables, including their appetite for risk, liquidity preferences, asset allocation, and portfolio implementation, among other factors. Furthermore, as we discussed in relation to the Pacific funds, the absolute size of institutional portfolios also has a noticeable effect on how these funds seek to achieve their investment goals. Because university endowments cover a broad range of portfolio sizes—from under US$25 million to into tens of billions of dollars—it is illustrative how these endowments allocate across different asset classes and, in particular, between risky and income (defensive) assets.

As table E.2 illustrates, allocation to risky assets such as US equities, non-US equities and alternative strategies, increase for larger size endowments. Thus, endowments of more than US$1 billion hold about 90 percent in risky assets, endowments of US$101 million to US$250 million hold about 80 percent and endowments of below US$25 million about 70 percent. The largest difference across endowments of different sizes is their allocation to alternative strategies with a more significant increase in allocation to the alternatives for the larger endowments: endowments of more than US$1 billion allocate about 58 percent to these strategies, endowments of US$101 million to US$250 million allocate about 27 percent, whereas the ones below US$25 million about 11 percent. Such differentiated approach to alternative strategies by smaller funds is not surprising as returns on these strategies depends significantly on the size of the allocation. On average endowments enjoyed 8.3 percent return on their alternative investments, return for this asset class was 11.2 percent for endowments of more than US$1 billion and only 4.5 percent for the smallest funds, as detailed in table E.3. From the same table, larger funds enjoy quite a bit higher returns (9.7 percent) than the entire universe of endowments on average (8.2 percent) with returns ranging from 7.6 percent for the smallest endowments to 8.7 percent for endowments up to US$1 billion.

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TABLE E.2. - FY18 Asset Allocation for Different Size Endowments

	Total institutions	Over US$1 billion	US$501 million—US$1 billion	US$251—US$500 million	US$101—US$250 million	US$51—US$100 million	US$25—US$50 million	Under US$25 million
Responding institutions	**800**	**104**	**84**	**88**	**195**	**154**	**103**	**72**
US. equities	16%	13%	22%	24%	31%	34%	39%	45%
Non-US. equities	20%	19%	22%	22%	22%	22%	18%	15%
Fixed income	8%	7%	10%	12%	15%	19%	22%	24%
Alternative strategies	53%	58%	41%	38%	27%	22%	16%	11%
Short-term securities/cash/other	3%	3%	5%	4%	5%	3%	5%	5%

Note: Amounts rounded to nearest dollar.
Souce: FY18 and FY19 Audited Annual Financial Statements and Fund Data Collection.
**Money Manager fees directly subtracted from individual fund asset values. Note change in investment expense categories based on revised fee accounting and invoicing to further breakdown fees between Investment Adviser and Money Managers and improve transparency.*

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TABLE E.3. - FY18 Asset Class Investment Returns for Different Size Endowments

	Total institutions	Over US$1 billion	US$501 million—US$1 billion	US$251—US$500 million	US$101—US$250 million	US$51—US$100 million	US$25—US$50 million	Under US$25 million
Responding institutions	**800**	**104**	**84**	**88**	**195**	**154**	**103**	**72**
Percentage of institutions reporting	**100.0%**	**13.0%**	**10.5%**	**11.0%**	**24.4%**	**19.3%**	**12.9%**	**9.0%**
Total net return	8.2%	9.7%	10.5%	11.0%	24.4%	19.3%	12.9%	9.0%
US. equities	13.6%	13.0%	14.3%	13.5%	13.8%	13.3%	13.9%	12.8%
Non-US. equities	**6.8%**	8.1%	7.0%	7.0%	6.6%	6.1%	6.8%	6.7%
Fixed income	0.5%	1.3%	0.4%	0.7%	0.1%	0.5%	0.5%	0.3%
Alternative strategies	8.3%	11.2%	9.9%	9.0%	9.0%	7.1%	5.6%	4.5%

Source: NACUBO-TIAA 2018, 2019.

This study also provided insights into how individual differences within each institution managing their respective endowment affect investment outcomes. More specifically, table E.4 presents the range of investment outcomes in different size levels. Thus, on the aggregate, the top quartile of endowments returned 9.1 percent, whereas the bottom quartile's returns were 2 percent lower at 7.1 percent in FY18. The difference is greater between top 5th percentile that generated 11.6 percent versus the bottom 5th percentile that generated 5.6 percent. This difference appears to be broadly similar across all endowment-size levels (with the exception for the smallest cohort with 9 percent difference between top and bottom 5th percentiles: 12.6 percent versus 3.5 percent). These differences could be caused by both market factors (that is, different exposure to risky assets owing to differences in risk preferences or liquidity requirements) and by skill factors (that is, different levels of success in implementing particular investment strategies owing to a number of factors, not least because larger funds typically enjoy more financial and technical resources). Information presented in the study does not allow for disaggregation of these factors.

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TABLE E.4. - FY18 Variability of Investment Returns for Different Size Endowments

	Total institutions	Over US$1 billion	US$501 million—US$1 billion	US$251—US$500 million	US$101—US$250 million	US$51—US$100 million	US$25—US$50 million	Under US$25 million
Total institutions	**802**	**104**	**85**	**88**	**195**	**154**	**103**	**73**
75th percentile	9.1%	10.9%	9.4%	9.1%	8.8%	8.6%	8.7%	8.6%
50th percentile (median)	8.0%	9.6%	8.6%	8.1%	7.7%	7.6%	7.8%	7.9%
25th percentile	7.1%	8.4%	7.6%	7.5%	7.1%	7.1%	6.4%	6.3%
Percentiles								
95th percentile	11.6%	12.9%	12.4%	11.7%	9.9%	9.9%	10.2%	12.6%
5th percentile	5.6%	6.7%	6.0%	6.6%	5.5%	5.5%	5.1%	3.5%

Source: NACUBO-TIAA 2018, 2019.


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