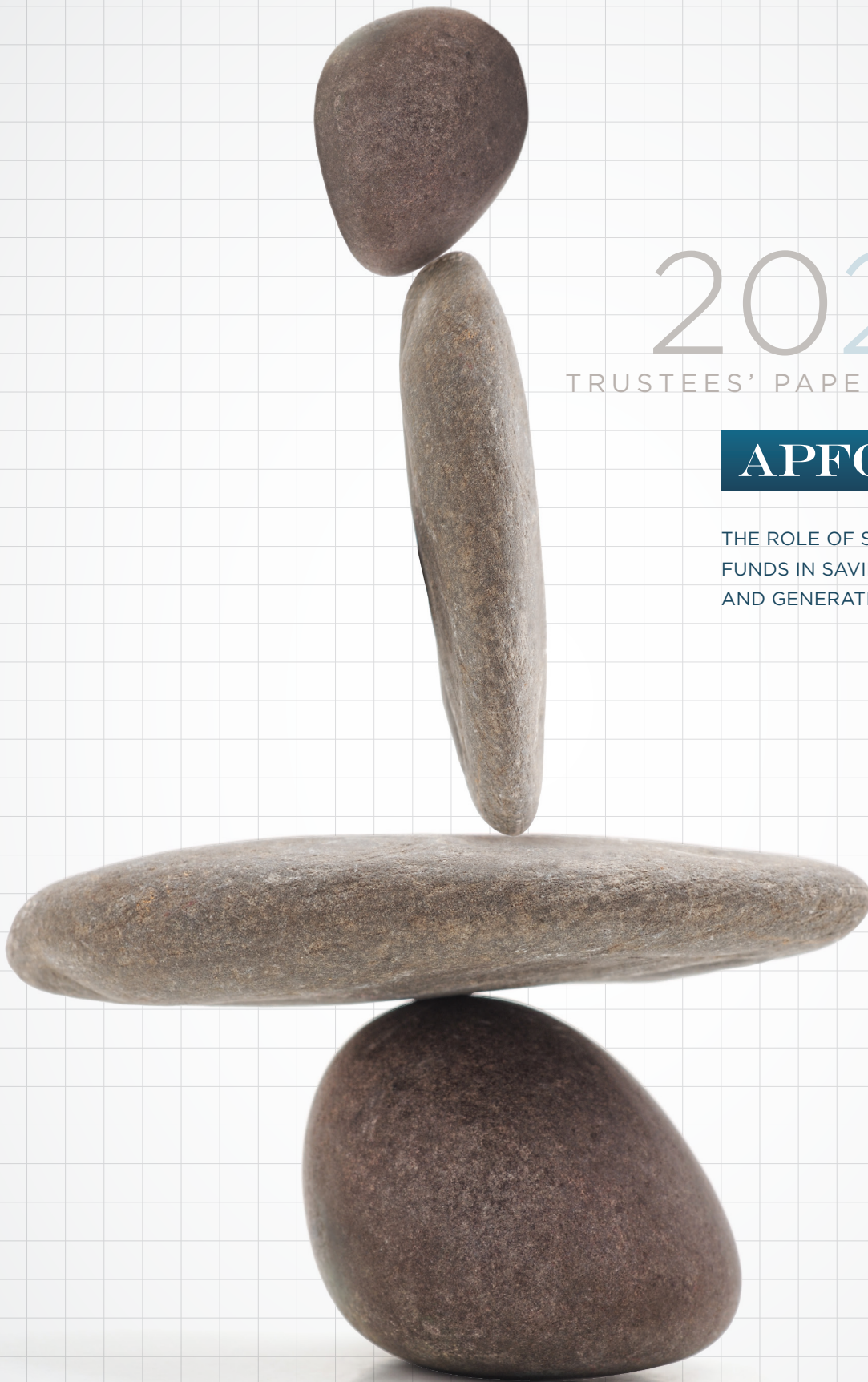




2020

TRUSTEES' PAPER | VOLUME 9



THE ROLE OF SOVEREIGN WEALTH
FUNDS IN SAVING, STABILIZATION,
AND GENERATING INCOME

LETTER FROM THE CHAIR

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LIST OF ABBREVIATIONS

APF	Alaska Permanent Fund
APFC	Alaska Permanent Fund Corporation
ERA	Earnings Reserve Account
ESSF	Economic and Social Stabilization Fund (Chile)
LGPF	Land Grant Permanent Fund (New Mexico)
NPFG	Norwegian Pension Fund Global
POMV	Percent of Market Value
PRF	Pension Reserve Fund (Chile)
PWMTF	Permanent Wyoming Mineral Trust Fund
PUF	Permanent University Fund (Texas)
STPF	Severance Tax Permanent Fund (New Mexico)
SWF	Sovereign Wealth Fund

LETTER FROM THE CHAIR



It is my pleasure to present Volume nine of the Trustees' Papers: *The Role of Sovereign Wealth Funds in Saving, Stabilization, and Generating Income*.

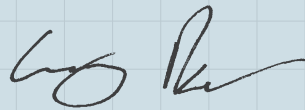
The Alaska Permanent Fund Corporation recognizes the evolution of the Permanent Fund from an instrument of savings and paying out dividends to the more mature role of also providing revenue to support state services and programs. As with any adolescence, there is both risk and opportunity in this maturation, and Alaskans must establish policies calculated to continue the Permanent Fund's intergenerational success.

Through the analysis provided by Dr. Malan Rietveld, a leading expert in Sovereign Wealth Funds, the Corporation's Board of Trustees offers, for your consideration, lessons gleaned from our peers. Sovereign Wealth Funds in resource-dependent economies around the world have, with varying degrees of success and failure, dealt with many of the problems Alaska is facing today. This paper discusses the

best practices of our peer funds from Norway to Saudi Arabia, and closer to home from New Mexico to North Dakota. It examines frameworks that have resulted in our peers flourishing and floundering, and thoughtfully analyzes how we might learn from those experiences.

For more than 40 years, Alaskans have benefitted from the financial resources of the Permanent Fund. Our visionary leaders of the past, knowing an era of declining revenues from petroleum wealth was inevitable, created a path to preserve its intergenerational value. As stewards of that wealth, we build on their successes and learn from our peers, to ensure that the structures we establish today will preserve the success of the Permanent Fund for decades and centuries to come.

Sincerely,



Craig Richards

EXECUTIVE SUMMARY

The Alaska Permanent Fund (APF or the Fund) has entered a new period in its history. In recent years, realized income from the APF has provided revenue to support the State budget, alongside its more established use to finance the annual permanent fund dividend.¹ Alaska has moved closer to the sovereign wealth fund (SWF) models adopted by peers around the world, in which these funds save a share of finite natural resource revenues, stabilize the inherent volatility of such revenues, and also provide a steady stream of income to support public spending.

The Fund's Board of Trustees (Board) believes that the system governing transfers of money to, from, and within the Fund should be grounded in rules. Such rules increase stability and predictability, while preserving the real value of the Fund — and potentially growing it through the compounding of excess investment returns and increased saving of oil and gas revenue windfalls.

The Percent-of-Market-Value (POMV) spending policy adopted in statute by the Alaska Legislature in 2018 is an important first step towards establishing rules for a sustainable annual draw from the Fund. However, further work is required to strengthen the Fund's rule structure and chance for long-term success. The Board believes valuable lessons can be learned in this regard from the successes and failures of other SWFs. This paper applies these lessons to the Alaskan context and identifies the following common success factors:

MISSION CLARITY

Successful SWFs have clarity of mission and purpose. This helps them contribute sustainably to the objectives of saving, stability, and income generation. The APF's expanded role in providing stability and income to help finance government services thus needs to be clearly articulated. Mission clarity also allows the pursuit of an investment mandate that supports that mission. Long-term return maximization is the appropriate investment mandate of the APF — no spending policy should undermine it.

THE IMPORTANCE OF RULES

A system of well-designed rules not only promotes sustainability and stability across

volatile commodity cycles; it also enables SWFs to organize their investment policies accordingly. Whatever elements of the various SWF models Alaskan policymakers and legislators adopt over time, clearly defined saving and spending policies must be embedded in a system of rules.

SUCCESSFUL ENFORCEMENT OF SAVING RULES

The permanent funds of Wyoming, New Mexico, Texas, and Alaska all have constitutionally mandated saving rules. In Alaska, the saving rule has been enforced not only through the constitutionally required transfer of oil revenues to the APF, but also through periodic appropriations to preserve the real value of the Principal (inflation proofing). As the annual amount of these constitutionally mandated savings deposits decline, consideration should be given to new ways the real value of the APF can be grown. This could include rules that retain and reinvest excess portfolio returns, as well as rules directing a greater share of royalty revenue to the Fund when oil and gas revenues are sufficient to fund government.

IMBEDDING THE POMV SPENDING RULE

The Alaskan spending policy adopted since 2018 aligns with the best practices of peer institutions: it is a POMV draw, based on the moving average of the fair market value of the Fund, rather than one based on earnings from interest, dividends, and realized gains. The statutorily mandated reduction to 5% in fiscal year 2022 (from the current 5.25%) will enhance the sustainability of this spending policy.

REFORMING THE ERA

The existing structural features of the APF — notably the constitutional protection of the Principal, the portfolio's appropriate long-term focus on growth rather than income-orientated assets, and the particularities of the Fund's Earnings Reserve Account (ERA) — are such that the annual 5% POMV expenditure from the ERA during years of low realized gains (unrelated to the market value of the Fund) could create the possibility of an ERA shortfall. Section 6 of this paper outlines several reforms that could be adopted to mitigate this risk.

¹ Realized earnings are also used for inflation-proofing the Principal, internal and external management fees and operations, and other financial services used by the Alaska Permanent Fund Corporation.

INTRODUCTION

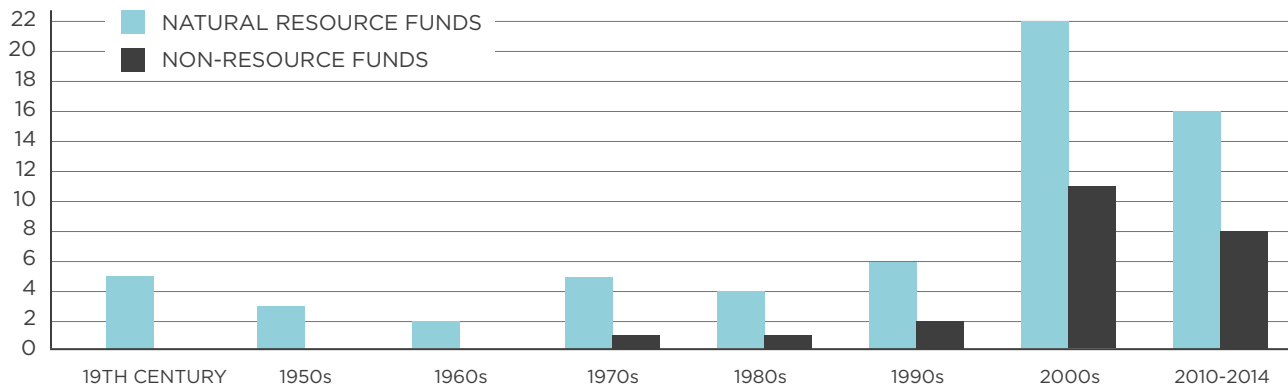
Following the recent collapse of oil prices, a new chapter in the Alaska Permanent Fund's history began. Income from the Fund has newly been appropriated to help finance State government, in addition to its more established uses, notably to pay for the annual permanent fund dividend. While this historic moment arrived due to a cyclical decline in oil and gas prices, it also reflects a structural trend in which oil revenues are unlikely to result in a fully funded State budget without additional sources of state revenue and the use of income from the Fund.

The Board believes that it is critical to the success and sustainability of the APF during this new chapter to adopt a rules-based framework to govern the inflows, outflows, and internal transfers of the Fund. The statutory POMV spending policy adopted by the Alaska Legislature in 2018 is a significant first step towards establishing rules for a sustainable annual draw on the Fund. However, further work is required to strengthen this rules-based system. In Resolution 18-04, the Board outlined the following cornerstones of such a system:

- 1. Adherence to rules-based formulas:** Rules-based formulas for transfers to and from the Fund increase the likelihood that draws will be sustainable over time and allow for the prudent investment of Fund assets due to the predictability of outflows.
- 2. Ensuring sustainability:** Preserving the purchasing power of the total Fund is essential to generate a sustainable source of realized income for the benefit of all generations of Alaskans. Sustainability also requires that draws from the Earnings Reserve Account (ERA) can be funded with a reasonable level of confidence, including during sustained periods of market stress and low realized gains.
- 3. Inflation proofing:** The Board believes that the annual inflation-proofing transfer from the ERA to the Principal should occur every year without exception. The Board further supports rules that would make inflation proofing a guaranteed annual event, rather than a discretionary transfer subject to appropriation.
- 4. Promoting real growth:** Capturing opportunities to grow the Fund's real value will result in higher future sustainable draws. The Board supports thoughtful consideration of rules that will grow the Fund, such as reinvesting excess investment returns and saving a portion of temporary surplus oil and gas revenues.

As part of Alaska's efforts to establish a system that meets these criteria, the Board believes that valuable lessons can be learned from the experiences of other sovereign wealth funds (SWFs). This paper identifies these lessons and applies them to the Alaskan context.

FIGURE 1: NUMBER OF NEW SOVEREIGN WEALTH FUNDS BY DECADE



Sources: Authors' estimates, based on fund documentation

The APF is part of the global community of SWFs, which has become an increasingly popular tool for investing state assets. This trend is reflected in the growth in global assets under management of SWFs, now estimated at \$8-10 trillion, as well as in the proliferation of new SWFs (see Figure 1). The majority of SWFs are funded with revenue generated from natural resources and perform some combination of three policy functions. First, SWFs typically preserve and grow a share of finite resource wealth for future generations (the savings function). Second, by channeling volatile revenues through their SWFs, governments can dampen the cyclicalities of their budgets — so that spending does not rise to unsustainable levels when commodity prices are booming (the stabilization function). And third, just as natural resource wealth generates public revenue, the financial assets held by a SWF can generate income in the form of interest, dividends, and capital gains (the income-generation function).

Historically, the focus of the Alaskan model has been on the saving function, coupled with a unique income-generation function in the form of the permanent fund dividend. A considerable portion of Alaska's oil wealth has been saved through the enforcement of a simple Constitutional Amendment directing no less than 25% of mineral royalties to the APF and the protection of the Fund's Principal from expenditure via appropriation (the saving function). A significant share of those savings has been paid out to Alaskan citizens through the dividend (the income-generation function). The move towards rules-based, sustainable draws on APF's income to support the State budget has brought new dimensions to the stabilization and income-generation functions, with the latter now extending beyond the permanent fund dividend.

HOW THE ALASKA PERMANENT FUND WORKS

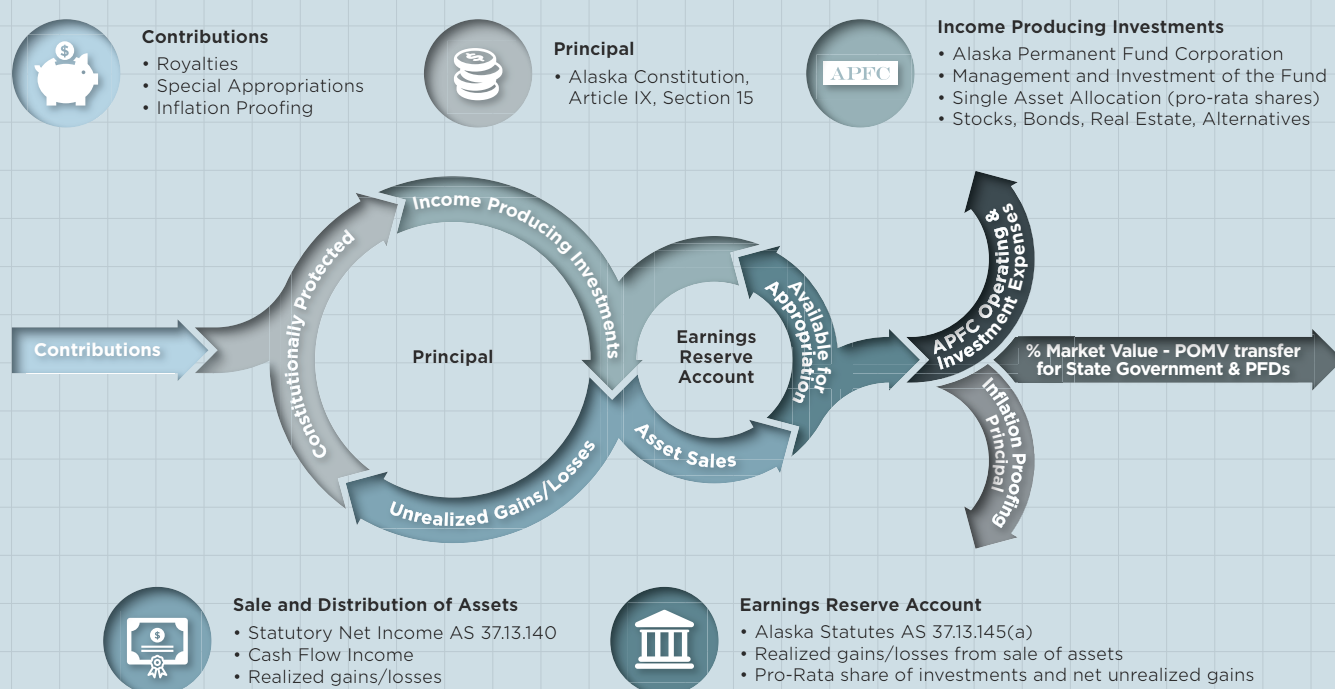
In 1976, Alaskans voted in favor of an amendment to the State Constitution to establish the APF. The amendment required that at least 25% of Alaska’s non-renewable mineral royalties be deposited into the Fund and used for income-producing investments. While this constitutionally directed transfer has been the APF’s dominant source of capital, the Fund also receives an additional statutory 25% of royalties on leases issued after 1980 as well as annual inflation proofing transfers and ad hoc appropriations from surplus earnings.

The APF has two separate accounts (see Figure 2): The Principal and the Earnings Reserve Account, both of which are invested in one, comprehensive investment strategy. The Constitution prohibits spending from the Principal (also referred to as the “Corpus”), leaving only money in the Earnings Reserve Account (ERA) available for appropriation by the State Legislature. The ERA is established in Alaska Statutes as an account to hold the annual net realized earnings from the APF’s investment portfolio. Under current accounting practices, the Principal and the ERA are also credited with a proportional share of the unrealized gains and losses of the combined portfolio.

The Alaska Permanent Fund Corporation (APFC) manages these assets on behalf of current and future generations of Alaskans. Under the direction of the Board of Trustees, the APFC investment team manages a long-term, diversified portfolio comprised of income-producing investments in stocks, bonds, real estate, and alternative investments.

The Alaska Legislature can appropriate funds in the ERA for any purpose. Historically, the ERA has been used to support the investment management and operations of the Fund; preserve the purchasing power of the Principal (i.e. inflation proofing); compensate state agencies involved with collecting royalties and distributing dividends — and, most significantly, to pay the permanent fund dividend to eligible Alaskans. In recent years, the Legislature has adopted a POMV spending policy to appropriate funds from the ERA to support the State budget and finance the permanent fund dividend.

FIGURE 2: HOW THE APF WORKS

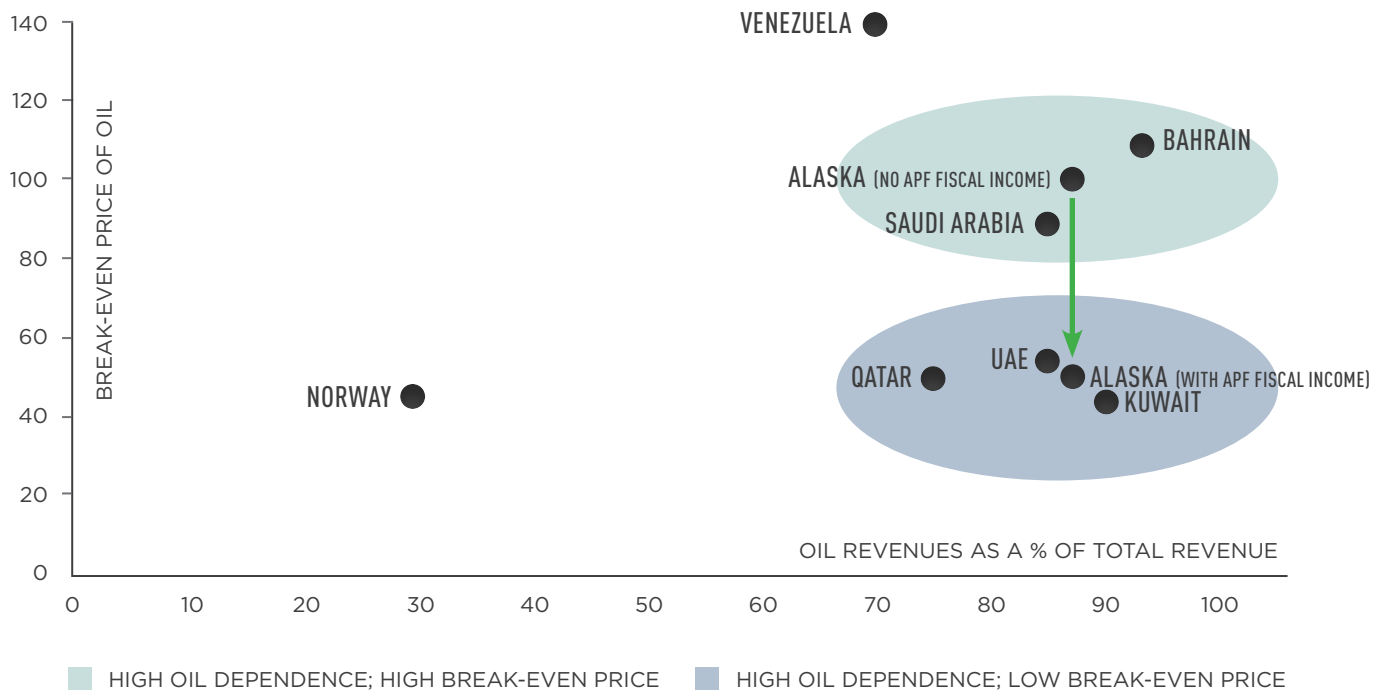


As Figure 3 shows, the adoption of the POMV spending policy to support the State budget moves Alaska towards a model where, despite very high dependence on oil revenue, the State budget can be financed in part through a distribution of investment income in times of low oil prices and revenue. This results in a much lower “budget break-even price” for oil, which is the average annual price for a barrel of oil required to balance the budget. This move brings the APF’s stabilization and income-generation functions into sharper focus (although the stabilization function could also be enhanced with the adoption of a rule to transfer a more significant share of surplus revenues to APF, thereby increasing the size of the Fund and the revenue it generates).

Drawing on investment income to help fund the State budget moves Alaska from an inherently unstable fiscal position, where high dependence on oil is combined with a high “budget break-even price” for oil (as is still the case in Bahrain and Saudi Arabia), to one where the high dependence on oil is partially offset by the use of investment income, which reduces the price of oil required to balance the budget (as it is in the United Arab Emirates, Kuwait, and Qatar).

The Board believes that the APF can continue to serve as a vehicle for saving while producing a stabilizing stream of income to support the State budget and the dividend program. This will, however, require rules that promote sustainability in a manner outlined in Board Resolution 18-04. In identifying practices that best fit the Alaskan situation, the State has the advantage of several compelling strengths and positions relative to its peers; while still needing to address clear risks and shortcomings.

FIGURE 3: OIL DEPENDENCE AND BUDGET BREAK-EVEN OIL PRICE



Sources: Goldman Sachs, Fitch Ratings, Stratfor, IMF

TABLE 1: ALASKAN STRENGTHS AND WEAKNESSES RELATIVE TO PEERS

FUND SIZE, STRUCTURE, AND PURPOSE	ALASKA	WYOMING	NORWAY	ALBERTA	SAUDI ARABIA
RELATIVE SIZE OF SAVINGS	✓✓✓	✓	✓✓✓	XX	✓
SWF'S CONTRIBUTION TO FISCAL STABILITY	✓	✓	✓✓✓	X	XX
PROVISIONS FOR SUSTAINABLE INCOME GENERATION	✓	✓✓✓	✓✓✓	✓✓	XX
RULES					
SAVING RULE	✓✓	✓✓	✓✓✓	✓	XX
SPENDING RULE	✓	✓✓✓	✓✓✓	✓✓	XXX
FISCAL DEPENDENCE AND RESOURCE PRODUCTION					
SHORT-TERM SCOPE FOR NON-RESOURCE TAXES	XXX	XX	✓✓	X	XXX
LONG-TERM RESOURCE PRODUCTION OUTLOOK	XX	X	X	XXX	✓
FUND MANAGEMENT					
FUND GOVERNANCE STRUCTURE & INDEPENDENCE	✓✓✓	✓	✓✓✓	✓✓	XX
ASSET ALLOCATION (RELATIVE TO PEERS)	✓✓✓	✓	✓	✓✓✓	XX
RESOURCING OF INVESTMENT MANAGEMENT ENTITY	XX	XXX	✓✓✓	✓✓✓	✓✓
LEGEND: ✓✓✓ SIGNIFICANT STRENGTH ✓✓ STRENGTH ✓ MODERATE STRENGTH XXX SIGNIFICANT WEAKNESS XX WEAKNESS X MODERATE WEAKNESS					

The strengths and weaknesses of the current Alaskan position are depicted in Table 1 and can be summarized as follows:

- Alaska has one clear advantage: the size of savings relative to its annual State budget. The current balance of the APF is 10 to 15 times the size of the State's annual operating budget. Norway has the world's largest SWF, yet the Norwegian fund provides less budget coverage at around 5 to 6 times its annual budget. Wyoming, Alberta, and Saudi Arabia have accumulated savings equal to between 1 to 3 years' spending.
- However, despite the clear advantage Alaska has due to the relative size of its current savings, its fiscal dependence on resource revenues, coupled with the uncertain outlook for oil and gas production, poses a weakness of equal importance. Alaska's dependence on oil revenue is comparable to that of Saudi Arabia (and other Gulf economies), where volatile commodity revenues account for more than 80% of revenue; while economies such as Norway, and to a lesser extent Alberta and Wyoming, generate the majority of their fiscal revenue from a variety of other sources including non-oil commodity revenue; and income, sales, and corporate taxes.
- Alaska has a constitutional saving rule — and a strong tradition of adhering to the rule and accompanying principles, such as inflation proofing to protect the real value of the Principal. However, the APF has not historically played a significant role in enhancing the stability and sustainability of the State budget, as is the case in Norway, Alberta, and Wyoming. Consequently, the rules and provisions for funding a POMV draw and enhancing the APF's stabilization mandate still require work in Alaska.

- Alaska's track record and level of expertise in investment management are comparable to that of Norway and Alberta. However, like Wyoming, the resourcing of the investment-management function relative to its importance to the economy is lagging behind peers. As a sovereign investment-management institution, the APFC operates on a fraction of the operational budget of its peers, Norges Bank Investment Management and the Alberta Investment Management Corporation. A critical area of reform for Alaska will be to establish a sustainable funding model for the APFC that more appropriately reflects the size and complexity of the APF's portfolio, investment strategies, and importance to the State's fiscal future.

In the context of these relative strengths and weaknesses, this paper considers how the experiences of SWFs around the world can inform the details of reforms that will strengthen the stability and sustainability of Alaska's rule-based fiscal framework.

A clear lesson from the experience of SWFs worldwide is that they fail or underperform when there is a lack of clarity around their sometimes-competing functions of saving, stabilization, and income generation. While SWFs can contribute to all three functions in the long run — as they have done in Norway, Chile, and Wyoming — the pursuit of one function cannot systematically undermine the achievement of others.

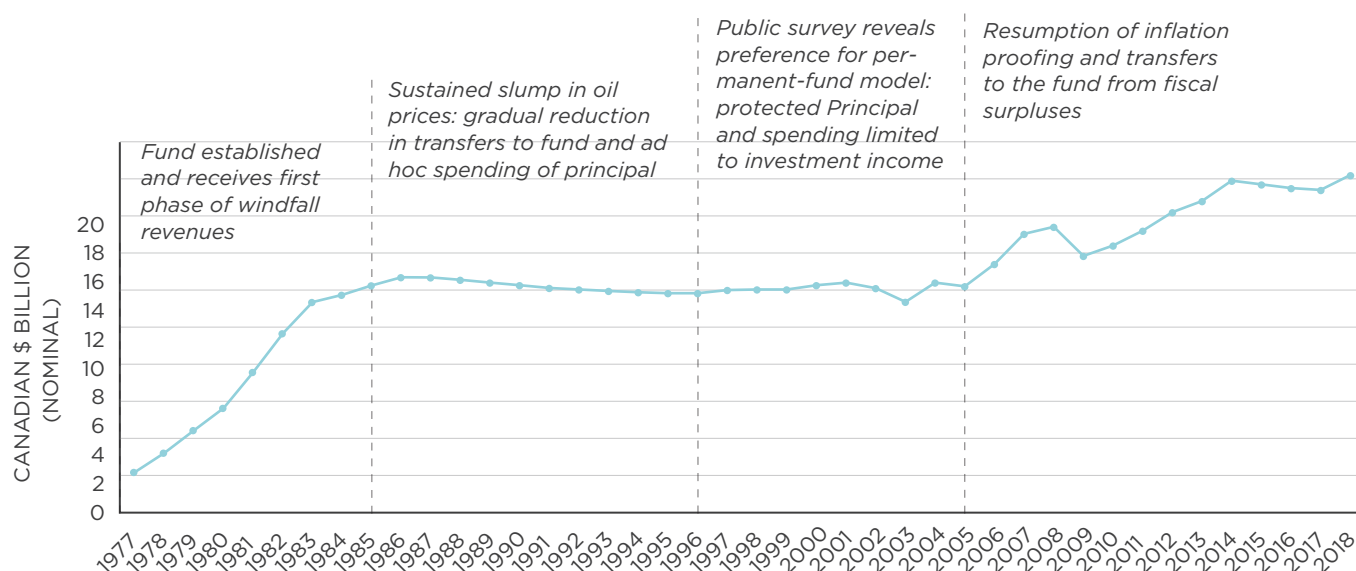
An additional challenge for many SWFs is the existence of supplementary functions beyond those of saving, stabilization, and income generation. These typically include direct mandates for local development, economic diversification, and infrastructure financing. Additional functions are problematic when they undermine the pursuit of core objectives. The example of the stagnation of the Alberta Heritage Savings Trust Fund (AHSTF) during the 1980s (and its still incomplete recovery in recent years) is instructive.

When the Albertan fund was founded in 1976, it was initially assigned three loosely defined functions: ensuring “fairness to future generations,” strengthening and diversifying the economy (including through significant in-province investments), and “improving the quality of life” of Albertans. Added to this were expectations that the fund would serve as a “rainy-day fund,” despite the absence of conditions and rules as to when and how the fund would fulfill this function. Without clear rules to guide how to rank these competing mandates, the AHSTF prioritized “societal objectives” over financial returns, particularly during the period of low oil prices in the mid-1980s. Investments targeted three sectors: subsidized commercial loans to encourage economic diversification; grants for healthcare, education, and environmental initiatives; and income-generating investments, which were restricted to 15% of the fund’s total assets. Performance suffered, with the commercial loan portfolio, in particular, requiring government support to cover losses.²

The emphasis on developmental investments meant that to grow the fund — or merely protect the real value of its capital — the government would have needed to provide regular contributions to the fund to cover losses. In practice, precisely the opposite occurred: an initial inflow of 30% of non-renewable resource revenue was halved in 1982 and ultimately suspended in 1987. Finally, the collapse in energy prices in the mid-1980s resulted in ad hoc draws on fund assets to support public expenditure.

² Warrack, A. (2008). “Whither a Heritage Fund Public Dividend Policy?”, Alaska Permanent Fund Corporation Trustees’ Papers, Vol. 8 (2008).

FIGURE 4: THE ALBERTA HERITAGE SAVINGS TRUST FUND ASSETS OVER TIME



Source: Alberta Treasury

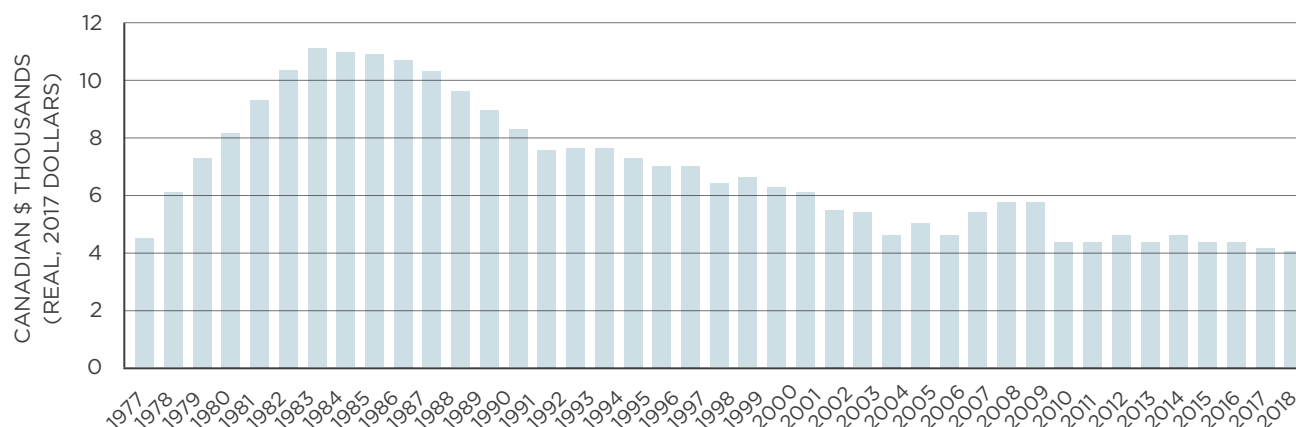
In the absence of a clearly articulated mission, the growth of the AHSTF was undermined by three deadly sins: (1) loss-making developmental investments, which were just public spending dressed up as investment; (2) ad hoc spending out of the fund's principal; and (3) inadequate saving, including limited (ultimately suspended) transfers of oil revenues to the fund and a lack of inflation proofing. Consequently, the growth of fund's assets (in nominal terms) stalled in the late-1980s, before declining gradually through the 1990s (see Figure 4).

Over the past two decades, however, the AHSTF has experienced a partial recovery. In 1995, the government canvassed public opinion with a survey titled, "Can we interest you in an \$11 billion question?" Among several policy alternatives, the majority of respondents favored restructuring the remaining assets into a permanent fund, invested to maximize returns, provide a steady source of government income, and protect the real value of the fund.³

While these initial reforms preserved the AHSTF legacy assets, because the transfer of oil revenues to the fund remained limited and ad hoc and inflation proofing for the principal was incomplete, the real growth in the fund's assets remained stagnant. More recently, while transfers of oil revenue and allocations for inflation proofing have increased since 2006, the saving process in Alberta remains largely discretionary. As shown in Figure 5, due to inflation and the rapid growth in the population of Alberta, the value of the AHSTF on a real, per capita basis has stabilized over the past two decades, but never fully recovered from the declines experienced after 1983.

³ This result was confirmed in a second public survey in 2002-03, in which 61% of respondents favored keeping the Albertan fund as a permanent endowment.

FIGURE 5: THE ALBERTA HERITAGE SAVINGS TRUST FUND: REAL PER CAPITA DECLINE



Source: Standing Committee on the AHSTF, Assembly of Alberta, March 2018

By contrast, successful SWFs can identify an uncontested public and political understanding of their mission — and how that mission maps into the critical building blocks, such as the fund’s saving rule, spending rule, and investment model. In a democratic and accountable political system, this requires public education and communication. The most successful SWFs, such as those in Norway, New Zealand, Australia, and Chile, devote considerable resources to communication regarding their purpose and goals.

One of Alaska’s strengths has been the historical avoidance of a situation in which ancillary functions overwhelm or undermine the APF’s primary purposes. Alaska has to preserve this history and build on it for future generations; the challenge now lies in defining the balance and trade-offs between functions, as the APF’s role in stabilization and income generation comes more prominently to the fore. In addition to the technical soundness of the emerging rules-based system, this will require a clear articulation and public education around the APF’s evolving mission.

2 COMPREHENSIVE RULES-BASED FISCAL FRAMEWORKS

Some of the most successful SWFs are part of a comprehensive fiscal framework in which an overarching fiscal rule determines the fund's function. The two best examples of this approach are found in Norway and Chile. In both cases, the fiscal rule focuses on the non-resource fiscal balance — that is, budgets are formulated as if resource revenues either do not exist (Norway) or are in line with long-term trends and expectations (Chile).

Norway's saving rule requires that all oil revenues are transferred to the country's SWF. Norway's spending rule then allows for a non-oil budget deficit (the fiscal balance, excluding oil revenues) equal to a maximum of 4% of the fund — a number based on its expected long-run average real return. The rule, therefore, focuses fiscal policy on what is called the “structural non-oil budget,” which means Norway can run fiscal deficits on the non-oil budget equal to 4% of the value of its fund and still balance the overall budget in perpetuity. The bigger the portfolio becomes, the larger the possible transfer (based on a 4% POMV draw) and the sustainable non-oil budget deficit. Some details of the Norwegian model are worth highlighting:

1. **The SWF absorbs volatility:** The Norwegian framework entirely shields the budget from oil-price volatility and transfers this volatility to the SWF by transferring 100% of oil revenues to the fund. The fund then produces a steady stream of income equal to a 4% POMV of the fund.
2. **A sustainable POMV draw:** The 4% POMV draw includes several features that made it sustainable. First, the rule focuses on the average (rather than the actual) return, which emphasizes long-term sustainability over annual fluctuations in returns. Second, limiting spending to the expected real return of the fund ensures that the fund's purchasing power is not eroded by inflation. Finally, focusing the fund's investments on a long-term horizon allows the fund to capture premiums (volatility, value, and illiquidity premiums) that generate higher returns. The assumption of a 4% long-term average return is at the conservative end of the spectrum compared to most endowments, foundations, and SWFs, which typically employ POMV spending rates of 4-5%.
3. **The draw has not always been used:** The Norwegian fund retains and reinvests money in excess of transfers to the budget — which may arise due to returns over 4% in real terms or due to a discretionary decision by the Ministry of Finance to waive the distribution from the fund to the budget in any particular year when the non-oil budget is balanced or in surplus. In recent years, withdrawals from the fund have generally been below 4% of its value. Consistent draws below 4% have resulted in substantial real growth in the fund.

The Chilean model combines a stabilization fund, the Economic and Social Stabilization Fund (ESSF), and a long-term savings fund, the Pension Reserve Fund (PRF). A fiscal rule governs the flow of money to, from, and between these funds. The rule isolates the impact of volatile copper revenues by anchoring budget policies on the structural budget balance: the budget surplus/deficit, excluding the cyclical fluctuations that drive GDP growth and copper prices above/below trend.

The fiscal rule maintains a balanced structural budget over the cycle so that fluctuations in the actual

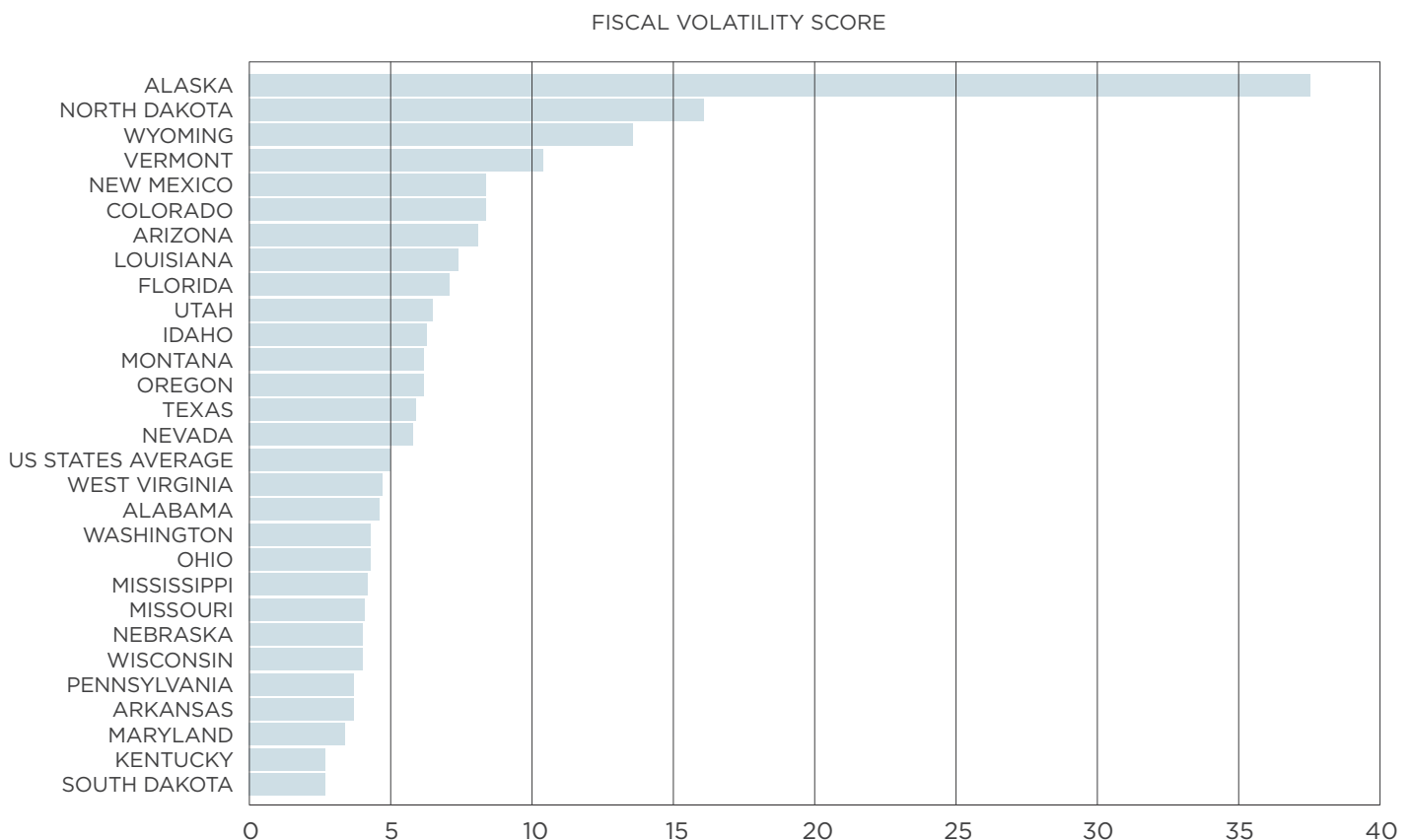
budget balance are driven only by cyclical factors — notably the impact of copper-price volatility on economic growth and revenue. With the focus on structural stability, any cyclical boost to revenues is not spent but instead transferred to the SWFs. In contrast, the identification of negative cyclical factors allows for a transfer from the stabilization fund to support the budget.

Chile is an example of a well-established pattern amongst SWFs, which is to have separate stabilization and saving/income funds. The ESSF balance is expected to experience significant fluctuations, as it captures a share of cyclical surpluses and supports budget spending in times of cyclical deficits. The PRF, in contrast, grows through the saving of surplus copper revenues, while also producing a sustainable stream of income earmarked to support the public pension system.

Another essential element of the Chilean system is its heavy reliance on technocratic expertise and transparency. The implementation of the fiscal rule relies on the inputs of two expert committees, respectively, responsible for forecasting copper prices and estimating whether GDP growth is above or below potential. The Ministry of Finance discloses the details of the design and implementation of the fiscal rule, including the proceedings and econometric models of both expert committees.

The fiscal rules of Norway and Chile promote fiscal stability and sustainability by isolating the volatility and unpredictability of commodity revenues and promoting long-term fiscal prudence. While their details differ, both fiscal rules intend to anchor fiscal policy on structural, rather than cyclical factors, thereby ensuring the consumption of resource revenues is kept at sustainable levels no matter the position of the commodity cycle.

FIGURE 6: ALASKA'S REVENUES ARE THE MOST VOLATILE OF ALL STATES — BY FAR



Source: Pew, Fiscal 50: State Trends and Analysis

The contribution that a SWF can make to managing the volatility of commodity revenues warrants specific attention in Alaska, given the State's high level of oil dependence and the volatility of this revenue source (see Figure 6). Academics, policymakers, and global economic institutions, including the International Monetary Fund, increasingly regard the use of a SWF to dampen the impact of volatile commodity revenues on the budget process and the broader economy as a "best-practice" approach. In an authoritative survey of resource-dependent economies, Harvard economist Jeffrey Frankel includes SWFs in a shortlist of policy and institutional interventions that have proved effective in combating commodity volatility.⁴ Likewise, a recent econometric study found that the existence of a SWF reduces volatility (raising economic growth, capital accumulation, and productivity) in a sample of 69 commodity-dependent countries.⁵

Alaska does not currently have an overarching fiscal rule similar to that of Norway and Chile. Rather, saving and spending rules in Alaska operate independently of the state of the commodity-price and revenue cycle. That said, if Alaska establishes a rules-based framework that provides a sustainable draw based on the APF's earnings potential, while also directing a greater share of surplus oil and gas revenues to the Fund, the emerging Alaskan system will more effectively mirror key elements of the Norwegian and Chilean fiscal rules.

⁴ Jeff Frankel. (2012). "The Natural Resource Curse: A Survey," in *Beyond the Resource Curse*, edited by Brenda Shaffer & Taleh Ziyadov, University of Pennsylvania Press, Philadelphia, PA.

⁵ Kamiar Mohaddes and Mehdi Raissi, "Do Sovereign Wealth Funds Dampen the Negative Effects of Commodity Price Volatility?" *Journal of Commodity Markets*, Vol. 8: 18 – 27.

Rather than positioning their funds as part of a fiscal framework focused on the sustainable financing of the non-resource budget deficit, like Norway and Chile, many SWFs have a saving and spending rule that is independent of the cyclicalities of the fiscal process. The permanent funds of New Mexico, Texas, Wyoming, North Dakota, and Alaska are prime examples of funds that operate in this manner.⁶ The common thread between these funds is the constitutionally required saving of a fixed percentage of revenues generated on public land — typically from natural-resource extraction — through an annual, quarterly or monthly transfer to a permanent fund, while the spending from these funds is then separately determined through a spending rule (see Section 4).

A limitation of fixed-percent saving rules is that they are mechanistic: they do not adjust the rate or level of saving to the state of the economy, fiscal dynamics, or commodity prices. Further, because they only dedicate a portion of the volatile revenue stream to the fund, while the remainder of this volatile revenue stream flows to the States' general funds, they do not fully insulate the fiscal process from volatile resource-based commodity revenue. The stabilization function associated with SWFs is, therefore, only partially achieved under this fund model — particularly in economies that are highly dependent on volatile commodity revenues.

The saving rules of most American permanent funds do, however, have the advantages of simplicity (given the fixed-percent formulation) and strong enforcement. The key to enforcement is the constitutional foundations of the saving rule: there are many examples where practices that rely on statutory contributions (or non-binding policy frameworks) have been abandoned, in times of both fiscal feast and famine.

In many oil-rich economies, for example, the absence of a binding saving rule has resulted in sub-optimal savings during “boom periods,” such as the late-1970s to early-1980s; and, more recently, the period of steadily rising oil prices between 2002 and 2008. A well-known study of the former period found that oil-producing economies squandered an unprecedented fiscal windfall by consuming two-thirds of these gains.⁷ A more recent example of this took place in Saudi Arabia. Contrasting the lack of savings discipline of Saudi Arabia with other larger oil producers, a Harvard University study showed that actual spending exceeded budgeted spending every year between 2000 and 2008 (typically by 30-40% per annum), and estimated the opportunity cost in terms of foregone savings and associated investment returns at nearly \$1 trillion over this period.⁸

⁶ There are a number of additional American states with permanent funds, including Oregon, Alabama, Utah, Arizona, Montana, Louisiana and Idaho. This paper focuses on the largest and longest-established funds.

⁷ Alan Gelb. (1988). *Oil Windfalls: Blessing or Curse?*, Oxford University Press & The World Bank, New York.

⁸ Khalid Alsweilem. (2015). *A framework for more stable and efficient fiscal policy in Saudi Arabia: the case for a sovereign wealth fund and the diversification of sources of income*, Belfer Center for Science and International Affairs and Center for International Development, Harvard Kennedy School, Harvard University, April 2015.

The lack of binding saving rules can be equally problematic in times of commodity-revenue shortfalls. Regarding the underfunding of the Alberta fund discussed earlier in this paper, Murphy and Clements estimate that a combination of overspending, underfunding, and inadequate inflation proofing, resulted in a shortfall of around \$10 billion by 2010 relative to the assets under management required to simply preserve the purchasing power of the Alberta fund's 1987 capital base (\$14 billion in actual assets under management versus a counterfactual \$24 billion that should have been saved).⁹ This chronic underfunding and erosion of savings resulted from a lack of binding savings requirements and protections of the Albertan fund's assets.

A final example of how the absence of a constitutional saving rule has undermined long-term fund growth is found in New Mexico. The Severance Tax Permanent Fund (STPF) was created in 1973 with the intention that 50% of severance tax revenue from natural-resource extraction would be dedicated to the STPF to provide investment income for current and future generations, and the remaining 50% of severance-tax revenue was earmarked to bond capital projects for schools and other entities. However, by the late-1990s, a significant departure from this 50/50 plan took place and became the norm. In 1999, litigation led to a court-ordered increase in capital funding for public schools in low-income districts, which resulted in cuts to the 50% portion that was supposed to flow to the STPF. In the period 2010-13, only 6% of the \$1.7 billion in severance taxes went into the STPF, and in 2017 just \$38 million from \$300 million in severance taxes was transferred to the fund. Only in the past two fiscal years has the allocation of severance-tax revenue to the STPF increased to just below 20%, which remains far short of the initial intention of dedicating 50% of such revenues to the fund.

In summary, saving rules based on constitutional mandate rather than statute are much more likely to lead to pledged funds being saved as intended. This pattern holds true for Alaska. While the statutory saving requirements have traditionally been followed, in recent years, some slippage has occurred. The Legislature failed to appropriate just over \$1.4 billion from the ERA to the Principal for fiscal years 2016, 2017, and 2018 for the purpose of inflation proofing; and a further \$199 million in statutory royalties during fiscal years 2018 and 2019.¹⁰

Subsequently, the Legislature voted for a significant statutory transfer that included a \$4 billion special appropriation to Principal; and appropriated an additional \$989 million and \$943 million for inflation proofing for the 2019 and 2020 fiscal years, respectively. It is important to note that the stated intent behind these appropriations was forward-looking — the Legislature did not reference the recent instances of neglected statutory royalty savings and inflation proofing. The magnitude, timing, and unpredictability of these appropriations from the ERA underline the fact that the system still lacks an enforceable rules-based foundation — a requirement that will become increasingly important as the APF provides a stable source of income to the General Fund (see Section 6).

⁹ Robert Murphy and Jason Clemens. (2013). *Reforming Alberta's Heritage Fund: Lessons from Alaska and Norway*. Fraser Institute, Alberta Prosperity Initiative, Alberta, Canada.

¹⁰ While the overwhelming contribution to the saving of oil and gas royalties through the Alaska Permanent Fund comes from the constitutional requirement that 25% of all mineral royalties that must be directed to the fund's Principal, there is an additional statutory provision that for leases issued after 1980, this amount increases to 50%. As Alaska's largest fields, notably in Prudhoe Bay, were leased prior to 1980, the overall savings mechanism is dominated by the 25% of royalties transfer to the APF required under the Constitution.

4

SPENDING RULES

Rules for spending SWF assets vary considerably. As discussed earlier, some countries — notably Norway and Chile — frame saving and spending together through a fiscal rule. At the other extreme, several SWFs have no spending rules whatsoever and leave spending decisions to the discretion of public officials — a trend that is particularly pronounced amongst non-democratic countries.

This section will focus on the spending rules of some American permanent funds, as their lessons might be most directly applicable to the Alaskan context. Amongst them, Texas’s Permanent School Fund and the Permanent University Fund are the oldest, with histories that predate Texas statehood. Both funds receive income from public lands and provide regularized investment income to their stakeholders (universities and the public school system), in a manner that can be sustained for future generations through the protection of the real value of the funds’ Principal. Since the late-19th century, a number of other states have adopted the Texas model, albeit with different beneficiaries (see Table 2).

TABLE 2: SELECTED U.S. PERMANENT FUNDS

STATE	FUND	ASSETS (\$BN)	ESTABLISHED	BENEFICIARIES/USE OF EARNINGS
Texas	Texas Permanent School Fund	44 (April 2019)	1876	Public school system
Texas	Texas Permanent University Fund	21.8 (July 2018)	1876	Public university system
Wyoming	The Common School Permanent Land Fund	4.1 (June 2019)	1890	Public school system
New Mexico	New Mexico Land Grant Permanent Fund	18.6 (August 2019)	1912	Various (mostly educational)
New Mexico	New Mexico Severance Tax Permanent Fund	5.5 (August 2019)	1973	State General Fund
Wyoming	Wyoming Permanent Mineral Trust Fund	7.9 (June 2019)	1974	State General Fund
Alaska	Alaska Permanent Fund	64.1 (October 2019)	1976	Legislative appropriation (including permanent fund dividend)
North Dakota	North Dakota Legacy Fund	6.2 (August 2019)	2010	State General Fund

For all funds that provide an income stream, there are critical definitional and accounting concepts around what constitutes “income” that require clarification. Most important is the distinction between realized earnings on the one hand; and a more long-term and holistic perspective that bases the annual amount of money available for spending on the fund’s earnings potential: most commonly, the assumed sustainable real return of the funds. The former limits income available for expenditure to interest payments, dividends, rental income, infrastructure user fees, and (generally, but not universally) realized capital gains. The latter, in contrast, ignores the timing of such earnings and bases the amount available for spending on a percentage of the market value of the total portfolio. The critical differentiation lies in the latter’s inclusion of changes in capital values, even when these have not been realized (that is, unrealized capital gains/losses) in the estimation of money available for spending.

The distinction between these two approaches came into sharper focus starting in the mid-1970s, as intergenerational institutional investors allocated an increasing share of their portfolio to more volatile value stocks and eventually illiquid alternative assets. Such assets provide less frequent and less predictable income streams, and capital gains are typically a much more significant component of their expected total returns than interest and dividends.¹¹

In 1974, the American Economic Review included several articles on the question of what should be considered sustainable or permanent income in the context of inter-generational university endowment funds. According to Burton Malkiel, a celebrated financial economist (involved with Princeton’s endowment at the time) and his co-authors, there were a number of problems with what they called the “traditional spending rule” that focused only on realized income: “the major objection to the traditional spending rule is that...if the endowment is invested for maximum total return, only by accident will the amount of dividends and interest earned in a given year be consistent with the amount that ought to be spent based on general policy considerations.”¹²

Malkiel argued that it is “the size of the total return, not its composition, that matters if the university is to achieve the largest stream of resources over time.” Further, of particular concern is the “independence of spending and investment management”: the need to provide a stable source of income should not have a major bearing of either the long-term asset allocation decision or the shorter-term decisions to sell assets to realize gains to fund a distribution. Both of those investment-management decisions should be driven by the return-maximization objective, subject to an acceptable level of risk.

¹¹ More recently, total-portfolio based spending policies have risen in popularity due to the historically low yields on bonds and other interest-bearing assets.

¹² Burton Malkiel, James Litvack and Richard Quandt. (1974). “A Plan for the Definition of Endowment Income,” *The American Economic Review*, 64(2), 433-437.

THE SPENDING POLICIES OF UNIVERSITY ENDOWMENTS

University endowments face a similar challenge to sovereign wealth funds: they seek to transfer a volatile, unpredictable source of revenue (gifts, grants, and donations) into a stable and sustainable source of permanent income. The design of endowment spending policies, therefore, needs to resolve the tension between the competing goals of preservation of endowment and stability in spending. The above-mentioned move away from spending policies based on realized earnings in favor of POMV methodologies has gathered pace amongst endowments since the 1970s. Today, surveys such as the annual NACUBO study show that around 75-80% of endowments employ POMV methodologies, with spending rates in the range of 4-5%.¹³ A declining share of endowments distributes income based on other mechanisms, such as ceilings-and-floor, fixed or inflation-linked distributions, or basic or moving-average based actual earnings.

Finally, many large endowments use a hybrid rule, based on the insights of Nobel-Prize winning economist, James Tobin (these rules are sometimes called “Tobin rules” or “Yale rules,” given Tobin’s personal involvement with the Yale University endowment). Under a hybrid rule, the current-year distribution from the endowment is determined by two components: (1) the previous year’s distribution, and (2) a percentage of the moving-average underlying endowment value (a POMV). These two terms are weighted: the classic “Yale/Tobin rule” assigns an 80% weighting to the first component and a 20% weighting to the POMV component, while the “Stanford rule” assigns 70% and 30% weights, respectively. The Yale rule can be expressed as follows:

Distribution in Year X = 0.8 (Distribution in Year X-1 x inflation rate) + 0.2 (0.05 x average market value of the portfolio over the past 5 years)

The first term in the hybrid spending rule provides stability in spending, while the latter term provides a link to the underlying value of the portfolio, gradually moderating the distribution amount if and when the portfolio value has declined, or gradually increase it if and when the portfolio value has risen. As noted, the Stanford rule assigns a somewhat higher value (30% versus Yale’s 20%) to the second term — thereby marginally strengthening the link between distributions and the value of the endowment’s portfolio and marginally reducing the stabilization component.

Spending rules that follow the Yale-Stanford hybrid formulation have several attractive features. First, the component of the spending rule that links current-year spending to the previous year’s spending, obviously provides for a stable spending profile, as long as the level of the expenditure remains sustainable given the size and growth of the fund. Second, given that the POMV component only partially determines the level of current-year spending, the well-known risk associated with a pure POMV draw of potentially over-spending during sustained periods of strong portfolio returns (or under-spending during periods of low returns) is mitigated.

One complication in Yale-Stanford rules, particularly when combined with a diversified portfolio that includes volatile and illiquid assets in pursuit of higher long-run returns, is that provisions need to be made to ensure that the spending policy can be financed in times of market losses. Most university endowments can sell liquid assets in their portfolio to do so, or make use of a buffer fund or funding pool invested alongside the main portfolio. These options are not always available to permanent funds and other institutional investors (see Section 5).

¹³ The NACUBO-TIAA Study of Endowments, <https://www.nacubo.org/research/2019/nacubo-tiaa-study-of-endowments>

Since the 1970s, the majority of endowments, foundations, and charitable trusts that aim to balance current spending needs with the requirement that the fund should last for future generations (or, indeed, in perpetuity) have gradually moved away from considering realized earnings only in their conception of income. Instead, most of these funds use some variant of a POMV rule to define sustainable income. The POMV rate itself is typically based on either the observed, historical real return or (more commonly) on the assumed long-term real return.

This trend has been widely acknowledged as best practice, including in the Uniform Prudent Management of Institutional Funds Act (UPMIFA) that guides investment and spending policies for non-profit and charitable organizations. The explicit intention of this law is to enable investors to determine endowment fund spending based on spending rates rather than on determinations of 'income' and 'principal,' as an institution could spend appreciation in addition to spending income determined under trust accounting rules.

The same trend is evident amongst sovereign wealth funds that provide a permanent income for current and future generations. The majority of permanent funds have followed the industry trend in transitioning from an earnings-only to total-fund POMV approach in framing their spending policies. The permanent funds of New Mexico, Texas and Wyoming are examples of funds that have abandoned spending policies based only on interest-and-dividend income in favor of a POMV draws:

- The **Permanent Wyoming Mineral Trust Fund** (PWMTF) has a current Spending Policy Amount equal to 5% of the 5-year average market value of the Principal. Half of the Spending Policy Amount (2.5% POMV) is earmarked for the General Fund; while one-quarter each (1.25% + 1.25% POMV) is directed towards the Strategic Investments and Projects Account (an infrastructure fund) and the Legislative Stabilization Reserve Account (a “rainy-day” fund), respectively. The 1.25% allocated to the Legislative Stabilization Reserve Account is contingent on the fund having generated sufficient income in a given year. Therefore, while Spending Policy Amount is a target, linked to a 5% POMV, the actual draw percentage is, in fact, range-bound with a “floor” of 3.75% and a “ceiling” of 5%. As described in more detail in Section 5 of this paper, a separate reserve account is utilized to help manage the payout of the POMV floor-rate of 3.75%. It bears noting that the POMV spending rate is supposed to decline over time to 4.75% in 2020 and then to 4.5% in 2021.
- The **Permanent University Fund** in Texas also employs a spending rule based on its total return. The Texas Constitution directs the board of the University of Texas System to “establish a distribution policy that provides stable, inflation-adjusted annual distributions...and preserves the real value of the PUF investments.” Accordingly, distributions are subject to three provisions: (1) a minimum equal to the amount needed to pay debt service on PUF bonds; (2) no increase in spending from the preceding year, unless the purchasing power of the PUF for any rolling 10-year period has been preserved; and (3) a maximum distribution equal to 7% of the PUF's value.
- The **Land Grant Permanent Fund** in New Mexico has a POMV-based spending rate of 5% of its 5-year market value, with the majority of its beneficiaries being educational institutions. Following the adoption of a POMV rule in the late-1990s, the spending rate changed many times. Following a narrow public vote in 2003 to amend the Constitution, the established 4.7% POMV draw was amended to 5.8% for fiscal years 2005-12, to 5.5% from 2013-16, and then down to the current 5% thereafter.

- The **Severance Tax Permanent Fund**, New Mexico's second-largest permanent fund, distributes 4.7% of its 5-year average market value. The fund has a slightly lower return expectation — and, hence, a lower POMV distribution rate — than the Land Grant Permanent Fund, due to the former's inclusion of in-state investments (to a maximum of 8% of the portfolio), which lowers the overall expected return performance.

There are several general principles and lessons to be taken from this discussion of permanent-fund spending rules and the academic literature on the subject of sustainable spending policies for intergenerational investment funds:

1. **Return maximization:** The move away from spending policies based only on income from interest, dividends, and realized capital gains might appear to be a relatively arcane change. Still, it has significant implications for the asset allocation of long-term investment portfolios. Spending policies based on POMV enable a larger allocation to illiquid and growth-orientated assets over income-orientated investments, given the ability to focus on maximizing total returns rather than the composition of returns between capital gains, interest, and dividends.
2. **Smoothing mechanism:** POMV spending policies should use the moving-average (typically of the past 3-5 years) of the total market value of the fund in determining the draw amount. Long-term investment portfolios will fluctuate significantly on a market-value basis, with unrealized earnings likely being the most volatile component. Using a moving average of past fund values in a POMV spending rule provides a smoother spending profile than using the current or preceding year's fund value.
3. **Sustainable POMV rates:** The most critical element of any POMV spending rule is that the spending rate needs to be sustainable. The guiding principles are that the POMV rate should be based on the expected average real return, and the spending rate cannot exceed the fund's actual long-run average real return. Based on the POMV rates of other SWFs, conventional return assumptions, and surveys of endowments, a prudent POMV spending rate is 4-5%, assuming significant exposure to structural return premiums, such as the equity-risk, illiquidity and value premiums.¹⁴ A POMV that exceeds 5% on a sustained basis is risky, as it has become too difficult to guarantee that average, long-term real returns can exceed 5%.

It is noteworthy that the Board of the APF has on several occasions, dating back to 2000, supported a spending policy based on a POMV methodology (see Resolutions 00-13, 03-05 and 04-09). The discussion in this section suggests the statutory spending rule adopted by the Alaskan Legislature in 2018 is aligned with best-practice spending rules, as supported by academic research and the practices of other SWF, permanent funds, and endowments.

¹⁴ In the current environment, it is unreasonable to expect a fund with a heavy allocation (50%+ of the total portfolio) to investment-grade fixed income to deliver 5% real returns on a sustained basis. A POMV spend rate and an expected real return of 5% require a significant allocation to public equity and other growth assets.

The preceding section identified that POMV-based spending rules better support the objective of maximizing total returns than those based on net realized income. However, the following structural features of a number of American permanent funds, including the APF, creates a liquidity challenge that needs to be remedied to ensure sufficient cash is available to fund the annual POMV payout:

- 1 **Greater allocation to risk-orientated and less-liquid assets, rather than income-orientated investments to meet the 5% real return objective;**
- 2 **A long-term low interest rate environment that produces declining yields, lower interest payments, and dividends on income-orientated investments; and**
- 3 **The inability to withdraw cash or sell assets from the Principal, if need be, to fund a POMV distribution amount, given the constitutional protection of the Principal.**

To be clear, these features exist for good reasons. Constitutional protection of the Principal enforces the inter-generational savings mandate, and growth-orientated investments maximize total returns over the long run. Rather than removing these structural features of the permanent-fund model, policymakers and legislators should focus their efforts on creating rules and structures that make a POMV rule work under the constraints imposed by the model.

Several permanent funds have addressed these challenges by establishing funding pools or buffer accounts that hold low-risk, liquid assets with which to fund annual POMV distributions. In Wyoming, despite the fact that the PWMTF holds considerable income-generating assets (around 40% of its portfolio), legislators have created the PWMTF Reserve Account to help manage instances when earnings are either below or above the Spending Policy Amount. When earnings exceed the Spending Policy Amount, the excess earnings flow first to the Reserve Account. If the balance in this account exceeds 150% of the Spending Policy Amount, the surplus funds are transferred back to the PWMTF Principal to grow the real value of the permanent endowment.¹⁵ And as an additional funding backstop, the State Treasurer and the State Auditor may also utilize inter-fund loans from the LSRA to other accounts.

In Alaska, reforms to the existing APF structures and rules should be considered to manage the funding of an annual POMV draw on a sustained basis. Currently, in addition to the ERA being responsible for funding the annual POMV payout, the ERA is also the funding source for annual inflation proofing, and the payment of all costs associated with managing the APF, which includes both the internal and external management costs. The policy question this raises is what unfortunate, but plausible, set of circumstances would risk the depletion of the ERA. Concerns over the sustainability of the ERA are three-fold:

¹⁵ Additionally, recall that, because the 1.25% POMV transfer to the Legislative Stabilization Reserve Account is not guaranteed, in the event that PWMTF has not generated sufficient income from interest, dividends, and realized capital gains in a given year, the effective POMV is reduced to 3.75%.

- 1 The ERA's inclusion of its proportional share of unrealized earnings introduces significant volatility to its market value;
- 2 As the APFC manages both the principal and ERA under a single asset allocation with the long-term objective of return maximization, rather than meeting a defined (or even implied) liability, a significant portion of the ERA assets are invested in growth strategies, rather than income-orientated investments; and
- 3 Income-orientated assets currently produce historically low levels of income. The second and third concerns combined suggest that income from interest and dividends flowing into the ERA will be below historical trends, leaving the value of the ERA to be primarily determined by realized and unrealized capital gains and losses.

A productive reform agenda could focus on how some or all of the ERA can be adapted to better serve as a sustainable funding pool, ensuring (with a reasonable degree of confidence) that the annual POMV draw can be funded during times of market stress when investment income is reduced, and the portfolio suffers unrealized capital losses.

6 LESSONS AND CONSIDERATIONS FOR ALASKA

Alaska legislators and policymakers need to achieve a sustainable balance between drawing on the APF's income-generating power to help fund and stabilize the State budget and annual permanent fund dividend while ensuring that the real value of the Fund is preserved and indeed grown whenever possible, so that future generations benefit from Alaska's resource wealth as well. This paper has identified lessons from the successes and failures of Alaska's peers in their efforts to meet these competing goals. This section seeks to apply these lessons to the Alaskan context.

LESSON #1: MISSION CLARITY

Success requires clarity around the Fund's mission. The evolving mission of the Alaska Permanent Fund, with an expanded role in providing stability and income to the State budget, needs to be clearly articulated. Once a political and public appreciation of the mission has been established, the process of mapping the sustainable achievement of these objectives into a rules-based framework should follow. An agreement on the balance of the Fund's saving, stability and income-generation functions will allow for an investment mandate that supports those functions. Long-term return maximization is the appropriate investment mandate of the APF, and no spending rule should undermine that pursuit.

LESSON #2: THE IMPORTANCE OF RULES

Some countries — notably Norway and Chile — use their SWFs as part of a fiscal rule that insulates fiscal policy from the volatility of resource revenues and focuses on the sustainability of the non-resource budget. In other economies, the SWF is not directly tied to an overarching fiscal rule, but instead operates with distinct saving and spending rules. Whatever the model, successful saving and spending policies are embedded in a system of rules, which provides policy guidance and direction as to how stabilization, savings, and income-generation functions should be balanced and how inherent trade-offs are to be managed. Along with mission clarity, the adherence to a system of well-designed rules not only promotes sustainability and stability across volatile commodity cycles, but it also enables the SWF to organize its investment policies accordingly.

LESSON #3: SUCCESSFUL ENFORCEMENT OF SAVING RULES

The permanent funds of Wyoming, New Mexico, Texas, and Alaska have constitutionally mandated rules for savings, establishing strong enforcement. In Alaska, the savings mandate has been enforced not only through the transfer of the constitutionally required share of oil revenues to the APF but also through periodic appropriations to ensure that the real value of the Principal is preserved and ad hoc appropriations to the Principal when the use of surplus earnings was not anticipated.

As expressed in the APF Board Resolution 18-04, thoughtful consideration should be given to ways in which the real value of the Alaska Permanent Fund can be grown. One potential source of real growth is the retention and reinvestment of real portfolio returns above the POMV rate, which would allow for a compound-growth effect on the APF's asset base. The second source of growth could be to

direct a more significant share of royalty revenue to the APF in periods when oil and gas revenues are sufficient to fund government. Transferring a larger share of oil revenues to the Fund and/or reducing the size of the draw in revenue-boom periods will not only allow for real growth and enable larger future sustainable draws, but will also advance the stabilization function, as it will reduce the extent of unsustainable increases in public spending during revenue booms.

There are many ways in which to achieve this, including imposing a spending cap or a ceiling price for oil (saving more when price exceeds the ceiling). As the experiences of other SWFs have shown, of equal importance to the technical details of new cyclical saving rules are the statutory or constitutional foundations of such rules, which determine whether the rules will be consistently enforced.

LESSON #4: DESIGNING A POMV SPENDING RULE

The spending rules of most American permanent funds are typically less binding than their saving rules, as the former is typically based on a combination of statutory law, custom, and policy. There has, however, been a trend towards more sustainable, rules-based spending policies for most permanent funds. The statutory spending policy adopted in Alaska in 2018 aligns with the best practices of peer institutions: (1) it is a POMV draw rather than one based on earnings from interest, dividends and realized gains; (2) it uses a moving-average of past fund values to smooth out annual fluctuations; and (3) it is broadly sustainable at 5.25% with current statutes requiring a decline in the rate to 5% by fiscal year 2022.

A total POMV draw of 5% is the maximum amount that could prudently be spent from the APF on an annual basis. A critical policy implication for Alaska is that the 5% POMV draw cannot be distributed to the State's General Fund in addition to all the other established uses of APF income, such as the dividend, inflation proofing, the APFC's internal costs, and external investment manager fees.

The most significant of these established costs is the permanent fund dividend. It is essential to recognize that a system in which the dividend amount continues to be based on a calculation of realized income,¹⁶ while a POMV rule applies to the distribution to the General Fund creates an unpredictable and unsustainable dynamic. One notable concern is the fact that there is no correlation between the generation of realized income (which currently underlies the calculation of the dividend pool) and the market value of the Fund's assets (which determines the size of the POMV draw amount). At times, the market value can be up when realized earnings are down — a dynamic that can undermine the policy objectives of stability and sustainability of the Alaska Permanent Fund and Alaska fiscal framework more generally.

One option for reform is to align the calculation of the dividend pool with the POMV methodology used for the transfer to support the State budget. Accordingly, legislators could establish a rule that allocates a fixed share of a total 5% POMV draw amount to the dividend, with the balance of the 5% draw amount going to the General Fund to support the State budget.¹⁷ Such reforms could also include the establishment of a more stable and substantial source of funding for the APFC, whose performance and capacity becomes increasingly critical to the State's fiscal future.

¹⁶ The historical practice is to base the dividend appropriation on the moving average of Statutory Net Income, which excludes unrealized capital gains/losses.

¹⁷ An alternative would be to allocate the entire POMV draw amount to the General Fund; and then establish a new rule — for example, a dividend linked directly to royalty revenue — for the dividend.

LESSON #5: REFORMING THE ERA

The theoretical case for a POMV-based spending policy is compelling. However, the mechanics of how a POMV draw is funded can be more complicated, as outlined in Section 5. The existing structural features of the APF — protection of the Principal, the portfolio's appropriate emphasis on risk over income-orientated assets, and the particularities of the ERA — are such that the provision of a 5% POMV creates the risk of an ERA shortfall during prolonged periods of low portfolio income and unrealized capital losses. A number of reforms could be implemented to mitigate this risk:

- Alaska could benefit from more binding rules governing the flow of funds between the ERA and the Principal, as current practices reduce the stability and predictability of the ERA balance. For example, the Board supports making inflation proofing an automatic, rules-based, and predictable annual event.
- Consideration could also be given to establishing a stable funding pool within the ERA. Assets held in the funding pool should be accessible without controversy, following clear rules, and should have a higher allocation to liquid, low-risk assets that have a high probability of maintaining their value (currently, the ERA and Principal have the same asset allocation). It is possible that this funding pool could be established without meaningful changes to the APF's total asset/risk allocation, as the Principal could hold a greater share of the APF's risk assets. In contrast, the ERA or a portion of the ERA would hold a higher allocation of more stable assets, such as investment-grade fixed income, cash, and low-volatility stocks.
- A simple rule could specify that the ERA or funding pool holds a balance equal to 2 or 3 times the most recent POMV payout (or a moving average of past payouts) — that is, a “coverage ratio” rule. Options for recapitalizing the ERA or funding pool if its value falls below this threshold could include a mandatory “top-up” from the 75% of royalties that usually flow into the General Fund rather than the APF or a temporary reduction in the POMV spending rate (until the ERA or funding pool value recovers). Similarly, if the value of the ERA or funding pool greatly exceeds the coverage ratio, a rule could mandate a transfer back to the Principal.
- Finally, legislators could choose to guarantee only a part of the POMV draw or adopt a spending range. The POMV spending rule could include a floor rate, such as 3.5%, effective when there is a shortfall in the ERA or funding pool. Whatever combination of these and other reforms are adopted, it would be prudent to take advantage of the current high levels of funding in the ERA to establish appropriate provisioning for POMV payouts during inevitable future periods of market stress.

Successful SWFs operate within a rules-based system that allows them to perform a combination of saving, stabilization, and income-generation functions. In Alaska, the latter function has come into sharper focus, as APF income supports the State budget in an era of lower oil revenues. The State is fortunate in the sense that it already has most of the critical building blocks identified in this paper in place to ensure a sustainable balance between these functions. The APF is one of the world's largest SWFs relative to the size of the domestic population and budget. Alaska has a robust system of constitutionally mandated savings, a long history of preserving and growing the real value of the fund, and a strong track record in investment management. This paper has proposed a number of reforms that will strengthen the stability and sustainability of Alaska's rule-based fiscal framework.



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