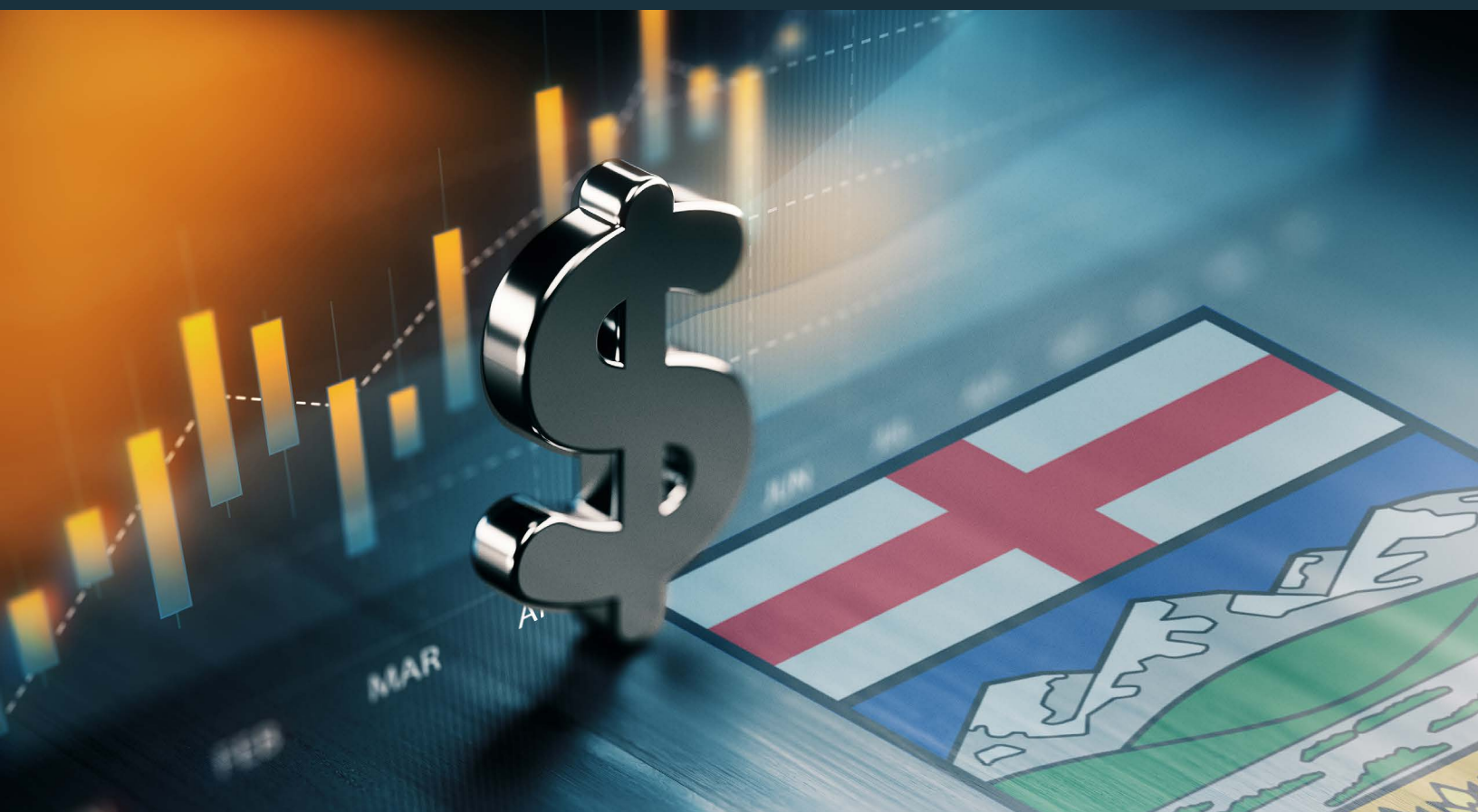


# REPAIRING ALBERTA'S HERITAGE FUND FOR THE LONG TERM



**Tegan Hill, Joel Emes, and Steve Lafleur**



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by Tegan Hill, Joel Emes, and Steve Lafleur



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# Executive Summary

In 1976/77, Alberta's Heritage Savings Trust Fund was created to save a share of the province's resource wealth so as to provide benefits to Albertans in the future. Unfortunately, the Heritage Fund has been limited in its ability to do so as consistent non-renewable resource revenue (NRR) contributions ended in 1986/87, the real value of the fund eroded over time as a result of inflation, and nearly the entirety of fund earnings have been spent.

The first paper in this series on fixing Alberta's finances for the long term, *A New (Old) Fiscal Rule for Non-renewable Resource Revenue in Alberta*, recommends that the province adopt a constitutional fiscal rule that requires a set portion of NRR be deposited in the fund annually. Bound by a strict fiscal rule, the renewed Heritage Fund would preserve a share of NRR as a financial asset that generates a permanent stream of earnings over time. This second paper examines rules for the use of the renewed Heritage Fund's earnings, to reinforce robust fiscal rules around operation of the fund and ensure Alberta does not repeat past mistakes. Lessons are drawn from Alberta's own history as well as Alaska's experience with its successful resource savings fund—the Alaska Permanent Fund.

First, a portion of earnings should be set aside to offset the effects of inflation—to “inflation proof” the Heritage Fund and maintain its real value. Inflation proofing has been infrequent and inconsistent in the past, which led to a decline in the fund's real value from \$29.5 billion in 1985/86 to \$15.4 billion 2004/05 and significantly limited its size relative to its potential. In contrast, inflation proofing has occurred consistently in Alaska's Permanent Fund under a statutory rule that requires a portion of earnings be reserved to preserve the real value of the principal annually. This rule has helped maintain the Permanent Fund's real value and contributes significantly to its US\$65.3 billion size today.

If the Heritage Fund had been inflation proofed consistently since inception like the Permanent fund, it would be worth \$33.7 billion rather than its actual value of \$16.2 billion in 2019/20. While Alaska has managed to inflation proof the Permanent fund consistently under a statutory rule, a constitutional rule in Alberta would be even more robust over time and is therefore recommended.

A key question is how the provincial government can introduce rules to ensure the Heritage Fund is maintained during times of low NRR when there is a natural inclination, which history has repeatedly demonstrated, to soften or even eliminate the rules imposing fiscal discipline. Alaska's Permanent Fund accomplishes this by paying out annual dividends to citizens to create buy-in by the general public to the idea that the fund should be maintained responsibly. By doing so, the dividend creates robustness in the fiscal rules around the fund.

The idea came from Jay Hammond, a former Governor of Alaska, who argued that, if citizens were given an ownership share in the state's mineral resources, they would recognize their vested interest and demand that the state maximize returns from such resources. Specifically, when Alaskans were given a share in the earnings of the

Permanent Fund, they were more inclined to support effective rules governing the fund, including consistent resource-revenue contributions and inflation proofing, and prudent investment and use of fund earnings, because these factors have a direct impact on the size of their dividend. A total of US\$26.0 billion has been paid out to Alaskan citizens in the form of dividends.

A portion of Heritage Fund earnings should be paid as annual dividends to Albertans to create robustness in fiscal rules around its operation. If Alberta followed an approach similar to that of Alaska since the Heritage Fund's inception, including mandatory NRR contributions (25% annually is used), consistent inflation proofing, and annual dividends, the fund would be worth approximately \$234.2 billion today (2019/20). In total, it would have paid out \$101.5 billion in dividends to Albertans, which would average \$1,018 (inflation-adjusted) per Albertan annually and represent 2.1% of individual income on average.

Additionally, significant residual earnings—beyond those needed for inflation proofing and dividends—would be accumulated in the fund. There are several options for the residual earnings, including using them to eventually replace NRR in the budget, permanently reduce taxes, or repay debt. The ultimate decision on how to best use the remaining fund earnings, however, should be determined at a future date once the fiscal rules are set and the Heritage Fund is built up.

The combination of fiscal rules—including constitutionally mandated NRR contributions and inflation proofing, and annual dividends—would help to ensure fiscal rules around operation of the Heritage Fund are robust over time.



# Introduction

In 1976, Peter Lougheed's government created Alberta's Heritage Savings Trust Fund (hereafter, Heritage Fund) to save a share of the province's resource wealth so as to provide benefits to Albertans in the future. The Heritage Fund has been limited in its ability to achieve this objective, however, as consistent non-renewable resource revenue (NRR)<sup>1</sup> contributions ended after 1986/87, the real value of the fund has eroded over time because of inflation, and nearly the entirety of fund earnings have been spent.

The original legislation governing the Heritage Fund required that 30% of NRR be deposited to the fund annually.<sup>2</sup> However, the rule was statutory in nature and therefore easily changed. As a result, the province deposited just 4.9% of total NRR to the fund over its lifetime. The first publication in this series about fixing Alberta's finances for the long term, *A New (Old) Fiscal Rule for Non-renewable Resource Revenue in Alberta*, proposed that the province adopt a constitutional fiscal rule requiring a set portion of NRR be deposited in the fund annually. Bound by a stricter fiscal rule, a renewed Heritage Fund could transform a portion of NRR into a permanent financial asset that generates an ongoing stream of earnings<sup>3</sup> over time.

This second publication examines the rules needed to ensure the efficient operation of the Heritage Fund, including potential uses of its earnings, by drawing lessons from both Alberta's own history and the history of the Permanent Fund in Alaska.

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1. In Alberta, non-renewable resource revenue (NRR) includes royalties from natural gas and by-products, conventional oil, oil sands, coal, and revenues from bonuses and sales of crown leases, rentals, and fees. For more information, see Government of Alberta, 2020a.

2. *Alberta Heritage Savings Trust Fund Act*, RSA 1980, c A-27; <<https://canlii.ca/t/53q32>>, as of July 5, 2021.

3. "Earnings" is used to denote net income throughout this paper.

## Why Now Is the Time for Reform

It may seem counter-intuitive to discuss options for saving a share of NRR during a period of large budget deficits and with non-renewable resource revenue lower than recent peaks. However, successive governments failed to regularly balance the budget while retaining all NRR in general revenue, so it is reasonable to consider an alternative approach, particularly given that resource prices are recovering.<sup>4</sup>

Further, periods of relatively low NRR are an ideal time to remove some share of NRR from general revenues. Non-renewable resource revenue—both in real dollar-value terms and as a share of revenue—is relatively low today. The government collected \$3.1 billion in NRR in 2020/21, compared to an average of \$8.4 billion (\$2019) annually from 1970/71 to 2019/20 (Government of Alberta, 2020a, 2021c). Further, NRR represented just 7.2% all provincial government revenue in 2020/21, dramatically lower than its average of 28.8% from 1970/71 to 2019/20 (Government of Alberta, 2020a, 2021c). Removing a portion of NRR when it is a relatively small share of revenue will have a smaller effect on the government's finances than if NRR were a higher share.

Further, it is not necessarily the case that future unanticipated NRR will commensurately reduce deficits. In fact, foregoing immediate reforms in an attempt to return to budgetary balance will likely only perpetuate the boom-and-bust budgeting that has prevailed in the province, rather than help return to budgetary balance. As Kneebone (2006) notes, influxes of NRR tend instead to lead governments to increase spending, often to unsustainable levels, which can perpetuate deficits. Ferede (2018a; 2018b) finds that program spending tends to rise when NRR increases, but does not fall to the same extent when NRR declines. These studies indicate that fiscal rules that limit the share of NRR included in general revenues will temper the tendency of governments to increase spending during periods of relatively high NRR and mitigate larger deficits. In fact, earmarking a portion of NRR for the Heritage Fund may force the government to more closely focus on correcting the underlying causes of Alberta's deficit, specifically high spending, rather than budgeting based on uncertain increases in NRR.<sup>5</sup>

In short, while it might seem like a difficult time to introduce reforms that would earmark a portion of NRR for the Heritage Fund, it is in fact an ideal time. It is preferable to do so while NRR is relatively low and before an increase in such revenue might place pressure on the government to introduce further unsustainable spending increases.

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4. See Deloitte, 2021 for current prices and forecasts.

5. For more information, see Milke and Palacios, 2015 and Eisen, Palacios, Lafleur, and Fuss, 2019. Further, successive governments incorporated increases in NRR into their fiscal plans. Whether or not the estimates used are realistic, it is nevertheless the case that increasing NRR has been a major component of successive governments' deficit-elimination plans, which are often unsuccessful. See Hill, 2021 for commentary.

## Reviewing *A New (Old) Fiscal Rule for Non-renewable Resource Revenue*

The boom-and-bust cycle of non-renewable resource revenue (NRR) has created instability in the provincial finances for decades. The first paper in this series, *A New (Old) Fiscal Rule for Non-renewable Resource Revenue* (Hill, Emes, and Clemens, 2021), proposed a set of fiscal rules to manage NRR volatility and mitigate its impact on the budget. As that paper sets the foundation for a renewed Heritage Fund, it is worth briefly reviewing its main takeaways.

First, Hill, Emes, and Clemens recommended reintroducing the Alberta Sustainability Fund (ASF). The ASF set a stable dollar amount of NRR to be included in the budget each year, saved any excess above that amount in the ASF during periods of relatively high NRR, and used those savings to compensate for any shortfalls when actual NRR was below the set stable amount. In this way, the ASF provided a consistent, predictable amount of NRR for the budget each year. Further, a pre-determined ASF fund balance should be built up from current NRR and maintained to ensure there are sufficient resources to be drawn upon during periods of lower NRR. Any NRR beyond that required to maintain the ASF at its pre-determined balance would be deposited in the Heritage Fund.

The rules governing the previous ASF were statutory in nature, which meant they could be easily changed by the Alberta legislature. The ASF rules were in fact quickly changed, ignored, and the fund was outright eliminated in 2013. The renewed ASF rules should instead be constitutional, which would make them more difficult for governments to change or ignore in the future.<sup>6</sup> To accomplish this, the Alberta government would introduce an amendment to the national, Canadian Constitution with support from the federal government.<sup>7</sup>

Under section 43 of the Constitution Act, 1982, for example, the provincial government could propose the fiscal rule to Albertans by way of a referendum. If supported, the provincial government would pass legislation recognizing the result of the referendum, in this case, the introduction of fiscal rules around the renewed ASF. The Alberta government would then request that the federal government (that is, the House of Commons and the Senate)<sup>8</sup> pass the same resolution. To reverse the rule or otherwise ignore its requirements would mean a future Alberta government would have to seek approval by means of a referendum, pass provincial legislation, and request the federal government approve similar legislation.

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6. A framework for implementing a constitutional fiscal rule is provided by Clemens, Fox, Karabegović, LeRoy, and Veldhuis, 2003 and summarized by Hill, Emes, and Clemens, 2021.

7. Section 45 of the Constitution Act 1982 says: “Subject to section 41, the legislature of each province may exclusively make laws amending the constitution of the province”.

8. Please note that it is not entirely clear that the Senate has to approve legislation recognizing a provincially requested change in the Constitution.

*A New (Old) Fiscal Rule* also recommended a consistent portion of NRR be earmarked for the Heritage Fund annually.<sup>9</sup> This would help to temper the pressure for governments to increase spending to unsustainable levels during periods of relatively high NRR, which contributes to Alberta's budget volatility. The provincial government followed a similar rule in the past. Specifically, upon the creation of the Heritage Fund in 1976/77, the provincial government required that 30% of all NRR be contributed to the Fund annually; but, this rule was again statutory in nature and therefore easily changed. When the province fell into recession in the 1980s, provincial finances began to deteriorate and contributions from non-renewable resource revenue were reduced to 15% in 1983/84. Non-renewable resource contributions ended entirely in 1987/88.

The authors of *A New (Old) Fiscal Rule* also drew lessons from Alaska's resource-revenue saving fund, the Alaska Permanent Fund, which was created in 1976, the same year as the Heritage Fund, and for similar purposes. Alaska constitutionally mandates that 25% of all mineral revenue be deposited in the Permanent Fund (Alaska Permanent Fund Corporation, 2021a). Unlike the practice in Alberta, contributions have been made consistently since inception and the fund has grown steadily over time. The contribution rate for the Heritage Fund should be constitutional to prevent it from being easily changed or disregarded in the future.

The following sections review potential uses of the Heritage Fund's earnings with consideration of insights from Alaska.

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9. This is based in the Hartwick Rule (Hartwick, 1977). Essentially, this is a rule to invest resource rents earned from an exhaustible natural resource so as to counterbalance depletion of the stock with investment in income-producing assets.

# The Importance of Inflation Proofing

To preserve the Heritage Fund’s real value, a portion of earnings should be set aside to offset the effects of inflation—to “inflation proof” its value. In the absence of inflation proofing, the purchasing power of the principal would grow by less than the rate of return and, in some cases such as years with negative returns, the fund’s real value would decline.

A brief review of the Alaska Permanent Fund demonstrates the importance of inflation proofing. In 1980, Alaska introduced a statutory rule<sup>10</sup> that requires a portion of the Permanent Fund’s earnings be reserved to inflation proof the principal.<sup>11</sup> Though subject to legislative appropriation, inflation proofing occurred in nearly every year, which has helped maintain the fund’s real value and contributes significantly its size today.<sup>12</sup>

Figure 1 illustrates the Alaska Permanent Fund’s total value since inception, identifying the share from inflation proofing. As shown, inflation proofing accounts for more than a quarter of the fund’s total value in 2019/20. Specifically, it represents 27.5%, or US\$18.0 billion, of the fund’s total value of US\$65.3 billion (2019/20). For perspective, that is slightly more than the share from contributions from mineral revenue, which account for 26.9%, or US\$17.6 billion.

Figure 2 shows the real (\$2019) value of Alberta’s Heritage Fund, compared to its potential value with annual inflation proofing (again, the share from inflation proofing is identified).<sup>13</sup> To calculate the potential size of the Heritage Fund if inflation proofing were required, this analysis determined the share of earnings to be set aside annually by multiplying the previous year’s fund value by the change in the Consumer Price Index (CPI).<sup>14</sup> No inflation proofing occurs in years when Alberta experiences deflation

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10. *Alaska Statutes Title 37. Public Finance* § 37.13.145. Disposition of income. Inflation proofing is applied as follows: “The APFC measures inflation by (i) computing the percentage change in the averages of the monthly United States Consumer Price Index for all urban consumers for the two previous calendar years and (ii) applying that percentage to the total of the non-spendable fund balance, excluding unrealized gains and losses, at the end of the fiscal year” (Alaska Permanent Fund Corporation, 2020b: 46).

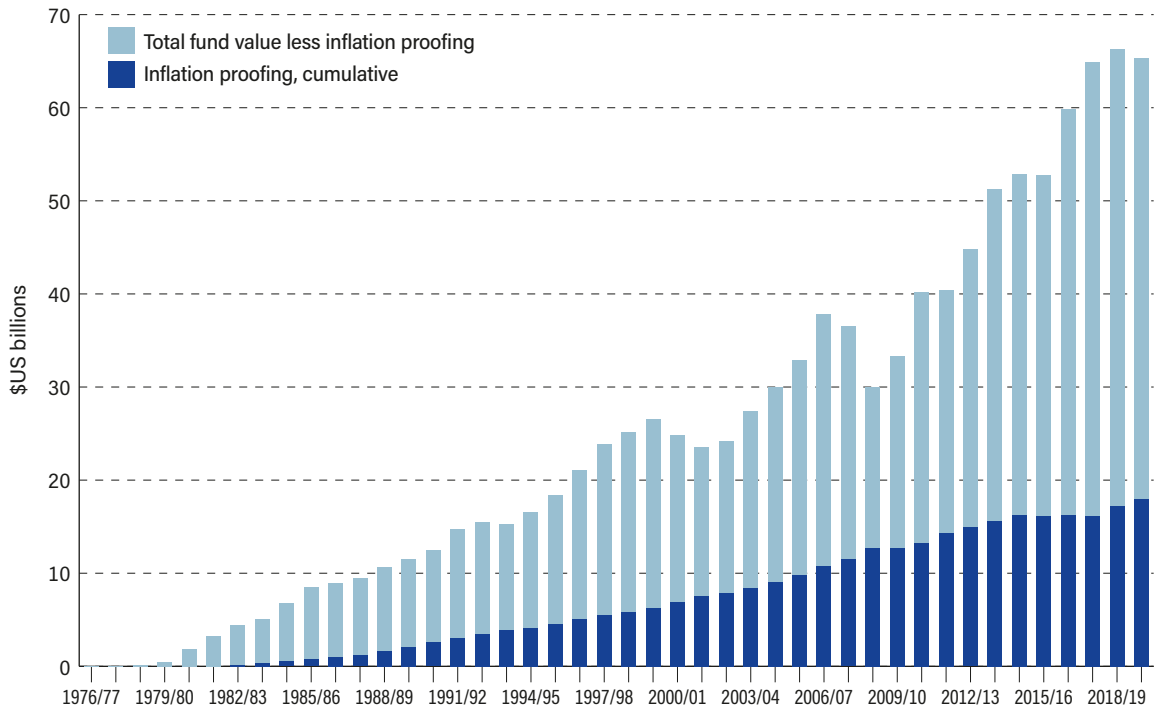
11. Alaska legally prohibits use of the Permanent Fund’s principal without referendum approval; only the fund’s earnings may be spent. While this paper focuses solely on use of fund earnings, the rule protecting the Permanent Fund’s principal should be acknowledged.

12. In more recent years, the purpose of the fund has shifted to providing a greater role in supporting spending and in some years appropriations for inflation proofing were not made. For example, there was no inflation proofing in 2015/16, 2016/17, and 2017/18 and instead, the earnings went towards government spending. See table A1 (p. 20) for a summary of the financial history of the Alaska Permanent Fund.

13. See table A2 (p. 21) for the data used in figure 2.

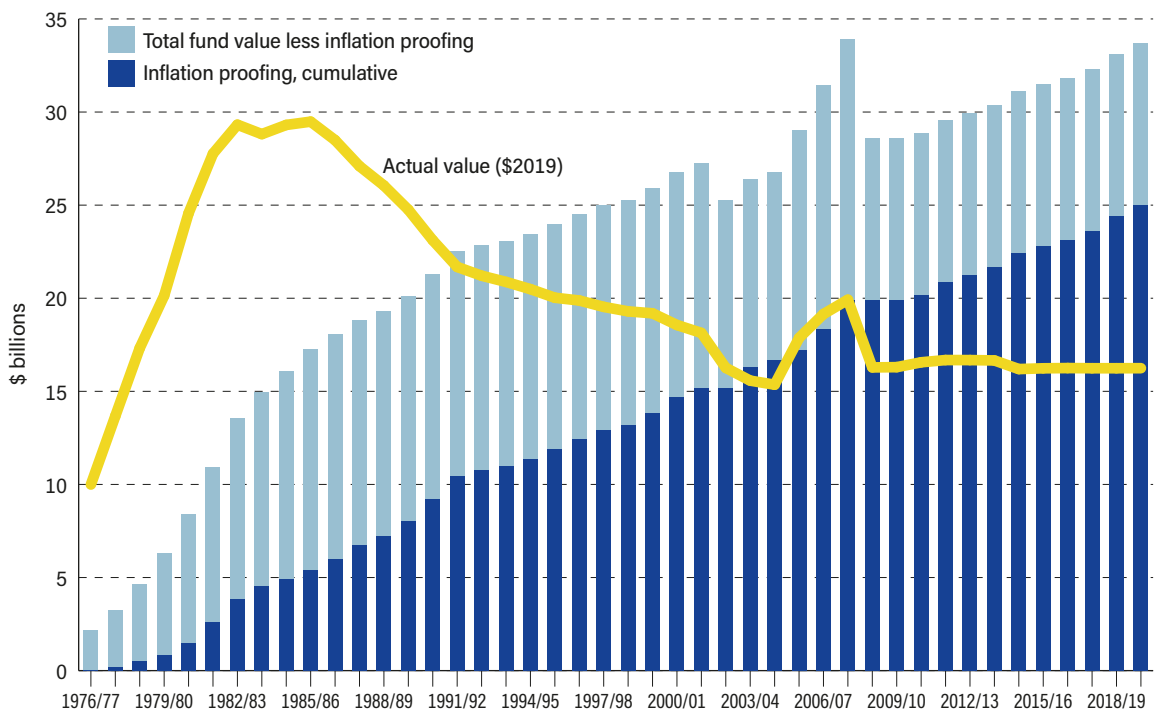
14. This is how inflation proofing is calculated when applied to the actual Heritage Fund. Specifically, “the amount to be retained in the Fund for inflation proofing is determined by multiplying the accumulated operating surplus of the Fund from the prior fiscal year end by the estimated percentage increase in the Alberta Consumer Price Index (Alberta CPI) for the year” (Government of Alberta, 2020b).

Figure 1: Inflation proofing in Alaska's Permanent Fund (\$US billions), 1976/77-2019/20



Sources: Alaska Dep't of Revenue, Permanent Fund Dividend Division, 2021b; Alaska Permanent Fund Corporation, 1978-2020, 2021b; US Bureau of Labor Statistics, 2021.

Figure 2: Heritage Fund, actual value (\$2019) compared to value with inflation proofing (\$ billions) 1976/77-2019/20



Sources: Gov't of Alberta, 1999, 2020b; Statistics Canada, 2021a, table 18-10-0005-01.

(2009/10) or when there is an investment loss (2002/03 and 2008/09). Earnings are sufficient to inflation proof the fund in all but two years: 1979/80 and 2001/02. Consequently, only partial inflation proofing occurs in these years.

Despite the lack of inflation proofing, the Heritage Fund's actual value grew in all but one year from 1976/77 to 1985/86 because sizeable NRR contributions were made annually.<sup>15</sup> Non-renewable resource revenue contributions ended after 1986/87, however, and the Heritage Fund's real value began to decline as earnings were either distributed or insufficient to compensate for inflation. Overall, the fund's real value fell from \$29.5 billion (1985/86) to \$15.4 billion (2004/05).<sup>16</sup>

As shown, the Heritage Fund would be worth approximately twice its actual value today if it had been inflation proofed since inception. Specifically, it would be worth \$33.7 billion compared to \$16.2 billion in 2019/20. As it is for the Alaska Permanent Fund, inflation proofing would be a significant portion of the Heritage Fund had it been used consistently since the inception of the fund.<sup>17</sup> In fact, it would be the largest component of the fund's total value, accounting for 74.3%, or \$25.0 billion, of the total value of \$33.7 billion (2019/20).

Put simply, the lack of inflation proofing led to a decline in the Heritage Fund's real value and significantly limited its size relative to its potential. Alberta's experience and that of Alaska highlights the importance of a robust fiscal rule to enforce consistent inflation proofing.

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15. See table A3 (p. 22) for a more comprehensive break-down of the Heritage Fund's actual deposits, withdrawals, and total value since inception.

16. During this period, specifically in 1996/97, a statutory law was introduced that required a portion of earnings to be set aside to inflation proof the fund (*Alberta Heritage Savings Trust Fund Act*, SA 1996, c A-27.01). However, by 1998/99 a stipulation was added that there would be no requirement to inflation proof the fund until the accumulated provincial debt was eliminated, unless deemed advisable by the Provincial Treasurer (Government of Alberta, 1999). Under these conditions, inflation proofing occurred only in three years until 2005/06. As the provincial debt was eliminated, inflation proofing resumed in 2005/06. Inflation proofing continues to be required today, excluding years of deflation or investment loss.

17. Inflation proofing is a larger share of the Heritage Fund in this example than it is in Alaska's Permanent Fund largely because Alberta has not made consistent NRR contributions to the Heritage Fund.

## Protecting the Rules over Time—a Rationale for Dividends for Citizens

A key question is how the provincial government can introduce rules that ensure Alberta's Heritage Fund is maintained during times of low NRR when there is a natural inclination, which history has repeatedly demonstrated, to soften or even eliminate the rules imposing fiscal discipline.

First, as discussed in the first paper in this series, making rules around the Heritage Fund constitutional makes it more difficult to change the laws in the future or simply ignore them. In addition to making the fiscal rules of the Heritage Fund constitutional in nature, there is also the possibility of creating a dividend payment to Albertans using a portion of the Heritage Fund's earnings. Alaska's Permanent Fund provides some specific insights about how the introduction and maintenance of a dividend payment can create buy-in by the general public and in doing so create robustness in the fiscal rules of the fund.

Since 1982, a portion of Alaska's Permanent Fund's earnings have been paid to citizens in the form of annual dividends. The idea came from Jay Hammond, a former Governor of Alaska, who argued that, if citizens were given an ownership share in the state's mineral resources, they would recognize their vested interest and demand that the state maximize returns from such resources (Hammond, 2012).<sup>18</sup> As Berman and Reamey explain, the dividend was created to “to generate political support for conservative management of the fund, to increase the likelihood that the principal would be protected over time” (2016: Introduction).

This rationale for the creation of dividends for citizens draws from public-choice theory, which holds that people—whether acting as private individuals, politicians, bureaucrats, or otherwise—are rational, self-interested actors.<sup>19</sup> Politicians, for example, tend to pursue policies and spend money in ways that support their re-election. Similarly, bureaucrats are driven by the desire to expand their role and domain, which contributes to the demand for ever-increasing spending. As a result, public-choice theory suggests that, in the context of resource-savings funds, governments will be motivated to spend resource revenue intended for the fund, and/or earnings from the fund, in ways that may not align with the public interest. Indeed, Baena, Sévi, and Warrack (2012) find that a main challenge with resource funds is protecting them from being misused by the discretionary policies of governments.<sup>20</sup>

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18. It is by a similar logic that dividends impose discipline on firm management. See Brav, Graham, Harvey, and Michaely, 2005 for more information, and Poch, 2019 and Siegel, 2005 for commentary.

19. For an overview of public-choice economics, see Mitchell and Simmons, 1994.

20. Baena, Sévi, and Warrack (2012) find this specifically in cases where the institutional context—transparency, a clear set of rules, technocratic bureaucracy—is not strong. They recommend not only the use of revenue funds, but specifically the use of dividends to give citizens a role in “institutional building”.



Likewise, private individuals are rational and self-interested. When Alaskans were given a share of the Permanent Fund earnings, they were more inclined to support effective rules governing the fund, including consistent contributions to the fund and prudent investment and use of fund earnings, because these factors have a direct impact on the size of their dividend. Further, the cost of government policies that require spending from the fund or its dedicated NRR can be directly quantified by citizens, who note their reduced dividend. The cost of current spending is therefore much more salient than some unknown future tax increase (Murphy and Clemens, 2013).

This theoretical concept is supported by evidence, as public-opinion surveys show that a substantial majority of Alaskans support the dividend and claim that it encourages them to pay closer attention to how the government spends its money.<sup>21</sup> Warrack and Keddie (2002) note that, “due to the dividend program, there is strong public interest in the performance of the Alaska Permanent Fund. Through intense media and public debate, it is claimed [*sic*] that management of the fund is monitored constantly”.<sup>22</sup>

The dividend payment is based in statutory law and subject to both legislative appropriation and veto by the state's Governor.<sup>23</sup> Put simply, the state legislature and/or state Governor have the authority to reduce or eliminate the annual dividend entirely. Despite this, the legislature has allocated funds to the dividend consistently for 38 years even though doing so reduces the amount of money the government has access to for spending.<sup>24</sup> When alternative uses of the earnings ear-marked for the dividend have been suggested, they were quickly rejected by leading state politicians (Brown and Thomas, 1994). The legislature has even made contributions to the Permanent Fund beyond those that are required to avoid potentially reducing the dividend in certain years (Goldsmith, 2011). As Anderson explains, “whereas the state constitution prevents legislators from tapping into the principal, only public opinion prevents them from using Fund income” (2002: 64)

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21. A 1984 survey found that a majority of respondents felt the dividend was a “good idea”; most also saw the dividend as a means to protect the fund's principal and felt the dividend “made them pay closer attention to how the state spends the money it receives” (Knapp, Goldsmith, Kruse, and Erickson, 1984). Faced with spending reductions in 1999, 84% of Alaskans rejected the idea of using the fund's earnings for government spending (Anderson, 2002). Another survey found that a majority of Alaskans would prefer to reinstate the state income tax before terminating the dividend (Harstad, 2017). In a 2019 survey, a majority of Alaskans again opposed using a portion of the Permanent dividend fund to pay for state government (Capozzi, 2019).

22. See the Alaska Permanent Fund Corporation, 1998, for instance.

23. *Alaska Statutes Title 37. Public Finance* § 37.13.145 Disposition of income. The Supreme Court of Alaska, in *Opinion* (SC No. S-16558, No. 7194, August 25, 2017), verified that the dividend payment is subject to legislative appropriation and the state governor's veto. <<https://cases.justia.com/alaska/supreme-court/2017-s-16558.pdf?ts=1503680417>>.

24. There are some exceptions. In 2016, the state governor vetoed a portion of the dividend appropriation. The decision was made in part because it was determined that mineral revenues were in a structural decline and a portion of earnings would now be needed to support the state budget (Alaska Permanent Fund Corporation, 2020a). Accordingly, legislation was passed in 2017/18 to distribute earnings to both the state budget and annual dividend according to a new formula (*Alaska Statute* 37.13.140(b)). The dividend calculation that prevailed for much of the fund's existence (before 2016), is the formula that is relevant to this paper. For more information on the recent changes, see Alaska Permanent Fund Corporation, 2020b.

The Permanent Fund dividend is basically calculated as follows.<sup>25</sup> A portion of earnings are set aside to inflation proof the principal. The remaining earnings<sup>26</sup> in the five most recent fiscal years are adjusted to calculate a dividend for each eligible Alaskan resident.<sup>27</sup> In simple terms, the dividend is based on a five-year rolling average of half of the fund's annual earnings after inflation proofing, which provides a more stable dividend annually.

Table 1 includes data on various uses of the Permanent Fund's earnings. Note that the Permanent Fund is a single fund with a complicated accounting structure. This table is intended to be a simple and illustrative summary of the use of fund earnings and is not comprehensive. Since inception, the fund has earned US\$73.1 billion (2019/20). A total of US\$26.0 billion, or 35.6%, has been paid out to Alaskan citizens as dividends. In real terms (\$2019), dividends have averaged US\$1,685 annually since payments began in 1982.<sup>28</sup>

For perspective, figure 3 shows the dividend as a share of individual income in Alaska. On average, dividends represented 3.3% of individual income annually. At its peak relative to individual income and in real (\$2019) dollar-value terms, the dividend was US\$2,976 (table 1) and accounted for 5.9% of individual income in 2000/01. Put differently, in real terms (\$2019) a family of four would have received approximately US\$12,000 in additional income that year.<sup>29</sup>

As shown in table 1, annual dividend payments do not fluctuate as greatly as earnings. For example, the fund lost \$6.4 billion in earnings<sup>30</sup> during the 2008/09 financial crisis. However, the total dividend payment was \$1.3 billion because in three of the previous four years the fund produced significant earnings. This demonstrates the smoothing effect of basing the dividend on a five-year rolling average of earnings.

In sum, Alaska's Permanent Fund pays a significant dividend to its citizens. Because of their vested interest, Alaskans care about the fund and its operation. In other words, the evidence suggests that the political discipline of paying out dividends to residents has helped ensure fiscal rules around the fund are robust over time.

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25. *Alaska Statute* 43.23.025. The sum of annual earnings less inflation proofing over the last five fiscal years is multiplied by 21%, divided by 2, and then divided by the number of eligible Alaskans. The actual internal fund transfers and calculation of the dividend are complex and we have focused on the salient details only. See Alaska Permanent Fund Corporation, 2008 for a detailed review.

26. Earnings in this calculation are defined as statutory net income, which is operating income including unrealized gains and losses. See Alaska Permanent Fund Corporation, 2020b for more information.

27. See Alaska Department of Revenue, Permanent Fund Dividend Division, 2021a for Alaska's eligibility requirements.

28. To begin the program, the first dividend was \$1,000 and paid from general revenues (correspondence with Brian Fechter, Administrative Services Director, Alaska Department of Revenue, June 16, 2021)

29. Note that the dividend is taxable. Disposable income will vary by individual.

30. \$2.5 billion in net statutory income (correspondence with Brian Fechter, Administrative Services Director, Alaska Department of Revenue, June 16, 2021).

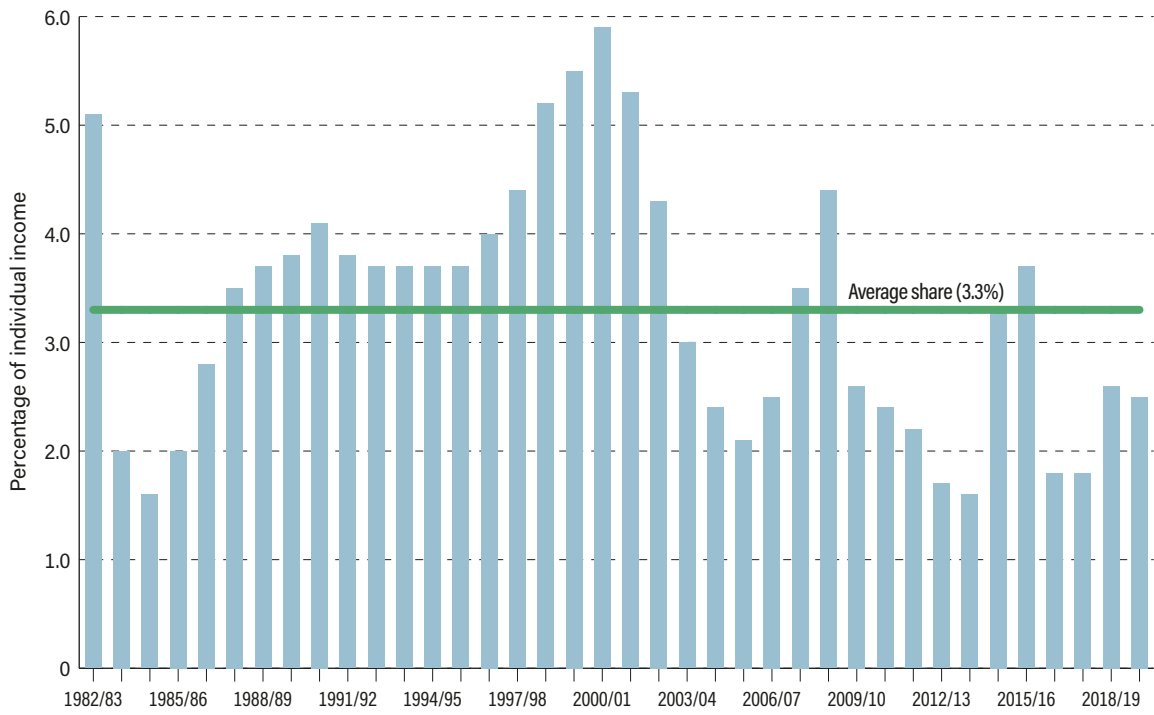
Table 1: Alaska's Permanent Fund, use of earnings, 1976/77–2019/20

Fiscal year	Earnings <sup>1</sup>	US\$ millions			US dollars	
		Inflation proofing	Total amount of dividend <sup>2</sup>	Residual earnings <sup>3</sup>	Annual dividend per person	Annual dividend per person, inflation-adjusted (\$2019, 1982-84=100)
1976/77		0	0	0	0	0
1977/78	2	0	0	2	0	0
1978/79	8	0	0	10	0	0
1979/80	32	0	0	42	0	0
1980/81	150	0	0	192	0	0
1981/82	368	0	0	561	0	0
1982/83	471	231	471	330	1,000	2,348
1983/84	530	151	177	531	386	890
1984/85	658	235	160	794	331	733
1985/86	1,021	216	210	1,389	404	873
1986/87	1,069	148	297	2,013	556	1,180
1987/88	789	303	376	2,124	708	1,497
1988/89	869	360	430	2,202	827	1,741
1989/90	916	454	444	2,220	873	1,788
1990/91	1,031	559	475	2,217	953	1,837
1991/92	1,036	477	478	2,298	931	1,718
1992/93	1,226	363	479	2,682	916	1,634
1993/94	1,098	372	502	2,906	949	1,642
1994/95	1,013	348	527	3,044	984	1,667
1995/96	1,814	407	537	3,914	990	1,630
1996/97	3,149	486	618	5,959	1,131	1,812
1997/98	3,435	423	720	8,251	1,297	2,048
1998/99	2,148	288	872	9,240	1,541	2,399
1999/00	2,249	423	1,015	10,051	1,770	2,727
2000/01	(924)	686	1,146	7,295	1,964	2,976
2001/02	(617)	602	1,086	4,990	1,850	2,726
2002/03	963	352	909	4,691	1,541	2,227
2003/04	3,434	524	660	6,941	1,108	1,559
2004/05	2,640	641	552	8,388	920	1,262
2005/06	3,072	856	505	10,099	846	1,126
2006/07	5,448	860	659	14,028	1,107	1,428
2007/08	(1,372)	808	993	10,855	1,654	2,087
2008/09	(6,394)	1,144	1,276	2,041	2,069	2,497
2009/10	3,517	0	815	4,743	1,306	1,557
2010/11	6,812	533	817	10,205	1,281	1,501
2011/12	(100)	1,073	757	8,274	1,174	1,333
2012/13	4,314	703	563	11,322	877	974
2013/14	6,848	586	571	17,013	900	969
2014/15	2,384	624	1,201	17,572	1,884	1,996
2015/16	399	0	1,329	16,641	2,072	2,184
2016/17	6,676	0	652	22,665	1,022	1,073
2017/18	5,526	0	696	27,494	1,100	1,149
2018/19	3,766	990	1,023	29,247	1,600	1,622
2019/20	1,636	758	1,017	29,108	1,606	1,606
Totals	73,106	17,984	26,013			

Notes: [1] Accounting Net Income (GAAP) or the excess of revenues over expenditures; Alaska's dividend formula uses realized earnings (statutory net income) not this definition of income. [2] The dividend is smoothed over five years such that in any particular year, the dividend can be markedly below or above the amount of available earnings. [3] Earnings less inflation-proofing and dividend payments.

Sources: Alaska Permanent Fund Corporation, 1978–2020, 2021b; Alaska Dep't of Revenue, Permanent Fund Dividend Division, 2021b; correspondence with, and data provided by, Brian Fechter, Administrative Services Director, Alaska Department of Revenue, June 16, 2021.

Figure 3: Alaska's Permanent Fund dividend as a share (%) of individual income, 1982/83–2019/20



Sources: Alaska Dep't of Revenue, Permanent Fund Dividend Division, 2021b; US Bureau of Economic Analysis and Federal Reserve Bank of St. Louis, 2021.

# A Hypothetical Dividend for Albertans from the Heritage Fund

The Heritage Fund has no mechanism similar to that of Alaska's Permanent Fund to help reinforce robust fiscal rules around the fund's operation. As a result, and as public-choice theory suggests, the provincial government has, for instance, deposited just 4.9% of total NRR to the fund over its lifetime and spent nearly the entirety of Heritage Fund earnings.

To demonstrate the potential of dividends in Alberta, this section calculates the size of a hypothetical dividend based on the Alaskan model. To be clear, this is a hypothetical example for illustrative purposes and not intended to precisely replicate Alaska's approach. For the purposes of this paper, the Alaskan model is defined by, and incorporates mandatory NRR contributions, consistent inflation proofing, and annual dividends.

In this example, Alberta's actual contributions (30% of NRR) are maintained through 1982/83. As is the case in Alaska and recommended in the first paper in this series, contributions are set at 25% of all NRR beginning in 1983/84.<sup>31</sup> Under these assumptions, a total of \$64.5 billion of NRR is contributed to the Heritage Fund,<sup>32</sup> compared to \$12.0 billion in the actual fund (2019/20). Earnings are calculated using annual rates based on net income (loss) divided by fund equity at cost from the previous year.<sup>33</sup> The importance of inflation proofing the principal was illustrated in Section 2. Inflation proofing is therefore applied to the model in this section.

The dividend is calculated using a simplified Alaskan formula. Annual earnings less inflation proofing are averaged over the past five fiscal years (including the current fiscal year), and half of that amount is divided by the number of Albertans to determine the annual dividend. The remaining earnings are retained in the fund for further investment. Put differently, any earnings beyond those used for inflation proofing and to pay the dividend remain in the fund.

The model described will be referred to as the Hypothetical Heritage Fund. Table 2 shows the Hypothetical Heritage Fund's total earnings and the various use of such earnings. Cumulative earnings total \$267.4 billion in 2019/20. Of that, \$101.5 billion, or 38.0%, is distributed to Albertans in the form of annual dividends. Figure 4 shows annual dividends per Albertan in real terms (\$2019). For perspective, figure 5 shows the hypothetical dividend as a share of individual income in Alberta. In real terms (\$2019), dividends average \$1,018 per Albertan and represent 2.1% of individual income, annually.

31. The discretionary deposits made from 2005/06 to 2007/08 (total of \$2.9 billion) as well as the advanced education endowment in 2005/06 and 2006/07 (total of \$1.0 billion) are included.

32. See table A4 (p. 23) for a breakdown of deposits to, withdrawals from, and the total value of, the Hypothetical Heritage Fund.

33. The definition of earnings used in this analysis excludes unrealized gains and losses so as not to suggest that unrealized earnings are "cashed in" to fund withdrawals from the fund.

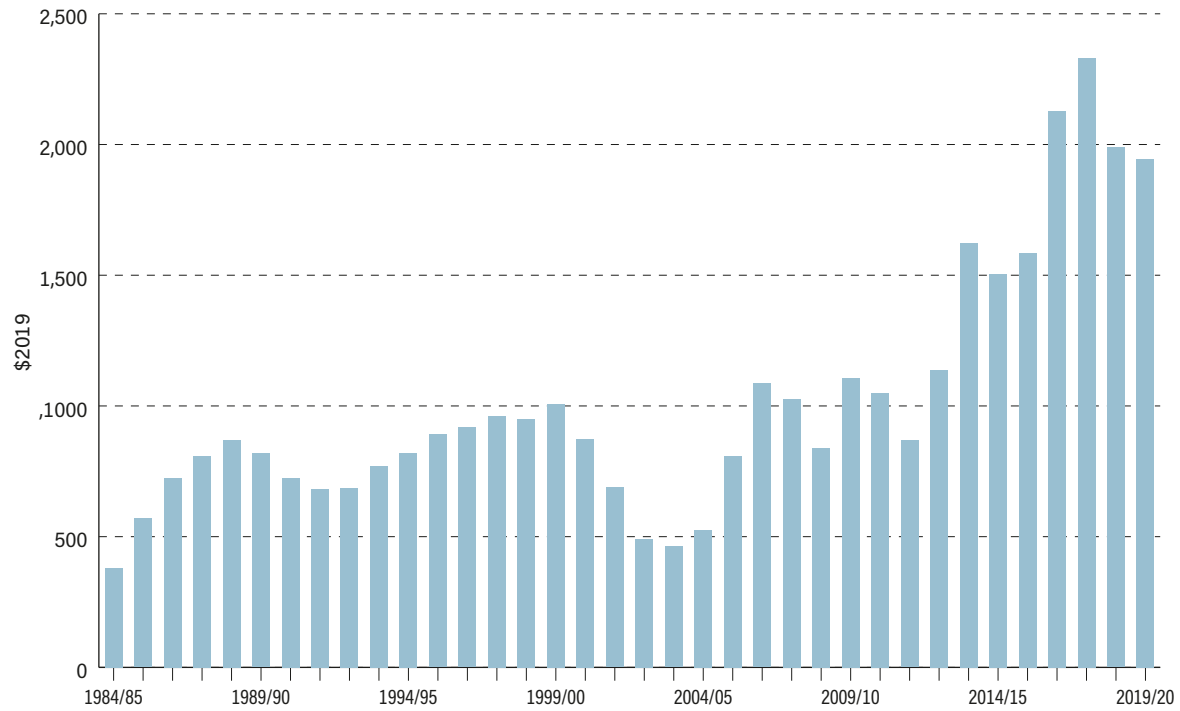
Table 2: Alberta's Hypothetical Heritage Fund, use of earnings, 1976/77-2019/20

Fiscal year	\$ millions				Dollars	
	Earnings	Inflation proofing <sup>1</sup>	Total amount of dividend	Residual earnings, retained in fund	Annual dividend per person	Annual dividend per person (\$2019)
1976/77	88	52	0	36	0	0
1977/78	194	175	0	55	0	0
1978/79	302	294	0	63	0	0
1979/80	361	361	0	63	0	0
1980/81	817	651	0	229	0	0
1981/82	1,146	1,113	0	262	0	0
1982/83	1,717	1,259	0	720	0	0
1983/84	1,845	747	0	1,818	0	0
1984/85	2,311	443	(380)	3,305	159	380
1985/86	2,771	613	(590)	4,874	245	570
1986/87	2,692	806	(784)	5,976	322	724
1987/88	2,771	1,060	(916)	6,771	375	810
1988/89	2,839	773	(1,017)	7,819	414	870
1989/90	3,093	1,267	(1,013)	8,632	405	818
1990/91	3,648	1,935	(966)	9,379	379	724
1991/92	4,200	2,160	(982)	10,436	379	683
1992/93	2,645	613	(1,016)	11,453	386	685
1993/94	3,944	424	(1,169)	13,804	438	770
1994/95	3,555	681	(1,279)	15,399	474	820
1995/96	4,362	1,134	(1,438)	17,189	526	890
1996/97	4,172	1,190	(1,537)	18,634	554	917
1997/98	4,464	1,113	(1,675)	20,309	592	961
1998/99	4,673	753	(1,717)	22,513	592	950
1999/00	6,207	1,575	(1,902)	25,243	644	1,008
2000/01	3,993	2,351	(1,735)	25,149	578	875
2001/02	1,248	1,248	(1,422)	23,727	465	688
2002/03	(5,515)	n/a	(1,070)	17,142	342	490
2003/04	7,060	3,116	(1,073)	20,013	337	462
2004/05	7,565	1,131	(1,262)	25,185	390	527
2005/06	10,752	1,817	(2,028)	32,092	610	808
2006/07	12,397	3,944	(2,915)	37,629	852	1,086
2007/08	6,323	5,750	(2,976)	35,226	847	1,028
2008/09	(19,186)	n/a	(2,561)	13,479	712	838
2009/10	15,013	n/a	(3,462)	25,029	941	1,108
2010/11	9,116	1,154	(3,360)	29,632	900	1,050
2011/12	7,007	3,048	(2,888)	30,703	762	868
2012/13	11,829	1,467	(3,916)	37,148	1,011	1,138
2013/14	20,154	2,005	(5,822)	49,476	1,462	1,623
2014/15	17,699	4,052	(5,678)	57,444	1,391	1,505
2015/16	14,277	1,958	(6,136)	63,628	1,480	1,585
2016/17	27,894	2,035	(8,435)	81,052	2,010	2,128
2017/18	23,468	3,132	(9,483)	91,906	2,236	2,330
2018/19	13,039	5,212	(8,399)	91,334	1,954	1,989
2019/20	18,407	3,962	(8,483)	97,296	1,945	1,945
Totals	267,354	68,572	(101,486)			

Note: [1] 2002/03 and 2008/09 are n/a because transfers are not made in years where the fund posts a loss; 2009/10 is n/a because inflation was negative so no inflation proofing is required.

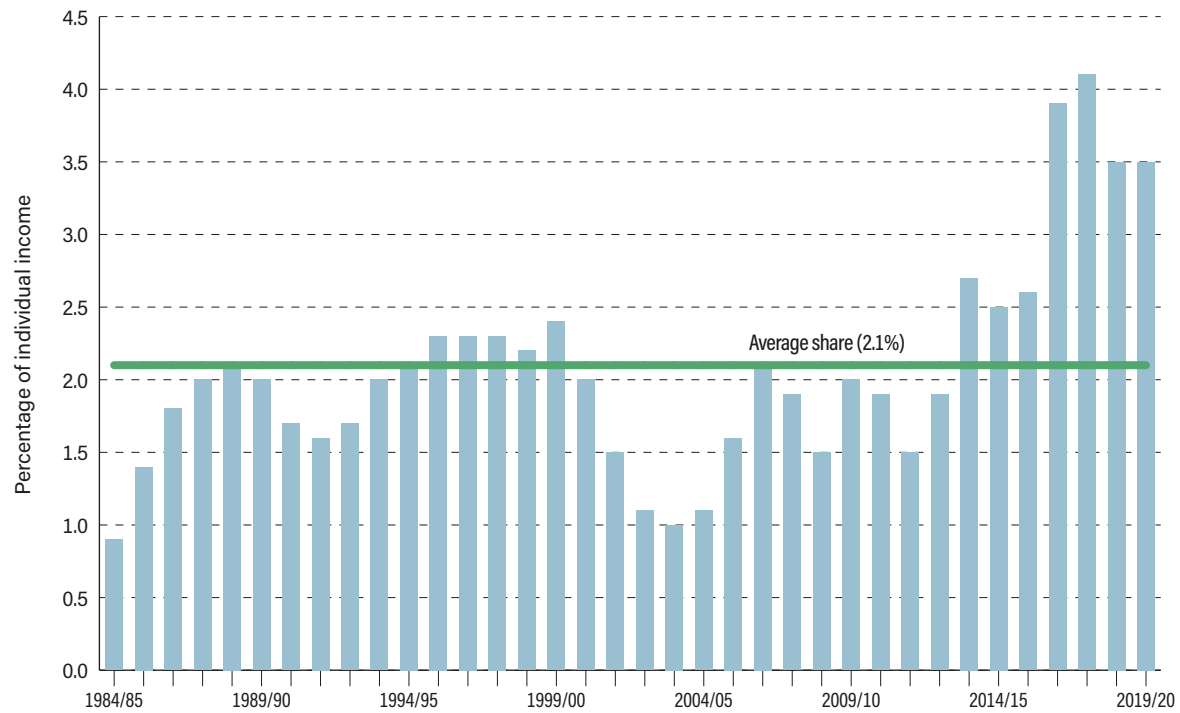
Sources: Gov't of Alberta, 1999, 2020b, 2021b; Statistics Canada, 2021b (table 17-10-0005-01), 2021a (table 18-10-0005-01).

Figure 4: Dividend from Alberta's Hypothetical Heritage Fund per Albertan (\$ 2019), 1984/85-2019/20



Source: table 2.

Figure 5: Dividend from Alberta's Hypothetical Heritage Fund as a share (%) of individual income, 1984/85-2019/20

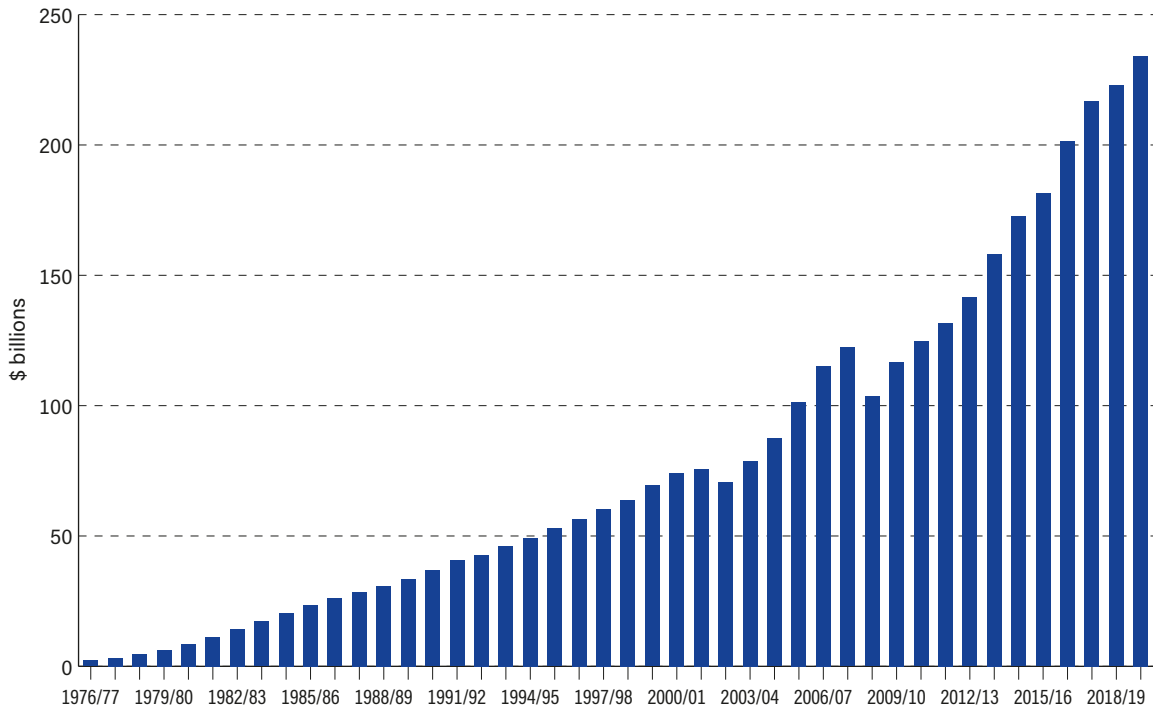


Source: table 2; Statistics Canada, 2021c, table 11-10-0239-01.

The five-year rolling average used in the formula reduces the impact of fluctuations in earnings on the size of the dividend. The specifics of this are not critical; the important point is that dividend payments are large enough to be meaningful to Albertans.

Figure 6 shows the total value of the Hypothetical Heritage Fund had the rules outlined in this paper been used since inception. As shown, the Heritage Fund would be worth \$234.2 billion in 2019/20, compared to its actual value of \$16.2 billion, and this after paying out more than \$100 billion in dividends to Albertans.

Figure 6: Value of the Hypothetical Heritage Fund (\$ billions), 1976/77–2019/20



Source: table 2.

Overall, a renewed Heritage Fund has the potential to pay meaningful dividends to Albertans. Such dividends would help to ensure fiscal rules around operation of the Heritage Fund are robust over time.



## Options for the Remaining (Residual) Earnings

For simplicity, the model presented in this paper assumes that any “residual” earnings are retained in the Heritage Fund for further investment. There are, however, alternative uses of residual earnings, each with its own benefits and drawbacks that are worth briefly discussing.<sup>34</sup>

One option that is particularly worthy of consideration is the eventual use of the residual earnings to replace NRR in the budget once those NRR begin to structurally decline. Specifically, this would entail building up sufficient reserves such that the earnings on this portion of the fund would be adequate, given average returns in the Heritage Fund, to replace NRR on a sustainable basis. This is precisely what Alaska has done in more recent years. Indeed, legislation was passed in 2017/18 to allocate a share of earnings to the state budget as it was determined that an era of declining resource wealth had begun. Today, earnings from the Permanent Fund are “the state’s primary source of general fund revenue and are an essential component of the state’s fiscal health” (Alaska Permanent Fund Corporation, 2020a: 3). If Alberta similarly built up its fund, residual earnings could eventually be used in this way to support the budget and, more broadly, the province’s finances. This would require the fund build up significant financial assets, however, which would take time.

A second option is to use residual earnings to reduce taxes. The idea is that significant assets are accumulated in the Heritage Fund such that average earnings are eventually sufficient to replace revenue from other taxes. In that way, earnings from the fund can be used to create a permanent tax advantage by helping to keep tax rates low.<sup>35</sup> As with using residual earnings to eventually replace NRR, this approach requires that the fund first accumulate significant assets. In other words, this option would not be feasible in the near term.

Another option would be to use earnings explicitly for debt repayment, to shrink Alberta’s total debt. This would be advantageous because it would reduce debt servicing costs and the risk of higher interest rates in the future. The decision to retire debt or not,

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34. As the fund’s earnings are used in part to sustain dividend payments, it also worth noting that there is an option to employ “population proofing” in addition to inflation proofing. In this case, a share of residual earnings would be retained to protect the value of the fund from decreasing on a real per-capita basis. Similarly, a share of residual earnings could be used to “income proof” the fund by indexing the principal to aggregate nominal household income or aggregate nominal Gross Domestic Product, which would indirectly capture inflation and the growth of the population and productivity.

35. One detailed discussion of using Heritage Fund earnings for this purpose can be found in Wen, 2002. Though published nearly two decades ago, the paper remains a useful exploration of how, in principle, earnings from a renewed Heritage Fund could eventually reduce economically harmful taxes.

however, should be based on the differential between the return on investments in the Heritage Fund compared to interest paid on provincial debt. Put differently, debt repayment should only occur if the interest rate the province pays on its existing debt exceeds the returns generated by investments in the renewed Heritage Fund.<sup>36</sup> More importantly, allowing governments to pay down debt with earnings from the Heritage Fund could create moral hazard and introduce disincentives for the province to more reasonably spend within its means. In other words, it would signal that there is a safety net to pay off debt accumulation, which could lead governments to be less fiscally responsible and more likely to accumulate debt.

In sum, this paper assumes that residual earnings would be retained in the Heritage Fund for further investment. However, there are several options for residual earnings from the Heritage Fund, each with its own trade-offs.

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36. This is a somewhat unlikely scenario. For perspective, the Heritage Fund averaged 8.9% annual return over the past 10 years (Government of Alberta, 2021a), while the effective interest rate on provincial government debt averaged 2.4% over the period (Government of Alberta, 2021c).

## Conclusion and Recommendations

The size of Alberta's Heritage Fund is relatively modest compared to its potential because there are no robust fiscal rules governing operation of the fund. Alberta should adopt a constitutional rule that requires a share of NRR be deposited to the Heritage Fund each year. Under this rule, the Heritage Fund could transform a portion of Alberta's non-renewable resource assets into a financial asset that creates a permanent stream of earnings over time.

Lessons from Alberta's own history paired with insights from Alaska's experience lead to the following additional recommendations.

First, to protect the real value of the Heritage Fund, a share of earnings should be used to inflation proof the principal annually. Alaska has managed to inflation proof the Permanent Fund consistently under a statutory rule that is reinforced by political pressure from the Alaskans receiving a dividend to maintain the fund responsibly. A constitutional rule for inflation proofing would be even more robust over time and it is therefore recommended that inflation proofing be constitutionally mandated.

Second, a portion of earnings from the Heritage Fund should be paid as annual dividends to Albertans to garner public support for the rules of the fund and its performance. Specifically, the political pressure created by the dividend would help to ensure contributions to the fund, consistent inflation proofing, prudent management of investment funds, and use of its earnings. Put differently, dividends would reinforce robust fiscal rules around operation of the Heritage Fund to help ensure the province does not repeat past mistakes.

There are several options for the residual earnings, including using them to eventually replace NRR in the budget, permanently reduce taxes, or repay debt. Nearly every option, however, requires that residual earnings be initially retained in the fund to accumulate sufficient assets for some eventual use. As such, the ultimate decision on how to best use the remaining fund earnings should be determined at a future date once the fiscal rules are set and the Heritage Fund is built up.

Table A1: Alaska Permanent Fund, Value (\$US millions), 1976/77–2019/20

Fiscal year	State mineral revenues	Inflation transfer	Non-Spendable				Total principal	Spendable Total earnings reserve	Value	
			Inflation transfer, cumulative	Other appropriations	Unrealized earnings	Total value			Total value, inflation-adjusted (\$2019, 1982-84=100)	
1976/77	4	0	0	0	0	4	0	4	15	
1977/78	50	0	0	0	0	55	0	55	192	
1978/79	84	0	0	0	-1	138	0	138	450	
1979/80	344	0	0	0	11	494	0	494	1,456	
1980/81	385	0	0	900	20	1,788	59	1,847	4,940	
1981/82	401	0	0	800	68	3,038	244	3,281	8,120	
1982/83	421	231	231	400	54	4,076	354	4,429	10,398	
1983/84	366	151	382	300	-351	4,487	557	5,045	11,630	
1984/85	368	235	617	300	250	5,991	763	6,754	14,951	
1985/86	323	216	833	0	937	7,218	1,264	8,482	18,333	
1986/87	171	148	981	1,264	533	8,396	529	8,926	18,935	
1987/88	418	303	1,284	16	298	8,898	591	9,489	20,055	
1988/89	228	360	1,644	1	747	9,937	635	10,572	22,261	
1989/90	267	454	2,098	2	971	10,883	605	11,488	23,519	
1990/91	435	559	2,657	2	968	11,875	582	12,457	24,019	
1991/92	338	477	3,134	2	2,386	14,110	645	14,755	27,211	
1992/93	315	363	3,497	7	2,090	14,499	965	15,465	27,586	
1993/94	210	372	3,869	8	1,108	14,107	1,117	15,223	26,332	
1994/95	318	348	4,217	8	1,707	15,379	1,203	16,581	28,086	
1995/96	264	407	4,624	1,863	2,084	18,290	103	18,393	30,281	
1996/97	308	486	5,110	828	3,169	20,997	107	21,104	33,819	
1997/98	231	423	5,533	35	3,971	22,487	1,389	23,876	37,706	
1998/99	156	288	5,821	41	3,541	22,542	2,590	25,132	39,122	
1999/00	311	423	6,244	280	3,529	23,543	2,973	26,516	40,860	
2000/01	339	686	6,930	8	1,384	22,431	2,384	24,815	37,605	
2001/02	258	602	7,532	-23	505	22,389	1,136	23,525	34,662	
2002/03	398	352	7,884	354	1,106	24,094	100	24,194	34,972	
2003/04	353	524	8,408	-340	3,016	26,541	859	27,400	38,558	
2004/05	481	641	9,049	0	3,875	28,522	1,440	29,962	41,101	
2005/06	601	856	9,905	0	4,221	30,325	2,585	32,910	43,805	
2006/07	532	860	10,765	0	6,198	33,695	4,132	37,826	48,787	
2007/08	844	808	11,573	0	2,064	31,213	5,321	36,534	46,097	
2008/09	651	1,144	12,717	0	-1,449	29,496	420	29,916	36,101	
2009/10	679	0	12,717	0	421	32,045	1,210	33,255	39,660	
2010/11	887	533	13,250	0	4,788	37,832	2,308	40,140	47,037	
2011/12	915	1,073	14,323	0	3,220	38,253	2,081	40,333	45,789	
2012/13	840	703	15,026	0	4,334	40,909	3,944	44,853	49,811	
2013/14	779	586	15,612	0	7,062	45,002	6,211	51,214	55,143	
2014/15	600	624	16,236	0	6,473	45,638	7,162	52,801	55,950	
2015/16	285	0	16,236	0	4,750	44,200	8,570	52,770	55,633	
2016/17	365	0	16,236	0	7,155	46,970	12,816	59,785	62,762	
2017/18	353	0	16,236	0	5,863	46,030	18,865	64,895	67,802	
2018/19	385	990	17,226	0	6,278	47,820	18,481	66,300	67,220	
2019/20	319	758	17,984	4,000	5,789	52,408	12,894	65,302	65,302	
Totals	17,597	17,984		11,039						

Sources: Alaska Dep't of Revenue, Permanent Fund Dividend Division, 2021b; Alaska Permanent Fund Corporation, 1978–2020, 2021b; US Bureau of Labor Statistics, 2021.

Table A2: Heritage Fund, actual value (\$2019) compared to value with inflation proofing (\$ millions) 1976/77-2019/20

Fiscal year	Inflation proofing, cumulative	Fund value less inflation-proofing transfer	Fund value	Actual value (\$2019) of Heritage Fund
1976/77	52	2,120	2,172	9,994
1977/78	227	3,051	3,278	13,671
1978/79	519	4,110	4,629	17,324
1979/80	878	5,442	6,320	20,134
1980/81	1,525	6,887	8,412	24,564
1981/82	2,613	8,321	10,934	27,764
1982/83	3,842	9,691	13,533	29,320
1983/84	4,551	10,411	14,962	28,814
1984/85	4,936	11,147	16,083	29,307
1985/86	5,420	11,832	17,252	29,484
1986/87	6,008	12,049	18,057	28,490
1987/88	6,745	12,049	18,794	27,094
1988/89	7,255	12,049	19,304	26,052
1989/90	8,049	12,049	20,098	24,753
1990/91	9,211	12,049	21,260	23,114
1991/92	10,458	12,049	22,507	21,681
1992/93	10,798	12,049	22,847	21,209
1993/94	11,025	12,049	23,074	20,876
1994/95	11,365	12,049	23,414	20,488
1995/96	11,904	12,049	23,953	20,027
1996/97	12,442	12,049	24,491	19,878
1997/98	12,924	12,049	24,973	19,535
1998/99	13,236	12,049	25,285	19,294
1999/00	13,860	12,049	25,909	19,190
2000/01	14,738	12,049	26,787	18,561
2001/02	15,189	12,049	27,238	18,138
2002/03	15,189	10,062	25,251	16,260
2003/04	16,300	10,062	26,362	15,575
2004/05	16,678	10,062	26,741	15,355
2005/06	17,234	11,812	29,046	17,864
2006/07	18,363	13,062	31,425	19,150
2007/08	19,930	13,980	33,910	19,920
2008/09	19,930	8,662	28,592	16,285
2009/10	19,930	8,662	28,592	16,298
2010/11	20,212	8,662	28,874	16,559
2011/12	20,918	8,662	29,580	16,680
2012/13	21,247	8,662	29,909	16,678
2013/14	21,671	8,662	30,333	16,659
2014/15	22,447	8,662	31,110	16,195
2015/16	22,800	8,662	31,463	16,237
2016/17	23,153	8,662	31,815	16,249
2017/18	23,648	8,662	32,310	16,240
2018/19	24,424	8,662	33,086	16,240
2019/20	25,012	8,662	33,675	16,243

Sources: Gov't of Alberta, 2020b; Statistics Canada, 2021a (table 18-10-0005-01).

Table A3: Alberta's Heritage Fund—deposits, withdrawals, and total value (\$ millions), 1976/77–2019/20

Fiscal year	Transfers to the Fund			Investment income		Transfers from the Fund			Value	
	Resource revenue allocation	Deposits	Advanced education endowment	Net income (loss):	of which, set aside for inflation-proofing <sup>3</sup>	Investment income transfers	Capital project expenditures	Other transfers	Fund equity at cost	Fund equity at cost, \$2019, 2002=100 <sup>4</sup>
1976/77	2,120	0	0	88	0	0	(36)	0	2,172	9,994
1977/78	931	0	0	194	0	0	(87)	0	3,210	13,671
1978/79	1,059	0	0	294	0	0	(132)	0	4,431	17,324
1979/80	1,332	0	0	343	0	0	(478)	0	5,628	20,134
1980/81	1,445	0	0	724	0	0	(227)	0	7,570	24,564
1981/82	1,434	0	0	1,007	0	0	(349)	0	9,662	27,764
1982/83	1,370	0	0	1,482	0	(867)	(296)	0	11,351	29,320
1983/84	720	0	0	1,467	0	(1,469)	(330)	0	11,739	28,814
1984/85	736	0	0	1,575	0	(1,575)	(228)	0	12,247	29,307
1985/86	685	0	0	1,667	0	(1,667)	(240)	0	12,692	29,484
1986/87	217	0	0	1,445	0	(1,445)	(227)	0	12,682	28,490
1987/88	0	0	0	1,353	0	(1,353)	(129)	0	12,553	27,094
1988/89	0	0	0	1,252	0	(1,252)	(155)	0	12,398	26,052
1989/90	0	0	0	1,244	0	(1,244)	(134)	0	12,264	24,753
1990/91	0	0	0	1,337	0	(1,337)	(150)	0	12,114	23,114
1991/92	0	0	0	1,382	0	(1,382)	(84)	0	12,030	21,681
1992/93	0	0	0	785	0	(785)	(84)	0	11,946	21,209
1993/94	0	0	0	1,103	0	(1,103)	(71)	0	11,875	20,876
1994/95	0	0	0	914	0	(914)	(49)	0	11,826	20,488
1995/96	0	0	0	1,046	0	(1,046)	0	0	11,826	20,027
1996/97 <sup>1</sup>	0	0	0	932	176	(756)	0	0	12,002	19,878
1997/98	0	0	0	947	25	(922)	0	0	12,027	19,535
1998/99	0	0	0	932	0	(932)	0	0	12,027	19,294
1999/00	0	0	0	1,169	230	(939)	0	0	12,257	19,190
2000/01	0	0	0	706	0	(706)	0	0	12,257	18,561
2001/02	0	0	0	206	0	(206)	0	0	12,257	18,138
2002/03	0	0	0	(894)	n/a	0	0	0	11,363	16,260
2003/04	0	0	0	1,133	0	(1,133)	0	0	11,363	15,575
2004/05	0	0	0	1,092	0	(1,092)	0	0	11,363	15,355
2005/06	0	1,000	750	1,397	382	(1,015)	0	0	13,495	17,864
2006/07	0	1,000	250	1,648	283	(1,365)	0	0	15,028	19,150
2007/08	0	918	0	824	466	(358)	0	0	16,412	19,920
2008/09	0	0	0	(2,574)	n/a	0	0	0	13,838	16,285
2009/10	0	0	0	2,006	n/a	(2,006)	0	0	13,838	16,298
2010/11	0	0	0	1,080	360	(720)	0	0	14,198	16,559
2011/12	0	0	0	798	454	(344)	0	0	14,652	16,680
2012/13	0	0	0	1,316	161	(1,155)	0	0	14,813	16,678
2013/14	0	0	0	2,109	193	(1,916)	0	0	15,006	16,659
2014/15 <sup>2</sup>	0	0	0	1,678	210	(1,468)	0	(255)	14,961	16,195
2015/16	0	0	0	1,238	209	(1,029)	0	0	15,170	16,237
2016/17	0	0	0	2,333	182	(2,151)	0	0	15,352	16,249
2017/18	0	0	0	1,787	230	(1,557)	0	0	15,582	16,240
2018/19	0	0	0	937	374	(563)	0	0	15,956	16,240
2019/20	0	0	0	1,318	287	(1,031)	0	0	16,243	16,243
Totals	12,049	2,918	1,000	44,820	4,222	(40,803)	(3,486)	(255)		

Notes: Section 8 of the *Alberta Heritage Savings Trust Fund Act* states that the net income of the Heritage Fund, less any amount retained in the Fund, in accordance with section 11 of the Act, shall be transferred to the general revenue fund in a manner determined by the Minister of Finance (Gov't of Alberta, 2020b). The amount to be retained in the Fund for inflation proofing is determined by multiplying the accumulated operating surplus of the Fund from the prior fiscal year end by the estimated percentage increase in the Alberta Consumer Price Index for the year. In accordance with section 11(2), if the Alberta CPI is a negative number, that negative number shall be treated as if it were zero. [1] In 1996/97, the Fund commenced a new framework intended to transition into more market-based investments, inflation proofing the Fund and providing a long-term investment horizon. [2] "Other Transfers" for 2014/15 consists of \$200 million to the Alberta Heritage Scholarship Fund; \$3 million for the Agriculture and Food Innovation Account; and, \$52 million to the Access to the Future Fund. [3] 2002/03 and 2008/09 are n/a because transfers are not made in years where the fund posts a loss; 2009/10 is n/a because inflation was negative so no inflation proofing is required. [4] The inflation adjustments for 1976/77 to 1978/79 are based on Canadian CPI. Sources: Gov't of Alberta, 1999, 2020b; Statistics Canada, 2021a (table 18-10-0005-01).

Table A4: Alberta's Hypothetical Heritage Fund—deposits, withdrawals, and total value (\$ millions), 1976/77–2019/20

Fiscal year	Transfers to the Fund			Earnings			Value	
	Resource revenue allocation	Deposits	Advanced education endowment	Earnings:	of which, withdrawal for annual dividend	of which, set aside for inflation-proofing <sup>1</sup>	Fund equity at cost	Fund equity at cost, \$2021, 2002=100 <sup>2</sup>
1976/77	2,120	0	0	88	0	52	2,172	10,247
1977/78	931	0	0	194	0	175	3,297	14,397
1978/79	1,059	0	0	302	0	294	4,658	18,673
1979/80	1,332	0	0	361	0	361	6,351	23,295
1980/81	1,445	0	0	817	0	651	8,612	28,655
1981/82	1,434	0	0	1,146	0	1,113	11,192	32,975
1982/83	1,370	0	0	1,717	0	1,259	14,279	37,817
1983/84	1,102	0	0	1,845	0	747	17,227	43,355
1984/85	1,198	0	0	2,311	(380)	443	20,356	49,945
1985/86	1,110	0	0	2,771	(590)	613	23,647	56,325
1986/87	415	0	0	2,692	(784)	806	25,970	59,819
1987/88	639	0	0	2,771	(916)	1,060	28,464	62,992
1988/89	535	0	0	2,839	(1,017)	773	30,821	66,405
1989/90	560	0	0	3,093	(1,013)	1,267	33,460	69,245
1990/91	672	0	0	3,648	(966)	1,935	36,814	72,021
1991/92	506	0	0	4,200	(982)	2,160	40,537	74,910
1992/93	546	0	0	2,645	(1,016)	613	42,712	77,754
1993/94	704	0	0	3,944	(1,169)	424	46,191	83,261
1994/95	845	0	0	3,555	(1,279)	681	49,312	87,595
1995/96	696	0	0	4,362	(1,438)	1,134	52,932	91,912
1996/97	1,009	0	0	4,172	(1,537)	1,190	56,576	96,078
1997/98	945	0	0	4,464	(1,675)	1,113	60,309	100,441
1998/99	592	0	0	4,673	(1,717)	753	63,857	105,039
1999/00	1,163	0	0	6,207	(1,902)	1,575	69,325	111,288
2000/01	2,647	0	0	3,993	(1,735)	2,351	74,229	115,252
2001/02	1,557	0	0	1,248	(1,422)	1,248	75,611	114,727
2002/03	1,783	0	0	(5,515)	(1,070)	n/a	70,808	103,894
2003/04	1,919	0	0	7,060	(1,073)	3,116	78,715	110,627
2004/05	2,436	0	0	7,565	(1,262)	1,131	87,453	121,168
2005/06	3,587	1,000	750	10,752	(2,028)	1,817	101,514	137,786
2006/07	3,065	1,000	250	12,397	(2,915)	3,944	115,310	150,659
2007/08	2,756	918	0	6,323	(2,976)	5,750	122,331	152,241
2008/09	2,979	0	0	(19,186)	(2,561)	n/a	103,563	124,962
2009/10	1,692	0	0	15,013	(3,462)	n/a	116,805	141,056
2010/11	2,107	0	0	9,116	(3,360)	1,154	124,669	149,080
2011/12	2,909	0	0	7,007	(2,888)	3,048	131,696	153,725
2012/13	1,945	0	0	11,829	(3,916)	1,467	141,554	163,411
2013/14	2,395	0	0	20,154	(5,822)	2,005	158,280	180,169
2014/15	2,237	0	0	17,699	(5,678)	4,052	172,538	191,496
2015/16	697	0	0	14,277	(6,136)	1,958	181,377	199,047
2016/17	776	0	0	27,894	(8,435)	2,035	201,611	218,799
2017/18	1,245	0	0	23,468	(9,483)	3,132	216,842	231,728
2018/19	1,357	0	0	13,039	(8,399)	5,212	222,840	232,548
2019/20	1,484	0	0	18,407	(8,483)	3,962	234,248	240,183
Totals	64,498	2,918	1,000	267,354	(101,486)	68,572		

Notes: [1] 2002/03 and 2008/09 are n/a because transfers are not made in years where the fund posts a loss. 2009/10 is n/a because inflation was negative so no inflation proofing is required. [2] The inflation adjustments for 1976/77 to 1978/79 are based on Canadian CPI.

Sources: Gov't of Alberta, 1999, 2020b; Statistics Canada, 2021a (table 18-10-0005-01).

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