

WHAT IS A SUSTAINABLE DRAW FROM THE PERMANENT FUND?

Commonwealth North Fiscal Policy Study Group

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Scott Goldsmith
Institute of Social and Economic Research
University of Alaska Anchorage

A stylized, layered mountain range graphic in shades of teal and blue, located in the bottom right corner of the slide.

Inevitable and Prolonged Tug of War

No
Income
Tax!

No
Sales
Tax!



No
Dividend
Cuts!

No More
Budget
Cuts!

Proposals for Use of PF Earnings

- ◆ ACCESS TOTAL EARNINGS OF PF--POMV (Constitutional Endowment)
 - Fold Earnings Reserve into PF Corpus
 - Draw 4.5% - 5% of PF value from PF Corpus
 - Divide draw between UGF and PF Dividend

- ◆ IMMEDIATE PLUG--SB114 (Statutory POMV)
 - Draw 5% of PF value from PF Earnings Reserve for UGF
 - Pay PF Dividend from 75% of Royalties (with a floor)

- ◆ STABILIZE REVENUE STREAM—GOVERNOR WALKER PROPOSAL (Statutory Sovereign Wealth Fund)
 - Dump SB21 revenues and additional 25% of Royalties into PF Corpus
 - Draw % of PF value or \$3.2 Billion from PF Earnings Reserve for UGF (inflation adjusted amount that sustains PF value)

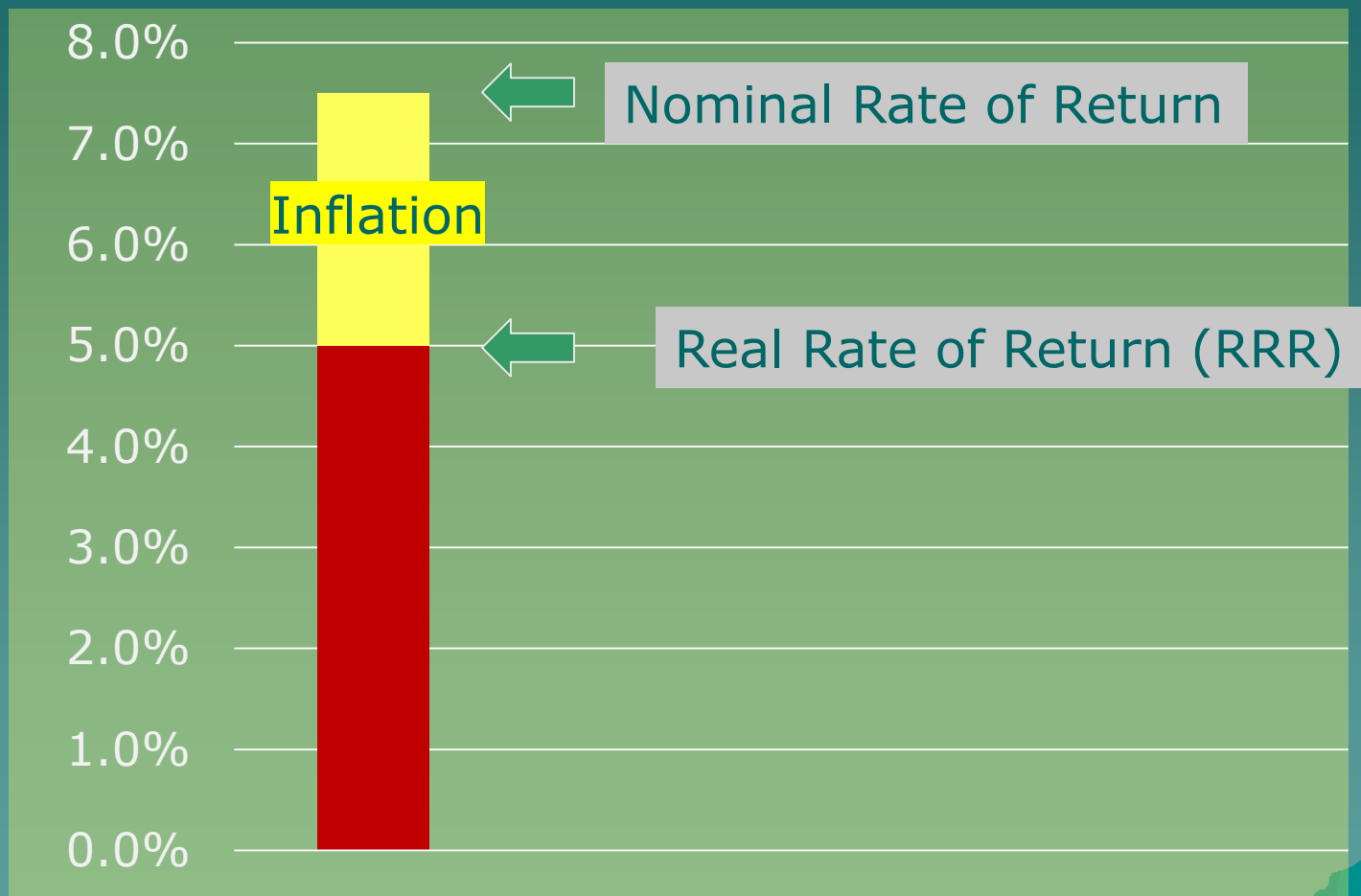
- ◆ CREMO PLAN (Constitutional Endowment)
 - Similar to POMV except ALL petroleum revenue deposited into PF
 - Pay PF Dividend from 50% of Royalties

Which Draw Mechanism Produces the Best Sustainability Tradeoff?

- Do we care about the future?
- What do we think the future will look like as petroleum production continues to fall?

A flow of income from current financial assets and the projected future petroleum revenue stream which, if adopted now, could be maintained consistently long into the future--adjusted for inflation and population growth.

Hypothetical Investment Rate of Return



One RRR Estimate

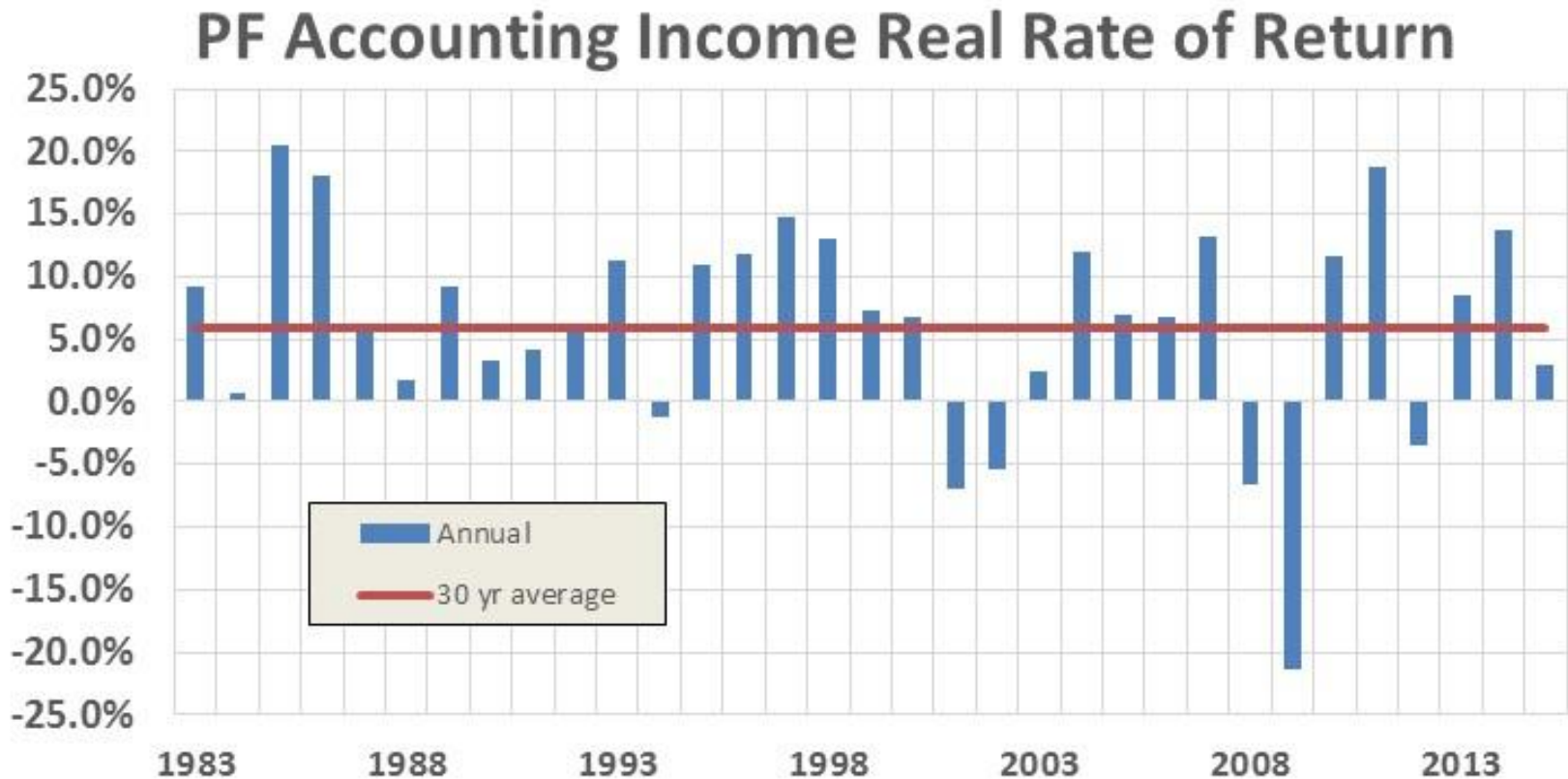


ALASKA PERMANENT FUND FUND FINANCIAL HISTORY & PROJECTIONS as of November 30, 2016

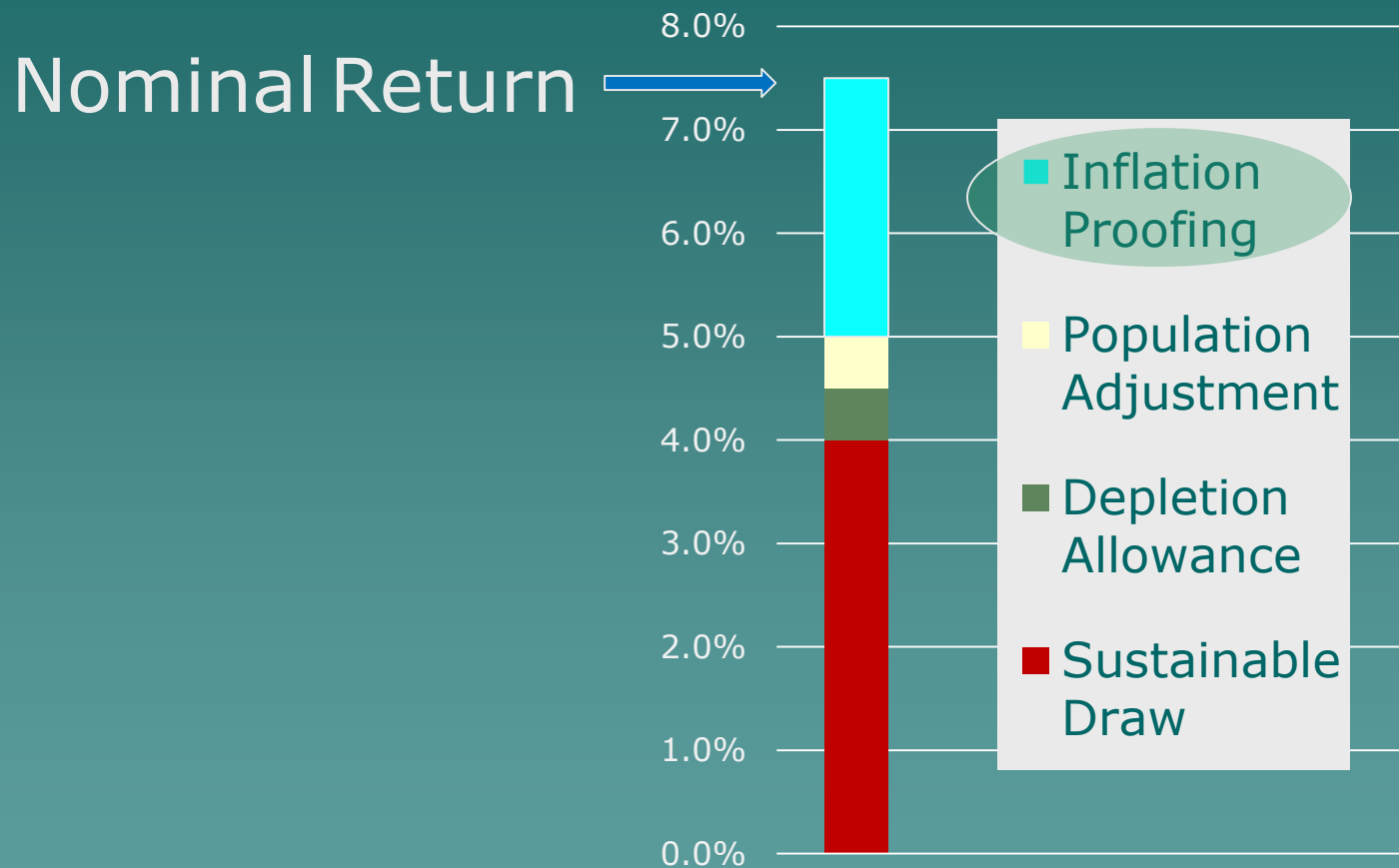
Projections extend ten years, and are based on best available information (\$ in millions)

Assumptions:		Total Return - Inflation = Total Real Return			Statutory Return	
Lo	FY 2017	-6.84%	2.25%	-9.09%	Lo	3.51%
Mid	FY 2017 ⁽⁶⁾	6.70%	2.25%	4.45%	Mid	5.43%
Hi	FY 2017	22.26%	2.25%	20.01%	Hi	8.15%
	FY 2018-2026 ⁽⁷⁾	6.95%	2.25%	4.70%		6.24%

RRR : Actual History



Investment Nominal Rate of Return: Where Should It Go?





ALASKA PERMANENT FUND FUND FINANCIAL HISTORY & PROJECTIONS as of November 30, 2016

Projections extend ten years, and are based on best available information (\$ in millions)

Nonspendable Fund Balance - Principal									Assigned Fund Balance												TOTAL FUND	
FY-Begin		Dedicated ⁽²⁾	FY-End	Unrealized		FY-End Non-	Distributions of					Unrealized		FY-End	TOTAL FUND							
Contrib.	Appro- ⁽¹⁾			State	Inflation		Balance	Net	FY-End	Statutory	Statutory Net Income	FY-End	Gain (Loss)			Net	FY-End	Assigned	Assigned	FY-End		
FY	Balance	priations	Revenues	Proofing	Contributions	Change	Balance	Balance	Income ⁽³⁾	Income ⁽³⁾	Dividends	Inf-Proofing	Gen. Fund	Balance	Change	Balance ⁽³⁾	Change	Balance	FY	Balance		
77-07	0	7,039	9,693	10,765	27,497	6,198	6,197	33,694	39,096	34,618	15,359	14,506	388	4,132	0	0	(1,504)	4,133	77-07	37,827		
08	27,497	0	844	808	29,149	(3,886)	2,064	31,213	(1,372)	2,938	1,293	808	33	4,969	352	352	1,189	5,321	08	36,534		
09	29,149	0	651	1,144	30,945	(3,513)	(1,449)	29,496	(6,394)	(2,509) ⁽⁴⁾	875	1,144	0 ⁽⁴⁾	441	(373)	(373)	21	(4,901)	09	29,917		
10	30,944	0	679	0 ⁽⁴⁾	31,624	1,869	421	32,045	3,517	1,590 ⁽⁴⁾	858	0 ⁽⁴⁾	0 ⁽⁴⁾	1,194	37	16	790	1,210	10	33,255		
11	31,624	0	887	533	33,044	4,367	4,788	37,832	6,812	2,143 ⁽⁴⁾	801	533	13 ⁽⁴⁾	2,016	276	292	1,098	2,308	11	40,140		
12	33,044	0	915	1,073	35,033	(1,568)	3,220	38,253	(100)	1,568	605	1,073	17	1,905	(117)	175	(227)	2,081	12	40,333		
13	35,033 ⁽⁴⁾	0	840	743	36,615	964	4,184	40,800	4,314 ⁽⁴⁾	2,928	604	743	30	3,487	392	567	1,973	4,054	13	44,853		
14	36,615	0	779	546	37,941	2,878	7,062	45,002	6,848	3,531	1,235	546	32	5,237	408	975	2,158	6,211	14	51,214		
15	37,941	0	600	624	39,165	(589)	6,473	45,638	2,384	2,907	1,373	624	24	6,147	41	1,016	951	7,162	15	52,800		
16	39,165	0	284	0	39,449	(1,723)	4,750	44,199	398	2,198	696	0	18	7,649	(95)	921	1,408	8,570	16	52,769		
Lo	39,449	0	277	941	40,667	(4,583)	167	40,834	(3,736)	1,725	1,395	941	15	7,039	(892)	29	(1,503)	7,068	17	47,902		
Mid	39,449	0	277	941	40,667	557	5,307	45,974	3,428	2,733	1,501	941	23	7,941	115	1,036	407	8,977	17	54,951		
HI	39,449	0	277	941	40,667	5,959	10,709	51,376	11,661	4,161	1,651	941	35	9,218	1,507	2,428	3,075	11,646	17	63,022		
18	40,667	0	299	922	41,888	261	5,569	47,457	3,710	3,292	1,539	922	26	8,772	130	1,166	961	9,938	18	57,394		
19	41,888	0	328	950	43,166	260	5,829	48,995	3,877	3,442	1,530	950	26	9,734	148	1,314	1,110	11,048	19	60,043		
20	43,166	0	343	979	44,488	268	6,097	50,584	4,058	3,604	1,603	979	26	10,756	160	1,474	1,182	12,230	20	62,814		
21	44,488	0	357	1,009	45,853	286	6,382	52,236	4,248	3,774	1,769	1,009	26	11,752	162	1,636	1,158	13,388	21	65,623		
22	45,853	0	361	1,040	47,255	299	6,681	53,936	4,439	3,946	1,896	1,040	26	12,762	169	1,804	1,178	14,566	22	68,502		
23	47,255	0	364	1,071	48,690	307	6,988	55,678	4,636	4,122	1,983	1,071	26	13,829	180	1,985	1,248	15,814	23	71,492		
24	48,690	0	364	1,104	50,158	316	7,304	57,462	4,840	4,304	2,074	1,104	26	14,956	193	2,178	1,320	17,134	24	74,596		
25	50,158	0	371	1,137	51,666	325	7,629	59,295	5,052	4,494	2,167	1,137	26	16,146	206	2,384	1,397	18,530	25	77,825		
26	51,666	0	370	1,171	53,207	334	7,962	61,169	5,272	4,692	2,264	1,171	26	17,403	220	2,604	1,477	20,007	26	81,176		
27	53,207	0	366	1,205	54,778	342	8,305	63,083	5,501	4,896	2,363	1,205	26	18,731	235	2,840	1,563	21,571	27	84,653		
Cumulative Totals																						
Proj. for 2017-2026									49,060	43,299	20,689	11,528	288		1,919		13,001					

Assumptions: Total Return - Inflation = Total Real Return					Statutory Return	
Lo	FY 2017	-6.84%	2.25%	-9.09%	Lo	3.51%
Mid	FY 2017 ⁽⁶⁾	6.70%	2.25%	4.45%	Mid	5.43%
Hi	FY 2017	22.26%	2.25%	20.01%	Hi	8.15%
FY 2018-2026 ⁽⁷⁾		6.95%	2.25%	4.70%	6.24%	

Notes related to financial history and projections FY1977 - FY2027:

(1) Appropriations include special general fund, realized earnings, and other miscellaneous appropriation transfers into principal.

(2) Dedicated State Revenues in current and future fiscal years are based on the Fall 2016 Department of Revenue forecast.

(3) Accounting net income is based on United States Generally Accepted Accounting Principles (GAAP). Statutory net income is accounting net income, excluding any unrealized gains and losses on investments, and excluding earnings of the Alaska Capital Income Fund (AM Hess, et al principal).

(4) Beginning in FY08, based on legal opinion, unrealized gains and losses were allocated between the nonspendable fund balance (principal) and the assigned fund balance (earnings reserve). Prior to FY08, all unrealized gains and losses were included with principal.

(5) Current year returns and inflation are based on 2016 Callan capital market assumptions.

(6) Future returns are based on 2016 Callan capital market assumptions and median expected returns (the mid case). Actual results will vary.

(7) During FY 2009, the ACIF realized losses of \$33.3 million, which are excluded from statutory net income, and are included in the ending unreserved balance as a deficit account. During FY 2010 and FY 2011, the ACIF had realized income of \$20.8 and \$25.3 million, which is excluded from statutory net income, and served to reduce the FY 2009 deficit.

(8) The statutory inflation calculation for FY 2010 was -36%; therefore, there was no inflation proofing transfer during FY 2010.

(9) FY77-07 includes special appropriations to principal of \$3.7 billion.

Income year-to-date as of November 30, 2016

FY16 Statutory net income	
Interest, dividends, real estate & other income	\$ 453.9
Realized gains (losses) on the sale of invested assets	829.7
Less operating exp / Legis. Appropriations	(50.4)
Less AK Capital Inc. Fund committed realized earnings	(9.8)
Statutory net income (loss)	\$ 1,223.8

FY16 Accounting (GAAP) net income	
Statutory net income (loss)	\$ 1,223.8
Unrealized gains (losses) on invested assets	891.7
AK Capital Income Fund committed realized earnings	9.8
Accounting (GAAP) net income (loss)	\$ 1,924.9

PERFORMANCE SUMMARY		Current	Last 3	Fiscal	Calendar	Last 12	Last 3	Last 5
(preliminary as of November 30, 2016)		Month	Months	Y-T-D	Y-T-D	Months	Years	Years
PUBLIC EQUITIES		0.67%						
FIXED INCOME PLUS		-2.41%						
PRIVATE EQUITY AND GROWTH OPPORTUNITIES		-0.57%						
REAL ESTATE		N/A	0.26%	2.53%	9.50%	9.76%	11.24%	10.93%
INFRASTRUCTURE/PRIVATE CREDIT/INCOME OPPS		0.16%						
ABSOLUTE RETURN		N/A	0.83%	2.24%	-0.02%	-0.74%	1.30%	3.05%
ASSET ALLOCATION		0.01%						
TOTAL FUND		-0.19%	-0.27%	2.78%	6.33%	4.65%	5.27%	8.02%
Total Fund Return Objective		0.26%	1.43%	2.19%	6.61%	6.69%	6.17%	6.31%

Note related to the performance summary:

Effective October 1, 2016, the Board of Trustees changed the target asset allocation of the Fund. Historical returns for the new asset classes will be reported over time.

Current Practice: Inflation Proof Contributions

ALASKA PERMANENT FUND FUND FINANCIAL HISTORY & PROJECTIONS as of November 30, 2016

Projections extend ten years, and are based on best available information (\$ in millions)

Nonspendable Fund Balance

Assigned Balance:
(Earnings Reserve)

Contributions

Unrealized Gain

Nonspendable Fund Balance - Principal										Assigned Balance: (Earnings Reserve)					TOTAL FUND
FY	FY-Begin Contrib. Balance	Appro- priations	Dedicated ⁽²⁾		FY-End Balance Contributions	Unrealized Gain (Loss)		FY-End Non-spendable Balance	Unrealized Gain (Loss)		Net Assigned Change	FY-End Assigned Balance	FY	FY-End Balance	
			State Revenues	Inflation Proofing		Net Change	FY-End Balance		Net Change	FY-End Balance ⁽⁵⁾					
77-07	0	7,039	9,693	10,765	27,497	6,198	6,197	33,694	0	0	(1,504)	4,133	77-07	37,827	
08	27,497	0	844	808	29,149	(3,886)	2,064	31,213	352	352	1,189	5,321	08	36,534	
09	29,149	0	651	1,144	30,945	(3,513)	(1,449)	29,496	(373)	(21)	(4,901)	420	09	29,917	
10	30,944	0	679	0 ⁽⁶⁾	31,624	1,869	421	32,045	37	16	790	1,210	10	33,255	
11	31,624	0	887	533	33,044	4,367	4,788	37,832	276	292	1,098	2,308	11	40,140	
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13	35,033 ⁽⁶⁾	0	840	743	36,615	964	4,184	40,800	392	567	1,973	4,054	13	44,853	
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17	39,449	0	277	941	40,667	557	5,307	45,974	115	1,036	407	8,977	17	54,951	
17	39,449	0	277	941	40,667	5,959	10,709	51,376	1,507	2,428	3,075	11,646	17	63,022	

$$\$40.7 + \$5.3 = \$46.0 + \$9.0 = \$55$$

2017 Partial vs. Full Inflation Proofing

CONTRIBUTIONS

$2.3 \% \times \$41 \text{ billion} = \941 Million

TOTAL FUND (POMV)

$2.3 \% \times \$55 \text{ Billion} = \1.27 Billion

Inflation Proofing: Who Needs It?

ALASKA PERMANENT FUND FUND FINANCIAL HISTORY & PROJECTIONS as of November 30, 2016

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Value of Contributions
increases if Unrealized
Gain counted

Nonspendable Fund Balance

Assigned Balance

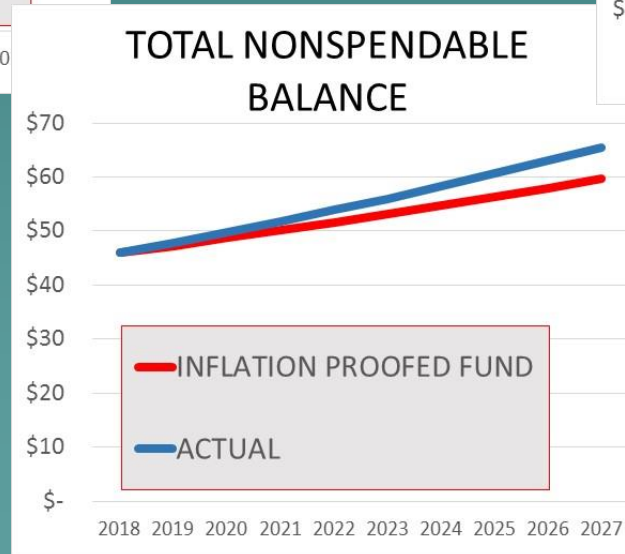
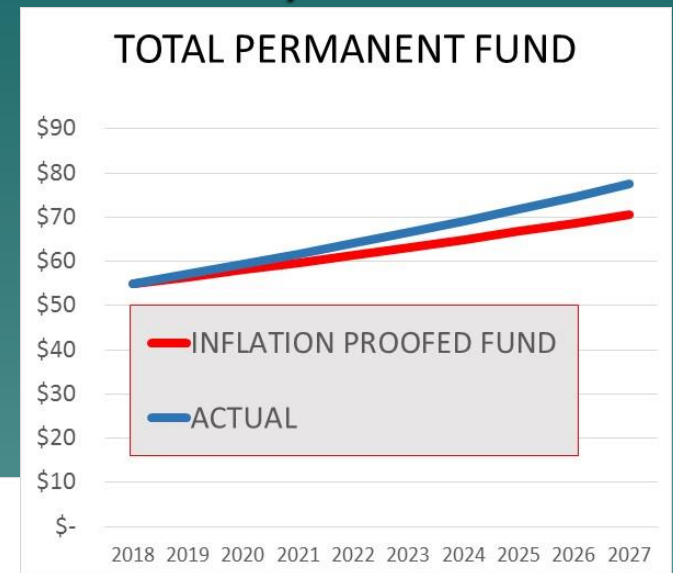
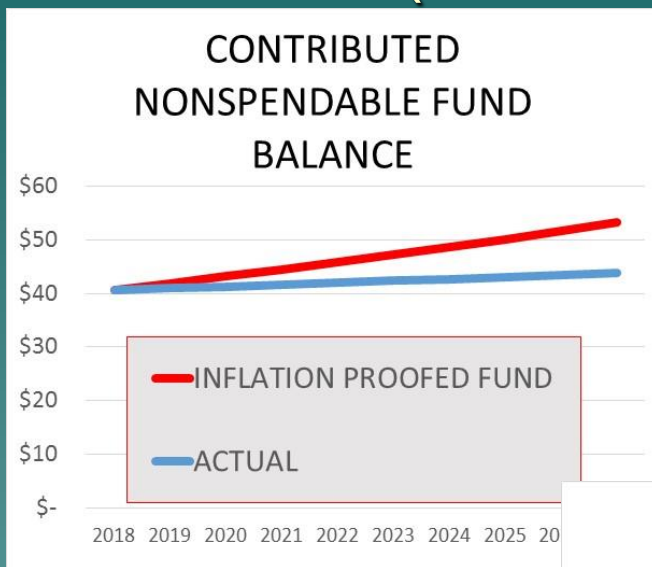
Contributions

Unrealized Gain

Nonspendable Fund Balance Principal														TOTAL FUND
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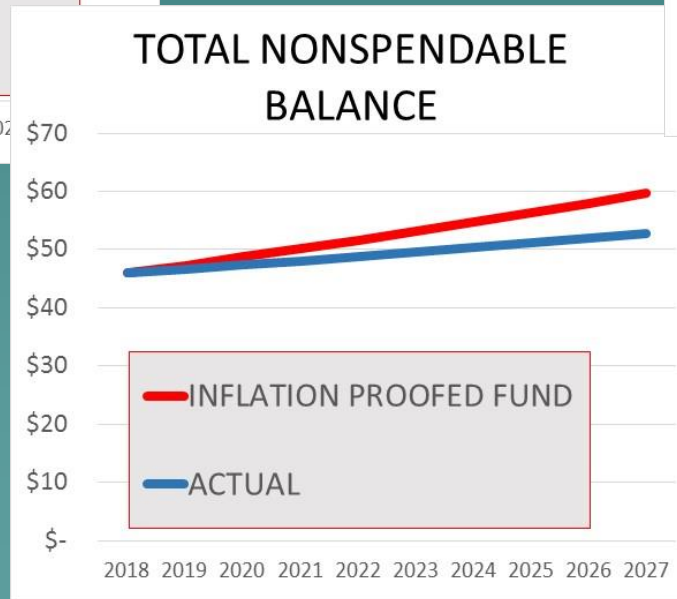
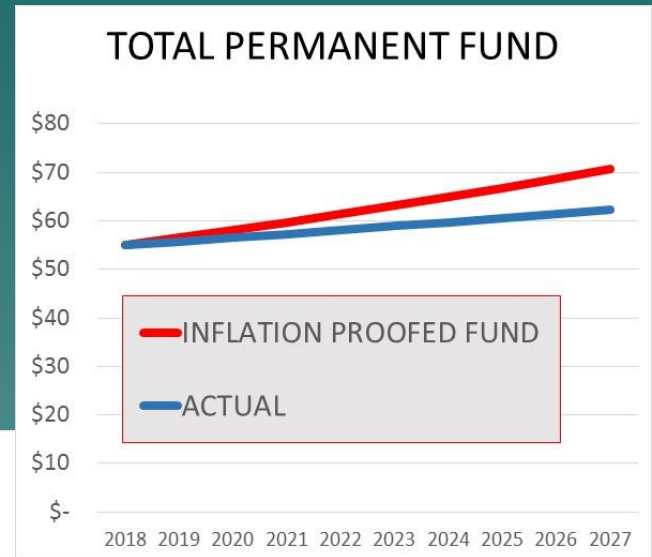
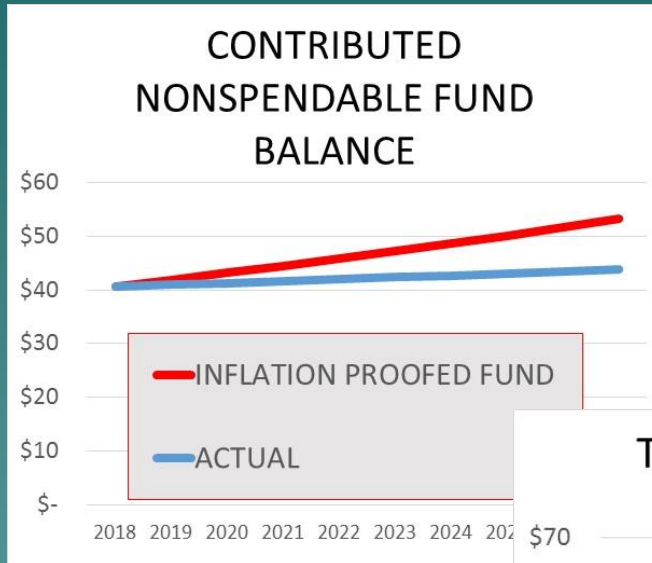
Unrealized Gains Accumulate in Nonspendable Fund Balance (Slow Turnover of Portfolio)



Statutory / Accounting
Return = 50%

Under spend today

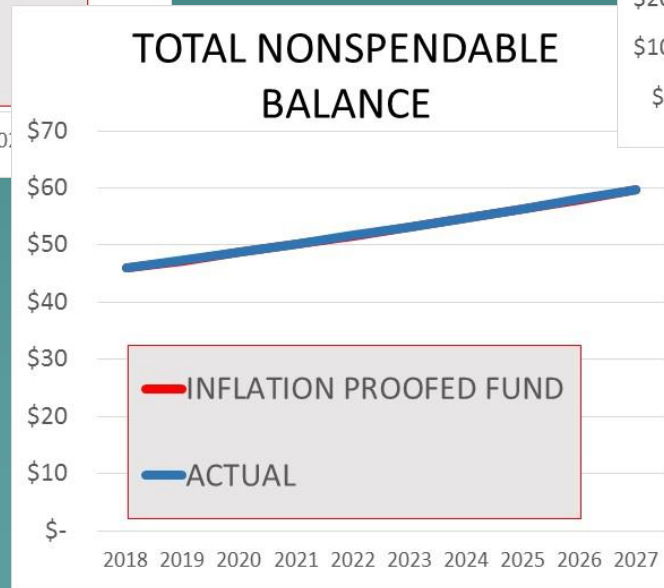
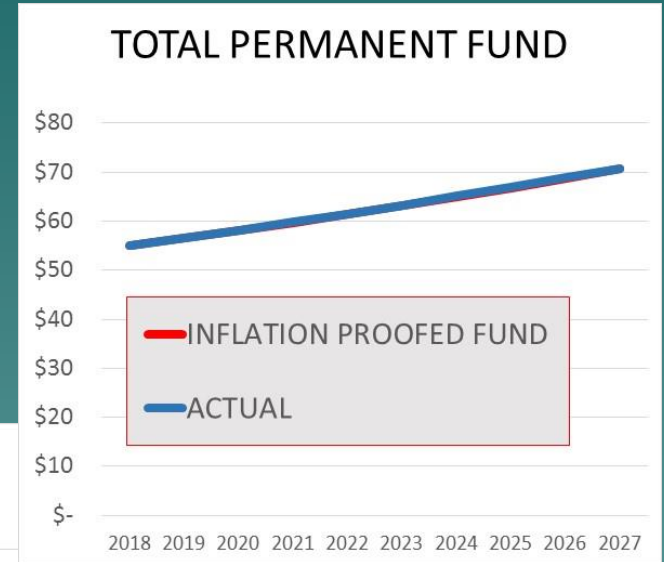
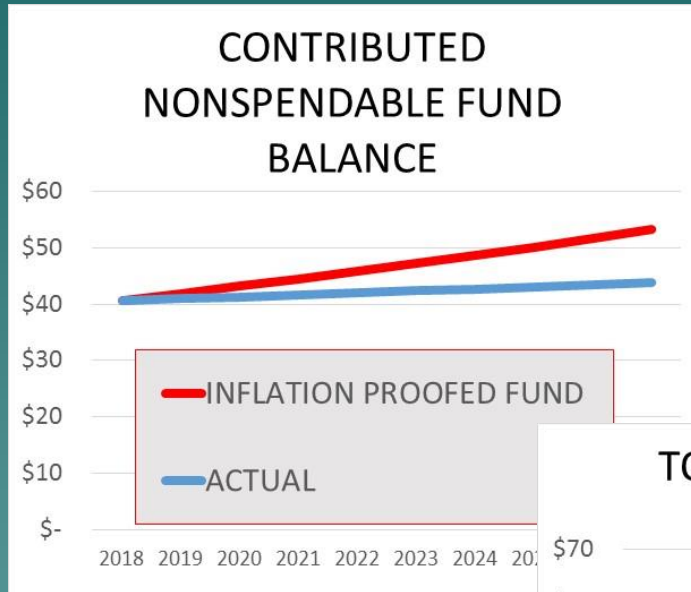
Unrealized Gains Cashed out from Nonspendable Fund Balance (Fast Turnover of Portfolio)



Statutory / Accounting
Return = 88%

Over spend today

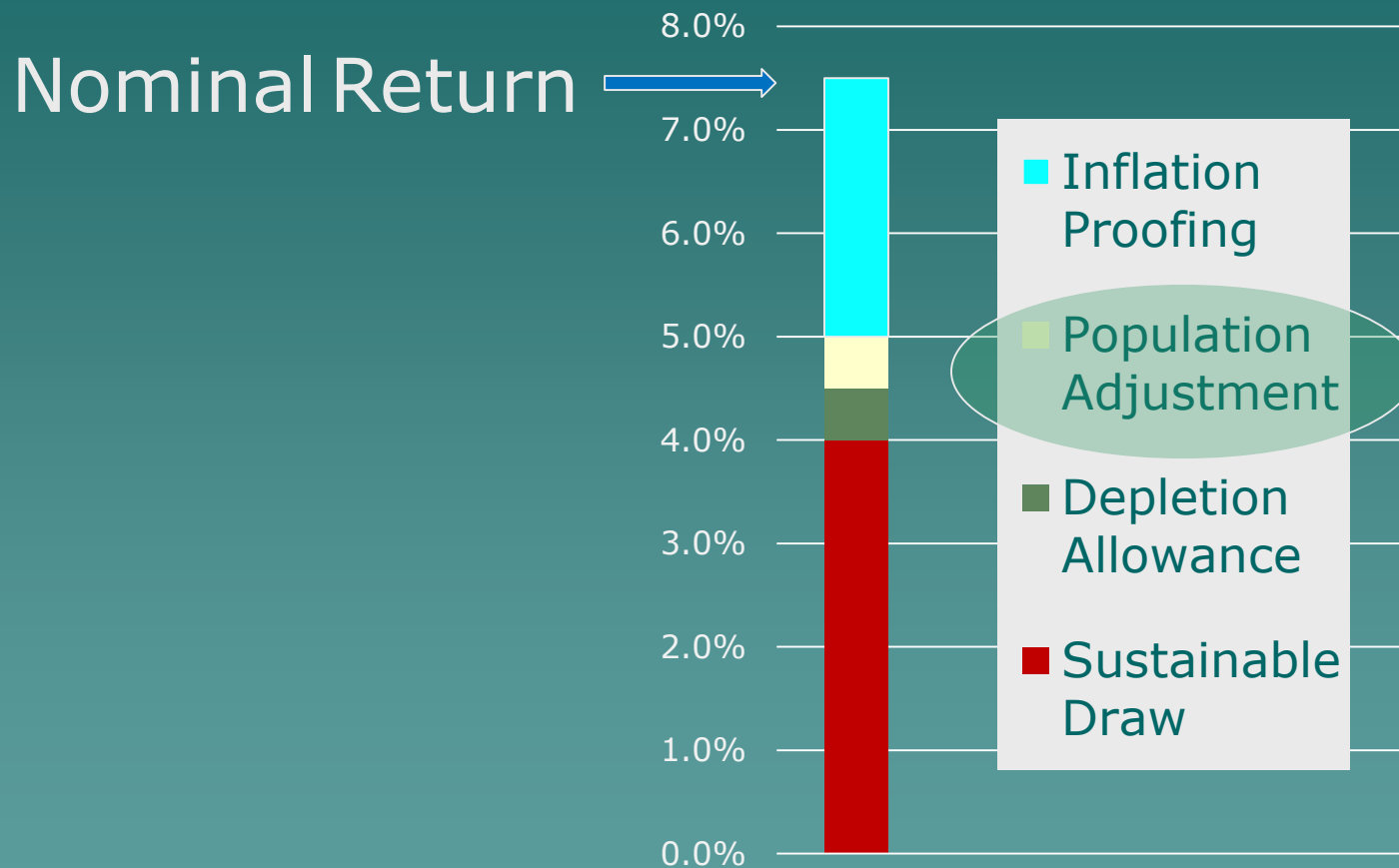
Unrealized Gains Cashed out from Nonspendable Fund Balance (In Between Turnover Rate of Portfolio)



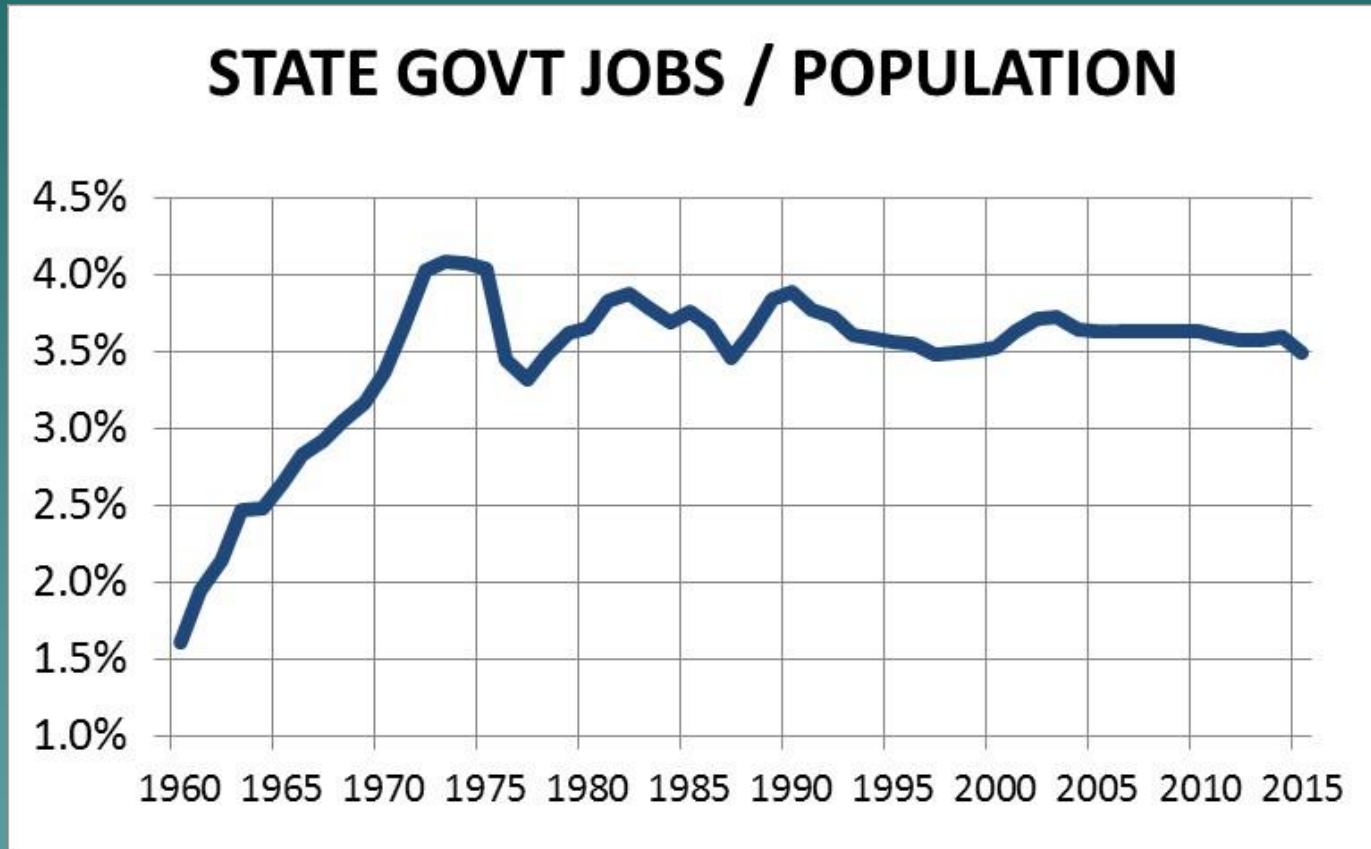
Just Right spend today

Statutory / Accounting
Return = 66%

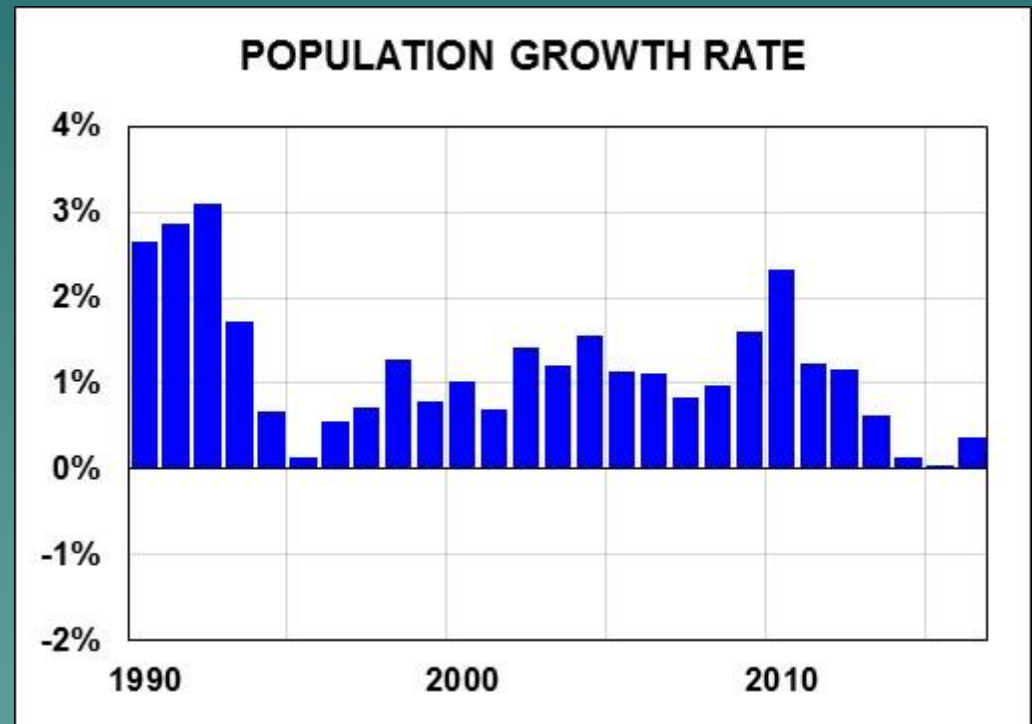
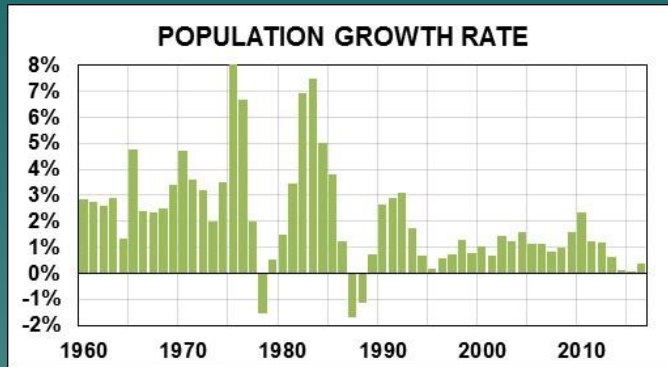
Investment Nominal Rate of Return: Where Should It Go?



Will Need for Public Services Grow With Population?

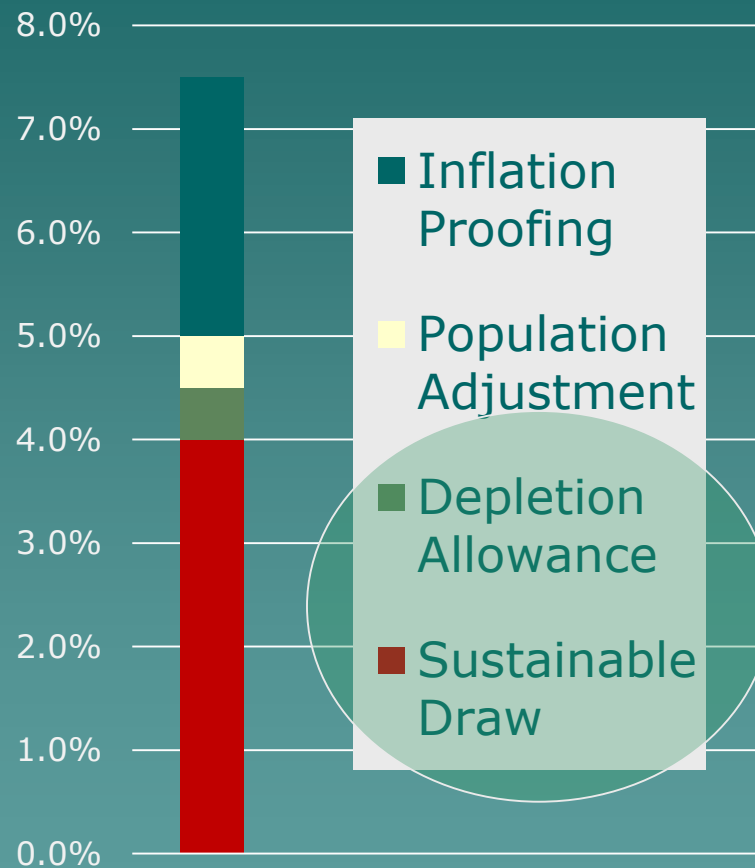


Alaska Population Growth

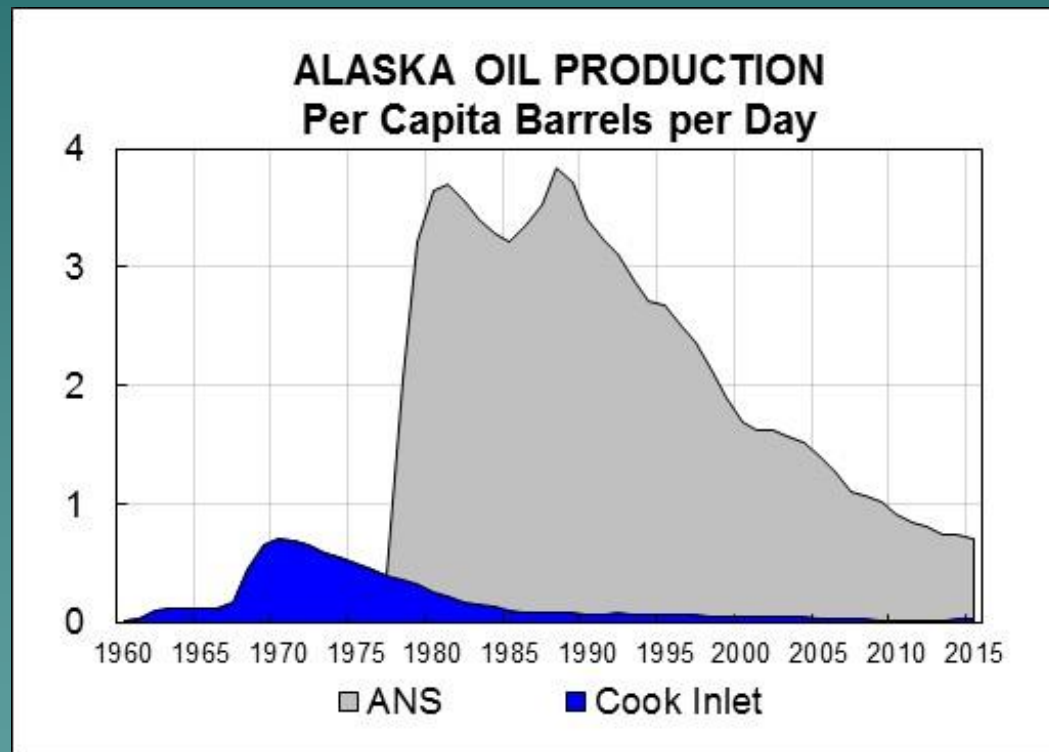


Investment Nominal Rate of Return: Where Should It Go?

Nominal Return

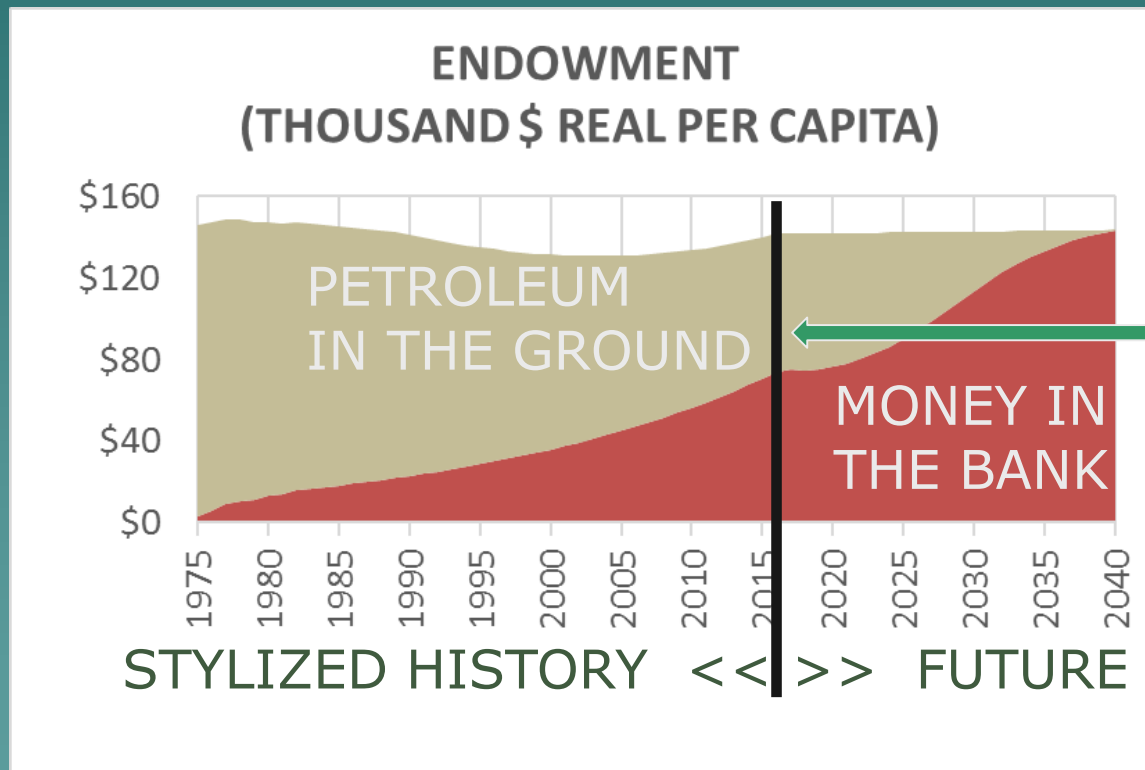


Why a Depletion Allowance? To Sustain the Total Endowment from Petroleum



Reserves?

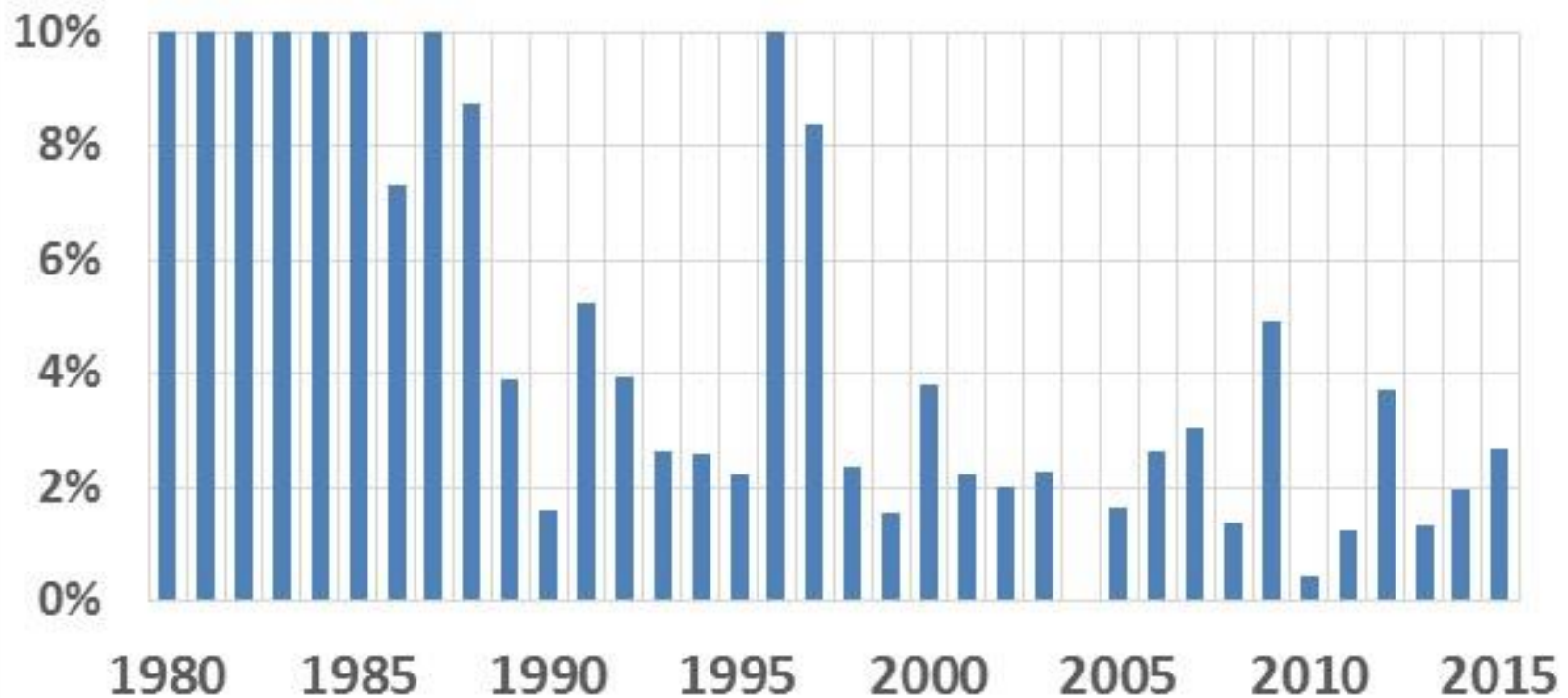
Sustaining the Endowment: Transformation from Petroleum in the Ground to Money in the Bank



**Sustainable Deposit
Rate depends on How
Much Petroleum
Revenue Remains to
be Collected in the
Future**



Historical Depletion Allowance

PERMANENT FUND:
REAL GROWTH RATE OF CONTRIBUTED PRINCIPAL



My Estimate: “Owner State” Endowment



TOTAL (FY 2018)		\$98 Billion
In the Bank		\$57 Billion
In the Ground*		\$41 Billion
Known Conventional Oil		\$25 Billion
Other Oil		\$5 Billion
Gas		\$11 Billion

* Estimated Net Present Value of Future Petroleum Revenue

Assumptions:

Optimally Manage What We Can Control

Known Conventional Oil Production Decline @ 4%
Oil Price tracks ADOR, then 3.5% growth

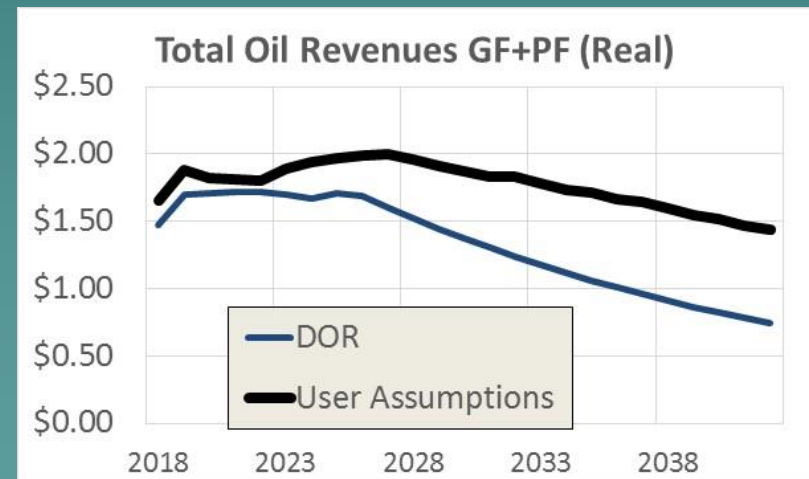
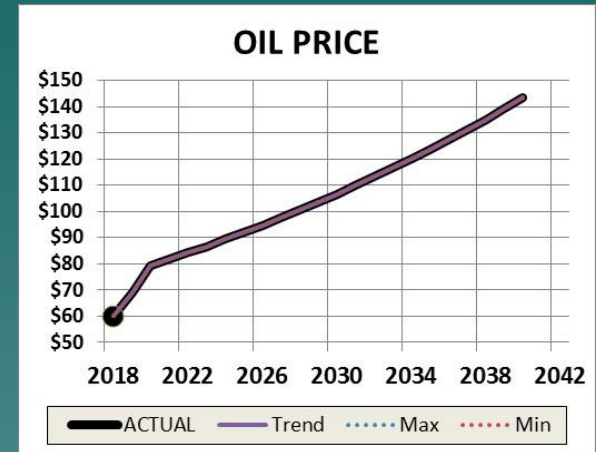
New Conventional Oil
NPRA
Heavy Oil
Shale Oil

Gas Commercialization in 2026
Gas Revenues to State \$1.00/mcf

Real Rate of Return on Investments 5.0%

Population Growth Rate .5%

Inflation Rate 2.25%

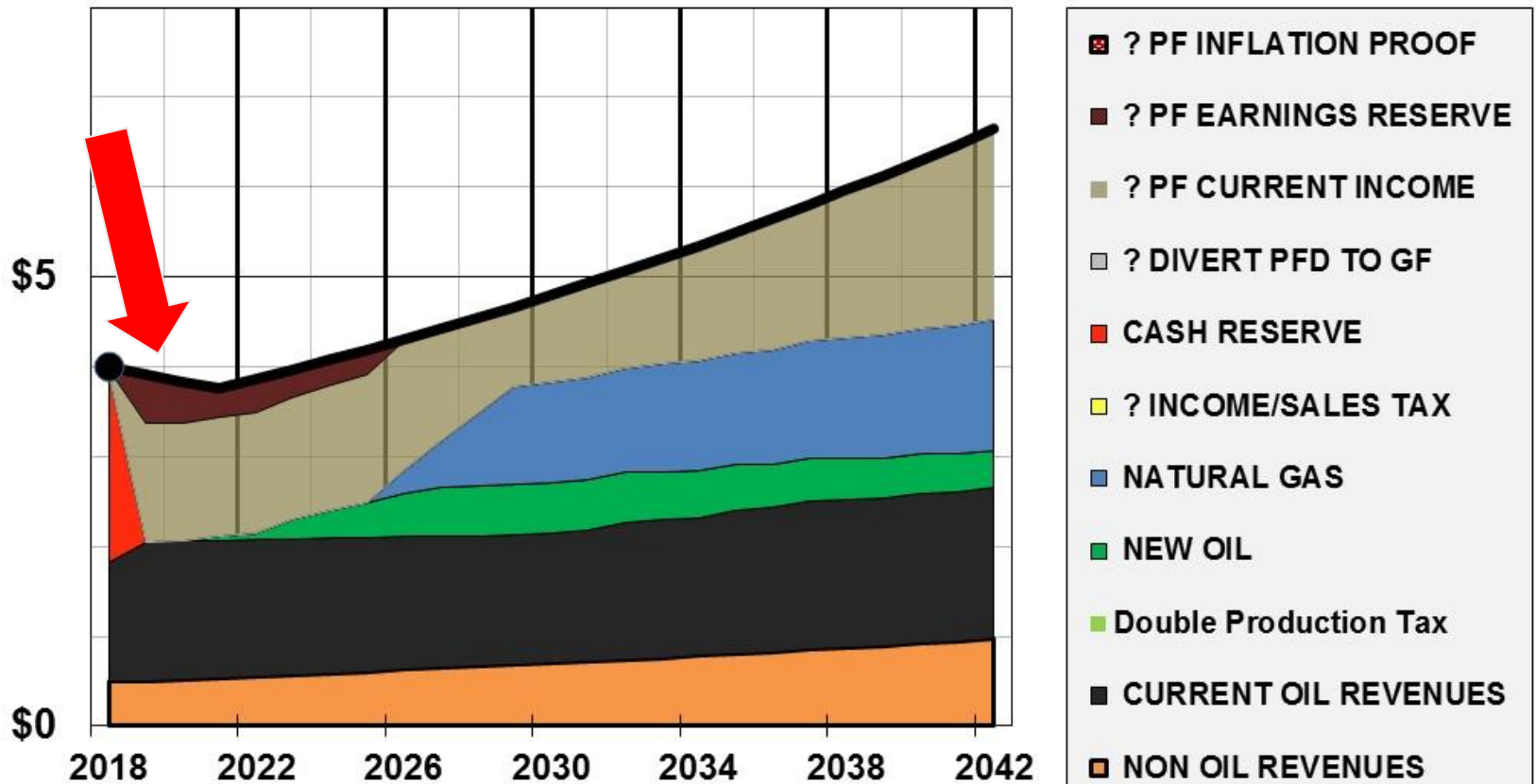


How Much Can We Spend Today from the Endowment?

NEST EGG (FY 2018)	\$98 Billion
Multiply: MSY Take Rate	4.5% (5%-.5%)
Equals: MSY Take	\$4.4 Billion
Current Petroleum Revenues (fluctuates yearly)	?
Investment Income (endowment draw minus current petroleum revenues)	\$4.4 Billion - ?
Minus: PF Dividend	\$ 1.4 Billion
Equals: Endowment Draw for UGF	\$ 3 Billion
Plus: Non-Petroleum GF Revenues	\$.5 Billion
Equals: UGF MSY	\$ 3.5 Billion

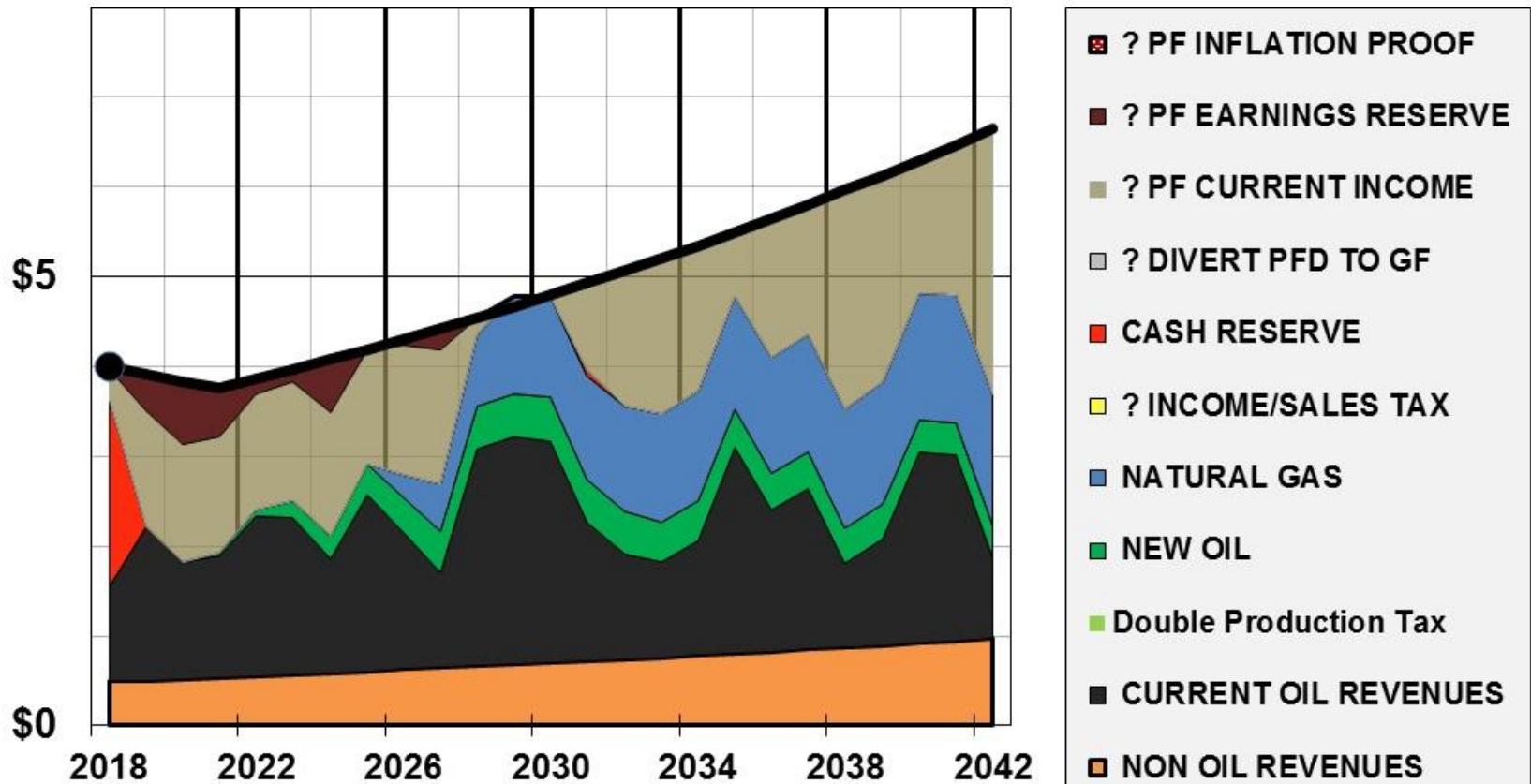
Sources for UGF Spend

UNRESTRICTED GENERAL FUND (Bill \$)



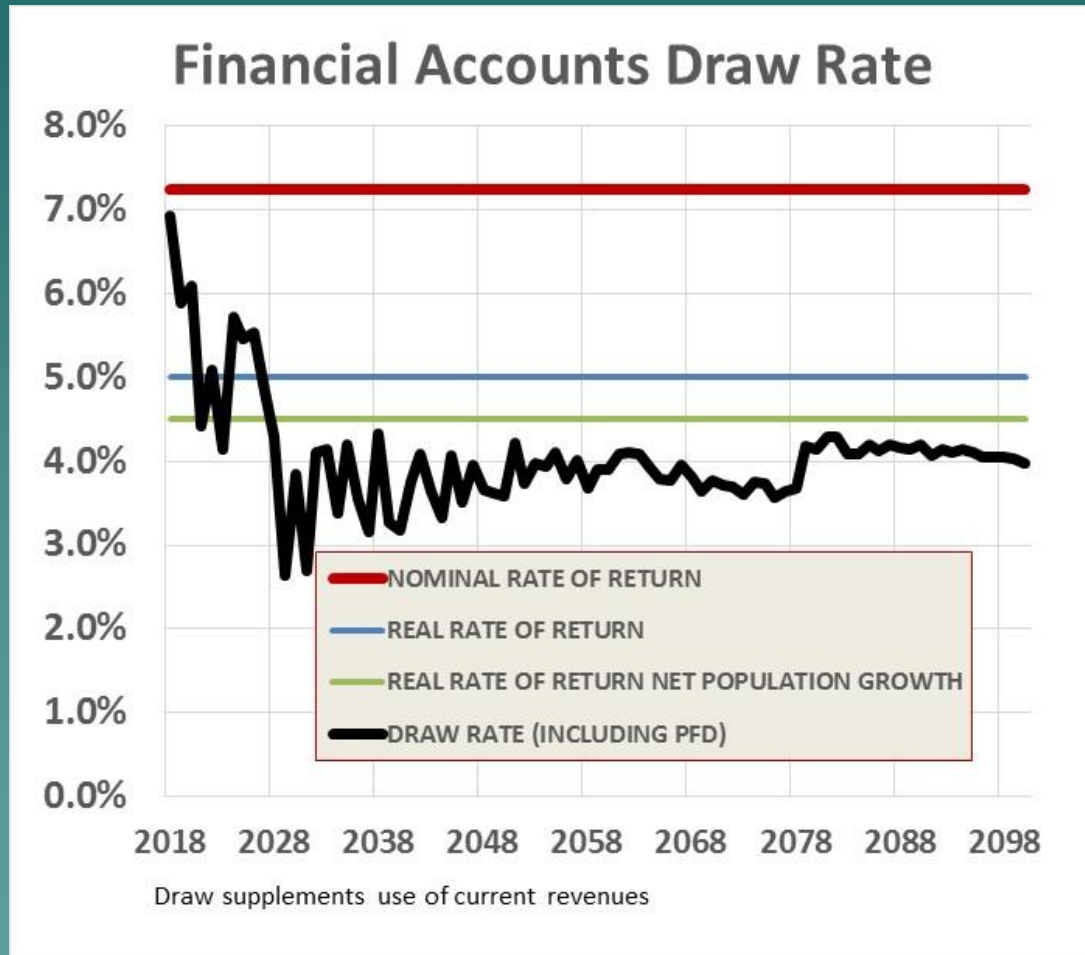
Sources for UGF Spend: Random Oil Price

UNRESTRICTED GENERAL FUND (Bill \$)



Use of investment income fluctuates yearly.

Financial Draw is Residual to Hit Sustainable Spend Target



Wrap Up

- Sustainability should be based on ENTIRE Endowment
- Sustainable draw depends on size of ENTIRE Endowment
- Fixed draw rate from financial asset does not account for
 - Depletion of petroleum asset
 - Variation in petroleum revenue from price fluctuations
- POMV with doubling of Royalty Deposit into PF would provide an approximate solution
- Implementation of limit on spending from Endowment based on Sustainability Analysis would be best solution (but politically challenging)

Good News Scenario?

Known Conventional Oil Production Decline @ 4%
Oil Price exceeds ADOR Forecast

New Conventional Oil
NPRA
Heavy Oil
Shale Oil

Gas Commercialization in 2026
Gas Revenues to State \$1.00/mcf

Real Rate of Return on Investments 5.25%

Population Growth Rate .5%

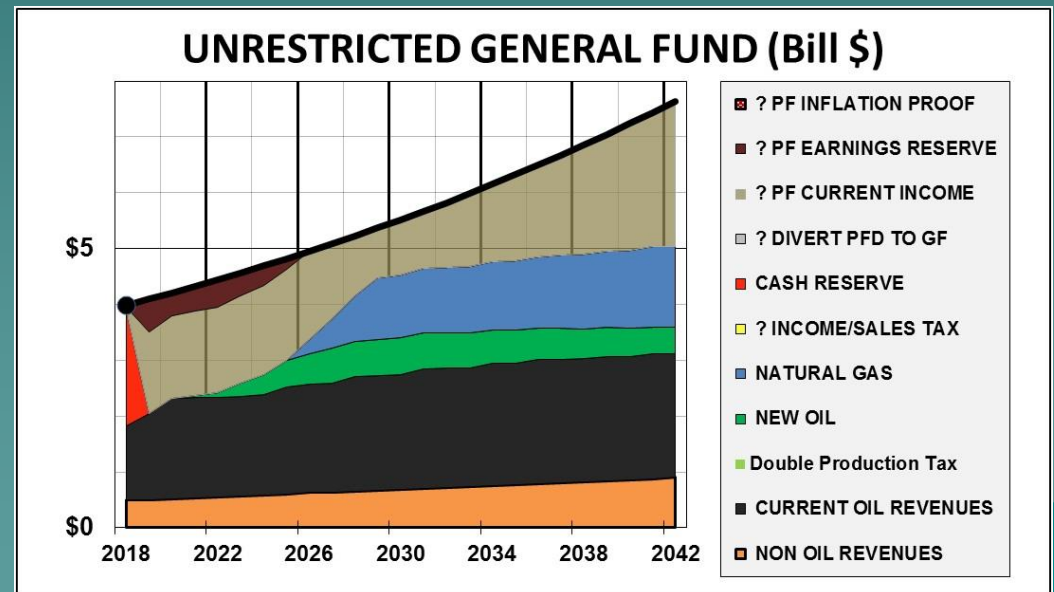
Inflation Rate 2.25%

**\$4.0 billion UGF can grow
with inflation & population**

Nest Egg \$103 Billion

MSY \$4.9 Billion

GF MSY \$4.0 Billion



Best News Scenario?

Known Conventional Oil Production Decline @ 4%
Oil Price exceeds ADOR Forecast

New Conventional Oil
NPRA
Heavy Oil
Shale Oil

Gas Commercialization in 2026
Gas Revenues to State \$1.00/mcf

Real Rate of Return on Investments 5.25%

Population Growth Rate 0%

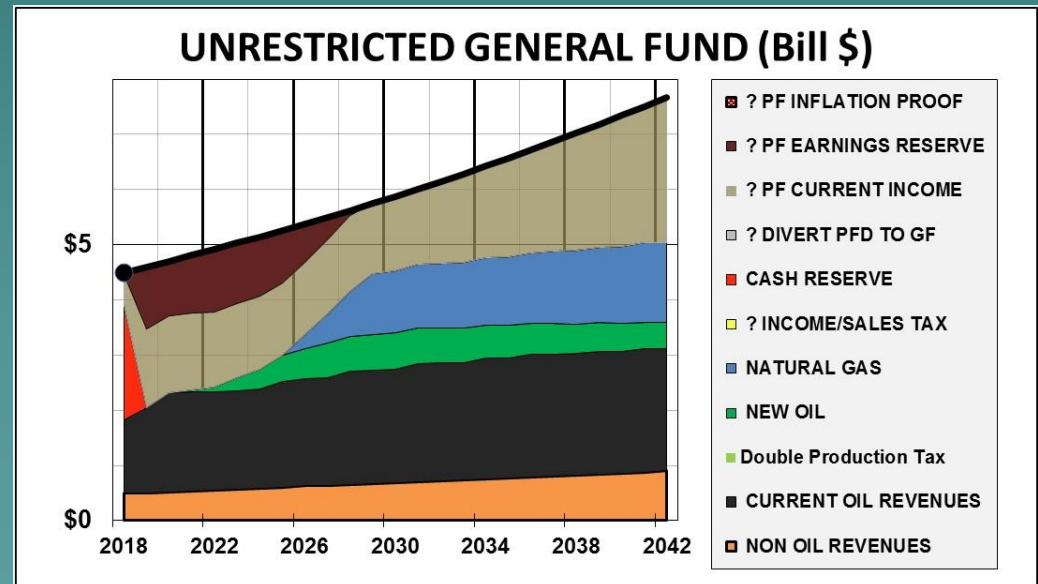
Inflation Rate 2.25%

**\$4.5 billion UGF can grow
with inflation**

Nest Egg \$103 Billion

MSY \$5.5 Billion

GF MSY \$4.5 Billion



Bad News Scenario?

Known Conventional Oil Production Decline @ 4%
Oil Price tracks ADOR Forecast, **then 3% growth**

New Conventional Oil
NPRA
Heavy Oil
Shale Oil

No Gas

Real Rate of Return on Investments 4.5%

Population Growth Rate 0%

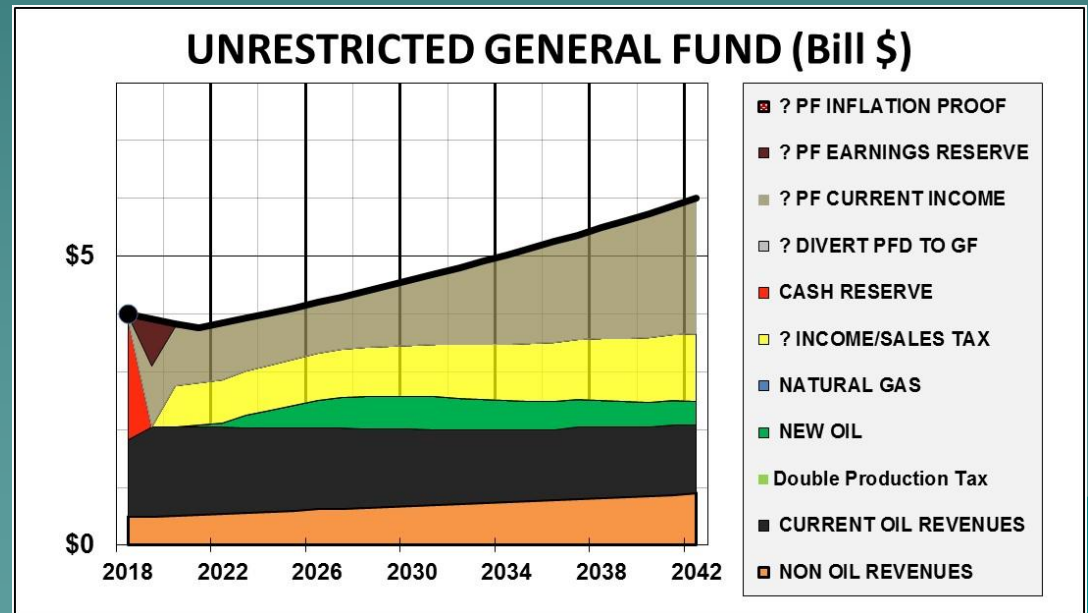
Inflation Rate 2.25%

**\$900 per capita tax allows
UGF to grow from \$3.76
billion starting in 2021**

Nest Egg \$86 Billion

MSY \$3.9 Billion

GF MSY \$2.9 Billion



Worst News Scenario?

Known Conventional Oil Production Decline @ 4%
Oil Price tracks ADOR Forecast, **then 3% growth**

No New Conventional Oil
No NPRA
No Heavy Oil
No Shale Oil

No Gas

Real Rate of Return on Investments 4.5%

Population Growth Rate .5%

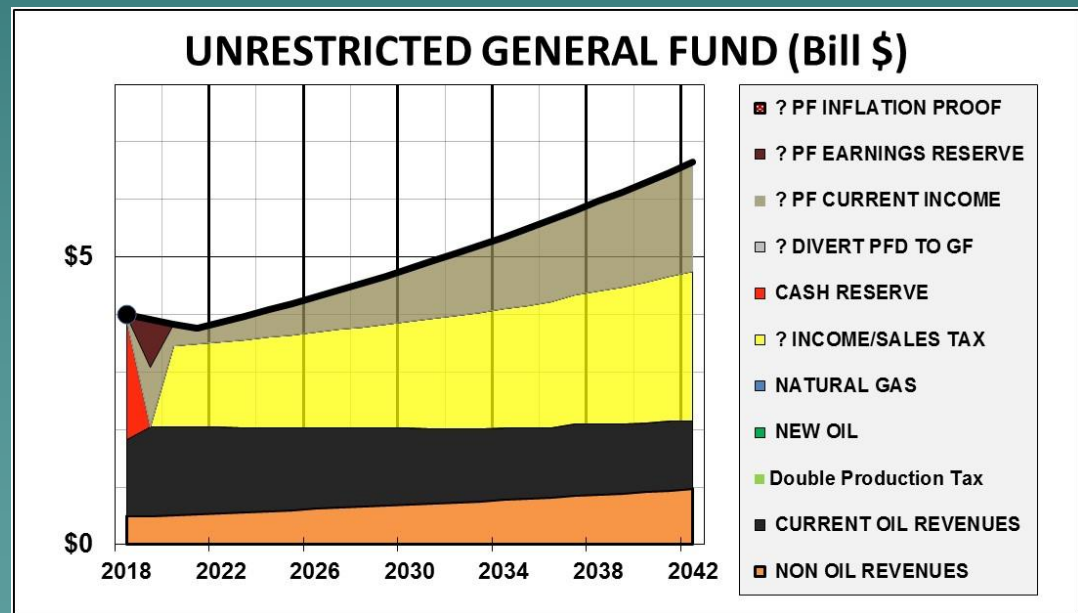
Inflation Rate 2.25%

**\$1,750 per capita tax allows
UGF to grow from \$3.76
billion starting in 2021**

Nest Egg \$81 Billion

MSY \$3.2 Billion

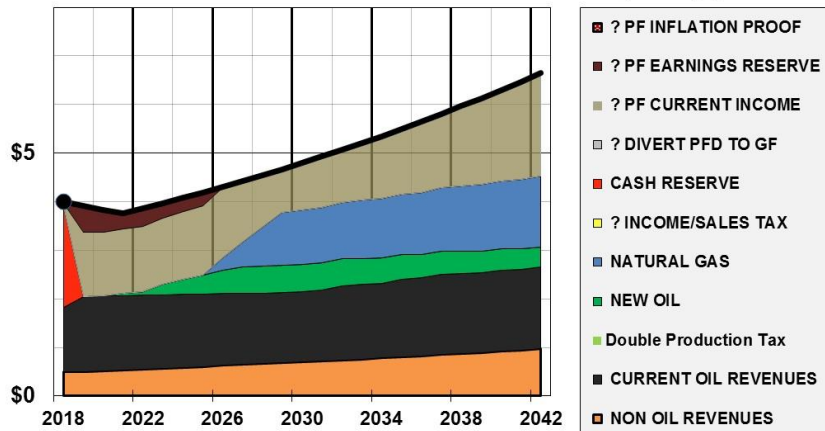
GF MSY \$2.3 Billion



Alternatives Moving Forward: Cost / Benefit Analysis

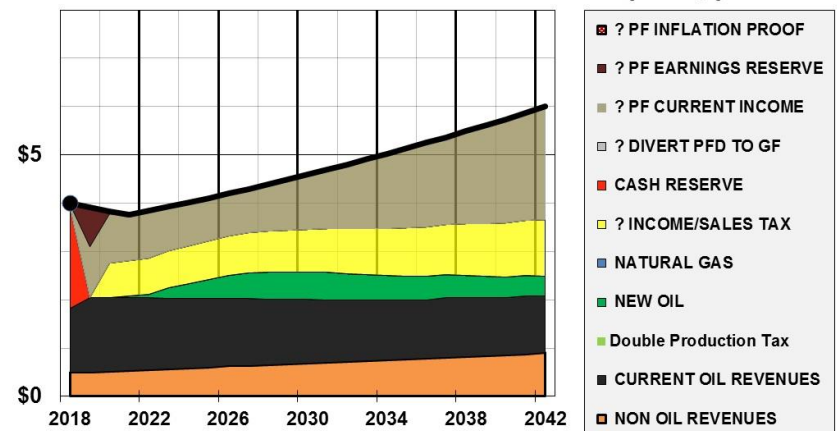
BASE CASE

UNRESTRICTED GENERAL FUND (Bill \$)



BAD NEWS

UNRESTRICTED GENERAL FUND (Bill \$)



Tradeoff for one year is
less revenue (\$600
million) against a
stronger economy.

Which do you prefer?

WHAT IS A SUSTAINABLE DRAW FROM THE PERMANENT FUND?

Commonwealth North Fiscal Policy Study Group

January 31, 2017

Scott Goldsmith
Institute of Social and Economic Research
University of Alaska Anchorage

A stylized, layered mountain range graphic in shades of teal and blue, located in the bottom right corner of the slide.