How much should the SPU-G invest in equities?

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Some thoughts related to the Mork report.

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Roadmap

- What drives asset allocation?
  - Norway
  - Peers
- What is a reasonable equity allocation?
- What current factors should inform our views?
- What are the implications for LT survival or the fund and intergenerational equity?

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Does Asset Allocation Matter?

- Most (+/-75%) of the variation in realized returns and in risk is due to the a fund's choice of equity and bond market exposure.
- About 15% is due asset mix within equity and bond and about 10% to active management
- For large funds, the shares are 85%, 10% and 5%.

Xiong, Ibbotson, Idzorek & Chen, FAJ 2010, and Ibbotson, FAJ 2010

Choice of Equity and FI exposure critical to LT risk and return of fund

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Drivers of Asset Mix Choice

- Total Wealth Portfolio
- Investment Horizon
- Tolerance to Risk
- Liabilities to be funded

Asset mix flexible only for financial portfolio, need to consider other assets, liabilities, horizon and appetite for risk

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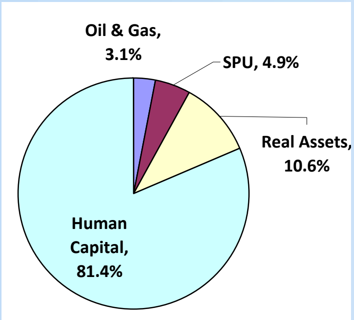
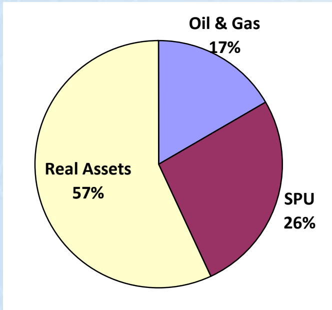
Total Wealth and Asset Portfolios

Norwegian Wealth Ptf



Norwegian Asset Ptf



Source: National Budget 2015 and NOU 2016:20, p 56

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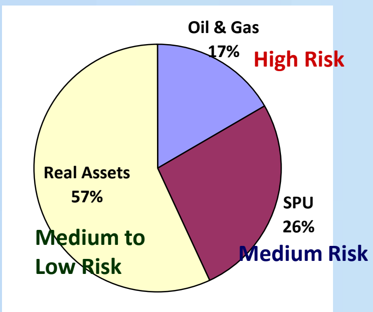
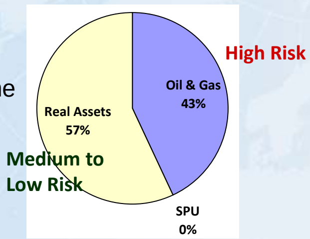
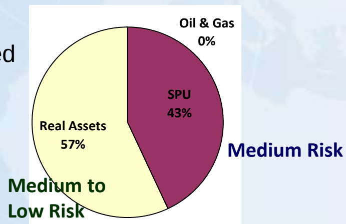
Total Asset Portfolio Risk



If all the oil still in the ground



If all the oil extracted



Transforming (very) risky non renewable natural resources into financial assets allows increasing risk taking in financial portfolio while still reducing overall portfolio risk

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Characteristics of the Norwegian SPU

- Investment Horizon: Infinite
- Tolerance to Risk: Medium
- Liabilities to be funded: Not very specific - complement state fiscal ressources

Peer Funds

- Large pension funds: Well defined liabilities
- Endowments: Required to pay out >5%
- Sovereign reserve funds: Infinite horizon, large, not very specific liabilities

Most similar: Sovereign reserve funds

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Peers' Policy Portfolios

Benchmark Portfolio - SPU & Peers

Peers		Fixed Income	Equity & Equity like
Australia		32%	68%
New Zealand		20%	80%
Canada	- now	28%	72%
	- 2018	15%	85%
SPU		**36%**	**62%**

Peers have substantially lower allocation to FI and higher allocation to equity like assets

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Required Returns and Expected Returns

- **Current objectives:**
  - Maintain or increase purchasing power of the fund while sustaining a payout rate of 4% of the fund asset value.
  - Without undue risk

Required Real Return > 4%

- Expected LT Real Returns
  - Fixed Income < 1%
  - Equity ≈ 2.5% to 4%

Can only achieve required real return if allocation to equity is close to ***100%***

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Current Conditions and Intermediate Term Expected Returns

- **Historically low levels of nominal and real interest rates:**
  - Current yields on long maturity nominal bonds between 0% and 2.5%.
  - Yields on long maturity inflation protected bonds are less than 1 % in the US and close to 0% in the UK.
  - Far below long term average as result of QE.
- As CB reduce and reverse QE, interest rates will rise and bond prices decrease
  - If FI Portfolio Duration is 10 yrs, a yield increase of 1% will lead to a loss of =/- 10% of bond ptf value

Poor timing to increase FI allocation!

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Most Important Figures

Key Results (Annual Numbers, CB)	Q1 + Q2 2016	2015	Last 10 Years	Since Inception
Gross Return	1.27%	2.74%	5.34%	5.51%
Inflation	0.89%	0.86%	1.77%	1.78%
Management Cost	0.05%	0.06%	0.08%	0.09%
Net Real Return	*0.33%*	*1.80%*	*3.43%*	*3.58%*

Handlingsreglen: payout maximum 4% per year

Payout is sustainable ***ONLY IF LESS THAN*** Net Real Return

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Payouts matter!

- **Payouts need to be :**
  - Stable or increasing in real terms
  - Provide countercyclical support
  - Sustainable in the very long term
  - Equitable in terms of intergenerational transfers

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Intergenerational Equity

- Transform the cash benefits from extraction of natural ressources into infinite stream of payouts
- Current generation's benefits from natural ressources' extraction
  - Payouts from SPU
  - Contribution of extraction industries to GDP in excess of the state oil and gas receipts.
- Future generation's benefits from natural ressources' extraction
  - Only Payouts from SPU

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Payout rule determines LR sustainability and Intergenerational equity

- Payouts sustainable in LR

  ⇒ Payout Rate $\leq$ Realized Real Return
- Payouts sustainable in LR & counter cyclical:

  ⇒ Payout Rate << Realized Real Return
- Payouts sustainable in LR, countercyclical and intergenerationally equitable:

  ⇒ Payout Rate <<< Realized Real Return

Payout rate needs to be below the 3.5% realized real return.

- Tobin rule: payout rate = Avg past n yrs real ret - haircut

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Conclusion

- The Norwegian total asset portfolio risk decreases as gas& oil ressources transformed in financial assets.
  - ➢More risk ***can be taken*** in SPU
- More risk ***needs to be taken*** by SPU to achieve return objective.
  - ➢Increase allocation to equity (like) assets
- Given historically low interest rate, increasing the FI allocation likely to lead to large losses over medium term.
- Intergenerational equity and concerns for the funds' sustainability requires to adjust the pay-out rate to below realized real return on fund

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Thank you.

Questions and comments welcome!

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