On global best practice in management of long-term financial capital

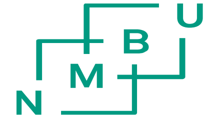
Comparing the management of the Norwegian oil fund to highly regarded peers

Advanced course in Asset managment
Norwegian School of Economics & Finance Society Norway

by Knut N. Kjær

9 February 2024

Disclaimer

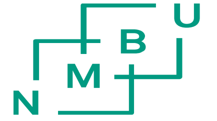


This memo presents my personal reflections
(and not the views of companies I’m associated with)

Professor II, The Business School of the Norwegian University of Life Science

Investment experience:

Norges Bank Investment Management	Founding CEO	1997 – 2007
ABP, Dutch pension fund (euro 550bn)	Investment committee	2008 – 2016
APG, Asset manager owned by ABP	Supervisory Board, Chair from 2024	2018 –
Government of Singapore Investment Corp.	Advisor to Investment Com.	2012 – 2018
	International Advisory Board	
China Investment Corporation	International Advisory Council	2009 – 2020
National Pension Fund of Ireland	Member of the Commission Board	2010 - 2014
Monetary Authority of Singapore	Investment strategy and risk panel	2012 –
Central Bank of Thailand	Advisory Investment Committee	2018 –
Trient Asset Management	Founding partner and Chairperson	
2011 – 2016		
Sector Asset Management	Executive Chairperson	2017 –
TIND Asset Management	Chairperson	2023 -
FSN Capital Partners	Partner and Chairperson (to 2021)	2011 – 2023
RiskMetrics Group	President	2009 – 2010



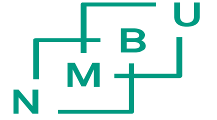
Agenda

Building blocks of achieving best practice in the management of long-term financial assets

The Norwegian oil fund versus two global best practice funds,
Government of Singapore Investment Corp (GIC)
Canada Pension Plan Investment Board (CPPIB)

Perspectives on the management of the Oil fund versus global best practice

The Norwegian Oil fund – High ambitions



"The Ministry of Finance's ambition is for the Government Pension Fund to be the world's best managed fund" *)

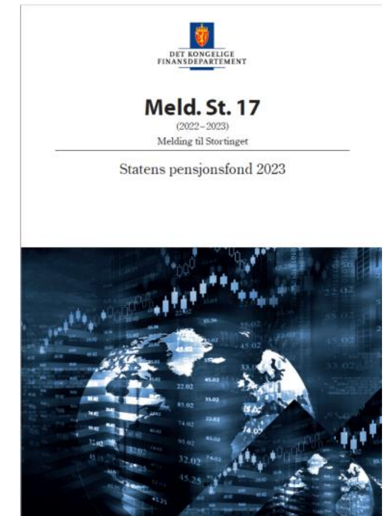
How do we define global best practice?

Where do the management of the Oil fund deviate from global best practice?

What changes in governance structure and competence is required for the Oil fund to become the world's best managed fund?

What is the cost / loss of return / higher risk / of not living up to global best practices?

Or - should the ambition be reformulated to: The best fund management Norway can achieve given that we don't want to add more competence and capacity to the governance structure of the fund?



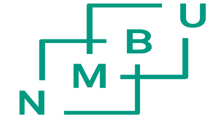
https://www.regjeringen.no/no/dokumenter/meld.-st.-17-20222023/id2969663/?ch=1

*) https://www.regjeringen.no/no/tema/okonomi-og-budsjett/statens-pensjonsfond/ekspertpanel-for-statens-pensjonsfond/id2440908/

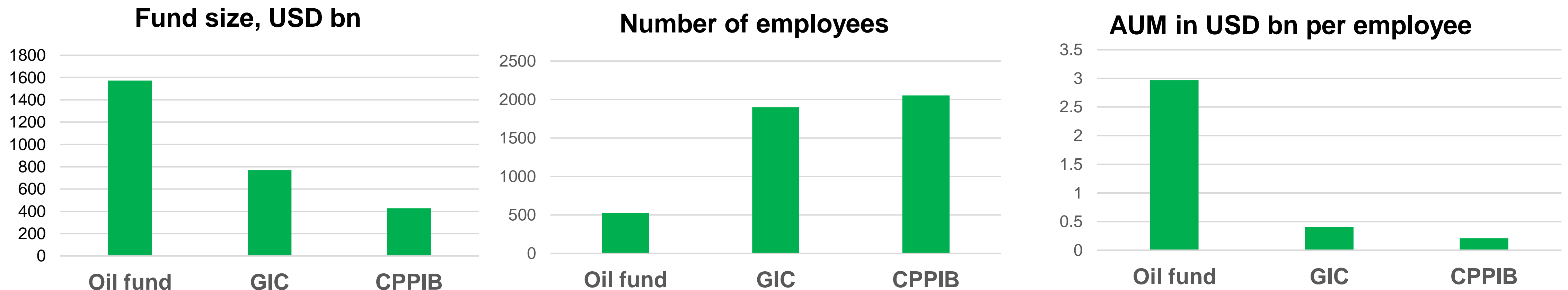
Section 1:
Comparing the Oil fund to GIC and CPPIB

Oil fund	Norwegian Government Pension Fund Global, managed by NBIM
GIC	Government of Singapore Investment Corporations
CPPIB	Canada Pension Plan Investment Board

Comparing three highly regarded global investment funds

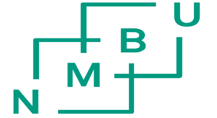


- All three funds serve broad constituencies; the born and unborn populations of their countries
- Both GIC and CPPIB are well respected for professional and high-performing management
- They are organized quite differently. And they are both strikingly different from the Oil fund
- The graphs below illustrate just one of the deviations: The Oil fund is run with only a quarter of the number of staff as GIC and CPPIB – in spite of being of much larger size
- Why is this the case? Can it be explained by different objectives and purpose? Other risk parameters?
- What are the consequences? Do GIC and CPPIB “perform better”? (and by that justify higher costs)



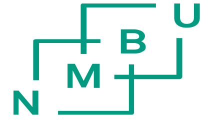
All data on the three funds in this presentation is from their websites, including annual reports:
https://www.gic.com.sg/ https://www.cppinvestments.com/ https://www.nbim.no/no/
The size of GIC is not disclosed. The estimate used here is from: https://www.swfinstitute.org/

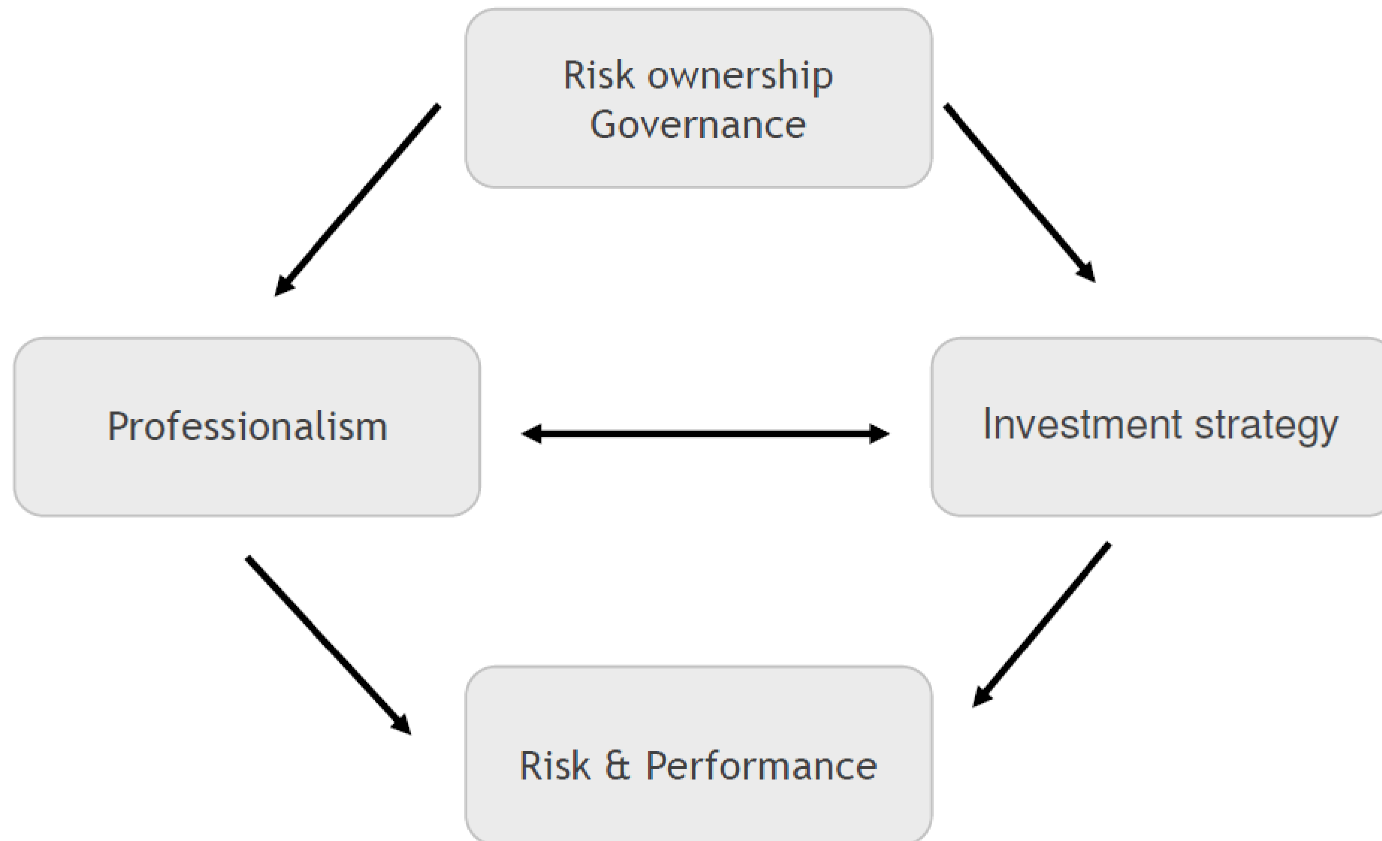
Building blocks of assessing what is Global Best Practice



- Academic perspective of what drives long-term performance of financial portfolios: Exposure to priced risk factors
- Risk management dimension, Asset – liability matching
- Capital market competence; in what segments of the market may it be possible to consistently outperform broad market indices? What is required to achieve net risk adjusted excess return in private markets?
- Governance and talent management experience; What is required of professionalism, leadership, culture and talent base to be competitive in the capital markets, and what governance structure is required to deliver on that?
- Geopolitical and historical competence; to what extent will performance over the last decades provide information on what can be expected to happen over the next decades? (what looked as best practice in the past may not be so in the future)
- Ethical and sustainability perspective – divesting from potentially high rewarding investments may express key preferences by the Asset owner (those preferences are as fundamental as the decisions on risk level)

Expected return and risk is largely set by the Governance structure Investment strategy becomes endogenous – dependent on both the quality of the governance and the level of professionalism in implementation





How much risk is the owner willing to take?

How is the structure safeguarding against procyclical investment decisions?

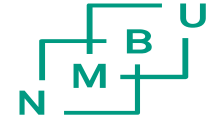
Is the investment strategy realistic versus the degree of professionalism?

Can more value be created by building a stronger investment culture?

Can all be done with strong principal – agent alignment?

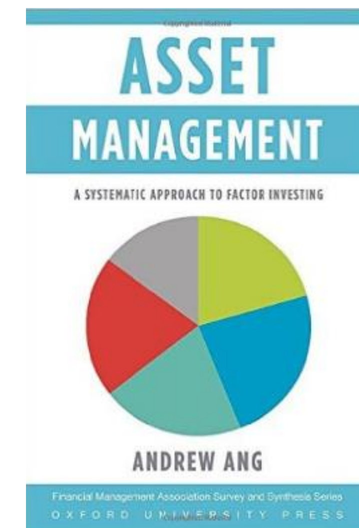
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2929270

The financial theory perspective



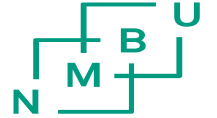
- Long-term performance is driven by the Owner's decision on how large exposure to risk; the blend of holding the market portfolio and holding risk-free assets. Return is compensation for taking risk
- In the first and simple capital market model risk is represented by one factor, the market factor, while in reality there are several more possible factors that all expresses exposure to "bad times"
- When going from the one factor to a myriad of factors we are leaving Financial Theory and move towards Data Mining and possibly quite obscure non-academic exercises. For practical purpose here we can define the key risk factor as equity market risk and have in mind that performance over some time can be correlated with other factors that are priced in the market
- The key risk taking decision for the Norwegian Oil Fund is the portion of the portfolio allocated to Equity instruments (0 in 1997, 70% of the benchmark portfolio currently)
- Also the long-duration of the 27% of the portfolio allocated to Bonds represents a very significant risk

Assets are bundles of factor risks. It is the exposure to the underlying factor risks that earn risk premiums: Compensation in equilibrium for bearing exposure to bad time



https://www.amazon.com/Asset-Management-Systematic-Investing-Association/dp/0199959323

The Asset – Liability perspective

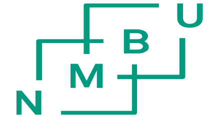


All pool of assets have a purpose – and they normally have liabilities that guide and restrict the way the assets should be managed

When comparing performance and the way assets are managed we need to have the differences in purpose and liabilities in mind

Purpose and liabilities can change over time, as for the Oil fund: It is primarily a pool of foreign financial assets to cover future import expenses to Norway. In the first phase, when the Fund was quite small, the country and currency weights were naturally tilted towards Norway's import weights. As the Fund has become very large it is naturally approaching the capital market weights, however not yet fully. Not much work has been put into creating clarity on this part of the strategic allocation (page 43 gives an example.)

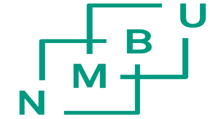
The Luck factor. Assessment of risk Ex post versus Ex ante



- It is quite common to look at ex post results as the Facts that reveal the quality of a strategic benchmark or a fund manager, when adjusted for the risk taken to achieve the return and when comparing funds having similar liabilities
- But that is only one side of the story! We cannot just look at what actually happened. We must also take into account all the other likely scenarios of what could happen at the time the initial investment decision was made
- Risk is primarily interesting as a forward looking measure. At the time of making an investment you cannot just consider one median scenario. If one other likely scenario would imply that you are “out of business” you must let that possibility inform your decision as well.

  The parallel here is buying insurance on your home. When it Ex post did not burn down that doesn’t mean your insurance cost was of no value. You were willing to pay a price for avoiding disaster. The same goes with fund management, also of very large pools of capital. The “insurance paid” to avoid disaster must be a part of the performance attribution, as also the lack of insurance / reckless “bet your farm” behaviour even for investors saved by luck
- The three funds we are looking at have all performed well. Has Luck played a role? Would any of them come into difficulties if a very negative and not unlikely scenario for capital markets had been realized (example of potential real cost: Being forced to sell risky assets at worst possible time). Is their strategy and governance structure sufficiently robust to enter a period with low return, much more volatility and fundamental shift in the way the global economy and capital markets function?

Objectives and Purpose of the three funds



GIC, Government of Singapore investment Corporation

Established in 1981 when a global investment portfolio was split out from the Central bank

GIC manages most of the Government's financial assets, investing for the long term with an aim to preserve and enhance the international purchasing power of the funds placed in its care

"We are driven by a common purpose – securing Singapore's financial future"

The net investment return from GIC, Temasek and MAS contribut to 18% of the government budget

The size of GIC is roughly 1.5 times Singapore's GDP

Canada Pension Plan Investment Board

Established in 1997

CPPIB has a singular objective: to maximize long-term investment returns without undue risk, taking into account the factors that may affect the funding of the Canada Pension Plan and its ability to meet its financial obligations

The portfolio is expected to triple in real value towards 2050, driven by positive net contributions from CPP participants and net income earned from investments

The size of the fund is relatively small compared to the GDP of Canada (20%) and future pension liabilities

The Norwegian Government Oil fund

First inflow in 1996

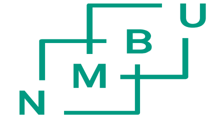
A fund for future generations. The purpose of the Fund is to support the financing of the welfare system and ensure a long-term perspective in the spending of the income from petroleum.

The objective of the investment portfolio is to maximize return given acceptable level of risk. The management must be carried out in a responsible and prudent way

About 20% of the government budget is financed from the Fund

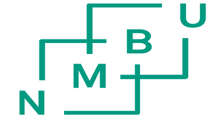
The size of the Oil fund is roughly 3.7 times Norway's Mainland GDP

Risk tolerance and risk mandate



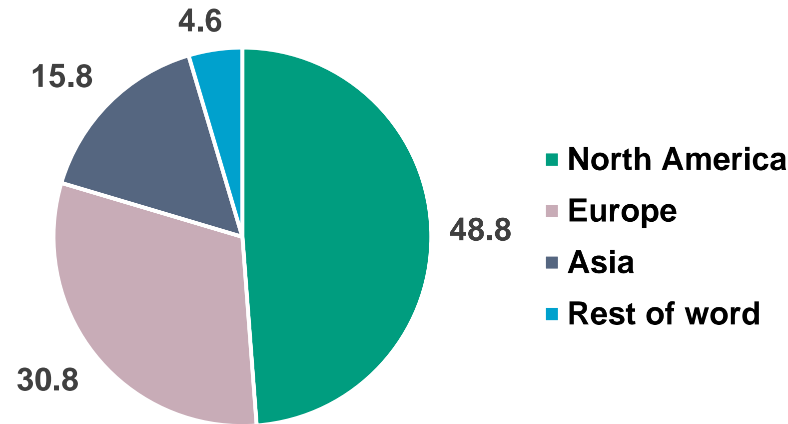
Risk owner	The government	The board of CPP	The parliament
Owner's expression of risk tolerance	Reference portfolio 65% equities 35% bonds	Minimum risk 50% global equities 50 Canadian bonds	Reference portfolio 70% equities 30% bonds
Risk mandate from Board	Policy portfolio in six asset classes Aim to reduce total portfolio risk High degree of active management in private markets	Target risk level 85% equities 15% bonds Leverage to enhance risk diversification High degree of active management	The board is basically passing along the reference portfolio and detailed guidelines from the owner Not much room for additional portfolio diversification and active management

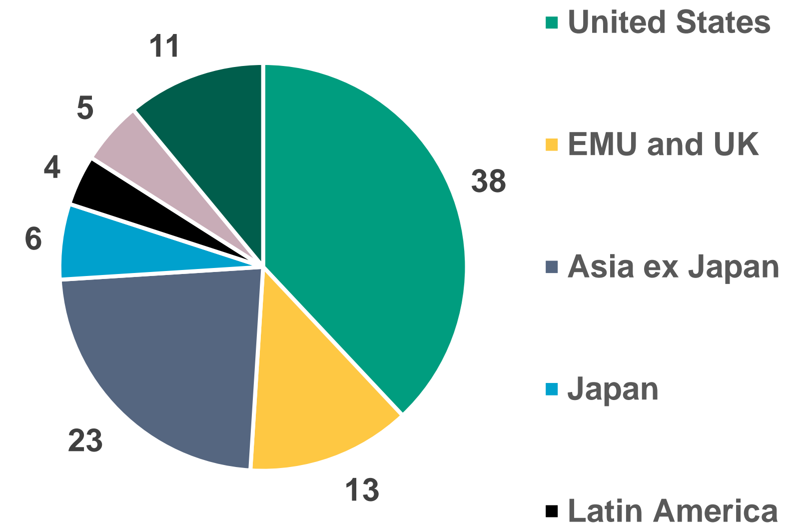
The Oil fund seems to be less diversified geographically

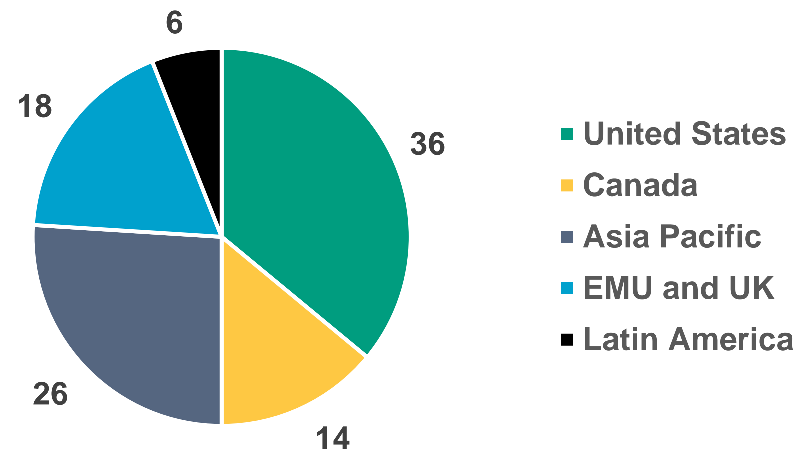


The Oil fund has a higher allocation to the US and much higher to its "home region" Europe. Less to Asia and Rest of world

GIC is the most geographically diversified fund

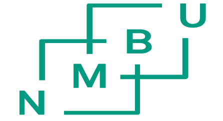






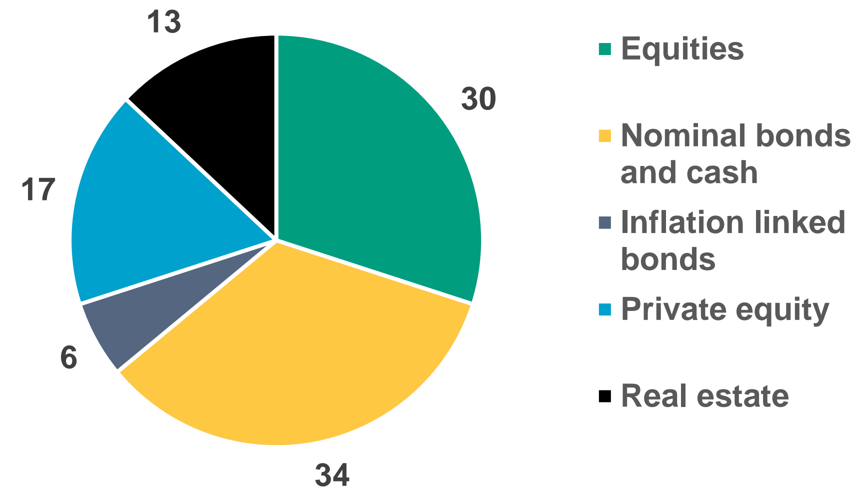
This and next slide: The graphs are only indication on the degree of diversification. More detailed analysis is required before concluding. The liability side must be included as well as the time horizon. The optimal degree of diversification is a function of the perceived asset-liability matching.

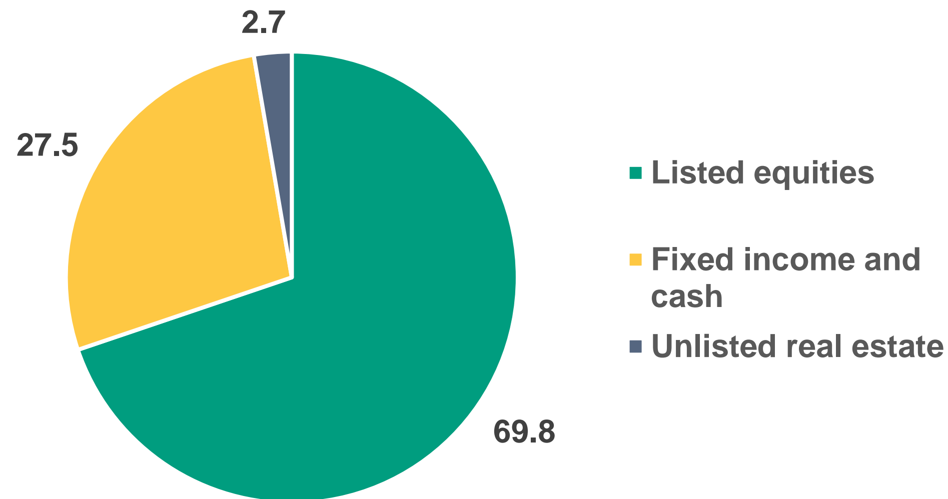
Asset allocation in the actual portfolio: The Oil fund's high exposure to public equities is an outlier

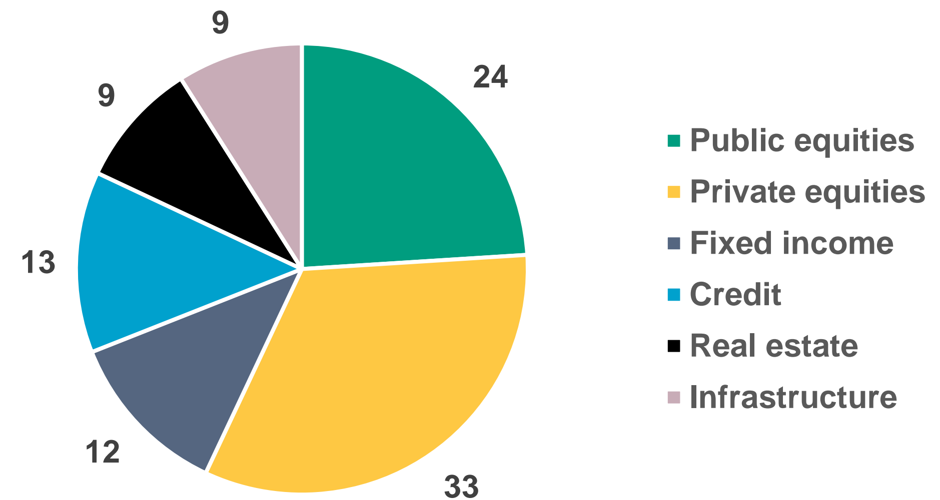


The oil fund stands out also with no allocation to private markets, except for 2.5% in unlisted real estate

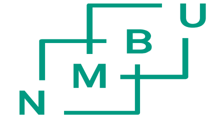
GIC and CPPIB much more diversified







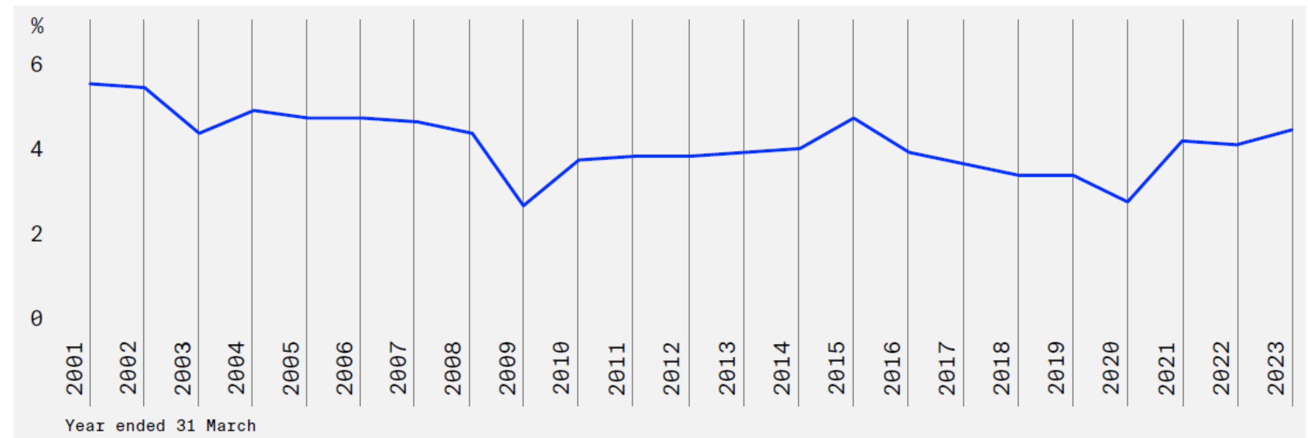
Historical performance. Comparing apples and pears



Nominal net return *)	GIC	CPPIB	NBIM
5 years average	3.7	10.0	4.2
10 years	5.1	10.8	6.7
20 years	6.9		5.6

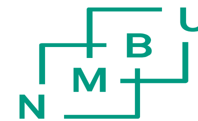
In addition to the reservations mentioned on the former pages (purpose, risk level, liabilities) other issues limiting the meaningfulness of comparing numbers: The base currencies are different (GIC in USD, CPPIB in CAD and NBIM in reference portfolio basket currency). The measure periods are not exactly the same

Annualized rolling 20-year real return of the GIC portfolio since 2001



*) Currency: GIC: USD; CPPIB: CAD;NBIM: Reference portfolio currency basket

Portfolio historical volatility (indicative measure of risk)



Standard dev of nominal return	GIC	CPPIB	NBIM
5 years average	7.9	?	11.7
10 years	7.1	?	9.3
20 years	8.8	?	9.2

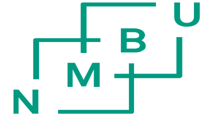
I'm not able to find comparable measures on volatility on the CPPIB website or in the annual report – in spite of massive amount of verbal information

GIC has been running with significantly less volatility than the Oil fund, in spite of having quite similar risk tolerance expressed by Owner (in fact, the risk tolerance of the Oil fund was much lower until 2007 when the equity portion was taken up from 40 to 60%)

(Please mind what I said on page 9: Ex post assessments on risk has severe limitations when it comes to reflect a realistic view on the risk perceived at the time of making an investment decision. We must also take into account what is the relevant time horizon and base currency – and consider the asset-liability matching)

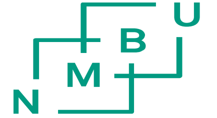
Let's drill in on the differences between GIC and the Oil fund

Why has GIC so much less historical volatility than the Oil fund (even the funds have comparable risk tolerance given by the Owners)



- Two indicative contributing factors on the former pages: Broader diversification to asset classes and to countries
- The very high allocations to nominal fixed income, cash and inflation linked bonds contributes probably much to higher stability, but has also been a drag on performance
- That may explain the lower historical returns in the last 5 and 10 years period, in addition to the lower allocation to the US that has been the best performing equity market over the last decade (in particular growth tech stocks)
- However, GIC has performed better over the last 20 years
- A hypothesis for explaining that is that the allocation to private markets, in particular private equity, has compensated for the performance loss of building a less risky portfolio
- Some of the lower volatility may be due to failures in measurement – valuation of private market assets lags the public markets and may not realistically reflect mark-to-market fluctuations (takes down GIC volatility versus the Oil fund that basically is not invested in private markets). That is even more true for CPPIB which has a larger allocation to private markets
- Lower volatility can also be explained by other risk management measures initiated by the Board. Next page

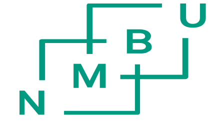
GIC: Board level decisions on portfolio risk management

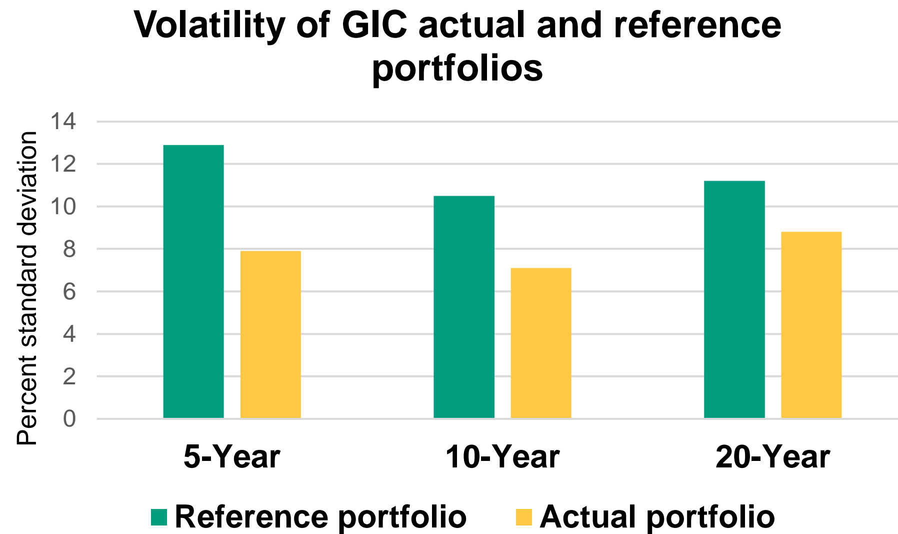


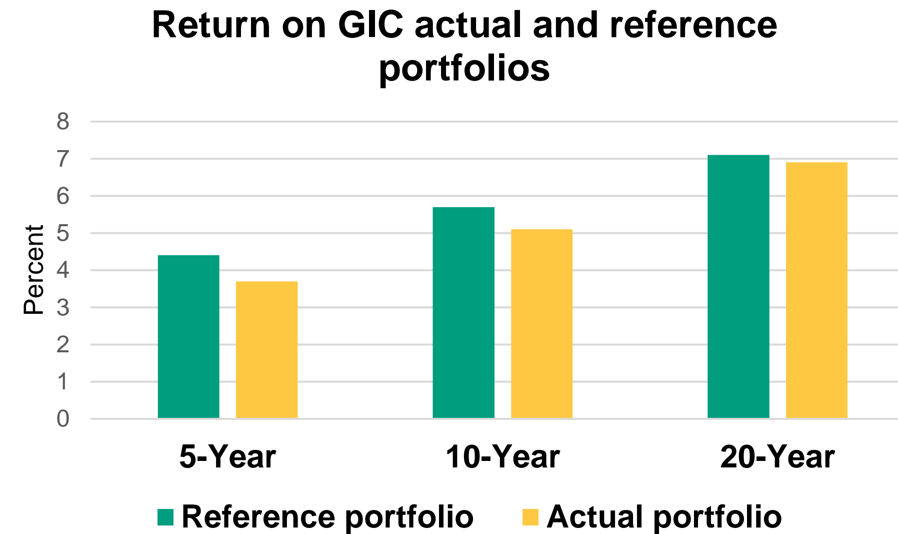
- The Board receives the risk tolerance from the Government defined as a reference portfolio of 65% global listed equities and 35% global bonds. This is not a performance benchmark
- The Board constructs a Policy portfolio in six asset classes that is much more diversified than the reference portfolio. This constitutes the performance benchmark for measuring the performance of the GIC management and for defining the risk tolerance in the active management (by a tracking error limit set by the Board)
- In addition, to ensure a very broad diversification of the portfolio, the Board manages the medium to long-term risk of the portfolio by adjusting the overall risk profile. On occasions, when the board is more risk averse than the risk profile of the Reference portfolio, such as when market exuberance leads to heightened valuations, the Board may lower the risk profile.
- One example, given high valuations, weaking fundamentals and rising market uncertainty, the Board reduced risk taking before 2020 *)

*) Based in information in the GIC Annual report, https://www.gic.com.sg/newsroom/reports/report-on-the-management-of-the-governments-portfolio-for-the-year-2021-2022/

GIC: Remarkable lower volatility of the actual portfolio compared to the reference portfolio

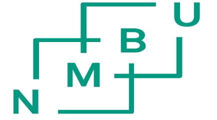




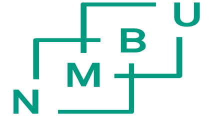


- The GIC Board has delivered a portfolio that is having significant lower volatility than the reference portfolio given by the Government
- The higher degree of robustness towards market meltdowns is achieved without sacrificing on expected return. The average return over the last 20 years has been nearly the same for both portfolios – about 7% nominal return measured in USD
- The 10 and 5 year average returns on the actual portfolio are somewhat lower than of the reference portfolio. But we should wait for more years of capital market fluctuations before it will be possible to make a judgement on the alternative costs paid to increase portfolio robustness

Examples on risk management by the Board of GIC



- As mentioned on the former pages the Board take down risk by diversifying into six asset classes
- The active management, that is followed up by the Board, also aim at extensive diversification of portfolio risk while tapping into opportunities to enhance expected return
- In the following up of total portfolio risk, the Board discuss on regular basis scenarios for market development under various geopolitical and market fundamental conditions. It run stress tests to assess possible large draw-downs in the portfolio value
- The last annual report presents example of scenario work, under the headline: “Portfolio diversification in an environment of resurgent inflation”. As inflation threatens the real purchasing power of the portfolio, and the correlation between equities and bonds can turn positive, it may be harder to achieve portfolio diversification
- “As the environment changes, diversifying our portfolio and engaging in alternative scenario planning remain at the heart of our portfolio construction philosophy.”
- “We continue to increase our investments in real assets such as real estate and infrastructure, which offer protection against inflation.”
- “Within equities, we have increased our allocation to certain high-growth asset classes, such as private equity, that can provide return that keep pace with elevated inflation”



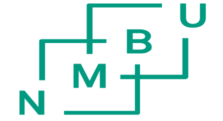
The GIC view: First thing is to protect the reserves under management

"Over all three time periods, and particularly over the last five years, the GIC Portfolio had lower volatility than the Reference Portfolio due to its diversified asset composition and pre-emptive measures to lower portfolio risk in recent years.

Over a 20-year period, the GIC Portfolio saw a similar return but with much lower risk than the Reference Portfolio.

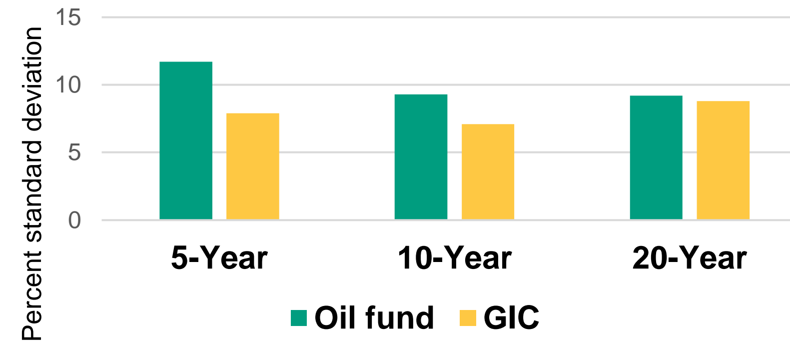
This reflects the value of our long-term investment approach and mandate, which is to first protect and then grow the reserves under our management."

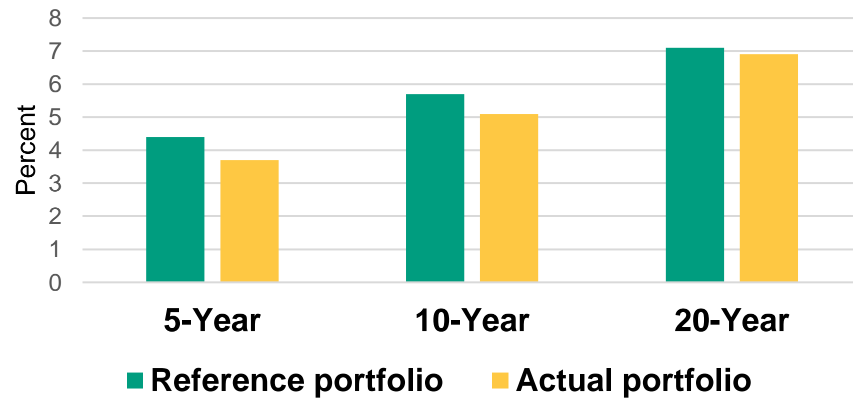
The most striking differences between GIC and the Oil fund

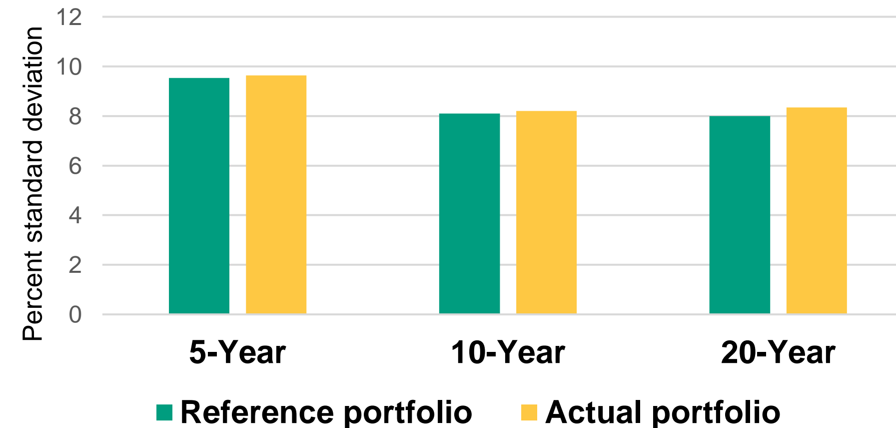


GIC is run by significantly lower historical volatility

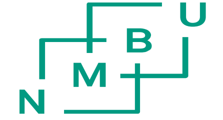
While its actual portfolio volatility is much lower than that of the reference portfolio, the Oil fund actual portfolio volatility is nearly identical to the reference portfolio





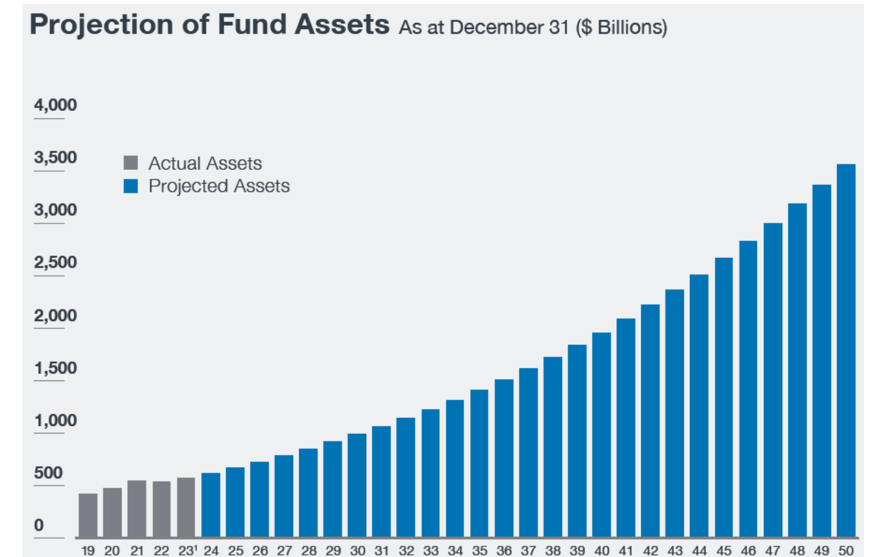


The risk management of CPPIB



According to the CPPIB website:

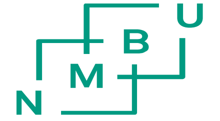
- When CPP Investments was created in 1997, Canadian legislators insisted on rules to prevent political interference with decision-making, including investment selection. That independence remains firmly in place.
- We operate at arm's length from federal and provincial governments, which is to say that elected officials have no say in the day-to-day management of CPP Investments. We also work independent of the Canada Pension Plan (CPP) itself. Our independent, highly qualified, professional Board of Directors provides oversight of the organization
- We are accountable to Parliament and to federal and provincial ministers who serve as the CPP stewards. However, we are governed and managed independently from the CPP itself, and operate at arm's length from governments.
- We have a singular objective: to maximize long-term investment returns without undue risk, taking into account the factors that may affect the funding of the Canada Pension Plan and its ability to meet its financial obligations.



These numbers are nominal. In real terms the fund is predicted to reach CAD 1500bn in 2050

https://www.cppinvestments.com/

Risk management by seeing through the lenses of asset class labels
Decompositions of asset class risk and return into their risk factor drivers

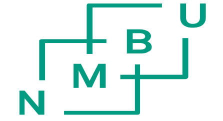


CPPIB

- We believe that conventional asset classifications by themselves do not adequately capture the highly diverse nature of the risks that each asset class is exposed to. For example, real assets such as property and infrastructure investments have attributes of both equities and fixed income in addition to their own specific attributes. Private and public investments may appear to be fundamentally similar, but their liquidity profile is materially different, as typically is their internal financial leverage or debt level. Debt securities carry a wide range of durations and credit risk. Equities vary in their geographic, sector and financial leverage exposures.

- Given these variables, we have defined several key return-risk factors that are relatively independent of each other but underlie the returns on many types of investments. We model and map our investment strategies based on the extent to which they are affected by our chosen factor set, which are then consistently used throughout our Total Portfolio Investment Framework. For example, when we construct portfolios, we determine the targeted exposures to each factor, as well as to currencies, leverage and liquidity. We also recognize the additional expected risk and returns of active management. Given these characteristics, we can analyze how major new investments or divestments might affect the exposures of the total portfolio. As markets and security prices change, we rebalance our portfolios and seek to avoid unintended factor and risk exposures.

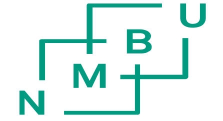
Systematic approach to decrease portfolio risk (from 85/15) by leverage and active management



KEY SOURCES OF RETURNS	STARTING POINT	PURSUING *INCREMENTAL RETURNS* THROUGH ACTIVE MANAGEMENT		
	Minimum Level of Market Risk	Targeted Level of Market Risk[2]	Diversification and Leverage	Investment Selection & Tactical Positioning
Level of Market Risk[1]	50/50	85/15	85/15	85/15
Risk Profile	Market Risk	+Higher Market Risk	+Leverage Risk	+Liquidity and Operational Risks
Cost Profile	Nominal	Nominal	+Leverage Expenses	+All Other Expenses
Expected Returns	Lower →			Higher
Plan Adjustment Risk	Higher →			Lower

1. **Level of Market Risk** is expressed in Global Public Equity/Canadian Government Bond equivalency terms.
2. **Targeted Level of Market Risk** as represented by the base CPP Reference Portfolio.

CPPIB apply leverage and active management to take down risk



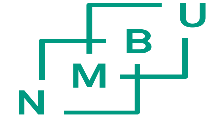
Sources of Annualized Net Returns for the Five Years Ended March 31, 2023

Contributions to Investment Selection Value-add by Active Investment Departments

Component	Return
Minimum Level of Market Risk	4.6%
Targeted Level of Market Risk	2.5%
Diversification and Leverage	(2.2%)
Total Fund Management	0.1%
Capital Markets & Factor Investing	0.3%
Active Equities	0.1%
Credit Investments	0.3%
Private Equity	1.9%
Real Assets	0.3%
5-Year Total Fund Returns	7.9%

+3.0% in net value-added returns from investment selection[1]

CPPIB Historic performance: Actual portfolio volatility lower than that of the reference portfolio



Resiliency of the Fund During Historical Market Downturns

(1-year Fiscal, % returns)

35
30
25
20
15
10
5
0
-5

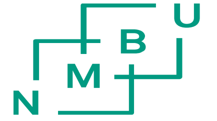
3.4%
(1.0%)
3.1%
(3.1%)
1.3%
0.1%

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

Reference Portfolios
Fund

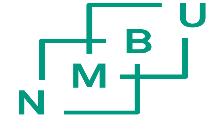
Both in 2016 and 2020 when the reference portfolio had negative return, the actual portfolio performed significantly better. The opposite was the case in 2021when the reference portfolio performed exceptionally well

CPPIB: High return on the very large allocation to Private equity

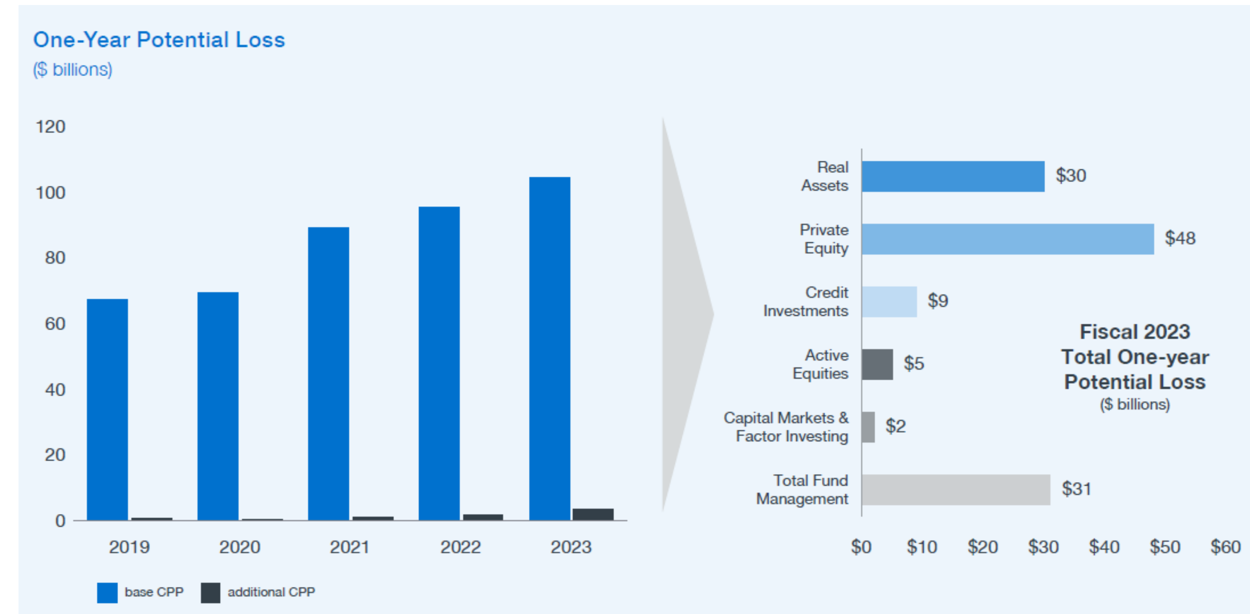


Annualized Net Returns by Asset Class	Fiscal 2023		Fiscal 2022	
	5-Year	1-Year	5-Year	1-Year
Public Equities	6.7%	0.3%	9.0%	1.3%
Private Equities	14.8%	6.8%	16.1%	18.6%
Fixed Income	0.8%	(0.8%)	1.4%	(3.8%)
Credit	3.4%	6.0%	3.4%	0.7%
Real Estate	2.9%	(1.2%)	5.0%	10.2%
Infrastructure	8.1%	5.6%	10.0%	10.8%
Total Fund[1]	**7.9%**	**1.3%**	**10.0%**	**6.8%**

One year potential loss estimated to 15 - 21% of the fund
CPPIB run scenarios on regular basis to stress test the portfolio

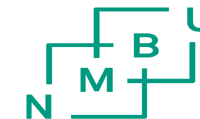


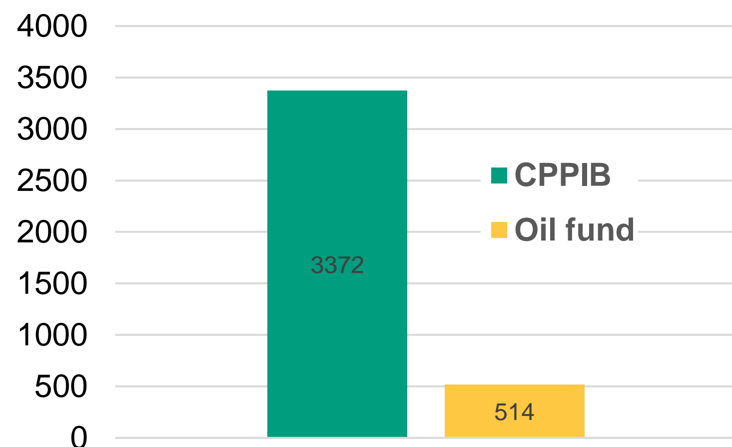
- Numbers illustrated in the graph. 18% is net after effect of diversification
- The main losses are driven by volatility and may be recovered if the markets revert to mean. The risk of permanent loss is calculated to 3%
- CPPIB run scenarios to stress test the portfolio and identify potential vulnerabilities, exemplified with:
  A repeat of the Global Financial Crisis
  Severe stress scenario; a hypothetical scenario that aggregates historical market stress events
  Comprehensive capital analysis and review; an extreme stress scenario used to assess the capital adequacy of the largest US based bank holding companies
  Also ad hoc analysis is performed

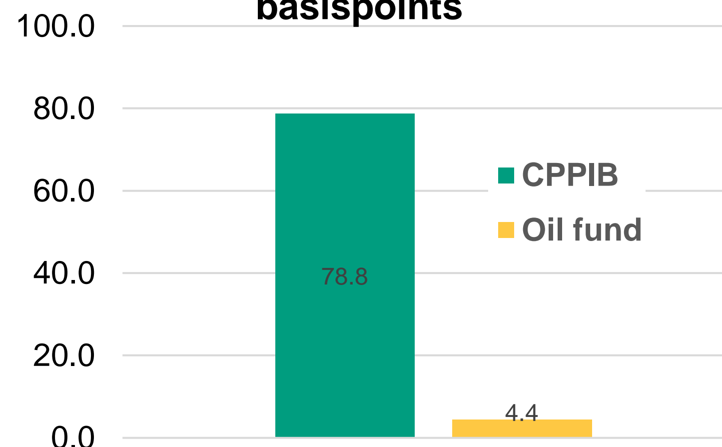


Private equity is the largest contributor to one-year potential loss. With 33% percent of the portfolio the allocation to PE as far above the peers. Over the past five years the net value added against its benchmark has been 8.7%.The high risk is driven by high leverage and the complex transaction structures related to direct private equity investments that in general have higher operational, regulatory and legal risks than indirect PE fund or public investments.

CPPIB extremely more costly to operate than NBIM
And reporting on performance lacks basic transparency





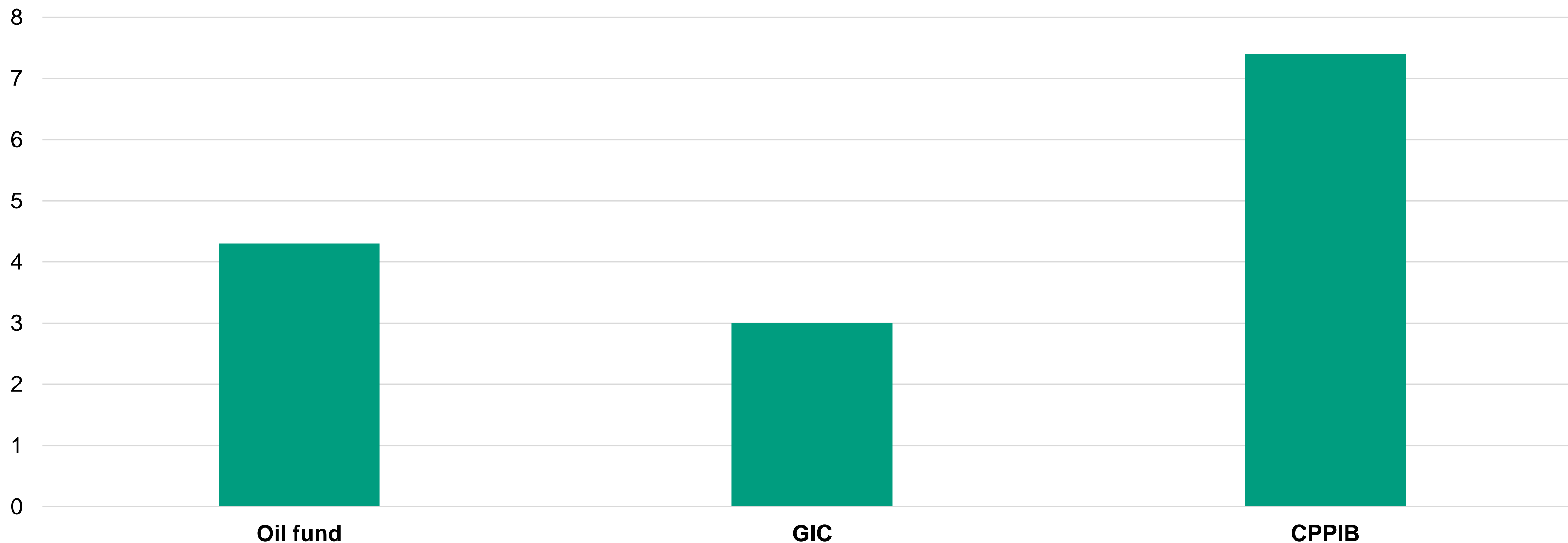


It would be great to know how CPPIB have done since inception against a low cost and stable benchmark that reflects the same amount of risks

($ millions)	Expenses Reported in Accordance with IFRS	Supplementary Disclosures[1]		Fiscal 2023 Combined Expense Profile	Fiscal 2022 Combined Expense Profile
		Expenses Incurred by Holding Subsidiaries	Fees Embedded within Investments		
Personnel	1,038			1,038	1,013
General and Administrative	502			502	415
Operating Expenses	**1,540**			**1,540**	**1,428**
Management Fees	19		1,440	1,459	1,294
Performance Fees	71		1,694	1,765	2,386
Transaction-Related Expenses	295	121		416	567
Taxes	46	140		186	292
Investment-Related Expenses	**431**	**261**	**3,134**	**3,826**	**4,539**
Financing Expenses[2]	**2,147**	**208**	**–**	**2,355**	**(16)**

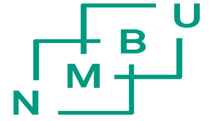
Amounts in NOK million	2022		2021	
		Basis points		Basis points
Salary, social security and other personnel-related costs[1]	1579		1102	
Custody costs	473		468	
IT services, systems, data and information	632		591	
Research, consulting and legal fees	247		210	
Other costs	274		232	
Allocated costs Norges Bank	339		301	
Base fees to external managers	963		896	
Management fee excluding performance-based fees	**4 508**	**3.8**	**3 801**	**3.3**
Performance-based fees to external managers	718		840	
Management fee	**5 226**	**4.4**	**4 640**	**4.0**

But what matters: CPPIB is achieving much higher net return



*) Currency: GIC: USD; CPPIB: CAD;NBIM: Reference portfolio currency basket

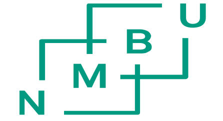
Reflections on the differences between GIC, CPPIB and the Oil fund



- All three funds serve broad constituencies; the born and unborn populations of their countries
- While CPPIB seems to be kept totally independent from the government when it comes to setting strategy and implementation, GIC and the Oil fund are run very close to their governments, as is very natural for fund delivering important income to finance their budgets (20 – 25% of total expenses annually)
- CPPIB is running with a higher risk (85/15 versus 70/30 and 65/35 in Owners' defined risk tolerance). While it diversifies extensively, even with help of leverage, it remains to be seen how a portfolio with leverage and 32% allocation to private equity will perform if the fund run into years of market turbulence, even higher rates, liquidity constraints, continued depressed IPO market and lackluster equity market return
- As CPPIB don't seem to present its performance against a clearly defined reference portfolio over its 25 years of history and the reporting on hard data seems insufficient, it's not easy to make up an independent and informed opinion on the quality of the management and whether the building of a very large investment staff is justified
- GIC report much less data, although improving over the last years, but present at least portfolio performance and volatility against reference portfolio over 5, 10 and 20 years periods. It's discussion in the annual report on the current and future investment environment reveals very relevant and important information on how the Board and Management perceives risks and opportunities
- The Oil fund is an outlier when it comes to low costs and utmost transparency. Nearly everything of data needed to assess performance is available on the website. However, not much interesting information presented on how the Fund assess possible changes in market paradigms
- It is also an outlier regarding: Less important role for the Board, low degree of diversification and high risk in the actual portfolio, no flexibility in adapting to fundamental changes in the geopolitical and economic environment. More on this in the next section

Section 2:
Perspectives on the management of the Oil fund

Why is the Oil fund managed with much higher volatility than GIC?

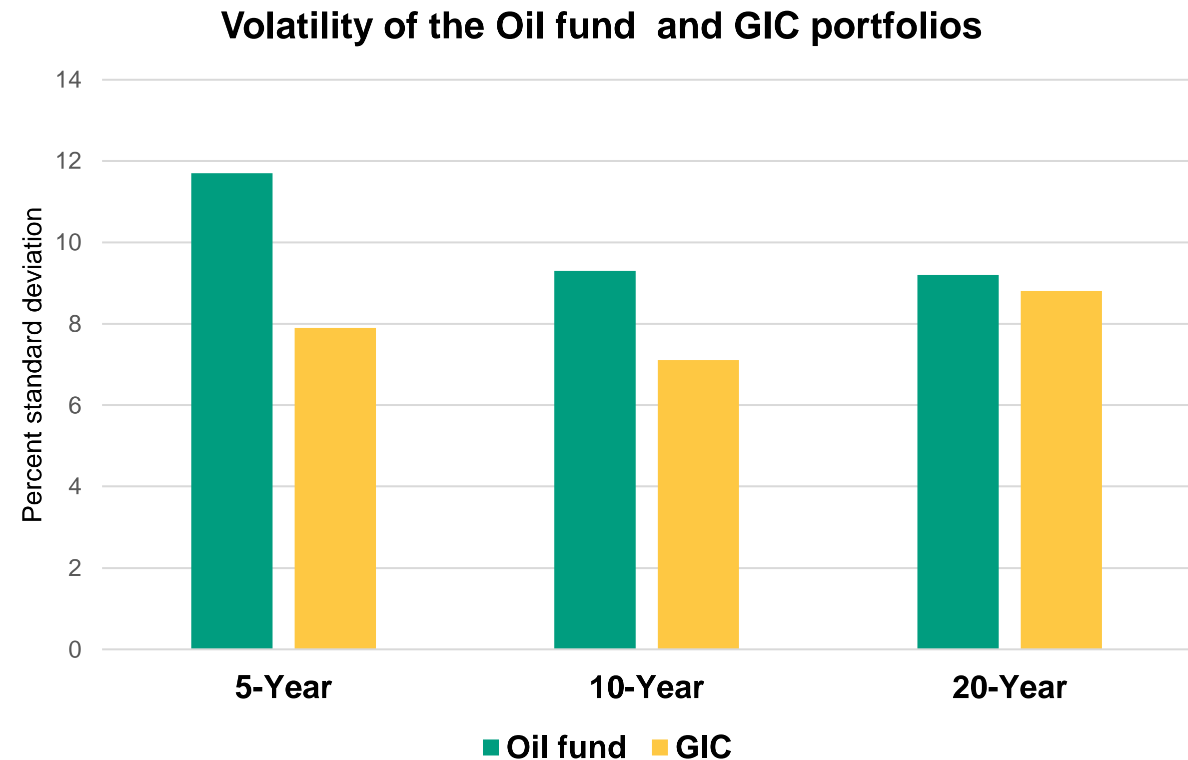


Both funds serve the long-term financing of small, open economies and are accountable to above 5 million people and future generations

The overall risk tolerance by the Owner is expressed in quite similar way

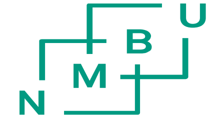
Expected returns on the portfolios are probably quite similar

But GIC seems to take much less risk



Please mind what I have said on the former pages on volatility as a poor measure of risk. All risk assessments ex-post must be viewed in the context of the ex-ante situation and the other possible scenarios (page 9). Time horizon, currency and liability side must be included in a thorough analysis.

The Luck factor – The performance of the Oil fund has been unbelievably good



This graph is from the Sverdrup commission (see weblink below and several more slides) and illustrates that the performance of an Oil fund like portfolio since 1980 has been exceptionally good – beyond imagination

What can explain this?

What can we expect over the next decades?

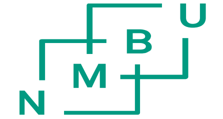
100
10
1
0,1

1971 1973 1975 1977 1979 1981 1983 1985 1987 1989 1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015 2017 2019 2021

SPU Median 50% sannsynlighet 90% sannsynlighet

https://www.regjeringen.no/no/dokumenter/nou-2022-12/id2928618/

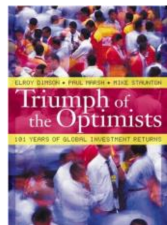
The last 40 years have been exceptionally good for bond investors



Real accumulated value of USD 1 invested in 1900 in global markets

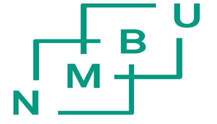
Log scale

Since 1981, when inflation in US approached 10% and long-term interest rate 14%, followed 40 years of inflation and interest rates in secular decline. A portfolio fully in bonds would have returned 3.4% in real terms Expected return now is just enough to beat inflation (GIC annual report)



Dimson, Marsh and Staunton, “Triumph of the Optimist”, updated data by Morningstar and Credit Suisse, https://www.credit-suisse.com/ch/en/about-us/research/research-institute.html

60/40 portfolios have delivered strong return
Drawdowns following the burst of the tech bubble and the global financial crisis has been moderated by negative correlations between bonds and equites



Maximum real total return 60/40 drawdown (daily data where available)

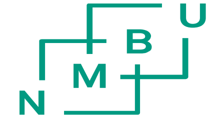
0%
-5%
-10%
-15%
-20%
-25%
-30%
-35%
-40%
-45%
-50%

1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000 2010 2020

10-year drawdown
1-year drawdown

Goldman Sachs

40 years of secular super-cycle of strong asset returns

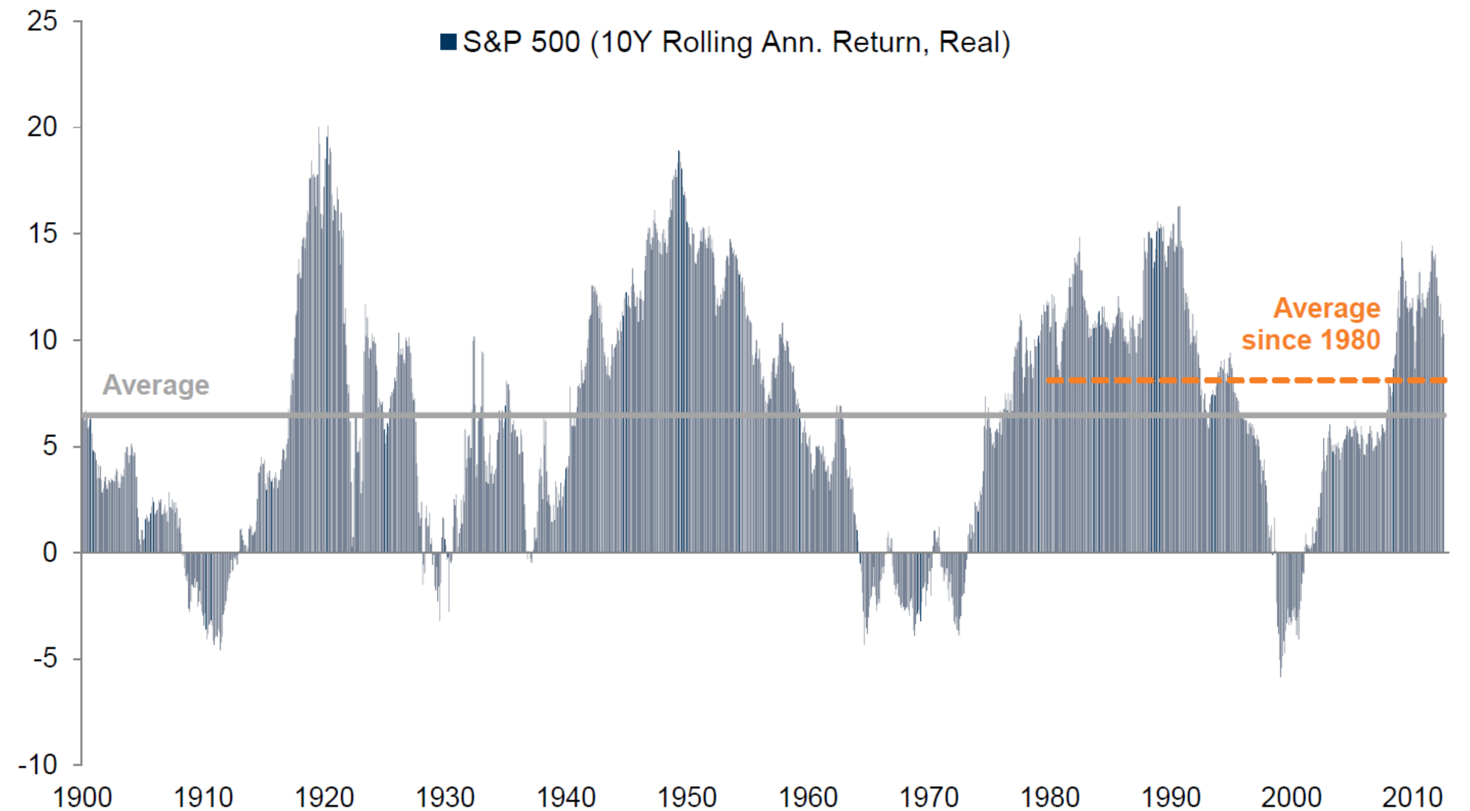


Four secular trends led to a secular super-cycle of strong asset returns, with a high proportion of returns coming from valuation expansion:

1. Disinflation - the collapse in inflation and interest rates
2. De-regulation - supply-side reforms, and lower taxes
3. De-escalation - lower geopolitical risk premia (post the collapse of the Soviet Union and US hegemony)
4. Globalisation - the entry of India and China into the WTO
5. Digitisation - the emergence of the digital economy
6. Monetisation - the emergence of zero interest rates and QE post the GFC.

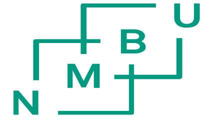
10-year rolling real returns in US equities bought between 1982 and 1992 annualised at around 15%

US equities 10-year subsequent real returns (rolling)



Goldman Sachs

The Sverdrup commission report September 2022
The Fund in a changing world. Lower expected returns, pressure on making withdrawals of public expenditures may increase

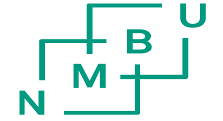


- The Fund is facing a changing world in several ways. Petroleum revenues are currently very high, but will eventually decline. The upheavals taking place in international politics and the international economy will also bring change, uncertainty and risk. Norway will face difficult dilemmas, and will also in the future need to face difficult trade-offs.
- This report analyses key developments and uncertainties. We discuss the Fund's ability to bear different types of risk, of both a financial and non-financial nature, which should be considered by those directly involved in managing the Fund, but also by politicians and the population in general. The outlook is uncertain, but several factors point to a higher likelihood that company earnings and the return on the Fund's investments will be lower than before, while the pressure to make withdrawals for the funding of public expenditure may increase.

The Commission was appointed by Royal Decree in 2021 to examine the Government Pension Fund Global (GPFG) in a long-term perspective. The Commission was asked to analyse how various international economic and political developments may affect risk and return, as well as to assess the implications of these developments for the management of the GPFG.

https://www.regjeringen.no/no/dokumenter/nou-2022-12/id2928618/

The Sverdrup commission: The factors leading to high asset returns will not repeat itself



Norway should be prepared for lower and more uncertain returns on the Oil fund. Fund returns depend on cash flows from company earnings and debt servicing on the part of companies and authorities. There is a broad range of potential outcomes, but we note that a continuation of the high real returns from the GPFG's first 25 years would not seem the most likely outcome for the next 25 years. Some of the factors:

The sharp decline in corporate taxes will and cannot be repeated. Tax burden reduced from 39.3% in 1995 percent to 18%

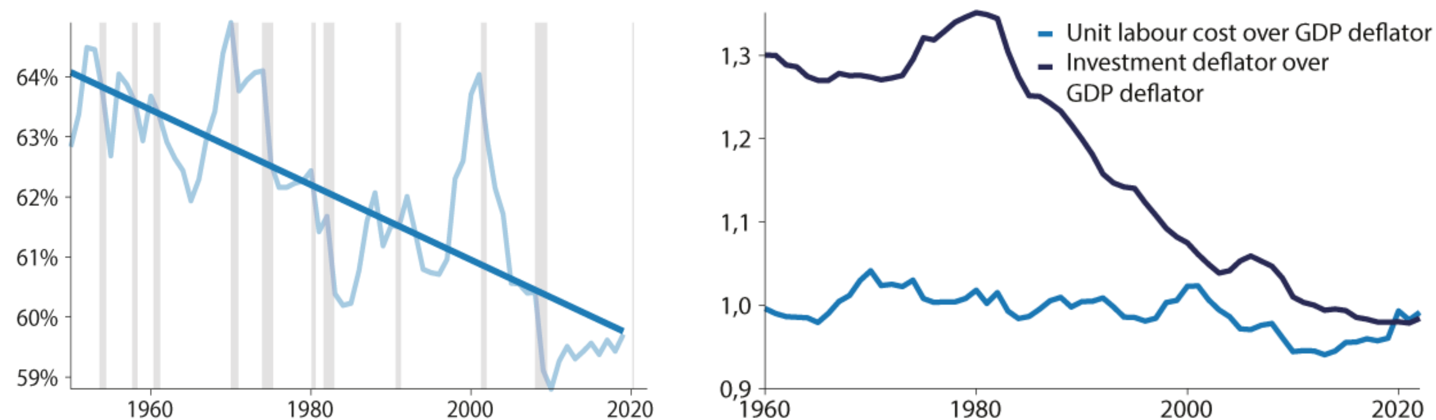
Same with the interest rate burden that has fallen from 23.1% to 7.9% (level of gearing quite constant)

and reduction in tariffs, down from 8% mid 90s to 3% in 2017

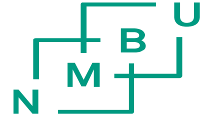
Another factor contributing to higher profit margins has been a significant decline in relative cost of capital, driven by globalization, efficient supply chains, production in low cost countries, mobility of capital and digital communication, see second graph below

Labor income as share of GDP, US

The decline increased profit margins – but is it socially acceptable?

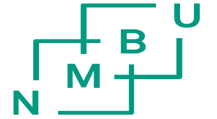


The Sverdrup commission: Higher financial and non-financial risks



- **Norway and the Fund are facing considerable climate risk**
- **Demographic developments affect economic development and political power**
- **A lack of consensus about continued economic integration inhibits growth**
- **Political risk is becoming more important**
- **Globalisation has been of great benefit to the world, but also brings challenges**
- **The political landscape has changed**
- **Towards a more distinct decoupling of the world**
- **Economic and financial measures are mobilised as foreign policy tools**
- **We are experiencing a mounting political desire for greater cohesion between politics and the economy**
- **Rivalry may have fundamental implications**
- **Systems of government are changing**
- **The GPFG may be faced with market access problems**

Other similar views on the future market environment



GIC, from the Annual report

…both domestic and international politics continue to fragment. Income inequality is polarising countries around the world, while intensifying rivalries between key economies are contributing to an increasingly fractured global power structure.

The ensuing political and policy uncertainties are making business and investment planning for the long term difficult.

If this continues, the resulting frictions and the potential decoupling of the global economy will raise business costs and lead to higher investment risks as well as lower investment returns.

We have doubled down on our core investment principles - a continued commitment to portfolio diversification, taking the long view, and the ability to prepare, not predict.

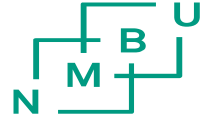
As we navigate a world in flux, we remain clear about our strengths and limitations and are ready to pivot as new challenges and opportunities arise.

Engaging in alternative scenario planning is one example of how we proactively identify and mitigate our exposure to market vulnerabilities

Goldman Sachs on the next decade

1. Disinflation to inflation, and from negative to positive interest rates: this should mean lower aggregate returns and less room for valuation expansion to be a driver of returns.
2. Globalisation to regionalisation: A combination of geopolitical issues, decarbonisation (internally the cost of carbon) and technology are changing the patterns of supply chains. This should raise costs but lead to different opportunities.
3. Cheap & plentiful, to scarce & expensive labour and energy: A decade or more of cheap input costs has boosted margins, but not productivity. Higher input costs will put downward pressure on margins but incentivise productivity-enhancing investment.
4. Low capex to more spending, together with larger government with more debt and intervention: Capex has weakened in recent years while opex on software has increased. A greater focus on priorities such as defence and alternative energy supplies is likely to boost physical infrastructure spending. Governments are also likely to become more interventionist on regulation and spending.
5. Growth to margin scarcity: The last cycle rewarded high growth (even in loss-making companies). The focus on margin and cash flow sustainability is likely to increase as investors switch from focusing on valuation-led returns towards compounding returns.

The derailing of a meaningful debate in Norway

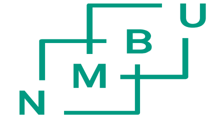


- The Sverdrup commission report raise fundamental challenges to the way the Oil fund is managed, the strategy that guides the management and the process of arriving to the appropriate strategy
- Best practice examples of other national financial investment entities can inspire rethinking of the way Norway manages its Oil fund
- However, two issues drain out much of the capacity for public debate and derail the discussions from the really important issues:

- **Active or passive management?**

- **Should NBIM continue to operate inside the Central bank?**

One of the least important questions: Should the Fund be managed passively?



The Oil fund has tracked the reference portfolio closely since inception – closer than many index funds

The expected return contribution from changing the room for active management is miniscule compared to the impact related to the composition of the reference portfolio

Said in another way: It is no neutral starting point from where all deviations are "Active management" or "Bets"

The "Market portfolio" could serve that role, but as we all know it is hard to define an investable approximation of it that everybody acknowledge as the neutral portfolio

All decisions that deviates from the theoretical definition are "active decisions". The key strategic issue is to achieve a broad exposure to the whole capital market at low cost

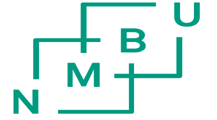
100% passive – the investment decisions of the world's largest single pool of international assets being decided by commercial index providers in London or New York

Both selection of benchmark and the implementation of the asset management operation should take place with full accountability

The standard deviation of the return of the reference portfolio light blue) and actual portfolio (dark blue). Nearly identical

https://www.regjeringen.no/no/dokumenter/meld.-st.-9-20212022/id2906344/

Active versus passive management (2)



- From the start we knew that the key return drivers of the fund would be market risk premiums
- For a large fund you will come close to broad market exposure in any case, regardless of how much you allocate to active management
- By building the core portfolio close to broad marked indices you can harvest the risk premiums with lowest possible costs
- On the margins the Fund can earn significant additional return by deviating from the benchmark
- Active risk management can take down the total risk of the portfolio
- A system for downside protection can be built without becoming procyclical

The art of making good investment decisions

Speech to the CFA Society of Norway, 22 November 2022

By Knut N. Kjær *)

Making the right calls in investments is an art. It helps to apply a good process. It also helps to have an academic understanding on how markets price risk. Every new decision is unique. As they are forward looking and history never repeat itself, you will always have to take risk. Failing is a part of the game. How you learn from mistakes and improve on the process is an element in the art of investing. To be successful as investor you need a wise understanding of who you are and how cognitive biases might affect yourself and the investment process.

I'm intrigued by the complexity of investment decision making. Many thanks for inviting me to speak on this topic today. It gives me an opportunity to stop and reflect over the various experiences I have made during my life as investor and leader of investment organizations. When we now make this journey together you will sense my passion for the topic! I recall with pleasure quite many seminar presentations to CFA societies various places in Europe and have always enjoyed the interaction with an audience willing to dig deep into the core of financial theory and practice.

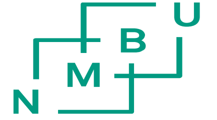
Disclaimer

This is a somewhat extended version of the speech. Work in progress to edit and add some more key points. I'm happy to receive comments and suggestions to knkjaer@gmail.com. All views here are mine only and do not represent positions of any of the investment companies I'm currently and formerly related to.

*) Professor II at the Business School of the Norwegian University of Life Science (NMBU)

https://media-exp1.licdn.com/dms/document/C4D1FAQFebJbZRWheMw/feedshare-document-pdf-analyzed/0/1669381124907?e=1670457600&v=beta&t=juXLhet8hflMxUFgP_hVkuxyvLESEBGM9XXHcpvq_6U

25 years of NBIM – Building a performance culture



Vision from May 1997, when we planned for establishing NBIM january 1998

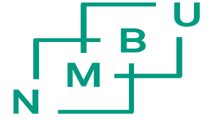
NBIM shall build up a competency to the very best international standard in asset management on the international markets, gaining excess return against a defined benchmark by utilizing risk parameters in an optimal way. Considerable emphasis is placed on risk management, control and reporting. The department NBIM, as well as each individual NBIM employee, shall portrait a trustworthy entity to the surrounding world

Key drivers and success criteria's

- Chinese Walls to the rest of the Central bank operations – based on cultural arguments (asset management is business activity very different from running a central bank) and the importance of not to leaking information from the Central bank operations to international investments, and to have independence to act during crisis
- Clear performance ambitions, measurement and accountability. Activities not performing would be closed down
- An academic understanding of how financial markets work; deep respect for market efficiency and humility on own ability to do better than the median market player after costs, application of the Fundamental law of active management

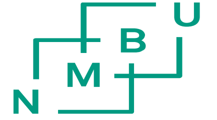
https://www.amazon.com/Active-Portfolio-Management-Quantitative-Controlling/dp/0070248826

The importance of measuring the quality of active management



- A key part of the Norwegian model from the outset in 1998 was the clear definition of roles. NBIM was given a transparent and well defined benchmark together with risk guidelines
- The clear goal on beating a benchmark has been a key driver for building a business and performance culture of NBIM
- The quarterly reporting and press conferences did partly focus on active management performance
- The Ministry of Finance has four times appointed expert panels to dig deeply into the active management performance of NBIM; first report delivered in 2009, https://www.regjeringen.no/globalassets/upload/fin/statens-pensjonsfond/eksterne-rapporter-og-brev/ags-report.pdf, one in 2014, https://www.regjeringen.no/globalassets/upload/fin/statens-pensjonsfond/eksterne-rapporter-og-brev/2014/angbrandtdenison_2014.pdf, one in 2018, https://www.regjeringen.no/contentassets/7fb88d969ba34ea6a0cd9225b28711a9/review_dahlquistodegaard_2018.pdf, and the last in 2022, https://www.regjeringen.no/contentassets/8a415dfc9935480dbf891923c9ac848b/Evaluation_GPFG.pdf
- Such independent reviews are important to build trust in the way the Oil fund is managed

We don’t have the same degree of accountability when it comes to measuring the performance of the benchmark decisions

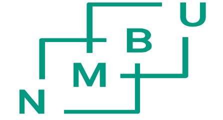


While the performance of the NBIM management against the reference portfolio has been thoroughly analyzed by independent experts four times, it is not yet made any similar review of the quality and performance of the work done in the Ministry of Finance by setting benchmark and all the subsequent changes and modifications - against the market portfolio and global best practice

Sverdrup commission:

The Commission would recommend the Ministry of Finance to systematically and regularly review the investment strategy and to assess, in view of new developments and new knowledge, whether there are measures that might serve to improve the ratio between return and risk, including potential modifications to the composition of the benchmark index and the mandate for Norges Bank’s investment management, to ensure that the Fund can continue to make the most valuable contributions possible to fiscal budget funding.

Rare example on critique against benchmark decisions



An independent investment advisor, Trym Riksen, pointed in an article in June 2021 at a potential loss of NOK 600bn due to the reference portfolio deviations from the market portfolio

That potential loss is way above normal contributions from the active management by NBIM

Riksen relates the loss to the overweight of Europe and underweight of USA versus the market portfolio and questions why the Ministry of Finance did not implement the advice from Norges Bank given in 2010 and 2012 to approach the market weights

Trym Riksen
Trym Riksen, leder av porteføljeforvaltning i Gabler

Finans

Innlegg: Oljefondets skjulte giganttap

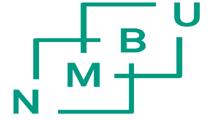
Få fond har vært mer under lupen enn Oljefondet. Likevel går et veddemål som har kostet det norske folk 600 milliarder kroner, under radaren.

ABONNENT 2 MIN | PUBLISERT: 15.06.21 — 08.46 | OPPDATERT: ETT ÅR SIDEN

Norges Banks forvaltning av Oljefondet følges med lupe, mens Finansdepartements bidrag til forvaltningsresultatet skjules bak et slør, skriver Trym Riksen. Finansminister Jan Tore Sanner (H) fremla årets stortingsmelding om Oljefondet 9. april. (Foto: Fartein Rudjord)

Dagens Næringsliv, 15 June 2021
https://www.dn.no/marked/finans/kapitalforvaltning/oljefondet/innlegg-oljefondets-skjulte-giganttap/2-1-1024704

Valuable insight and information: The NBIM publication “Investing with a mandate”

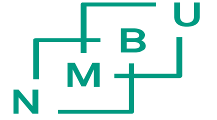


- The choice and evolution of the benchmark index have been rooted in long-term viability rather than any market view or circumstance. Decisions have taken time so as to be anchored in the governance structure, and the process has been transparent so as to ensure legitimacy. Changes to the benchmark index have been gradual, and implemented over time even when market conditions were challenging.

- Our aim with reviewing the investment strategy is to shed some light on these important decisions and learn from our own story in order to better support the overall objective for the management of the fund going forward.

https://www.nbim.no/en/the-fund/news-list/2020/investing-with-a-mandate/

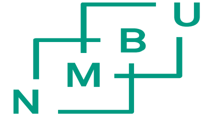
The answer is: NBIM shall still be a part of the Central bank



But what was the question?

- When the mandate of the Sverdrup commission was announced in September 2020, 90% of the public debate was on the last sentence of the mandate: Does the findings by the commission lead to a recommendation to take NBIM out of the Central bank?
- The Sverdrup commission raise many important issues that should be discussed independent on the reporting lines of NBIM, for example:
  - What will be the key future geopolitical and economic risk factors?
  - How may the capital markets be affected? What about the expected returns?
  - What challenges may this raise for a global investor like the Oil fund?
  - There are challenges on the liability side too, with potentially more pressure to spend from the Oil fund
  - How should the strategy setting and the implementation of the asset management respond to an environment of high uncertainty and volatility, lower expected return and potentially challenging changes in the geopolitical environment?
- These issues must be handled by the Parliament, the Ministry of Finance and the Board of Norges Bank. Much can be done even reporting lines stay the same

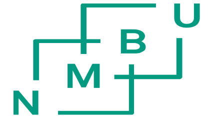
Concluding remarks: Lower expected return, a complex and more volatile risk situation. More flexibility required in investment management



Some of the conclusions from the Sverdrup commission:

- Weaker investment performance and higher financial and non-financial risk may challenge several principles underpinning the Oil fund investment management model to a greater extent and in different ways than we have been used to.
- A more volatile risk situation also necessitates a certain flexibility in investment management.
- The investment strategy should be reviewed on a more regular basis in response to a more unsettled investment outlook.
- The Ministry of Finance should review the mandate to ensure that Norges Bank's strategy and risk taking are in conformity with the overarching interests of the GPFG. While the governance structure needs to provide clear lines of responsibility and facilitate good governance, it should be considered whether it might be appropriate to have a somewhat more general investment mandate that stipulates applicable investment management principles.

Higher risk. More diversification required



Geopolitical tensions and the likelihood of decoupling may narrow the future geographic investment universe of the oil fund significantly

That makes it even more important to find other ways of improving portfolio diversification:

Applying the whole capital market structure
Not only listed equities – also private markets. An increasing share of value creation takes place in the private markets. Much of the capital funding of the green energy transition will happen outside the listed markets
Unlisted real estate should be reintroduced as a separate asset class with meaningful allocation
Higher allocation to unlisted infrastructure

Use risk factor based approach to compose a more robust portfolio
Ref the page with example from the CPPIB approach. Also other larges and well respected investors, as Ontaria Teachers, have experience from a risk factor based structuring of the portfolio

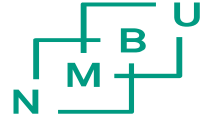
Higher risk. More downside protection required

- The Sverdrup commission draw up several quantitative scenarios: Historical crisis, Deglobalisation and Stagflation – and some qualitative scenarios, one of them is “the Fund is depleted”
- The report remind us that we cannot take a continued growth of the Oil fund as given. Under some circumstances, as a combination of a large and long-lasting fall in asset value and large withdrawals, the Oil fund may tip into a negative spiraling path, while the Norwegian economy has become less resilient and competitive and infected by the “Norwegian disease”
- Two possible take aways from this:

  The risk tolerance, asset management strategy and the decision rule on withdrawals should be reconsidered in the context of the Sverdrup picture and the “liability side of the Norwegian economy” – the overall vulnerability of a small, open economy and the correlations between the key parts driving the asset return and those contributing to the robustness of the economy

  The Board of NBIM should follow the examples from GIC and CPPIB and create scenarios on a regular basis, stress test expected performance on the total portfolio against guidelines on maximum expected shortfall, and on annual basis inform the public about their view (and always when appropriate, inform the Ministry of Finance when change in the mandate is required)

More responsibility for the Board of NBIM



Although the Norwegian model has functioned very well over more than 25 years, the Sverdrup commission and learning from global best practice should inspire:

- Rethinking of the investment mandate from the MOF; from being extremely detailed to be more concentrated on the key risk parameters, while still keeping the board of NBIM accountable for performance.
- Put in clear expectations that the Board of NBIM set up a policy portfolio with much higher degree of portfolio diversification than in the new and more simple version of the reference portfolio
- Require from the Board of NBIM to come up with a system of monitoring geopolitical and market fundamentals, update scenarios and establish a system for downside risk protection during exceptional circumstances
- Strengthen the competence in the governance structure with appointing an independent council tasked with examining and evaluating various aspects of the Fund, including geopolitical issues (as suggested by the Sverdrup commission)