



# Norway vs Yale vs Canada: Weighing Up Investment Models for the Long Term



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Against the background of a modest equity premium that is forecast to be only 3-3.5 percent for the foreseeable future,<sup>1</sup> what's the best way for long-term investors to deploy their capital? That was the pressing question debated by more than 50 senior delegates from some of the largest sovereign institutions and endowments in the world at a Cambridge University conference sponsored by BNY Mellon and its affiliate The Newton Group\* ("Newton").

Moderated by Professor Elroy Dimson and David Chambers of the Judge Business School, the three-day conference in March examined three of the most prominent and innovative investment models for sovereign institutions and endowments: Norway, Yale and Canada. At a time of growing concern about uncertain markets and lower-for-longer investment returns, the case studies aimed to uncover insights and best practices that might apply to a broader range of long-horizon investors. The discussions raised important issues around harvesting factor-based risk premia across public and private markets, manager selection and the growing trend among large sovereign institutions for direct investing or co-investing in private equity.

## **NORWAY: THE PEOPLE'S FUND**

Norway's Government Pension Fund Global (GPF), the first investment model under consideration, stands out not only because of its sheer size, but also because of its nearly exclusive emphasis on public equity and bond markets; its use of limited active management and mostly external managers with resulting low costs; a commitment to responsible investing; and a remarkable degree of transparency. One of the largest sovereign wealth funds in the world, it stood at \$805 billion at the end of 2014. The fund invests in 9,000 companies in 75 countries, holding, on average, more than 1% of all stocks in the world and almost 2% in Europe as well as a substantial amount of the world's bonds. Increasingly its scale presents growing challenges in terms of its investment opportunity set.

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<sup>1</sup> Professor Elroy Dimson, Judge Business School, Cambridge University.

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The fund was set up in 1996 to manage the substantial revenues accruing to the country after oil was finally struck in 1969 after many years of failed exploration in the North Sea. Norges Bank, which manages the fund, prominently displays a real-time market value of assets on its homepage, with detailed information about the fund's current holdings (61.3% equities, 36.5% bonds, 2.2% real estate) and performance. As an introductory video states, this high degree of transparency and alignment with national social and environmental goals are due to a simple fact: "It is the people's money."

The fund serves two purposes for Norway: first, it provides a long-term savings vehicle for sharing the wealth from natural resources with future generations, using the savings to finance the costs associated with an aging population. It is also meant to shield Norway's economy from the so-called "Dutch disease," by which a sudden increase in natural resource wealth can reduce a country's international competitiveness and dynamism by fueling inflation and currency appreciation. The fund invests in a globally diversified portfolio of public equity and bond markets, all outside Norway.

The Ministry of Finance, which has been guided by the country's central bank from the earliest days of the fund, decides on the levels of acceptable risk as well as determining regional allocations, asset classes, maximum ownership levels and the overall investment universe. The Ministry submits investment strategy changes to parliament for approval before implementing them, in an effort to maintain public support and understanding.

The fund has a rigorous asset allocation that allows little deviation from the strategic policy portfolio and has taken a very incremental approach to expanding the scope of its investments. It first added stocks in 1998, emerging markets in 2000 and a very small allocation to real estate in 2011 (while the fund is allowed by law to allocate up to 5% to real estate, the current exposure is just a little over 2%). In general the fund depends on beta returns rather than alpha returns, seeking to harvest factor risk premia from public markets and engaging in automatic rebalancing.

Like many other investors, Norway's fund suffered major underperformance during the financial crisis. During 2008, the value of the fund fell by 23.3% on an absolute basis. Those losses led to public calls to de-risk the portfolio by taking fewer active bets, which the Finance Ministry resisted. In the event, the fund recouped all its previous underperformance against the benchmark by the end of 2009. From 1998 to the end of 2014, the fund generated an annualized return of 5.8%. Measured in the fund's currency basket after management costs and inflation, the return was 3.8% (the return in dollars was 6.3%). This is in comparison to the fund's anticipated long-run annualized real return of 4%.<sup>2</sup>

### YALE'S BIG BET ON ILLIQUIDITY & MANAGER SELECTION

In many ways Norway's more traditional investment model is the polar opposite of Yale's approach, with its emphasis on active management, external managers and large allocations to illiquid investments in private, alternative markets.

In fiscal 2014, Yale's endowment generated a 20.2% return, producing an investment gain of \$4.0 billion.<sup>3</sup> Over the past ten years, the endowment has nearly doubled from \$12.7 billion to \$23.9 billion, a fraction of Norway's size, but second only to Harvard among its university peers. With annual net ten-year investment returns of 11.0%, the endowment's performance has exceeded its benchmark and outpaced institutional fund indices.<sup>4</sup>

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<sup>2</sup> Norges Bank, [www.nbim.no](http://www.nbim.no)

<sup>3</sup> Yale Investment Office, [www.investments.yale.edu](http://www.investments.yale.edu)

<sup>4</sup> *Ibid.*

While it's tempting to believe Yale was always a successful, innovative investor, Elroy Dimson points to less edifying investments in the university's 314-year history. For example, in 1811, the university founded the Eagle Bank of New Haven and by 1825, violating every rule of diversification, nearly all of the university's endowment was invested in Eagle stock. That same year, the bank failed, losing Yale more than \$21,000 and reducing the endowment to \$1,800, amid debts of \$19,000.

Years later, in 1940, Yale's rigid commitment to rebalancing led to what Charles Ellis, the founder of Greenwich Associates, called the "\$500 million blunder": "As post-World War II interest rates were rising—and taking bond prices down with them—one of history's great bull stock markets took off. Yale's plan, however, drove the endowment fund out of rising stocks and into falling bonds, with disastrous consequences."<sup>5</sup>

Between 1969 and 1979, the inflation-adjusted value of Yale's endowment fell by 41%. At that point, Yale terminated its relationship with Boston-based Endowment Management and Research Corporation and began using a variety of external advisers until a newly minted Yale economics PhD graduate, named David Swensen, was hired to head the Investment Office in 1985. Prior to Swensen's arrival, Yale had already taken two fateful decisions for its endowment: significantly increasing its equity allocation and contracting out much of their portfolio management to external managers. Both moves were aligned with Swensen's fundamental investment principles, as laid out by the Harvard Business School case study on the Yale model:

- 1) A strong belief in equities, whether public or private
- 2) Diversification, whereby risk could be more effectively reduced by limiting aggregate exposure to any single asset class rather than by attempting to time markets
- 3) Seeking opportunities in less efficient markets: investment returns could benefit by selecting superior managers in non-public markets characterized by incomplete information and illiquidity (i.e., with a high dispersion of manager performance)
- 4) Strong belief in using outside managers for all but the most routine or indexed investments
- 5) Focus on the explicit & implicit incentives facing outside managers. The Investment Office always tried to structure innovative relationships and fee structures with external managers to align manager interest as closely as possible with those of Yale.<sup>6</sup>

## THE AGE OF SWENSEN

From the moment of his arrival, Swensen pioneered an unconventional approach to managing Yale's endowment, making significant investments in alternatives such as private equity, real estate, natural resources and absolute return investments or hedge funds. As the Investment Office describes it in its 2014 report: "Yale dramatically reduced the endowment's dependence on domestic marketable securities by reallocating assets to nontraditional asset classes. In 1990, over seven-tenths of the Endowment was committed to U.S. stocks, bonds, and cash. Today, domestic marketable securities account for approximately one-tenth of the portfolio, while foreign equity, private equity, absolute return strategies, and real assets represent nearly nine-tenths of the endowment."

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<sup>5</sup> Charles D. Ellis with James R. Vertin, *Classics II: Another Investor's Anthology* (Irwin Professional Pub., 1991).

<sup>6</sup> Josh Lerner, "Yale University Investments Office: February 2015," Harvard Business School.

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The resulting portfolio, it says, has significantly higher expected returns and lower volatility than the 1990 portfolio. "The endowment's long time horizon is well suited to exploiting illiquid, less efficient markets such as venture capital, leveraged buyouts, oil and gas, timber, and real estate."<sup>7</sup>

As of June 2014, Yale's endowment was allocated across the following categories:

Absolute Return	17.4%
Domestic Equity	3.9%
Foreign Equity	11.5%
Private Equity	33.0%
Natural Resources	8.2%
Real Estate	17.6%
Fixed Income	4.9%
Cash	3.5%

Equally important for Yale's success under Swensen has been the high-quality investment team he has recruited and mentored, many with direct ties to Yale. As of 2015, 18 of the 24 Investment Office staff are Yale graduates, as is every member of the Investment Committee. Those personal connections have not only accounted for an unusually stable, well-resourced and highly motivated Investment Office staff. Many observers describe the alumni status of the Investment Committee as having been critical in 2008, when rather than panicking and selling illiquid partnerships at deep discounts, the Investment Office was actually able to buy some on the secondary markets.

While Swensen's unconventional approach has now become synonymous with the "Endowment Model," he and his colleagues have consistently warned against its blanket application.

They acknowledge many of the first-mover advantages they had in their early private equity and hedge investments that might be difficult to replicate today. The power of Yale's brand and its alumni network played important roles in identifying, assessing and gaining access to new funds. Reproducing that level of manager selection success could be challenging for many investors today. As Nick Cavalla, Cambridge University's first Investment Office CIO and former hedge fund manager, cautioned, "the investment landscape today has changed materially from 10 years ago and you need to be far more careful investing in alternatives."

## LIQUIDITY LESSONS

In the 30 years Swensen has been at the helm, Yale's endowment has experienced only 2 years of negative returns: 1988 and 2009. When the 2008/2009 financial crisis led to a 25% drop in endowment value, Swensen was described as taking a philosophical approach, commenting that: "I'd rather have the best 10-year record than the best one-year record. This is a long-term game."<sup>8</sup> Compared with many other investors hit by the credit crunch, Yale was better prepared for the liquidity constraints, using bonds as collateral for reverse repo agreements and equities as collateral for security lending agreements. Yale also had access to commercial paper facilities that had been established in the early 1990s. "Having the agreements in place and having used them in the past was a huge advantage in dealing with crisis-imposed liquidity constraints," Swensen has said.<sup>9</sup>

<sup>7</sup> Yale Investment Office, [www.investments.yale.edu](http://www.investments.yale.edu)

<sup>8</sup> Josh Lerner, *op. cit.*

<sup>9</sup> Lerner

Nevertheless, before the financial crisis, Yale was 75% allocated to illiquid asset classes. In its latest report for 2014, Yale says it is seeking “over the longer term” to limit illiquid exposures to private equity, real estate and natural resources to about 50% of the portfolio. Moreover, since the financial crisis, Yale has extended a model developed by Dean Takahashi and Seth Alexander to forecast cash flow patterns of every private equity, real estate and natural resource fund in its portfolio.

For the sovereign delegates gathered at the Judge Business School in Cambridge in March, the elements of Yale’s model that seemed easiest to replicate were its focus on alpha-driven approaches, its equity emphasis and its diversification philosophy. It would be far harder, they agreed, to clone a leader like David Swensen who had the courage to be different from other managers and the support of his Investment Committee to execute on that conviction. Reproducing that level of trust in one individual, the culture and governance structure that aided and abetted him as well as the alumni network, brand advantage and internal resources for exhaustive manager research would be far more difficult for most institutional investors today.

### O CANADA!

While the Yale model might be far removed from Norway’s GPFG in size and asset allocation approach, the Canadian pension funds dubbed “Maple Revolutionaries” by *The Economist* share Yale’s commitment to using their long time horizon to harvest illiquidity premia in private equity investments, increasingly investing directly using in-house managers. The largest of these plans is managed by the Canada Pension Plan Investment Board (CPPIB). With nearly \$240 billion (as of Dec 31, 2014) in assets under management on behalf of 18 million Canadians, the CPPIB is regarded as one of the most innovative sovereign investors in the world. For the fiscal year ended March 31, 2014, the fund generated a gross rate of return of 16.5% and was allocated across the following categories:

Domestic Equities	8.5%
Foreign developed market equities	34.5%
Emerging market equities	5.7%
Bonds & money market	28.4%
Other debt	5.2%
Real Estate	11.6%
Infrastructure	6.1%

That innovation stems from an existential crisis from the mid-1990s when it was clear the Canada Pension Plan was on an unsustainable trajectory. Policymakers and politicians at the time agreed to increase contributions, slightly reduce benefits and create the CPPIB. The independence granted to the CPPIB allowed it to operate like a private company without interference from the government and to recruit investment professionals with compensation packages that were competitive with private industry.

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The CPPIB believes that by seeking diversification according to risk and return streams rather than by asset classes, it can better manage portfolio risk and achieve potentially better investment returns.

The two most innovative changes introduced by the CPPIB were the Reference Portfolio and the Total Portfolio Approach (TPA). Introduced in 2006, the Reference Portfolio essentially serves as the strategic policy portfolio in the form of a passive investment mix that could reasonably be expected to produce the long-term average annual real return of 4% that is necessary to sustain the CPP at its current 9.9% contribution rate. It provides a transparent performance benchmark to measure active management deviations from the Reference Portfolio. Former CPPIB head David Denison described the Reference Portfolio as the single most important decision the CPPIB makes. As of March 31, 2014, the Reference Portfolio was 65% equity/35% debt.

The Total Portfolio Approach focuses on the risk characteristics of the fund's underlying investments rather than traditional asset class categories. The CPPIB believes that by seeking diversification according to risk and return streams rather than by asset classes, it can better manage portfolio risk and achieve potentially better investment returns. The concept is based on the idea that assets earn risk premia to compensate investors for bearing the underlying risk factors to which those assets have exposure.<sup>10</sup>

There is, however, concern that the CPPIB takes too simplistic an approach to underlying factor-based risks. All of their exposures are categorized as variations of fixed income or equity. Real estate, for example, is regarded as a levered play on bonds and equities. Similarly, David Marsh of the Judge Business School expressed concern over our understanding of how to benchmark private equity investments. "Benchmarking approaches for private equity today are where benchmarking approaches for conventional asset classes were 30 years ago."

Norway nevertheless has been studying Canada's approach since at least 2009, when as part of the regular external review of its portfolio it conducts every four years, it invited Columbia Business School's Andrew Ang to comment on its active investment approaches. Ang, who has been a long-time supporter of factor-based investing, suggested that Norway consider large-scale harvesting of factor risk premiums.

In 2014, Ang was invited back along with Duke Business School Professor Michael Brandt and the CPPIB's former CEO David Denison to review Norway's fund. The trio praised the progress Norway had made in factor-based investing and recommended the fund take more active risk (including in illiquid investments), break out returns to each component of the investment model and adopt a Opportunity Cost Model similar to what the CPPIB and Singapore's GIC now use.

The Opportunity Cost Model of active management is a variation on the CPPIB's Reference Portfolio and active management deviations. It means, for example, that any dollar that could be invested in private real estate is benchmarked against the opportunity costs of investing that dollar in a mix of public equities and bonds. Thus, any active investment that deviates from the Reference Portfolio is benchmarked net of fees against public market securities in the Reference Portfolio used to fund that investment.<sup>11</sup>

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<sup>10</sup> "Factor Investing: The Reference Portfolio & Canada Pension Plan Investment Board," Andrew Ang, Columbia Business School, 14 May 2012.

<sup>11</sup> "The Vikings Return to America," Columbia Business School Ideas at Work, 29 May 2014.

Ang noted that the CPPIB had long been active in the illiquid investment market, while GPF had only in the last few years launched its real estate program: “Eventually the Norwegian fund should also have these illiquid investments in scale in their portfolio, and the CPPIB has very good structure for thinking about alternatives. That structure is very simple. It really is asking what are these alternatives giving us that we can’t accept in passive, low-cost equity and bond markets?”<sup>12</sup>

In addition to adopting the Opportunity Cost Model of active management, the advisors recommended more transparency around the returns from each component of Norway’s investment process, including diversification, rebalancing, taking on factor exposures or risks, and security selection.

The downside to the CPPIB approaches is that they can be complex to implement and often require complementary technology, risk management, analysis and decision-making frameworks to be effective. They also require a high degree of collaboration and coordination across all investment departments.

### **EXPLOITING THE NATURAL ADVANTAGES OF SIZE AND TIME HORIZON**

While there is general acknowledgement of Norway’s advantages of transparency, simplicity, low risk and cost efficiencies, most sovereign delegates at the Cambridge conference recognized that Norway was not sufficiently leveraging its long time horizon to harvest the premia associated with illiquid investments.

Although there is significant distance between Norway’s more traditional approaches on the one hand and Yale and Canada’s higher allocations to non-traditional investments on the other, all three investors share the potential advantage of a long time horizon. In principle, this could be used to provide other investors with liquidity and tail risk insurance at a time of growing concerns over structural liquidity constraints and uncertain markets. As regulation, technology, demographics and other secular forces transform global capital markets (and risk premia along with them), large institutional investors are likely to continue to ask whether traditional investment models are suited to future risks and opportunities. How each of them constructs their paths will derive from individual investment philosophies and constraints, but understanding the new opportunities and approaches available should continue to drive the evolution of best practices and new investment models.

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<sup>12</sup> “Norway Oil Fund Urged to Emulate CPPIB Approach to Real Estate,” Jonathan Williams, *Investment & Pensions Europe*, 30 May 2014.

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