Academic evaluation of the Oil Fund

5 januar 2018 I submitted an academic evaluation of Norges Bank's handling of investments in the Government Pension Fund Global (Popularly "The Oil Fund", or just "The Fund"). The evaluation was done together with professor Magnus Dahlquist at the Stockholm School of Economics. This note summarizes the key takeaways of the evaluation for the ultimate asset owners, the people of Norway.

The Fund's management of Norways petroleum wealth has maintained its initial value, and added substantial extra returns in doing so. The easiest way to see that is our estimates of value added, using for example our estimates for the period 2013-2017. We show that in addition to what could be had if one could hold the benchmark portfolio (which is not costless), the Fund added value by between 50 and 30 billion NOK, depending on how we adjust for risk. This is an after-cost estimate.

The prime contribution to value added is equity. That is natural, as equity is also the largest source of risk in the portfolio, and one should be paid to take on risk. We show that in the same 2013-2017 period, equity contributed about 95% of the total risk in the Fund.

Let me also make some comments about an argument often made in the Norwegian popular press, that the Fund could be run more cheaply as a passive index (market capitalization weighted) fund. The reasoning for the argument is Sharpe's "arithmetic of active management," that the sum of active and passively managed funds comprises the market portfolio. It is therefore hard to beat the market portfolio, and one should not pay the cost of trying. While this reasoning gives a sensible recommendation for small, individual investors, that most of their wealth should be in index funds, we argue that there is a number of reasons why such an argument does not necessarily apply to the Fund.

- The Fund is not your average investor.
- Even a passive investor needs to trade to maintain a benchmark.
- Its long investment horizon gives the Fund competitive advantages, for example in liquidity provisioning.
- Its size gives economics of scale, the Fund has lower costs than smaller funds.
- The Storting has instructed the Fund to be a responsible investor. That has a number of consequences
  - Company exclusions means deviating from a passive index.
  - It is necessary to use substantial resources in information gathering and analysis to evaluate the ESG risks of companies in the investment universe.

The Fund is actually very close to an index fund. The Fund's active share, a measure of deviations between a portfolio and its benchmark, is less than 20%, which has been argued to define an index fund.

Several of our results also show *how* the Fund adds value

- A return decomposition shows that the added (active) returns are due to security selection.
- The Fund's choices of external managers for emerging market investments has added substantial value.

We warn against trying to point to isolated pieces of the Fund's operations and argue that this particular piece adds or subtracts to performance. The various strategies of the fund are interrelated. Necessary services are performed (and paid) within one strategy, but available to all strategies. Internally, the Fund is also a complex system of incentive contracts.

The real estate investments of the Fund have by our estimates maintained their value. However, if the prime purpose of the real estate investments is to add long term diversification, these diversification benefits are not likely to be spotted in the current equity bull market. To evaluate the real estate investments we need to wait for the long term.

To conclude: Our evaluation is positive. The Fund has added substantial value, in spite of its size, which is often argued to be a problem for a fund to "beat the market."

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