Ministry of Finance
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Date: 26.11.2015
Your ref.:
Our ref.:

The framework for the management of the Government Pension Fund Global

In its letter of 26 March 2015, the Ministry of Finance asked Norges Bank to assess how investments in real estate and unlisted infrastructure can be expected to affect the trade-off between risk and return in the Government Pension Fund Global (GPFG), and how these investments should be regulated in the Fund's management mandate. In particular, the Bank was asked to consider whether, and how, an opportunity-cost model could be used in the management of the Fund. The Bank's assessments and recommendations for the management framework are presented below, while its assessments of investments in real estate and unlisted infrastructure are presented in separate letters to the Ministry.

We begin by describing the key features of the current framework and highlight some challenges. We then discuss how the framework for the management of the Fund may be developed.

The Fund's management framework – Today's model

In its management mandate for the GPFG, the Ministry of Finance specifies the types of assets the Fund may be invested in, and the long-term allocation to each. At present, the Fund may be invested in listed equities, tradable bonds and real estate with long-term allocations of 60, 35 and 5 percent respectively. The Ministry has chosen to use indices from FTSE and Barclays as the benchmarks for equities and bonds respectively, and has laid down a rule for how the equity allocation in the combined benchmark index is to be rebalanced to the long-term target level. The benchmark index for the Fund's equity and bond investments represents a strategy that the Bank, as the manager, to a great extent is expected to follow. The Bank's scope to deviate from the benchmark index is limited.

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Developments in the benchmark therefore dominate the Fund's overall risk.[1] This close link to the benchmark means that choices made by the index providers impact directly on the Fund's risk and return characteristics. We therefore refer to this model as the "benchmark index model".

The Bank's management of real estate investments cannot be implemented or evaluated using this same simple model. It is not possible to buy a small stake in every property. There is no suitable benchmark index for the Fund's real estate investments. One challenge with the current framework is that the risk represented by real estate investments is not captured by an overall limit for market risk in the Fund. Nor are real estate investments included in the Fund's currency basket, yet the return is measured in this basket. Differences between the currency composition of the real estate portfolio and the currency basket could result in unfavourable adjustments for the Fund as a whole. The approach chosen makes it harder to manage, verify and report the total market and currency risk in the management of the Fund. Norges Bank believes that these are challenges that should be addressed now that the Ministry is considering the possibility of increasing real estate investments and allowing unlisted investments in infrastructure.

The benchmark model is not well-suited to unlisted investments. The current approach to regulating real estate investments presents challenges in the management of the Fund.

The Fund's management framework – An alternative model

In cases such as the Canada Pension Plan Investment Board (CPPIB), GIC in Singapore and the New Zealand Superannuation Fund (NZ Super)[2], the owner has expressed its tolerance for return variations in an index of global listed equities and bonds. The mix of equities and bonds is 85/15 at the CPPIB[3], 65/35 at GIC and 80/20 at NZ Super. However, the decision on which types of asset the fund should be invested in, and in what proportions, has been delegated to the manager so long as the total market risk in the fund does not exceed the owner's tolerance as given by the risk characteristics of the index. The difference between return on the index and the return on the fund will, over time, reveal whether the manager has created value in its management of the fund. Return differentials of this kind can be a result of numerous different choices. The models used by these three funds are all variations on the so-called opportunity-cost model.

Investment mandates of this kind rest on an acknowledgement that there exist sound investment strategies and opportunities that cannot easily be represented in an investable index. In an opportunity-cost model, all investments are benchmarked against alternative

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[1] Ang, Brandt and Denison (2014): *Review of the Active Management of the Norwegian Government Pension Fund Global*, page 37: "Over the entire sample, active returns accounted for 0.7% of the variance of Fund returns. The variance contribution of active management is even smaller in the post crisis sample at 0.4%. It is clear from these results that the Fund returns are overwhelmingly dominated by benchmark returns, an observation also made by Ang, Goetzmann and Schaefer (2009)."

[2] NZ Super's strategy is presented here: https://www.nzsuperfund.co.nz/sites/default/files/documents-sys/2015_Reference_Portfolio_white_paper.pdf.

[3] The allocation to equities in CPPIB's reference portfolio was previously 65 percent. CPPIB decided earlier this year to increase the allocation gradually to 85 percent. A more detailed presentation of CPPIB's investment strategy can be found in its annual report, see: http://www.cppib.com/en/our-performance/financial-results.html.

uses of the capital. For example, the alternative to investing in real estate might be to invest some of the capital in equities and the remainder in bonds. In such a model, the role played by the index is different to that in the benchmark index model. The benchmark is no longer a strategy that the manager is expected to follow closely, but – through the size of the equity allocation – an indirect expression of the owner's tolerance of variations in returns. In this model, the index represents a strategy that the manager is expected to depart from if this helps improve the trade-off between expected risk and return in the portfolio. Expanding the investment universe with new asset classes such as real estate and infrastructure will not, in principle, result in any changes to the composition of the index.

The opportunity-cost model is used by many other large funds and ensures a holistic approach to management that includes both listed and unlisted investments.

The Fund's management framework – The Bank's recommendations

The GPFG's management framework divides responsibility for the Fund between the Ministry of Finance as owner and Norges Bank as manager. The Bank assumes that the Ministry still wishes to decide which asset classes the Fund should be invested in, and to set limits for how much of the Fund can be invested in each. We also assume that the Ministry wishes to retain a rebalancing rule for the equity allocation in the benchmark index. We further assume that the return is to be measured against an index from leading index providers and measured in the currency composition of this index. Finally, the Bank assumes for now that the Ministry still wishes to regulate deviations from the benchmark index through a limit for relative volatility.

The benchmark model is not well-suited to the Fund's investments in unlisted assets. The Bank's proposed changes aim to address the challenges this presents, while also retaining the key features of the current division of responsibility between the Ministry and the Bank.

Norges Bank proposes that the mandate should no longer specify a separate return target or index for unlisted investments. Instead, the return and risk for the Fund as a whole should be measured against an index constructed from publicly available equity and bond indices. The Fund's currency basket will, as now, be given by the currency composition of the benchmark index. With the benchmark index now covering the whole Fund, real estate investments will be included in the calculation of overall currency risk. We also propose that the allocation to real estate and infrastructure is specified as an interval rather than a fixed percentage. This means, among other things, that these investments will not be covered by rules on rebalancing.

Our proposed changes to the composition of the benchmark mean that real estate investments will be included under the limit for relative volatility. Deviations between the return on the benchmark index and the Fund itself in the short and medium term may therefore be somewhat larger than before. As the share of unlisted investments in the Fund increases, it will be natural to return to the question of the limit for relative volatility.

The long-term mix of equities, bonds and real estate in the portfolio is currently set at 60/35/5. Real estate investments affect the Fund's overall market risk. With real estate no longer included in the benchmark index, this can be addressed by increasing the share of equities in the benchmark index. Should it be decided to do so, we will return with proposals for how the adjustment to a higher allocation to equities in the benchmark index could be implemented.

The proposed changes address the challenges presented by investments in unlisted assets with regard to the Fund's management framework, while retaining the key features of the current division of responsibility between the Ministry and the Bank. The changes we propose will clarify the trade-off between risk and return when investing in unlisted assets and provide better opportunities to manage the Fund's overall risk. The owner will still set the tolerance for variations in returns and set the benchmark index used to measure risks and returns. The benchmark index will not define the investment strategy for the GPFG, but serve as a limit for overall market and currency risk.

Norges Bank has the operational capability to handle a transition to a more holistic framework in keeping with these proposals. Only small adjustments will be needed for our systems to cover the new requirements for return measurement, risk management and reporting. The Bank will aim for the greatest possible public transparency on risks and returns in the management of the Fund. Our reporting will compare the return on unlisted investments with a broad set of alternatives.

The changes will result in a framework well-suited to further development of the investment strategy. We plan to look further into the question of an absolute measure of risk. Such a measure will be a better management tool if the owner wishes primarily to limit the overall market risk in the management of the Fund and only to a lesser extent influence the selection of individual investments. We also plan to look further into the question of whether the currency basket should be redefined so that it is no longer based on the current benchmark index. A third question is whether the Fund's exposure to market risk should be increased from today's levels. The Ministry has announced that it plans to examine this issue in 2016 and that the Bank will be asked for its advice.

The framework for the Bank's management of the GPFG should be adjusted to ensure a holistic management approach. Investments in unlisted assets should have neither a fixed allocation nor a separate index. The return on the GPFG should be measured in the benchmark index's currency basket, and the risk calculated for the Fund as a whole.

Yours faithfully

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