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Government Pension Fund Global – rules for rebalancing the benchmark index

In this letter, Norges Bank provides advice on the design of the rules for the rebalancing of the benchmark index. The letter builds on the assessments made in our letter of 6 July 2010 on the development of the investment strategy for the Government Pension Fund Global.

The changes we recommend are intended to support the goal of achieving the best possible trade-off between risk and return for the Fund. We recommend that the rules on rebalancing are made public and designed in a way that makes their application straightforward, predictable and verifiable. We also recommend that the Fund is rebalanced around the strategic allocation to equities and not around fixed geographical regional weights as is currently the case. We recommend that the current detailed rules on partial rebalancing when new capital is phased into the Fund are revoked.

<u>Fixed weights in the Fund's asset allocation</u>

The Ministry of Finance sets fixed geographical weights for the Fund's equity and bond investments at regional level in the mandate for the management of the Fund. Movements in the value of these asset classes mean that the weights in the Fund's benchmark index will deviate from the strategic weights. Rebalancing of the benchmark index returns the weights to the strategic weights and is an important investment decision.

It is important to distinguish between maintaining fixed asset class weights and maintaining a stable level of risk. An investment strategy which rebalances the share of the equity portfolio back to the fixed weights following a drop in stock prices will also increase the absolute risk in the portfolio, because market uncertainty will then generally be higher. Rebalancing of the benchmark index ensures that the actual weights are kept relatively steady over time, and the strategy is successful if the rule helps improve the trade-off between return and risk.

The starting point for today's fixed strategic weights cannot therefore be that the risk structure across the main asset classes is expected to be stable over time. In a separate note[1,2], Norges Bank Investment Management (NBIM) discusses how risk premia vary over time. In another[3], NBIM looks at the consequences this should have for an investor that differs from the average investor. In a third note[4], NBIM reviews the literature, which provides some basis for assuming that market prices contain information about future returns.

Different investors will have different opportunities to exploit time-varying risk premia. The Fund's unique characteristics present an opportunity to pursue an investment strategy of buying into an asset class when higher uncertainty is priced in. In Report No. 15 (2010-2011) to the Storting, the Ministry writes that a more countercyclical strategy may be a way of exploiting the Fund's advantages. Norges Bank shares the Ministry's view.

In a separate note[5], NBIM looks at data since 1970 and draws the main conclusion that rebalancing has resulted in a substantially improved trade-off between return and risk than a strategy that allows asset allocation to drift with market developments.

Norges Bank believes that systematically returning asset classes to fixed weights, or rebalancing, should be retained as a long-term investment strategy for the Fund.

A public rebalancing rule

A rebalancing rule should be part of the Ministry's public mandate for Norges Bank's management of the Fund. A rule that clarifies when and how rebalancing will normally take place will ensure that the strategy is robust, predictable and verifiable.

Today's rules are not publicly available and do not say when full rebalancing is to take place, only how large the deviation is to be before the Bank sends a recommendation to the Ministry on what should be done. New rules should ensure that rebalancing is regulated and that it is implemented as an ordinary part of the strategy without requiring a special decision. The rebalancing rule should be disregarded only where so decided by the Ministry.

Norges Bank recommends that a publicly available rebalancing rule is included in the mandate for the Fund.

Choice of rebalancing regime

It is customary to distinguish between two types of rebalancing regimes: calendar-based and conditional. In a calendar-based regime, the timing of rebalancing is predetermined. In a

[1] Notes on investment strategy published by NBIM as "Discussion notes" on www.nbim.no.
[2] "On Risk Premium Variation".
[3] "Time Varying Expected Return, Investor Heterogeneity and Rebalancing".
[4] "Return Predictability and Implications for Rebalancing".
[5] "Empirical Analysis of Rebalancing Strategies".

separate note[6], NBIM reviews the Fund's own experience with rebalancing. From 1998 until the end of 2001, the Fund was rebalanced back to the regional weights at the end of each quarter and was therefore calendar-based. Since December 2001, the rebalancing rules have had two elements: partial and full rebalancing. Partial rebalancing has followed the monthly inflows of new capital into the Fund, with the benchmark index adjusted each month in the direction of the regional weights to an extent corresponding to the amount transferred to the Fund. Full rebalancing, on the other hand, has been a decision conditional on a specific degree of deviation between actual and strategic weights.

Under a conditional regime, rebalancing will take place only when deviations from the strategic weights reach a certain size. The number of rebalancings will therefore be smaller, and transaction costs lower, than with a calendar-based regime.

Norges Bank recommends a rebalancing rule that is conditional on an asset class's degree of deviation from strategic weights.

Today's rebalancing rules are designed with a view to maintaining the Fund's geographical equity and bond investments at regional level. In its letter of 6 July 2010, Norges Bank wrote that the basis for today's fixed regional weights is weak, and that consideration should be given to whether it is appropriate to retain the current structure. The Bank believes that there is limited potential for exploiting variations in regional risk premia by rebalancing regional allocations.

Rebalancing should take place at asset class level. The choice of equity allocation is the most important strategic decision for the Fund, and the equity allocation dominates the Fund's absolute risk. A rebalancing strategy intended to maintain a fixed allocation to equities will seek to exploit variations in the stock market's risk premium.

Norges Bank recommends a rule on rebalancing the Fund's equity allocation.

Given that rebalancing is based on the equity allocation, the next question is how far the equity allocation in the benchmark index is permitted to depart from the strategic weight before rebalancing is triggered. In a separate note[7], NBIM shows that rebalancing the portfolio has been important. The conditions for when rebalancing is to take place have been less important for the portfolio's overall risk and return profile. A correct level of deviation from fixed weights at which rebalancing should be triggered cannot be elicited with any certainty from historical data.

All things considered, Norges Bank recommends that the Ministry sets a range of 3 percentage points on either side of the strategic weight assigned to equities in the benchmark index.

[6] "The History of Rebalancing of the Fund".
[7] See footnote 5.

The analysis in another note[6] from NBIM shows that transaction costs would have been lower, and the equity allocation closer to the strategic weight, with this alternative than with today's rules. Since the current rules were introduced in 2001, there have been only two full rebalancings, in 2003 and 2009. Our recommendation will result in slightly more frequent rebalancing than the current rules. A narrower range will also affect the size of each rebalancing and mean that a larger number of rebalancings will take place in normal markets. This will reduce the market impact and, therefore, transaction costs. Rebalancing will become more a part of the ordinary management of the Fund than it is today, as opposed to an event that occurs rarely with major consequences for the Fund's risk and return. Our recommendations for a concrete rebalancing rule can be summed up as follows:

Norges Bank recommends a rule where the equity allocation in the benchmark index is rebalanced to the strategic weight of 60 percent at the end of any calendar quarter in which the allocation falls below 57 percent or rises above 63 percent at the close of trading on any day during that quarter. The Bank is to inform the Ministry immediately if this condition is met.

Revocation of the rules for partial rebalancing through inflows

The current mandate also contains rules on partial rebalancing. These rules change the benchmark index every time capital is transferred to the Fund. In our letter of 11 April 2011, we recommended changes in the rules for how inflows of new capital into the Fund are reflected in the benchmark index.

Partial rebalancing is intended to help bring the weights in the benchmark index back towards the strategic weights and reduce the transaction costs required to maintain a fixed asset class allocation over time. It is uncertain what effect partial rebalancing has on the Fund's overall return in the longer term. The reason for this is that periods of high or low returns in equity markets have a tendency to persist, and it may be profitable to hold back before rebalancing.

The rules for rebalancing can be designed either with a view to striking the best possible balance between risk and return, or with a view to minimising transaction costs. NBIM's analysis of the returns on different asset classes since 1970[8] shows that a strategy where inflows have returned the portfolio weights towards the strategic weights each month achieved a weaker balance between return and risk than a strategy without partial rebalancing.

An analysis of the Fund's own history[9] shows that partial rebalancing has had a negative effect on the trade-off between return and risk despite reducing the need for trading in the Fund.

[8] See footnote 5.
[9] See footnote 6.

An actual benchmark index that changes monthly with each inflow of capital is complex and difficult to verify. Simplification of the calculation of the benchmark indices will make the management of the Fund more transparent. When implementing each actual rebalancing, Norges Bank will take account of transaction costs without the inflow being built into the benchmark index. We refer to the recommendation in our letter of 11 April 2011 for a more detailed discussion.

Norges Bank believes that today's rules for partial rebalancing through monthly changes in the actual benchmark index should be revoked.

Summary

Norges Bank's advice is that the rules for rebalancing are adjusted with a view to establishing a straightforward, predictable and verifiable rule for changes in the benchmark index. Our recommendations can be summed up as follows:

- The rules for rebalancing must aim at a better trade-off between return and risk and ensure that the strategic allocation is maintained over time.

- The rules for rebalancing the benchmark index should be made public and be part of the ordinary mandate for the management of the Fund.

- Rebalancing should take place at the end of any calendar quarter in which the equity allocation in the actual benchmark index deviates from the strategic weights by more than 3 percentage points at the close of trading on any day during that quarter.

- The rules for partial rebalancing, which link monthly inflows into the Fund to changes in the benchmark index, should be revoked.

These recommendations on rebalancing should be seen in the light of the recommendations made in our letter of 11 April 2011 and can be operationalised with effect from 1 July 2012.

Yours faithfully

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