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How subjective is AIFMD's objective leverage ratio?

The Alternative Investment Fund Managers Directive (AIFMD) was introduced in order to improve comparability across European investment funds and to provide a level playing field. To achieve this goal a set of common rules was created with standardised risk measures that are to be disclosed to investors. Has that goal been achieved? In this article we focus on one particular risk measure, the leverage ratio and consider how different interpretations could, or could not, lead to different leverage ratios for the same portfolio.

The leverage ratio is one of the key risk measures that the AIFMD prescribes. This ratio provides insight in the composition of the funds' assets and liabilities and therefore the ability of a fund to meet its financial obligations. A leverage ratio higher than zero may help a fund amplify returns in good times. By the same token, however, leveraged funds with disappointing returns can turn against the fund's investors and may even lead to a fund's default. It is thus important for investors to understand the extent to which the fund manager uses leverage to obtain investment objectives. However, no simple measures exist to measure leverage and the way it must be defined may depend on the funds composition. For instance, if an equity fund has borrowed 10% of its net asset value through an in interbank loan, one may say it has a leverage ratio of 10%. But what if it buys out-of-the-money call options for 10% notional of the total portfolio? It is clear, that options are also a form of leverage, but did this strategy also add 10% leverage? Or more, or less than 10%? What if it didn't only buy call options, but also bought put options? Clearly, such strategy lowers the leverage. Can we net this with leverage created with the call options? And if there is nothing to net, could the leverage ratio be negative? These are not straightforward questions to these answers. Therefore, the AIFMD has set standards and articulated methods to measure the leverage ratio. The leverage ratio must be monitored internally is and also reported to the regulator. The regulator can exercise its power to set thresholds, such that its leverage does not become excessively large. In this article we address some issues regarding the interpretation of the AIFMD leverage method, and show how small differences in interpretation can lead to significant differences in the reported leverage ratio.

The AIFMD prescribes two methods for calculating the leverage ratio: the Gross Leverage method and the Commitment Leverage method. In both methods, leverage is defined as the ratio between the fund's exposure and its net asset value. The difference between both methods is the calculation of the exposure. For the gross leverage method, the exposure is calculated as the sum of the absolute values of all positions. Hereby the fund should exclude the positions or borrowings of cash and cash-equivalents which are '*highly liquid investments, held in the base currency of the AIF, that are readily convertible to a known amount of cash, provide a return no greater than the rate of a 3-month high quality bond and are subjective to an insignificant risk of change in value*'. This definition shows the first signs of subjectivity: what positions meet this definition and can be excluded from the leverage calculations? Can all commercial paper be deducted? Or does this depend on the rating of the issuer? Which government bonds can be excluded? In practice, however, the effect of such exclusions will be quite limited. The gross leverage method will not lead to significant differences for similar funds.

This contrasts with the other AIFMD method, the commitment method. This is supposed to be a more precise measure of the true leverage of a fund, but as a consequence this measure leaves open more room for interpretation. In the commitment leverage method hedging and netting rules can be applied to reduce the total exposure of the fund. The application of these netting and hedging rules can lead to different interpretations and could even lead to an underestimation of the risk that is reported to investors and regulatory authorities.

Firstly, although the AIFMD emphasizes that for the calculation of the commitment method hedging and netting rules should be applied and provides rules and methods to do so, on a more detailed level, these rules are open for interpretation. In some cases, fund managers may decide not to apply netting or hedging as they may be unsure about interpretations of the rule and may therefore prefer reporting a more conservative ratio. In other circumstances, funds may interpret rules to their advantage leading to overly optimistic leverage ratios. It is unnecessary to remark that neither approach is particularly desired and enhances comparability across funds. We will further illustrate this using an example for fixed income funds that hedge interest rate risk using interest rate swaps.

The duration netting rules for positions that qualify as interest rate derivatives are prescribed in Annex II of the AIFMD Directive. Using the duration netting rules, the fund's interest rate derivative positions first have to be converted into its equivalent underlying asset position. First, using conversion rules the derivative positions is converted to the market value of the underlying asset, $MtM_{Underlying}$, which is basically the notional for plain vanilla interest rate swaps and the delta for more complex options. Next, the equivalent underlying asset position can be calculated using the following AIFMD formula:

$$\textit{Equivalent Underlying Asset Position} = \frac{Duration_{FDI}}{Duration_{Target}} \times MtM_{Underlying}$$

As one can observe, $MtM_{Underlying}$ is multiplied by a fraction. In the numerator of this fraction $Duration_{FDI}$ is the modified duration of the interest rate derivative. In the denominator of the fraction the $Duration_{Target}$ is the target duration as defined by the investment strategy. Under normal market conditions, the target duration is expected to be close to the duration of the portfolio. This fraction is meant to penalize for derivatives that only partially hedge risk. For instance, if the target duration is 2 years, the fund manager can hedge 100% with a duration of 2 years or 50% with a duration of 4 years. Both hedging strategies lead to the same duration, but only the former strategy also provides a hedge against non-parallel curve changes. After calculating the fraction and the market value of the underlying asset position, netting can be applied proportionally to the time to maturity of the derivatives. There are a few caveats in this formula: fund manager may calculate different durations values depending on the valuation methodology applied. However, more important is the fact that the target duration for many funds is subjective. Many funds will not have a clearly specified target durations in their mandates and durations cannot always be calculated from benchmark indices. Also there may be room for interpretation of the level of application: must this be applied at overall fund level or is it for mixed funds also allowed to apply different target durations for different subportfolios? AIFMD provides little guidance here. The target duration has a very large impact on the multiplication factor and a target duration that is set substantially lower than the duration of the interest rate derivative would lead to an increase the fraction that is multiplied by the market value, thus increase the equivalent underlying asset positions, thus overestimate the amount that can be netted and thus eventually underestimate the commitment leverage ratio.

In the example below we show that two funds with the same portfolio can arrive at very different leverage ratios

AIF 1:

NAV = € 7,000,000
$Duration_{FDI}$ = 0.9 year (calculated using LIBOR discounting)

$Duration_{Target}$ = 1.7 years (based on expected duration in fund's mandate)

Notional value IRS swaps = € 7,000,000

Equivalent Underlying Asset Position = $\frac{0.9}{1.7}$ × € 7,000,000 = € 3,705,882

Leverage ratio = (€ 7,000,000 – € 3,705,882) / € 7,000,000 = 47%

AIF 2:

NAV = €7,000,000

$Duration_{FDI}$ = 1.1 year (calculated uses a OIS discounting)

$Duration_{Target}$ = 1.3 year (based on duration of current benchmarked

Notional value IRS swaps = € 7,000,000

Equivalent Underlying Asset Position = $\frac{1.1}{1.3}$ × € 7,000,000 = € 5,923,076

Leverage ratio = (€ 7,000,000 – € 5,923,000) / € 7,000,000 = 15%

We conclude that subjectivity in the application of the rules can lead to large differences in the leverage ratio for very similar funds. This subjectivity could also lead to adverse behavior where funds apply assumptions that lead to lower leverage calculations. We therefore believe that investors and other stakeholders must be careful in interpreting and comparing leverage ratios. AIFM funds have to provide more transparency about the assumptions they have used in their calculations. For instance, target durations are not always reported and it would be helpful if these become a standard part of each fund's mandate and disclosure documents. It would also help if the fund managers provides a motivation of how they have set the leverage limits and provide further qualitative information how they manage leverage risks.

AIFMD has been a great development in setting standards for leverage calculation. We also acknowledge that there is no fool-proof way of setting leverage calculation methods. The type of investments strategies and instruments that are available in the market are just too diverse for that. However, more alignment can be achieved. The regulator has left room for an Advanced Method on the basis of technical advice developed by the European Securities and Markets Authority (ESMA). That would be a great step forward. ■

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