

## Box 7

### Synthetic leverage in the investment fund sector

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Excessive leverage is a key contributor to systemic stress. At the same time, measuring leverage has become more complex as financial innovation has given rise to contingent commitments not being captured ex ante by traditional leverage ratios. Such “synthetic leverage” can stem from derivative instruments or securities financing transactions that create exposures contingent on the future value of an underlying asset, which becomes evident, for instance, when a derivative position’s value moves strongly, potentially creating a profit or loss.

For the banking sector, concern relates to whether leverage embedded in derivative positions is adequately captured in capital ratios and whether regulatory arbitrage is possible by creating leverage synthetically. However, synthetic leverage is also relevant for the investment fund sector, which is subject to a different set of prudential rules. While solvency concerns in this sector are less prevalent due to a broad equity investor base, synthetic leverage can still play a role in fuelling liquidity spirals given pro-cyclical margining<sup>48</sup> and collateralisation practices. Moreover, as most sizeable asset management companies in Europe are owned by banks,<sup>49</sup> i.e. providing services or products to investment funds, synthetic leverage may play a role in amplifying shocks and transmitting them to the wider financial system.

A common way to capture synthetic leverage is by calculating cash-equivalent portfolios.<sup>50</sup> Estimates of the market value of that equivalent portfolio are set in relation to the equity position to gauge synthetic leverage incurred. An important factor for calculating cash-equivalent portfolios is the calculation of exposures taking into account relevant netting sets. The definition of these is not trivial as many contracts differ in maturity, coupons or other contractual details. Some assets entering the netting sets may not be perfectly correlated; others potentially offset each other but have differing counterparty exposures.

The key regulations that govern leverage in the investment fund sector in the European Union are (i) the Undertakings for Collective Investment in Transferable Securities (UCITS) Directive and (ii) the Alternative Investment Fund Managers Directive (AIFMD). Under the UCITS Directive, funds have to comply with strict limits on leverage. Depending on the type of investment strategy, UCITS have to use a different method and comply with the limits applicable to that method.<sup>51</sup> For basic investment strategies, UCITS should use the “commitment approach” under which derivatives exposures are converted into equivalent positions. The resulting “global exposure” comprises

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<sup>48</sup> The risks arising from pro-cyclicality in margining and haircut practices are described in detail in “The role of margin requirements and haircuts in procyclicality”, *CGFS Papers*, No 36, Committee on the Global Financial System, March 2010.

<sup>49</sup> See Box 2 entitled “Structural and systemic risk features of euro area investment funds” in *Financial Stability Review*, ECB, November 2014.

<sup>50</sup> See Breuer, P., “Measuring off-balance-sheet leverage”, *Journal of Banking and Finance*, Vol. 26 (2-3), 2002, pp. 223-242.

<sup>51</sup> The methods for calculating leverage are set out in the implementing Directive 2010/43/EU and further detailed in “CESR’s Guidelines on Risk Measurement and Calculation of Global Exposure and Counterparty Risk for UCITS”, 28 July 2010.

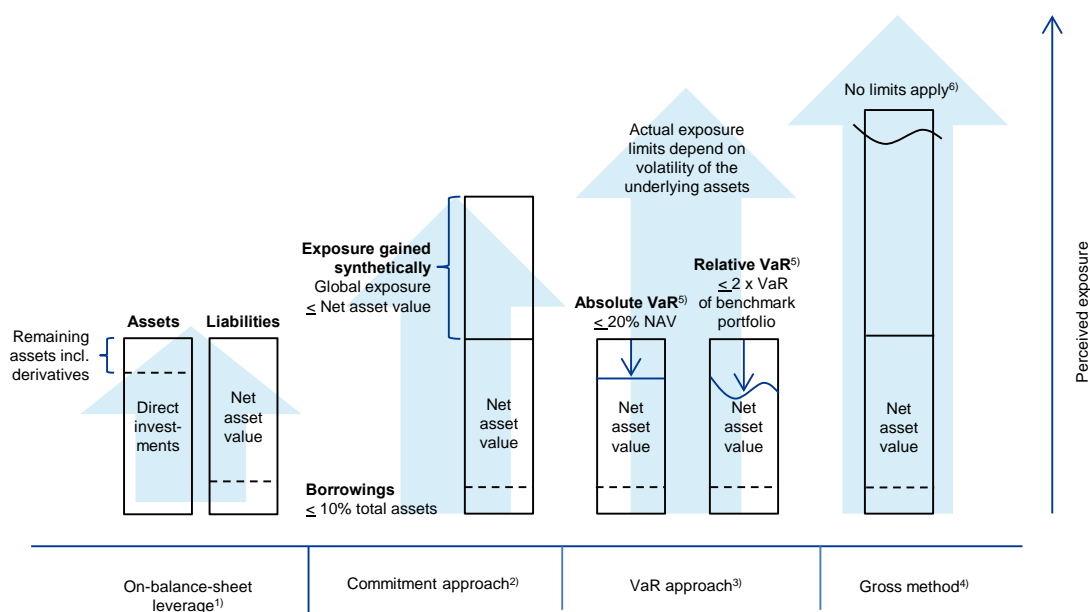
equivalent positions after netting and reinvested cash collateral. Global exposure must not exceed the fund's total net asset value (NAV).<sup>52</sup> For more complex investment strategies, UCITS should use the value at risk (VaR) and again, depending on the type of investment strategy, different types of VaR and limits should be used. UCITS are further limited in the amount they can borrow, i.e. with a limit of up to 10% of their assets on a temporary basis.<sup>53</sup>

## Chart

Leverage can be higher than what headline ratios suggest

### Reporting options, exposure limits and synthetic leverage in investment funds

(arrows reflect perceived risk exposures for a given portfolio under different reporting options)



#### Notes:

- 1) Under the UCITS Directive, a fund may not borrow more than 10% of its assets on a temporary basis.
- 2) Under the UCITS Directive, global exposure after netting may not be higher than the fund's net asset value (NAV).
- 3) Maximum potential loss for a confidence interval, assuming a certain probability distribution for historical observations.
- 4) Sum of gross exposures, i.e. portfolio equivalents for derivatives, excluding cash; metric to be reported under the UCITS Directive and the AIFMD.
- 5) Maximum potential loss over a 20-day period at a 99% confidence interval; restrictions apply to UCITS.
- 6) Other limits may be binding, including counterparty exposure for UCITS.

Whereas the UCITS Directive limits the use of leverage, the AIFMD does not set any hard limits. Under the AIFMD, asset managers have to report the leverage of the funds they manage according to the commitment approach and the "gross method", which use slightly different definitions of leverage than the methods applied under the UCITS Directive.<sup>54</sup> The AIFMD also foresees the possibility for national authorities to impose limits on the leverage employed by an AIFM under its jurisdiction.<sup>55</sup>

An illustration of how funds' perceived risk exposures can vary for a given portfolio is depicted in the chart above, depending on which of the reporting methods is used. The first panel relates to the

<sup>52</sup> This limit is set out in Article 51(3) of the UCITS Directive, 2009/65/EC.

<sup>53</sup> This limit is set out in Article 83 of the UCITS Directive, 2009/65/EC.

<sup>54</sup> The methods for calculating leverage under the AIFMD are set out in Directive 2011/61/EU and further detailed in the supplementing Regulation (EU) No 231/2013.

<sup>55</sup> ESMA can issue advice to national authorities on measures that it believes should be taken, such as the imposition of leverage limits.

UCITS Directive, which limits a fund's balance sheet leverage by restricting the amount of debt it can hold. The second panel considers cash-equivalent portfolios under the commitment approach. The commitment approach allows for the netting and hedging of equivalent derivative positions with opposite directions, making it a less conservative measure of leverage. The VaR approach<sup>56</sup> in the third panel captures a different dimension of synthetic leverage, notably the volatility in portfolio values it creates. Limits may or may not be stricter depending on the volatility of the underlying assets. The last panel shows the gross method, for which netting and hedging are not allowed, making it a more conservative calculation of leverage.

While these qualitative indications suggest that the amount of leverage could be a larger concern than balance sheet leverage and cash-equivalent reporting suggest, remaining data gaps prevent a definitive quantification of prospective financial stability risks. Although reporting obligations provide information on effective leverage, data on leverage in the investment fund sector are not yet readily available in the official statistics and are not collected with a view to monitoring systemic risks.<sup>57</sup> This suggests scope for a more systematic collection of statistical data on exposures and synthetic leverage in the investment fund sector, not least given the rapidly growing importance of this sector in the euro area.

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<sup>56</sup> Depending on the type of investment strategy, different types of VaR and limits should be used. Under one option, funds reporting absolute VaR need to comply with a maximum VaR limit of 20% of their NAV, calculated over a one-month holding period at a 99% confidence interval. UCITS funds may further opt to report relative VaR, where the maximum VaR needs to be less than twice the VaR of the reference portfolio.

<sup>57</sup> Information collected by competent authorities at the national level can be shared with other EU authorities, such as ESMA or the ESRB. Moreover, EMIR establishes a comprehensive reporting regime for derivative transactions and positions, from which, in principle, the funds' derivatives exposures can be derived and used for monitoring purposes.