

Analyzing the systemic risks of alternative investment funds based on AIFMD reporting: a primer

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This article discusses possible indicators that might be used to identify systemic risks caused by alternative investment funds (AIFs) on the basis of their reporting obligations under the Alternative Investment Fund Managers Directive (AIFMD). The introduction of comprehensive reporting obligations for AIFs and their managers (AIFMs) makes extensive AIF and AIFM data available to supervisors for the first time. In this context, Article 25 AIFMD introduces a macroprudential perspective to the supervision of securities and markets. The national competent authorities (NCAs) are required to use the reported data to assess whether the use of leverage by AIFs contributes to the build-up of systemic risk in the financial system, to disorderly markets or to risks to long-term economic growth. In addition, the NCAs have to assess whether AIFs or AIFMs potentially constitute important sources of counterparty risk to credit institutions or other systemically important institutions in another Member State. While literature on asset management and financial stability is expanding, literature on analyzing systemic risks on the basis of AIFMD reporting is sparse. In contributing to the discussion on macroprudential analysis under Article 25 AIFMD, this article may support supervisors in identifying and monitoring systemic risks in the AIFM sector.

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“Risk can appear in all sorts of places in the financial sector.” With these words, an article in *The Economist* started out its discussion of systemic risks in the asset management industry (Economist, 2014). An increasing body of literature analyzes and discusses the question of how asset managers may pose risks to financial stability (e.g. OFR, 2014; IMF, 2015; FSB-IOSCO, 2015). Indeed, we know, thanks to the collapse of Long-Term Capital Management (LTCM) in 1998, that highly leveraged hedge funds concentrated in a market segment can lead to financial instability.

In 2011, the European Alternative Investment Fund Managers Directive (AIFMD) came into force. It was trans-

posed into Austrian law through the Alternative Investment Fund Managers Act (Alternatives Investmentfonds Manager-Gesetz – AIFMG), which entered into force on July 22, 2013. Based on the Undertakings for Collective Investment in Transferable Securities (UCITS) Directive and the AIFMD, all investment funds within the EU can be divided into two categories: UCITS or alternative investment funds (AIFs)². An alternative investment fund manager (AIFM) is any legal person whose regular business activity consists of managing one or more AIFs. This includes e.g. managers of hedge funds, private equity funds, real estate funds and closed-end funds.

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² An AIF is any collective investment undertaking, including investment compartments thereof, that gathers capital from a number of investors with a view to investing it in accordance with a defined investment policy for the benefit of those investors. The gathered capital may not directly serve any operational activity, and the fund must not fall under the UCITS Directive.

The AIFMD aims to harmonize the rules governing the authorization and supervision of AIFMs across the EU. In particular, it aims to introduce a coordinated approach regarding the identification and analysis of risks that AIFMs and their activities may pose to the financial system while also tackling the consequences of risks for EU investors and markets.

To this end, the AIFMD introduces comprehensive supervisory reporting requirements for AIFMs (AIFMD reporting). AIFMs are obliged to regularly provide the national competent authorities (NCAs) of their home Member State with information on the main instruments in which they are trading and on the principal exposures and most important concentrations of the AIFs they manage in order to enable the NCAs to monitor systemic risk effectively. The introduction of these comprehensive reporting obligations for AIFs and AIFMs makes extensive AIF and AIFM data available to supervisors for the first time.

The NCAs are required under Article 25 AIFMD to use these reporting data for assessing whether the use of leverage by AIFs may contribute to the build-up of systemic risk in the financial system, to disorderly markets or to risks to long-term economic growth. In addition, NCAs have to assess whether AIFs or AIFMs potentially constitute important sources of counterparty risk to credit institutions or other systemically important institutions in another Member State. In Austria, Article 23 AIFMG provides the Oesterreichische Nationalbank (OeNB) with a mandate to analyze these systemic risks to financial stability. The OeNB must report any financial stability concerns it identifies to the Austrian Financial Market Authority (FMA) which, in its capacity as the Austrian NCA, may use the

macroprudential instrument of imposing limits on the level of leverage allowed to AIFMs or issue other restrictions.

In this context, the AIFMD introduces a macroprudential perspective to the supervision of securities and markets (Liebeg and Trachta, 2013). While literature on asset management and financial stability in general is expanding, literature on analyzing systemic risks on the basis of AIFMD reporting under Article 25 AIFMD is still rather limited (e.g. FCA, 2015).

The purpose of this article is to discuss indicators that could be used for identifying the systemic risks caused by AIFs on the basis of AIFMD reporting. In discussing indicators for macroprudential analysis under Article 25 AIFMD, this article contributes to the literature by supporting supervisors in identifying and monitoring systemic risks in the AIFM sector.

The remainder of this article is structured as follows. Section 1 explains in more detail the data collected under AIFMD reporting. Section 2 discusses the identification of potential systemic risks posed by AIFs and their possible indicators. Section 3 presents a brief overview of the Austrian AIFM sector and its AIFMD reporting data. Finally, we provide a conclusion and outlook.

1 Reporting obligations under the AIFMD

The AIFMD and the Austrian AIFMG lay down comprehensive reporting obligations for AIFMs vis-à-vis NCAs. Other major legal sources for AIFMD reporting include Commission Delegated Regulation (EU) No. 231/2013 (level II regulation) as well as guidelines prepared by the European Securities and Markets Authority (ESMA) on reporting obligations under Articles 3(3)(d)

and 24(1), (2) and (4) AIFMD and, in Austria, the FMA's Alternative Investment Fund Manager Reporting Regulation (Alternative Investmentfonds Manager-Meldeverordnung – AIFM-MV).

Both authorized and registered AIFMs in Austria are obliged to provide the FMA with regular information pursuant to Article 22 AIFMG, Article 1(5)(4) AIFMG and Article 110 level II regulation. Authorized AIFMs have to submit their reporting files, according to Article 110(3) level II regulation and Article 2 AIFM-MV, to the FMA on a quarterly, half-yearly or yearly basis, depending on their leverage and total assets under management (AuM), including any assets acquired through use of leverage (Article 2 level II regulation). Subject to Article 1(5)(4) AIFMG, registered AIFMs have yearly reporting obligations to the FMA. According to Article 110(1) level II regulation and Article 2(4) AIFM-MV, AIFM reporting information shall be provided to the FMA as soon as possible and no later than one month after the end of the relevant reporting period. If an AIF is a fund of funds, the reporting period is extended by 15 days. Given the different reporting frequencies, which depend on an AIF's/AIFM's license, leverage and AuM, data covering the full-scale AIF market under a given jurisdiction are only available on a yearly basis.

The legal reporting obligations for registered and authorized AIFMs cover the main instruments in which they are trading, including a breakdown of financial instruments and other assets, and the markets of which they are a member or where they actively trade. For each of the EU AIFs it manages and for each AIF it markets within the EU,

an AIFM must report a breakdown of investment strategies, principal exposures and most important investment concentration, the concentration of investors and the principal markets in which the respective AIF trades. In addition, authorized AIFMs have to report the instruments traded, individual exposures and risk profiles of the individual AIFs (including their market risk profiles, counterparty risk profiles, liquidity profiles, operational, stress test results and other risk aspects such as the leverage values of the AIFs in a detailed manner).

Under Article 111 level II regulation, the legal reporting obligations for AIFs that use substantial leverage require the provision of additional information such as information on the identity of the five largest sources of borrowed cash or securities and on the amount of leverage derived from these sources for each of the listed AIFs. Leverage is considered to be employed on a substantial basis when the exposure of an AIF, as calculated according to the commitment method³ under Article 8 level II regulation, exceeds three times its net asset value (NAV).

Important reporting positions include the value of AuM as well as leverage values calculated according to two different methods: the so-called gross method and the commitment method. AuM as defined in Article 2 level II regulation distinctively differ from the NAV, as AuM include all assets acquired through the use of leverage (i.e. through borrowing of cash or securities, or leverage embedded in derivative positions, or by any other means). Derivative instrument positions have to be converted into the respective derivative's equivalent position in its underlying

³ Significant differences exist between the detailed calculation of leverage according to the "commitment method" under the UCITS Directive and according to the AIFMD level II regulation.

ing assets, using the conversion methodologies given in Article 10 level II regulation. The absolute value of that equivalent position is then to be used for the calculation of AuM.

The calculation of leverage under the gross and commitment methods is defined in Articles 6 to 8 level II regulation. The exposure of an AIF calculated according to the gross method (Article 7 level II regulation) includes the sum of the absolute values of all positions, including derivative instruments converted into the equivalent position in their underlying assets, the exposure resulting from the reinvestment of cash borrowings, positions within repurchase or reverse repurchase agreements, securities lending or borrowing or other arrangements but excluding any cash and cash equivalents which are highly liquid investments held in the base currency of the AIF. The exposure of an AIF calculated according to the commitment method (Article 8 level II regulation) includes the sum of the absolute values of all positions including positions that increase leverage according to the gross method (including cash holdings), but applies netting and hedging arrangements as defined in Article 8(3) to (9) level II regulation. For both the gross and commitment method, the AIF's leverage has to be expressed as the ratio (in percent) of its exposure to its NAV.

For the purpose of macroprudential analysis, the FMA must forward the collected AIFMD reporting data to the OeNB. Given the obligation to cooperate (Article 61 AIFMG), the FMA must, where necessary to perform the required tasks, make all AIFMD reporting data available to the responsible authorities in other concerned Member

States, to ESMA and to the European Systemic Risk Board (ESRB).

2 Identification of potential systemic risks caused by AIFs

Systemic risks are risks that arise at the level of the financial system as a whole, risks to financial stability and risks to financial intermediation such as to the efficient allocation of resources, the functioning of payment systems or to risk insurance (see e.g. Liebeg and Posch, 2011).

Concerns about potential systemic risks posed by AIFs have increased since the last financial crisis. Especially (highly) leveraged investment funds can generate or amplify risks such as market risks, liquidity risks and counterparty risks, which may lead to a misallocation of resources and to extreme losses for creditors.

While these potential sources of risks stemming from AIF activities are not directly caused by AIF leverage, their leverage may considerably amplify all these risks. Therefore, separate analyses of AIFs with substantial leverage⁴ may be part of macroprudential analysis.

This article discusses these risks and their possible indicators on the basis of AIFMD reporting positions. The systemic risk caused by AIFs in the financial system is considered, in general, to arise from risks due to market failures (as discussed in section 2.1) or from counterparty risks (as discussed in section 2.2).

2.1 Risks of disorderly markets

AIFs can cause risks of market disruptions in single or multiple sectors in a variety of ways, e.g. by generating risks of fire sales, liquidity risks, risks of

⁴ "Substantial leverage" means that the exposure of an AIF as calculated according to the commitment method exceeds three times its NAV.

herding and indirect contagion, risks arising from complex portfolios and possibly risks of high frequency trading (HFT).

2.1.1 Risks of fire sales

Asset fire sales are defined as the quick and sudden sale of assets, typically when the seller is in financial distress. In this situation, assets are sold below their intrinsic value, which reduces the asset value of the investment fund concerned. If the investment fund concerned dominates a market or market segment, price anomalies may arise or even cause a market failure. The probability of a sale of assets below their intrinsic value is higher for illiquid assets or an illiquid market segment. In this situation, a downward asset price spiral may be amplified by the imbalances between supply and demand in this market.

To identify risks of fire sales for AIFs, the following indicators may be derived from AIFMD reporting positions: (1) value of main instruments (aggregated) in relation to the total issue of these instruments; (2) main markets where instruments are traded; (3) value of invested instruments in relation to market size if data are available.

2.1.2 Liquidity risk

During the recent financial crisis, a severe drop in market liquidity was observed. This drove up trading costs and had an impact on asset pricing (Foran and Sullivan, 2015). The liquidity of an investment fund refers to the extent to which its holdings can be quickly converted to cash in relation to the redemption period of its shares. A liquid-

ity mismatch arises when an investment fund is invested in illiquid assets and the redemption period is short. A run on an investment fund may develop a specific momentum depending on the structures of the given incentive: the first mover advantage, i.e. the advantage gained by those investors that redeem their fund shares first. The first movers get higher prices per share, and those that sell later may have to face decreasing share values due to fire sales of the investment fund and possibly decreasing asset prices. Given that investment funds may have these effects on market liquidity and that the investment funds industry (including AIFs) is growing, regulators have recently started to pay more attention to the regulation of investment funds' liquidity.⁵

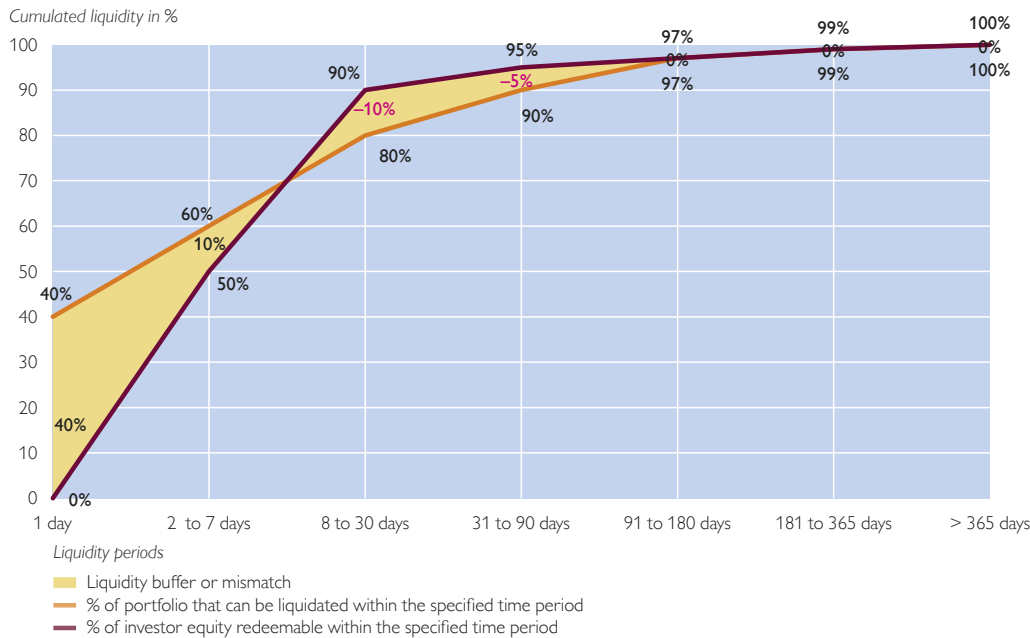
For the purpose of monitoring liquidity risks, an aggregate liquidity profile for the AIF sector (respectively, for individual AIFs and AIF subsectors such as real estate funds that are heavily exposed to liquidity risk) may be derived from the reported data. Reporting data on the liquidity profile of AIFs include the liquidity profile of their assets and of their asset redemption terms. The portfolio's liquidity profile is specified as the share of assets (in percent of the AIF's NAV) that can be liquidated within seven liquidity periods⁶ and the investor liquidity profile is defined as the share of investor equity (in percent of the AIF's NAV) that can be redeemed within the same seven liquidity periods, respectively. The portfolio liquidity profile compares the (aggregate) portfolio liquidity of the assets held by AIFs with the (aggregate) redemption period for investors' shares

⁵ For example, the U.S. Securities and Exchange Commission (SEC) proposed the introduction of liquidity management rules for mutual funds and exchange-traded funds on September 22, 2015 (<http://www.sec.gov/news/press-release/2015-201.html>).

⁶ 1 day or less, 2 to 7 days, 8 to 30 days, 31 to 90 days, 91 to 180 days, 181 to 365 days, more than 365 days.

Chart 1

AIF liquidity profile (simulation)



Source: Simulated data, authors' calculations.

and identifies potential liquidity mismatches as indicators for liquidity risks. An example of such a liquidity mismatch depicted as a cumulative liquidity profile is given in chart 1.

2.1.3 Risks of herding and indirect contagion

Herding and indirect contagion among AIFs may also lead to market failures. Herding is defined as the similar investment behavior of investors. It may amplify the impact of price shocks in case AIFs sell the same assets simultaneously. In addition, herding may increase indirect contagion, which occurs as a result of AIFs applying similar business models. The solvency or liquidity concerns of a single AIF that result in asset sales can quickly spread to funds with a similar investment behavior and thus amplify risks of fire sales, which may lead to market failures. Again, the first mover advantage may

have an amplifying effect in a potential spillover event.

Possible indicators suited to identify any herding behavior of AIFs may be based on investment concentrations in the aggregated AIF portfolio. Changes in the investment behavior of the AIF sector or its subsectors may be used as indicators for herding once time series data are available.

2.1.4 Risks emanating from a complex portfolio

The probability that AIFs cause market disruptions tends to be higher when investment strategies and instruments are complex. In challenging times for financial markets, investors tend to sell complex assets first (Elliott, 2015). Furthermore, the financial crisis has shown that substantial risks may arise from complex derivatives. Especially long-positioned OTC derivatives increase the risk of contagion to the

counterparties of the derivatives (Segoviani and Singh, 2008). These risks are lower for exchange-traded derivatives because of securities deposits and margin requirements.

Indicators by which to measure risks arising from a complex portfolio may be (1) the share of derivatives in AuM and (2) the share of OTC derivatives in total derivatives.

2.1.5 Potential risks arising from high frequency trading (HFT)

While the potentially negative impact of HFT is still under discussion (see e.g. Easley et al., 2011; Hendershott et al., 2011; Chaboud et al., 2014), some studies indicate that market anomalies may be accelerated by market activities connected to HFT (Barker and Pomeranets, 2011; Kirilenko et al., 2014). In addition, HFT could lead to a liquidity illusion (i.e. an overestimation of market liquidity) and has been known to have moved the market value of big companies.

To monitor the risk arising from HFT in the AIF sector, the share of AuM of AIFs with an HFT strategy on their aggregated AuM may be used as an indicator.

2.2 Counterparty risks

Counterparty risk manifests itself as contagion risk emanating from investment funds toward their counterparties and transmitted mainly through liquidity and/or balance sheet channels. All bilateral transactions such as OTC derivatives generate counterparty risk. Counterparties can be creditors, owners, trading counterparties or counterparties based on securities lending activities. A particular focus in AIF risk assessment may be placed on systemically relevant institutions among the counterparties because they have the potential to spread risk into the market quickly.

Indicators that may be used to assess counterparty risks may be the size of the volumes outstanding vis-à-vis the AIFs' counterparties as a share in total assets or in the counterparty's equity. Further indicators may be the size of securities lending activities. Additional analysis might consider the ownership structure of the AIFM sector and examine the spreading of potential contagion risks through this channel.

2.3 Risks to long-term economic growth

Risks to long-term economic growth may materialize as a result of market failures caused by AIFs or decreasing investments in the real economy. Risks of market failures have already been discussed in section 2.1. The costs of substituting AIFs' direct investment in the real economy by direct investment by other financial intermediaries may be used as a proxy for the potential impact of reduced investments in the real economy on long-term growth. Costs of substitutability are calculated as the differences in prices of AIF financing and other sources of financing caused by AIFs' withdrawal from investing in the real economy. If the substitutability of capital is given, the costs of withdrawal of AIFs from investing in the real economy might be insignificantly low.

The size of AIFs' direct investments in the real economy may be derived from the reporting data as an indicator of potential risk to long-term economic growth. However, since the reporting data do not indicate in which country the investments were made, only rough estimates are possible.

3 The Austrian AIFM sector

In Austria, the majority of AIFs are institutional funds that are subject to both the AIFMD and the Austrian In-

vestment Fund Act. As at June 30, 2015, there were 27 authorized and 20 registered AIFMs managing 1065 AIFs in Austria. For AIFMD reporting as at June 30, 2015, however, only 24 AIFMs and 901 AIFs were subject to reporting requirements. They account for an aggregated NAV of EUR 85.5 billion and AuM of EUR 104.1 billion. The 901 AIFs can be broken down into 3 hedge funds, 8 real estate funds, 377 fund-of-funds and 513 other funds (which are the above-mentioned institutional funds). Only 3 funds (namely the hedge funds) had a substantial leverage and 493 had a leverage of more than 100% (as calculated either according to the gross method or to the commitment method). For the reporting date of June 30, 2015, the results of the OeNB's macroprudential analysis of the Austrian AIFM sector under Article 25 AIFMD do not indicate that the use of leverage by AIFs contributes to the build-up of systemic risk in the financial system, to disorderly markets or to risks to long-term economic growth, and neither do they pose significant counterparty risks.

4 Conclusions and outlook

Alternative investment funds (AIFs) may generate or amplify systemic risks in multiple ways. This article discusses possible indicators that may be used to

identify systemic risks emanating from AIFs on the basis of AIFMD reporting data, which are now available to supervisors.

This novel macroprudential perspective toward the supervision of securities and markets in the EU builds on a harmonized approach to data collection and analysis under the AIFMD. At the current juncture, some data and measurement issues and statistical challenges across jurisdictions remain. Once data across all jurisdictions are available, an analysis of the full-scale EU AIF market by ESMA and/or the ESRB will be of significant value. In addition, once time series data are available, it will be possible to monitor trends in the investment, risks and leverage of AIFs. In this context, appropriate, harmonized and detailed indicators for use in macroprudential analysis should be developed for supervisors to be able to identify and assess systemic risks.

This article aims at starting the discussion on possible indicators that can be derived from AIFMD reporting data and used to identify potential risks caused by AIFs. It may be of particular interest for NCAs, supervisors and central banks. Finally, it may also be of interest for AIFMs as it helps understand AIFMD reporting requirements and their use for risk analysis.

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