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What could happen when bonds go bad?

The ESRB publishes its July 2020 assessment on Fallen Angels Risk

July 30, 2020

Quick Take

Since the 2008 financial crisis, global investment levels have moved rapidly into investment grade as well as high yield corporate bonds. A large number of fixed-income mandates require portfolio managers to divest "**fallen angels**," namely investment-grade bonds that are downgraded to high-yield status. According to the ESRB, this may distort risk premia: the yield on high-yield may become too high and that on investment-grade bonds too low, particularly either side of the cliff edge between investment-grade (BBB-) and high yield (BB+). This poses significant dangers for financial institutions, particularly those who themselves are, or may become, **fallen angels**, In this Client Alert, we describe the steps they should take to protect themselves.

The ESRB published a Technical Note on July 23, 2020 warning about the risks of corporate bond downgrades, notably the impact on **fallen angels**. While the ESRB does not propose definitive policy actions for supervisors, it does shed light on some of the thinking and provide an indication for some market participants on the steps they need to take to prepare, given the global nature of the issues.

In addition to some suggested steps highlighted herein, firms, regardless of whether they are potential sellers or buyers of **fallen angels**, will have an interest in improving their risk (quantitative and qualitative) assessments of the bonds. They will specifically have an interest in assessing bonds'/issuer's deterioration probability and the likely pricing/payment impacts as well as how to adapt due diligence to gauge the strength of the issuer's/corporation's prospects during the current COVID-19 environment and beyond.

When angels fall

The European Systemic Risk Board (**ESRB**) is responsible for the macro-prudential oversight of the EU's financial system and systemic risk prevention and mitigation. The ESRB therefore has a broad remit, covering banks, insurers, asset managers, shadow banks, financial market infrastructures and other financial institutions and markets. In pursuit of its mandate, the ESRB monitors and assesses systemic risks and, where appropriate, issues Warnings and Recommendations. With COVID-19's continued pressure on the economic outlook plus the growing stock of potential/actual corporate bonds that have become "fallen angels", the ESRB on April 2, 2020, authorized research that flowed into the ESRB Technical Note's findings on the following question: "What if a large number of downgrades and forced sales were to occur at the same time?"

This question may seem simple, but it is a growing risk. When a corporation's financial performance deteriorates - whether as a result of a black swan event (such as COVID-19), poor recovery and/or supply chain management or mismanagement of funds - credit rating agencies will downgrade an outlook and/or the bond itself. This can create a reinforcing forced-selling scenario among investors, who can no longer continue to hold those bonds (**fallen angels risk** sometimes abbreviated as **FAR**). Buyers of these fallen angel bonds may, provided the fundamentals make sense, secure equity-like returns with fixed-income like risks if the entry point is attractive from a spread/yield perspective for the bond, but equally in relation to indices generally including ahead/following a rebalancing. Assessing these risks, possible rewards and how to seize opportunities regardless of what side of the trade one is on, as well as generally shielding against fallen angel risks, will require both quantitative and qualitative aspects, given the complexities that COVID-19 and legal, regulatory and fiscal responses have introduced into a very new dynamic.

Put simply, downgrades could provoke a wave of forced sales by investment funds, insurers, pension funds and others, which are constrained by regulations or investment mandates to hold only investment-grade paper or which wish to avoid an unprovisioned increase in their capital requirements or simply to avoid the high-yield market. This shift could amount to more than €150 billion in Europe, half the size of the current high-yield market, putting huge pressure on that market to absorb them. The resulting declines in prices will likely have knock-on effects on asset holders' balance sheets and on the ability of those firms to finance themselves in the markets. This would in turn seriously hamper the real economy and its recovery. Hence, when angels fall, they fall with a thud, and some fall harder than others.

What the ESRB's analysis covers and what it does not

On July 23, 2020, the ESRB published a technical note summarizing the findings of a top-down analysis that attempts to quantify the impact of a mass bond downgrade scenario on the financial system (the **ESRB Technical Note**)[1]. The resulting 39 pages of (welcomingly quite accessible) technical analysis assess what hypothetically might happen if such a question were to materialize, what this means for (forced) selling activity but also for buyers across a range of behavioral scenarios[2] and assumptions.

The main focus of the ESRB Technical Note is on the potential sales of "fallen angels" i.e. corporate, sovereign and even regional/municipal bonds, which were formerly investment grade but have been downgraded to high yield. The ESRB Technical Note's analysis covers only "plain vanilla" financial and non-financial corporate bonds (thus excluding unrated financial and non-financial corporate bonds,

1. Available here.

2. The ESRB Technical Note's analysis assumes that financial institutions respond to the instantaneous shocks partly mechanically (e.g. implementing fixed investment mandates) and partly through behavioral reactions (e.g. management actions or portfolio rebalancing). The forced sale analysis focuses only on the first month after the downgrade shock, as price impacts are unlikely to be of first-order importance over longer time horizons. The results are based on behavioral assumptions, which the ESRB states should be viewed as hypothetical "what if" reactions, rather than specifying an evidence-based expected or likely behavior of different institutional sectors. The simulations the ESRB uses analyze three different sets of "behavioral scenarios", which, as the estimated losses further below show, are important drivers of the results. These are:

- **Mild behavioral scenario**: Only passive funds are assumed to engage in forced sales; they are assumed to sell all of their fallen angels. All other institutions are assumed not to engage in any forced sales.
- **Severe behavioral scenario**: Passive funds behave as under the mild behavioral scenario. In addition, active funds, insurers and pension funds are assumed to sell some of their fallen angels. Further details on the assumptions underlying this scenario are provided below.
- **Extreme behavioral scenario**: Passive and active funds, pension funds and insurers sell all of their fallen angels.

sovereign bonds, securitizations and covered bonds, among others). Fallen angels are typically:

- Susceptible to a higher price volatility due to a major shift in the status of the issuer/corporate – and cliff-edge pricing possibilities driven by index rebalancing;
- Sold off in bulk quantities prior to an anticipated downgrade and/or removal from indices;
- Seen as an opportunity for some investors (the ESRB pins its hopes on "hedge funds" in its analysis) that will actively invest in fallen angels provided the issuer/corporation has strong fundamentals and there are hopes of an attractive risk/reward profile that can outperform high-yield issuances when a fallen angel is significantly discounted to fair value and thus underpriced compared to a the broad high-yield market; and
- Subject to possible heightened default rates but also insolvency risk. Examples of bonds going from investment grade straight to default without becoming fallen angels include Enron, Lehman Brothers, and MF Global.

Crucially, it is also conceivable that, in addition to sales (and correspondingly purchases), a number of repo and securities lending arrangements in respect of such bonds, correlated financial instruments (including fixed income funds and ETFs) as well as any nature of exchange-traded or OTC-traded derivatives referencing or hedging, the bonds and other financial instruments would be unwound between private market sector participants and possibly also with those facing public sector market participants, including central banks (as collateral taker/asset purchasers).

The ESRB Technical Notes' results have not been validated in a bottom-up exercise involving any individual financial institution and the ESRB notes that the "volume of sales presented should be read as a 'what if' analysis, rather than an evidence-based estimate of what amounts various sectors might realistically choose to – or be forced to – sell in such scenarios."

Putting the question into the context of the ESRB's actions

As past crises have demonstrated, any such event would not only have financial stability implications on markets and entities across the financial system. Notably they would likely impact on closely connected sectors such as insurers and investment funds that might be more affected than less correlated sectors. To counteract the procyclical impact that downgrades of corporate bonds could have, the authorities making up the European System of Financial Supervision (**ESFS**)[3] as well as the ECB, in its role as collateral taker in Eurosystem collateral operations as well as in Eurosystem asset purchase programs, would likely have to take targeted and coordinated actions. It should be noted that the ECB has already taken action in its collateral eligibility criteria to include fallen angels and could take further action to provide a soft cushion.

While the ESRB Technical Note does not hint at what the ESFS' actions might be, it does make for interesting reading given the level of detail addressed to the severity and extent of impact. This in turn provides insight into the thinking of the ESRB and the ESFS' possible policy actions to prevent or at least cushion some of these risks, notably as to prepare for dealing with fallen angels risk in respect of their own portfolios or in reaction to action by others. The ESRB Technical Note's findings should be considered in the context of the ESRB's earlier actions on this specific topic[4] as well as progress by the ESRB more generally in the following areas:

- **Implications for the financial system of COVID-19 guarantee schemes and other fiscal measures.** Debt moratoria, guarantee schemes, and other fiscal measures are being put in place by EU Member States to protect businesses and households from the effects of the COVID-19 pandemic. Since EU economies are highly integrated, the different measures implemented by individual countries (each with differing parameters) to support their economies during the COVID-19 pandemic might have

3. I.e. comprised of: the ECB in its role at the helm of the Single Supervisory Mechanism (**SSM**) and that of the Single Resolution Board (**SRB**) in its role at the helm of the Single Resolution Mechanism (**SRM**) of the Banking Union as well as the European Supervisory Authorities (**ESAs**) i.e. the European Banking Authority (**EBA**), European Securities and Markets Authority (**ESMA**) and the European Insurance and Occupational Pensions Authority (**EIOPA**) as well as the national competent authorities (**NCAs**) of the EU-27 Member States

4. Notably the ESRB has more recently published in May 2020 an "Issues note on liquidity in the corporate bond and commercial paper markets, the procyclical impact of downgrades and implications for asset managers and insurers"

an impact on other countries. In response, the ESRB decided to establish an EU-wide framework to monitor the financial stability implications of the support measures. With this framework, ESRB intends to complement and enhance what is being done at the national level via the exchange of experiences and the early identification of cross-sectoral and cross-border issues. The ESRB also adopted a Recommendation that introduces minimum requirements for national monitoring and establishes a framework for reporting to ESRB. This Recommendation does not create new reporting requirements for financial institutions, but relies on existing regulatory data sets.

- **Market illiquidity and implications for asset managers and insurers.** In a Communication to EIOPA, the ESRB strongly encouraged EIOPA and its members to promptly finalize and operationalize the framework for the monitoring of liquidity risks in the insurance sector. This would facilitate a more informed and timely assessment of any potential financial stability risks stemming from liquidity risks in the insurance sector. Beyond the need to address risks and vulnerabilities stemming from the current crisis, and as ESRB has emphasized in the past, the coincidentally ongoing Solvency II Review provides an opportunity to better enable supervisors to address liquidity risk in the (re-)insurance sector as well as to enhance Pillar 2 provisions in the Solvency II regulatory regime. This will require individual (re-)insurers, with a vulnerable liquidity profile, to hold a better liquidity buffer.
- **System-wide restraints on dividend payments, share buybacks, and other payouts until at least January 1, 2021.** The ESRB decided to support and complement previous initiatives of ECB, EBA, EIOPA, and national authorities by issuing the 'Recommendation on the restriction of distributions during the COVID-19 pandemic'. The ESRB Recommendation, which covers banks, certain investment firms, insurers, reinsurers, and central counterparties, takes into account the critical role these sectors of the financial system play in the real economy, in particular during the times of crisis and is accompanied by a Background Report. With this Recommendation the ESRB aims to achieve a uniform approach to restraints on payouts across the EU and across different segments of the financial sector.
- **Liquidity risks arising from margin calls.** The ESRB acknowledged that market shocks, such as sharp drops in asset prices and high levels of market volatility, translate into increases in variation margins and may also lead to significant initial margin calls on positions in cash securities, commodities, or derivatives. Recognizing the risks resulting from such a situation, the ESRB decided to issue a Recommendation[5], as supplemented by a Background Report, aimed at limiting cliff effects in relation to the demand for collateral, also including client clearing services and non-centrally cleared markets. The Recommendation also aims to enhance CCP stress test scenarios for the assessment of future liquidity needs limit liquidity constraints related to margin collection; and promote international standards related to the mitigation of procyclicality in the provision of client clearing services and in securities financing transactions.

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5. The ESRB has published a series of Recommendations on the liquidity risks arising from margin calls, focusing on margin collection by CCPs, as follows:
- Recommendation A: national regulators should ensure that CCPs analyze the performance of their policies on margin and that clearing members and financial and non-financial counterparties apply risk management policies prudently in a way that does not result in sudden cliff effects in margin calls;
- Recommendation B: ESMA should review its draft technical standards on liquidity risk controls under EMIR to require CCPs to include default of any two entities that provide services to the CCP and that could materially affect the liquidity position of CCPs in their stress scenarios and, in the meantime, national regulators should ensure that stress scenarios do include such a default;
- Recommendation C: national regulators should ensure that CCPs and clearing members avoid creating unnecessary liquidity constraints when issuing margin calls and collecting margins; and
- Recommendation D: national regulators should contribute to international discussions on ways to mitigate the pro-cyclicality of margin and haircut practices in exchange traded and over-the-counter derivatives services and the European Commission should consider proposing EU legislation to implement any global standards arising from such discussions.

NCAs are required to report on their implementation of these Recommendations by: November 30, 2020 for Recommendation A, B and C. ESMA will report on its implementation of Recommendation B by December 31, 2021. NCAs should report on their implementation of Recommendation D by December 31, 2021, while the European Commission should report on its implementation of Recommendation D by December 31, 2022.

The ESRB Technical Note's findings

The ESRB Technical Note states that estimates from the European Central Bank (**ECB**)[6] and ESRB place the likely amount of BBB-rated non-financial corporate bonds, that could be downgraded, at between €110 billion and €132 billion. In this context, it is important to recognize, as the ESRB highlights, both (i) the "what if" nature of the ESRB Technical Note's analysis, using higher downgrade percentages and multiple-notch downgrades (for example from A to BB), and (ii) the difference in coverage (i.e. financial corporate bonds and non-euro area bonds are included in the ESRB Technical Note's analysis). This therefore complements the analysis of likely downgrades by the ECB and ESRB with two hypothetical scenarios.

The ESRB Technical Note's analysis quantifies[7] the impact of a mass downgrade on the financial system by looking at European financial institutions when considering the impact of forced bond sales. The estimates of forced sale volumes include global (non-European) passive investment funds, given that sales of their holdings would also have an impact on European institutions holding the same assets. The ESRB Technical Note's analysis considers two scenarios that are characterized by an increasingly large percentage of bonds being downgraded, both accompanied by the same severe yield shock. Using these two scenarios, the report then analyses (i) direct losses occurring owing to increases in yields, (ii) the amount of forced sales of fallen angels that could potentially result from these downgrades, and (iii) the possible extent of the price impact (and hence additional losses) of these forced sales on all bond holders. The analysis applies three different behavioral scenarios regarding how financial institutions might react, as well as two regimes of potential price impacts ("low market liquidity and high price impact" and "high market liquidity and low price impact").

In the first downgrade scenario, in which the ESRB's EU dataset would assume approximately 25% of downgrades are from BBB to below investment grade, the ESRB estimates the EU financial system-wide initial losses would amount to €146 billion. Depending on the behavioral assumption regarding institutional reactions, these losses may trigger forced sales of fallen angels amounting to between €30 billion and €198 billion. In turn, these fire sales, which reflect the assumed stressed market conditions in which they take place, could trigger additional fire sale losses, owing to the high-yield corporate bond market's assumed limited capacity to absorb such sales. These additional losses would, in the ESRB's estimates, range from between €2 billion and €18 billion under the "mild" behavioral assumption, which considers forced sales by index-tracking funds only, to between €10 billion and €64 billion under the hypothetical extreme behavioral assumption.

Under the second downgrade scenario (which assumes that around 45% of downgrades are fallen angels), the initial losses could climb to €213 billion across the EU financial system, triggering up to €373 billion of forced sales of fallen angels, which, under the severely stressed assumptions, could produce up to €85 billion of additional losses. While the ESRB expects that the price impact of forced sales would not be permanent and prices would revert to their fundamental value over a longer time horizon, it considers that capital may not be available fast enough to prevent price dislocations. Institutions that have sufficient balance sheet capacity and a long-term investment perspective, enabling them to hold on to the assets, would, in the ESRB's assessment be "only" subject to suffering accounting losses, which would subsequently be reversed. Conversely, the ESRB states that institutions that did sell some of the bonds would "lock in" the loss.

Overall, the ESRB's analysis shows that in a severe mass downgrade scenario, coupled with a corresponding yield shock, initial losses from

6. Notably the ECB's Securities Holding Statistics (SHS), which cover the global holdings of relevant Eurozone financial institutions as those from some EU jurisdictions that report voluntarily. The amounts that the ESRB Technical Note flags are at risk of downgrades can, as set out in the Executive Summary prefacing the ESRB's findings, be benchmarked to the following SHS data:

- The total assets of the banks included in the data amount to roughly €27 trillion and total equity amounts to €1.9 trillion (€1.65 trillion in terms of CET1);
- For the insurance sector, total investments stand at approximately €8.9 trillion;
- The Total Assets held by EU passive investment-grade corporate bond funds is €155 billion;
- EU active investment-grade corporate bond funds hold Total Assets of €480 billion. The total value of the EU investment-grade and high-yield corporate bond markets stands at around €3 trillion.

Where **Total Assets** refers to all assets on the balance sheets of funds and usually do not include derivative positions.

7. Using a data set and models from the ESAs, the ECB, the ESRB and the Bank of England.

repricing could amount to €150-200 billion across the EU's financial system. Fire sale losses, stemming from distressed market reactions might add another 20-30% to these losses, depending on how much of their holdings the institutions would sell and how (il) liquid markets would turn out to be.

Importantly, the ESRB Technical Note, in contrast to the work in May 2020 (see footnote 4), does not assess:

- The impact of fallen angels on the performance of indices and related investment returns;
- Any real distinction between the impact on regulated versus non-regulated market participants or on active versus passive investors, which may be more affected;
- The impact of such losses (regardless of firm type and/or investment strategy) on prudential regulatory capital, liquidity and solvency requirements of relevant regulated firms in relation to a change in bond ratings and/or correlated financial instruments, including derivatives;
- The corresponding increase in margin calls and/or scramble for eligible collateral, including to replace bonds that have become fallen angels; and
- The impact and consequences of increased funding costs for the companies whose bond yields have increased, including as a result of cascading stress in the high-yield market and change in credit default swap premia. Likewise, it does not assess what this might mean for non-financial companies needing to rely more on credit lines from banks as opposed to being able to issue bonds, which in turn places stress on capital ratios of banks, affecting their capacity to provide credit in the event of large-scale downgrades.

All of the additional considerations could contribute to a sizeable addition to the losses described in the ESRB Technical Note.

What can market participants do to prepare?

Ratings downgrades, non-performing loans and exposures are, just like fallen angels, a known risk. The ESRB Technical Note aims to shed light on the likely impact. In many ways, the ESRB's welcome research points to the nature of this risk, but also provides an opportunity for stakeholders to prepare to actively identify, mitigate and manage fallen angel risk in their portfolios, those of their counterparties and/or clients, as well as how to possible seize opportunities. Market participants and trustees may want to consider taking the following steps - with the assistance of legal counsel and their professional advisers - in relation to their documentation and non-documented arrangements:

1. Assess the strength and data quality of available sources and metrics used to calculate a deterioration probability of a corporate bond over a 12 to 18 month horizon to assess fallen angel risk both in terms of quantitative and qualitative due diligence;
2. Review investment mandates to ensure adequate flexibility to deal with fallen angel risk as well as compliance with risk appetite frameworks and relevant tolerance levels;
3. Review collateral asset inventories of what financial instruments (and their susceptibility to fallen angel risk) are being provided/taken as collateral, including with whom (as well as CCPs and financial market infrastructure). They should equally assess the impact of heightened liquidity pressures from increased volatility and margin calls;
4. Update any inventory of credit rating triggers as they apply to fallen angels or exposures referencing fallen angels;
5. Review documented and non-documented hedging arrangements of exposures to fallen angels or closely correlated financial instruments;
6. Carry out stress testing and reverse stress-testing of quantitative and qualitative assumptions and risk models relevant to points 1 to and including 5 above;
7. Consider resilient forms of other funding channels for issuers, as non-financial companies' access to market-based finance may be more costly/difficult as widespread fallen angels would likely stress the high-yield market, cause credit default swap premia to rise and increase funding costs;
8. Consider client/investor-facing disclosures to comply with regulatory requirements and financial reporting requirements; and
9. Assess buying opportunities in respect to fallen angels as well as ETF-driven activity impacting fallen angels' risk/reward profile.

While it is conceivable that disputes relating to investment losses from mismanagement of fallen angel risk could ultimately translate into lengthy contentious proceedings and/or supervisory action[8], early engagement and planning with counsel may be beneficial to forward-plan how a firm can minimize any further legal, regulatory or reputational risk from dealing with fallen angel risk.

Outlook

With downgrades and negative ratings outlooks on the rise adding a new wave of pressure to greater amounts of insolvencies and general uncertainty of the economic outlook and recovery, financial services firms and non-financial companies will want to navigate this new dynamic beyond the prolonged pandemic preparedness[9] with caution and agility. This means perhaps taking a much more holistic view of immediate and horizon risks in the operating environment, including the risks that some business sectors may never return to the same level or nature of engagement as prior to COVID-19.

Equally, they should examine the continued volatility in financial markets, including erratic trading and price formation behavior ranging from the oil and other commodities markets through to even the talk of trading venue shutdowns,[10] all of which can compound the amount and performance of fallen angels and related risks.

If you would like to discuss strategic options or any of the items mentioned above, in particular how to plan ahead in dealing with fallen angel risk and meeting compliance requirements, how to amend documentation, or how to seize opportunities for your business or your clients more generally, please contact our Eurozone Hub key contacts.

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8. and the ESRB, and other commentators' warning calls may weaken legal arguments.

9. See coverage from our Eurozone Hub available here.

10. See coverage from our Eurozone Hub available here.

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