Auto ABS: revving up RV

- **Record volumes**: The European Auto ABS landscape has seen a remarkable increase in transactions that securitize residual value (RV). In 2016, the number of deals exposed to RV reached a record-high at roughly EUR 5.7bn from 14 transactions, thus accounting for almost a third of primary market Auto ABS supply. We project new issuance of RV deals to be of similar magnitude in 2017 fuelled by automakers' incentives to originate lease contracts.

- **Spread pickup**: From a relative-value perspective, while spreads of senior tranches of RV transactions have compressed notably recently, they offer 10-20bp pickup in spread over benchmark seniors for only moderately longer WALs, thus trading somewhere between benchmark seniors and German mezzanine of non-RV deals.

- **Performance and ratings stability**: Looking under the hood of RV transactions, collateral performance metrics is fundamentally sound and we detect no material underperformance compared to benchmark deals. Looking ahead, pool performance should be supported by the benign macroeconomic backdrop, low early-stage delinquencies and a stable used car market.

- **Originator support**: While RV Auto ABS are exposed to a broad set of unique risks, we view risks associated with manufacturers to be the most relevant type of RV risk as the honoring of buyback agreements, guarantees and the issuer put option ultimately depend on the originator's health. We are constructive on the sponsors' strong commitment to ABS and their improved credit metrics.

- **Strong credit enhancement and solid structures:** RV structures are not only well equipped to withstand severe-risk scenarios and portfolio stress given CE levels ranging from 14-34% in recent transactions, but also have a proven track record in terms of collateral performance and ratings stability.

- **Resilience to stress**: Structurally, Auto ABS securitizing RV are able to withstand significant levels of losses and defaults. Our stress exercise, in which we examined ten senior tranches of recent transactions, demonstrates that senior tranches are able to absorb significant shocks.

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Introduction

Auto ABS deals that securitize the residual value (RV) of the underlying lease receivables are becoming increasingly popular. Last year amid a lack of supply from other sectors a plethora of these deals were launched. We believe that investors who have previously not invested in this niche sector should broaden their scope by increasing their expertise beyond traditional transactions in order to counterbalance sourcing issues. This particularly applies to many of the more-traditional Auto ABS investors, which have hitherto shunned RV transactions. Admittedly, the deals come with a number of risks not present in many of plain-vanilla Auto ABS. This is not to say that these transactions are not prepared with an eye to mitigating different risks. In fact, RV structures are not only well equipped to withstand severe-risk scenarios and portfolio stresses but have a proven track record in terms of collateral performance and ratings stability, while at the same time offering a decent spread pickup over their more conservative equivalents.

Why RV securitization?

The European Auto ABS landscape has seen a remarkable increase in transactions securitizing RVs. In 2016, the number of deals exposed to RVs reached a record high, while in the same year, Auto ABS backed by regular loans or leases registered a drop. Many traditional investors who favor the latter given their short weighted-average lives, low risk and favorable regulatory treatment, among other things, were forced to sit on the sidelines given their investment guidelines. While there is no such thing as a standard template or norm in Auto ABS transactions, market participants who had steered clear of RV exposure were caught off-guard and likely wondered what precipitated the sharp increase in RV transactions. We attribute the momentum in RV to three factors. First, many captives (i.e. automakers' financing subsidiaries) have preferred issuing leases to issuing loans for reasons of profitability or flexibility. Leasing exposure typically comes with RV risk at the end of a contract's maturity, and it is usually up to the originator to securitize these unamortized amounts as part of an Auto Lease ABS or not. In a rare deal, Volkswagen Leasing even created an ABS transaction in 2015 that was entirely backed by RVs. Second, UK Auto ABS volumes have grown. The UK Auto ABS sector has been exposed to RVs mainly through the increased popularity of personal contract purchase (PCP) loans. Lastly, Swiss Auto ABS, which first emerged in 2012, have become a better-established deal type, along with its unique structure and RV risks.

Differences to regular Auto ABS in a nutshell

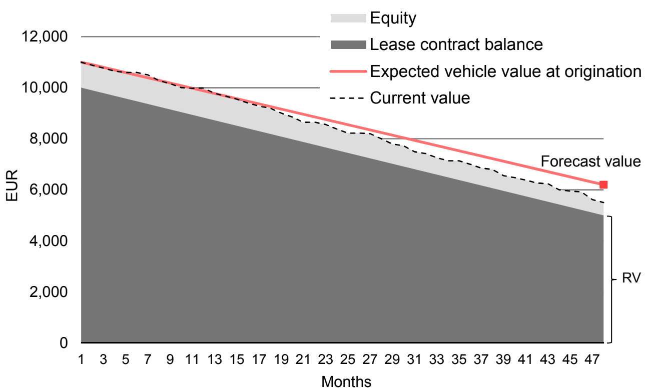
RVs warrant careful scrutiny of structural and collateral characteristics

RV exposure is a genuine concern to ABS investors. Auto lease transactions securitizing the RV portion of underlying assets entail higher risk than regular loan or lease transactions. Unlike the amortization of car loans, in which the loan balance is fully paid off at maturity, there is still a considerable unamortized amount in leasing contracts when the lease term expires after three or four years. This is called the RV of a lease. The risk from RV in Auto ABS arises if a vehicle's market value realized from selling the car at the termination of the lease contract is less than the initially expected RV that is the basis of the securitization. The RV is not securitized in benchmark German Auto Lease ABS, such as BSKY or VCL, with the issuers purchasing only the lease installments. In UK PCP contracts, RV risk arises from the fact that obligors are entitled to return a car to the financing company once 50% of the total amount payable is repaid (see the section on lease types on page 17). The fact that the RV is unknown prior to expiration and can therefore only be estimated exposes ABS backed by portions of RV cash flows to greater risks than their more predictable counterparts (see left chart below). Consequently, RV lease receivables' cash flows are less statistically predictable and subject to less homogenous performance despite having substantial granularity. RV Auto ABS' different risk profile requires different, less standardized structures, which in turn warrant more expertise and in-depth analysis.

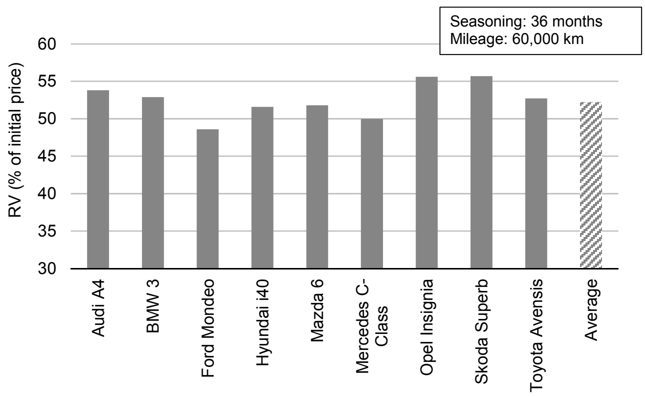
Rating agency models take into account the different pool characteristics and accompanying risks in their analysis of RV Auto ABS – for example, by applying haircuts to recovery rates, greater credit-enhancement requirements or other structural mitigants. Nevertheless, investors should pay close attention to transactions involving large RV portions, low levels of granularity and industry diversification, as well as long revolving periods. In cases of low RV portions, however, we acknowledge that one cannot necessarily draw a bright line distinction between RV and non-RV transactions, and this does not mean that the former are any more risky than the latter per se. In certain cases, it is difficult to distinguish RV deals from standard Auto ABS given their minimal RV exposures. In general, the lower a transaction's RV exposure is, the more similar the transaction is to other Auto ABS, up to the point where the difference is barely visible anymore. To some extent, transactions with a low portion of securitized RV can therefore be difficult to distinguish from regular Auto ABS in structure and pricing, particularly among UK deals. As such, low-portion RV transactions should not be labeled riskier in and of itself.

RESIDUAL-VALUE PROJECTION AND VARIATION IN USED CAR PRICES

Example of a conservative RV projection for a 48-month contract



Variation in current RVs for selected used car models in Germany*



*middle class segment

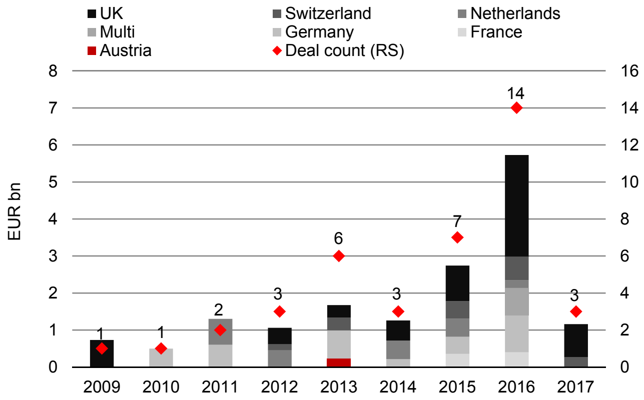
Source: Moody's, Schwacke, UniCredit Research

New issuance volumes

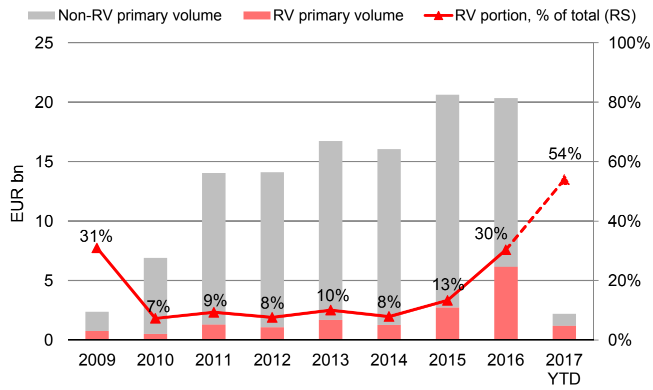
European Auto ABS new issuance maintained its momentum in 2016 given investor-placed volumes of EUR 20.5bn, which was only about 3.5% below the record volumes of EUR 21.3bn experienced in 2015. Among the major trends observed were a record high in publicly offered volumes, more non-captive issuance and all-time highs in UK volumes and sterling paper. Perhaps most importantly, however, was the impressive surge in the number of transactions that securitized RV exposure. These also hit a record high of roughly EUR 5.7bn, and by a large margin (see left chart below). After seven transactions were launched in 2015, the RV Auto ABS sub-sector gained additional momentum, with originators churning out 14 deals. The left chart below also illustrates that UK transactions, which represent 48% of total RV Auto ABS issuance volume, remain the driving force behind RV Auto ABS issuance, although German, French and Swiss transactions continue to play an important role. The extent to which RV transactions will feature prominently in the European Auto ABS landscape is also evident in the right chart below, which illustrates that the sector has clearly undergone a shift towards adapting more RV exposure. RV transactions accounted for 31% of primary Auto ABS volumes in 2016, as opposed to only 13% and 8% in 2015 and 2014 respectively. In other words, leasing originators have shown a preference for securitizing RV cash flows rather than excluding them from underlying portfolios. Hence, for the first time, primary supply from lease transactions that include RV has surpassed that of regular (i.e. non-RV) lease Auto ABS volumes. New issuance in 2017 looks set to keep pace with that of the previous year; three RV deals were launched in 1Q17.

EUROPEAN RV SECURITIZATION IS TAKING OFF

Investor-placed RV transactions by country*



Increasing portion of RV among Auto ABS transactions*



*as of 2 May 2017

Source: UniCredit Research

RV deals have a larger footprint in the primary market

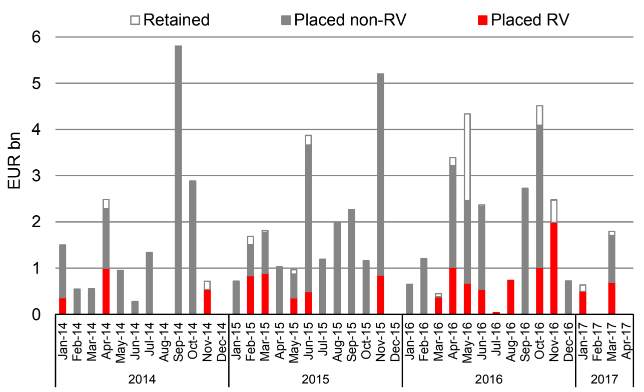
While RV transactions were fairly rare up until 2015, they have now become ubiquitous. As illustrated in the lower left chart, which shows a monthly breakdown of new issuance volumes from 2014 to the present, RV transactions' strong primary market activity in 2016 and their contribution to total supply is obvious. Importantly, given RV deals' non-eligibility as part of the ECB's Eurosystem, which also makes them ineligible for purchase as part of the ECB's asset purchase program, solid new-issuance volumes are unlikely to be linked with the ECB's ABSPP, which was announced in September 2014 and launched in November 2014.

A growing RV universe

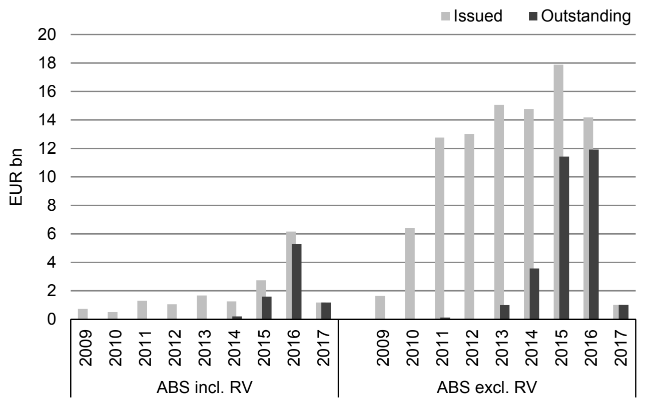
The lower right chart shows outstanding volumes per vintage and illustrates that, although replenishment periods and bullet structures seen in many RV deals have resulted in senior notes having longer WALs, they do not necessarily translate into RV transactions having longer life-cycles than those of their rapidly amortizing and shorter-WAL plain-vanilla counterparts. The slower repayment of RV deals is largely a result of their inherent structural features, such as their use of revolving periods and the single-bullet repayment feature of Swiss RV Auto ABS transactions – while their time until maturity is similar. The current RV Auto ABS universe has grown to roughly EUR 8bn in April amid positive net issuance (that is, new-issuance volume exceeding redemptions).

NEW ISSUANCE VOLUMES AND OUTSTANDING VOLUMES

Firmly established: monthly Auto ABS volumes by type and retention



Primary market issuance and outstanding volume by type



*as of 2 May 2017

Source: UniCredit Research

RV deals cater to a broad investor base

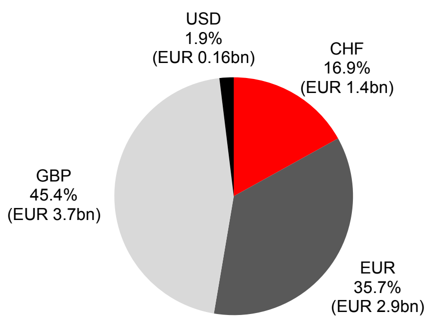
Although RV transactions' investor base in not as deep as that common among Auto ABS, RV transactions do have fewer anchor investors, in part due to their lower volumes, their more illiquid nature and regulatory drawbacks. The left chart below shows that RV Auto ABS cater to a broad, international investor base, as issues span senior and mezzanine tranches denominated in GBP, EUR, CHF and USD. Primary supply has been tilted towards UK issues, which have accounted for about 45% of total RV Auto ABS issuance volume since 2013 (and roughly equivalent to EUR 3.7bn).

Who buys RV ABS?

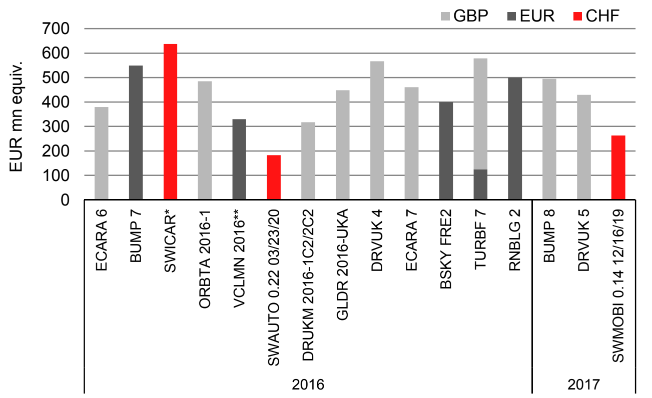
Regulatory drawbacks for RV deals and their ineligibility for the Eurosystem repo window are also reflected in their investor base. Their primary market allocation reveals a lower share of bank investor participation in RV deal allocation than real-money investors, which account for an above average share of the final order books in these transactions – with asset managers and funds often buying 60-70%, as opposed to their 20-40% take-up in German benchmark deals

CURRENCY DENOMINATION AND OVERVIEW OF RECENT TRANSACTIONS

RV primary volumes by currency (2013 to present)



Recent RV transactions: placed volumes and currency denomination



*Swiss Car ABS 2016-1 and 2016-2; **multiple VCLMN issues

Source: UniCredit Research

Drivers of RV Auto ABS supply

Originators' preference for leases drive RV Auto ABS volumes

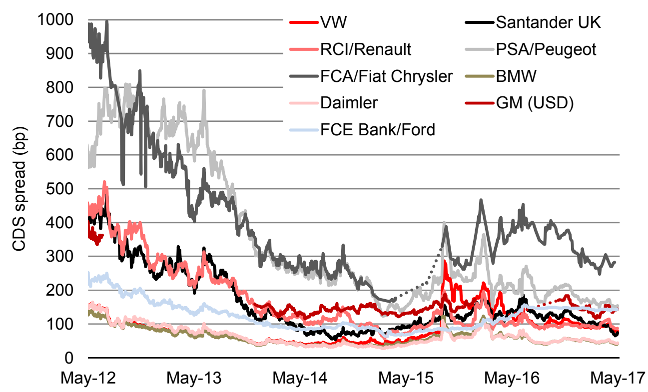
European RV Auto ABS primary market volumes in 2017 and beyond are likely to be a function of a broader range of variables; some of these have already been playing a more important role as of late. The noticeable increase in RV securitizations reflects automakers' incentives to use leases (rather than loans, which do not entail RV exposure) as a commercially attractive financing product. Not only do leasing contracts allow originators to retain a relationship with customers after a lease expires – these relationships can be used to offer a replacement vehicle when the customer turns in the car – they also allow originators to reduce fixed monthly installments for lessees by leveraging RV (by promoting a vehicle's affordability), in contrast to all-in financing terms. This often reduces comparability with competitors or non-captives (i.e. consumer banks). Other potential drivers are the improvement in deal economics for RV transactions given reduced funding costs and the palpable momentum in new car-loan generation amid a rise in new-car registrations across eurozone countries.

Originators

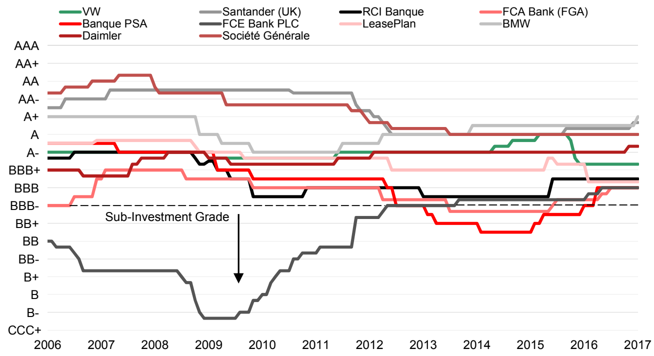
European Auto ABS that securitize RV come from a wide range of captive and non-captive originators across jurisdictions. As described in the section of this publication focusing on RV risk, originator support is vital to RV transactions, irrespective of their structural features and collateral characteristics. Below, we provide an overview of two metrics of perceived risks: originators' CDS spreads and credit ratings.

ORIGINATOR CDS SPREADS AND RATING TREND

CDS spreads of RV originators indicate lower perceived credit risk



Rating development of major Auto ABS players*



*not included: AMAG Leasing (NR), Cembra Money Bank (S&P: A-), Close Brothers Group (Moody's/Fitch: A3/A), FirstRand Bank UK (NR), GMAC UK (Fitch: BBB-).

Source: UniCredit Research

Originators have rolled out RV Auto ABS only to limited number of countries

In 2016, 14 transactions were placed from 10 originators; these were backed by receivables from France, Germany, the Netherlands, Switzerland and the UK. So far, both captive and non-captive originators have rolled out RV transactions in only a limited number of jurisdictions. For example, although Volkswagen's European ABS footprint spans most of the larger European countries, its public RV transactions have been limited to the UK so far (DRVUK 4), while its German VCLM and Dutch VCLMN programs were privately placed, to the best of our knowledge. This also applies to other captives, such as those of BMW, whose activities have been limited to France (BSKY FRE) and Switzerland (BSKYS), or those of GMAC in the UK (ECARA). Likewise, otherwise well-established bank originators, such as Santander (UK) and Société Générale (Germany), have set foot in only a few jurisdictions with their RV deals. That said, previously less well known Swiss originators, such as AMAG Leasing (SWICAR) or Cembra Money Bank (SWAUTO, formerly issued by GE Money), have already issued multiple RV transactions. Given the increased presence of captives in the RV Auto ABS market, we expect primary deal flow to be ongoing, especially if capital requirements as part of the simple, transparent and standardized regulation (STS) and other regulatory frameworks do not unduly discriminate against RV collateral.

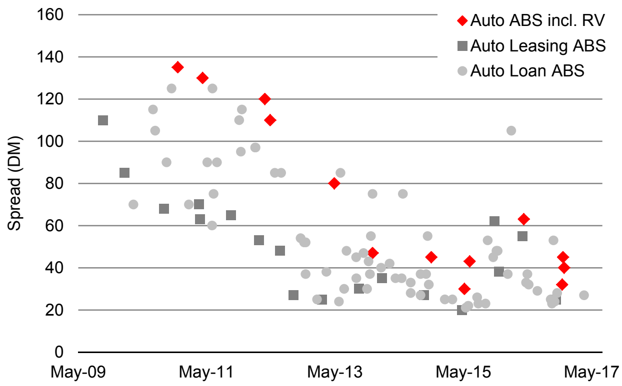
Primary market pricing

To what extent are investors compensated for higher (RV) risks?

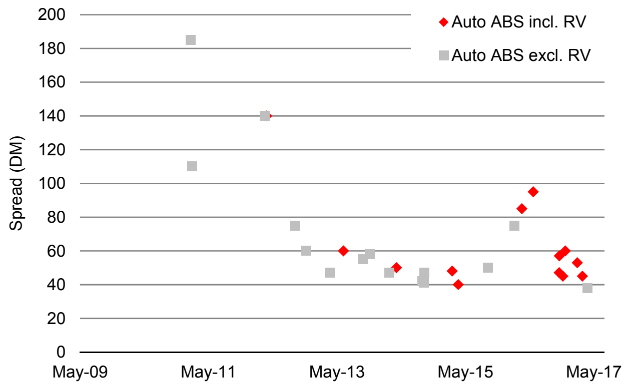
Regarding primary market spreads, the charts below illustrate the extent to which investors in senior tranches of RV deals are compensated for taking on additional risk. Two observations stand out. First, although they are equally rated and equipped with higher structural subordination, EUR-denominated RV deals price at a substantial spread pickup to their benchmark counterparts (left chart below) given their larger perceived downside risks. Admittedly, the non-eligibility of RV deals as part of the Eurosystem (and thus their exclusion from the ABSPP) and the regulatory drawbacks associated with RV deals also contribute to their wider margins. Second, for RV deals, Euribor tranches come with tighter primary spreads than their Libor counterparts (right chart), in part due to the deeper EUR investor base and their differing risk characteristics. We note that spread differentiation among senior tranches of UK Auto ABS is less pronounced, as RV risks are more fluent and often harder to differentiate given their exposure to personal contract purchase loans, the inclusion of which in Auto ABS portfolios has become more common. Broadly speaking, the primary pricing of senior spreads hinges on their structural features, country of risk and an originator's experience and footprint. We estimate the spread pickup offered by RV transactions from well entrenched originators to be around 15-25bp in the current environment and up to 50bp for those from less well known originators. Below, we take a look at the extent to which investors are compensated for taking on RV risk.

PRIMARY MARKET SENIOR TRANCHE PRICING*

EUR-denominated Auto ABS senior tranches



GBP-denominated UK Auto ABS senior tranches



*public tranches only

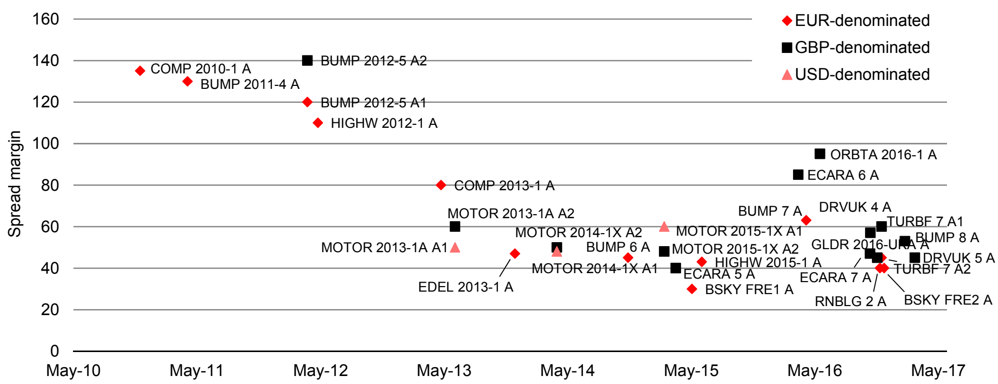
Source: UniCredit Research

The premium associated with RV seniors has come down substantially

Of note, despite the tightening trend in secondary market spreads, RV transactions did not price at new primary spread lows in either 2016 or 2017. Thus, the smaller investor base's willingness to take on risk despite sourcing challenges suggests that a floor has been reached. The table below provides an overview of publicly placed senior tranches priced since 2010. Still, the spread tightening in the wake of the ABSPP and as a result of investors' hunt for yield has led to a notable reduction in RV Auto ABS spread pickup to plain-vanilla transactions. Moreover, investors no longer demand the substantial premium for UK transactions, as seen in the aftermath of the Brexit referendum. Driven by supply technicals, a growing RV investor base, a benign economic backdrop and solid collateral performance, we expect to see a further compression in primary spreads against benchmark programs in 2H17.

PRIMARY MARKET SENIOR SPREADS PRICING

UK primary margins have quickly narrowed again



Source: UniCredit Research

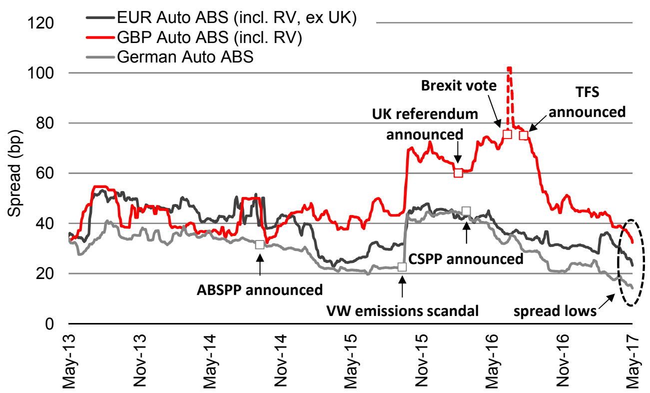
Secondary market development

RV transactions have been fairly resilient to market jitters

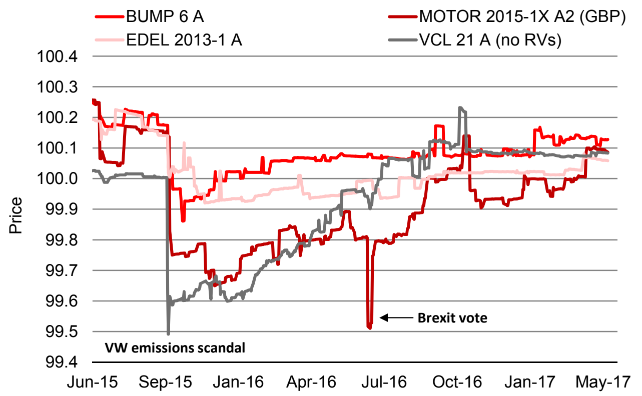
After the spread blowout that occurred in the wake of the revelation of Volkswagen's emission-cheating scandal in 2015 and the credit market turmoil of 1Q16, and after the notable widening in the run-up to the Brexit vote (and the subsequent spike), the ABS market has enjoyed a relatively long period of suppressed spread volatility. Additional proof of stability came from the fact that ABS have hardly been affected by recent swings in government bond markets or by the sharp 2-10Y curve steepening. The well known risks inherent to RV transactions aside, these deals seem to be often unfairly stigmatized as being more susceptible to market jitters. As illustrated in the chart below, RV Auto ABS have been fairly resilient to the above-mentioned events, and most notably to the VW emissions scandal in particular, especially when considering their exposure to the diesel engines in question. While RV deals are understandably trading at a 10-20bp premium to plain-vanilla German ABS, the sector has experienced an impressive tightening trend despite its lack of eligibility for the ABSPP, hitting fresh spread lows. Going forward, a number of technical drivers such as the lack of primary supply and the potential to qualify under the STS regulatory framework should benefit spreads. Hence, we remain constructive on RV Auto ABS and maintain our view that RV transactions are appealing for investors with a shorter-term investment horizon.

SECONDARY SPREADS AND RV ABS PRICE RESILIENCE

Tightening bias persists: secondary Auto ABS spreads



RV deals show muted price reaction during periods of market stress



Source: Markit, UniCredit Research

Overview of RV risks

Key risks in RV transactions

Transactions that securitize the RV portion of lease or loan contracts are exposed to a unique set of risks, which are not associated with traditional ABS, while other sources of risk are less distinct in non-RV deals. What is more, specific risks often vary by transaction, making analysis often more challenging and cumbersome. Originators typically address many of these inherent risks by providing structural mitigants. Likewise, to derive their ratings, rating agencies consider these factors in their quantitative analysis, by applying stressful scenarios and models involving significant haircuts to ABS structures. Rating agencies then require ABS structures to have in place a set of structural protections to mitigate the risk of losses. Although well structured deals may reduce credit risk, this ultimately cannot offset unexpected or poor collateral performance or unforeseen events related to an originator or servicer. Hence, we believe investors not only need to be aware of these risks but must also independently assess the risk factors noted in the overview of typical risks that investors should focus on below, where we also explain originators' overarching importance to these transactions and why their health is crucial to these RV transactions.

Originator risk

Originator risk

Risks associated with manufacturers are the most relevant type of RV risk, particularly for captive transactions. Dealership risks also involve an element of counterparty risk, particularly when dealers are unable to honor buy-back agreements or guarantees. Another aspect of RV risk is associated with an originator's securitization experience, especially concerning an originator's footprint in terms of its acting as a servicer. A number of European ABS include a guarantee (provided by car dealers or the originator) that covers RV risk. However, such guarantees involve an element of counterparty risk (i.e. the risk associated with the originator/dealer's being able to fulfill its obligation) and the valid transfer of the rights under the buy-back agreement to the SPV.

- **Dealerships**: Equally important are transactions that include a dealer buy-back agreement between the lessor and dealer and that offer a comparable level of protection against RV risk. However, if a dealer does not meet its obligation guarantee for the securitized RV by repurchasing the leased vehicle at the end of the lease contract at the pre-agreed contractual RV, there is a risk (also referred to market value risk) that the proceeds from the car's sale up to the securitized RV will not cover the securitized RV cash flows.
- **Issuer put option and profit-and-loss transfer agreements:** Should there be a decline in used-car prices, the RV risk would ultimately be passed on to car dealers. Given the importance of dealerships and captives to an automaker's sales and distribution, however, we expect the parent company to step in and absorb the losses incurred by dealerships and captives, provided that the originator is in good financial condition. An originator's ongoing involvement – by supporting the expected RV amounts via buybacks of vehicles whose lease contracts have been terminated – is sometimes referred to as an "issuer put option", which often appears in documentation language as follows: "The Originator has agreed to guarantee the Estimated RV under the Put Option Agreement." In the case of the emission irregularities associated with VW's EA 189 engine, VW was fully committed to assuming the financial impact this had on VW Financial Services. The Auto ABS sponsor thus benefitted from its profit–and-loss transfer agreement with the parent, given the captive's strategic importance to the automaker.

Contractual risks and operational risks

Contractual risks are another important aspect of RV risk, particularly if servicing components (e.g. vehicle repair, insurance, emergency roadside assistance, annual tests of vehicle safety) are securitized. The servicer's failure to render contractually agreed maintenance services or other obligations can allow lessees to claim termination rights. Hence, to avoid service interruptions, the appointment of a back-up servicer and a back-up maintenance coordinator ensures that service obligations do not go unfulfilled.

Given the degree of linkage to the originator that this involves and the transactions' dependency on these service providers, it is sometimes unclear whether other parties would be able and willing to perform a similar service, according to Moody's.

Operational risks are also present if originators and servicers are unrated and are most severe in cases of non-existing back-up servicers, independent cash managers and reporting agents. Likewise, the absence of a back-up servicing facilitator poses a risk if a servicer's credit rating is downgraded or a change-of-control event is triggered. Failure to nominate a suitable coordinator in charge of finding suitable replacements could jeopardize continuity.

RV calculation

A lessee normally opts to return a vehicle when its secondary market value falls below the lease's outstanding balance (i.e. the contracted RV) at maturity. Hence, contracted RV largely hinges on an originator's predictive capacity through its RV projections and its ability to reliably forecast future car values. Therefore, a key driver of RV risk is the turn-in rate on the leases, which is largely determined by the difference between accurate estimates of contractual RV and secondary market values. Another concern is a securitization's exposure to commercially aggressive strategies employed by lessors when they set contract RVs (see also "RV ABS supply drivers"), whereby a securitized RV would be exposed to market–value-decline risk given overly optimistic estimates of secondary market values. On the other hand, the issuer exposure to RV is more limited if lessees' contractual rights to hand in the vehicle upon a contract's maturity is linked to an obligation to cover a certain amount of potential RV losses incurred. In the Austrian EDEL 2013-1 transaction, for example, historical data demonstrate the effectiveness of such a clause, with only a small portion of borrowers returning their cars given their equity in these contracts, thus making them more similar to balloon-loan products.

Pool concentration

Pool characteristics entail a particularly relevant risk, even for granular portfolios. The exposure of cash flows potentially exposed to RV risk varies considerably among transactions, ranging from single-digit percentages to 100% of securitized assets in European transactions. The higher the securitized RV portion, the greater the risks related to market-value risks. A transaction's RV exposure is accounted for by rating agencies via RV haircuts. Investors should also scrutinize key portfolio characteristics, such as single-obligor and industry concentration, geographical diversification and the manufacturer (make) or model of cars being leased. Concentrated pools are especially susceptible to defaults of larger lessee groups or, indirectly, to weaker manufacturers – automaker insolvencies typically result in weaker brand images, which in turn precipitate falling used car values (Daewoo, MG Rover and Oldsmobile serve as a warning here).

Legal risks

A number of legal risks also represent a source of concern, despite that issuers are typically bankruptcy-remote entities. First, commingling may arise in the event of an originator's insolvency, which would entail the risk that funds belonging to the issuer could be commingled with the funds of the originator. In such cases, monthly incoming cash flows are commingled in an originator's general collections account before they can be transferred to an issuer. A servicer's insolvency thus exposes the issuer to the risk of losing funds. Second, a transaction may be subject to set-off risk, especially when customer deposits; down payments or linkage to mileage, insurance and maintenance service contracts are involved. Lessees may be entitled to net their payment obligations against certain amounts owed by the originator, with the issuer ultimately being liable for some of the originator's obligations toward the lessees. Issuers typically have structural mitigants in place to address these concerns such as the requirement to fund commingling reserves at the closing of a deal or upon the loss of a servicer's credit rating. To mitigate set-off risks, deposits are often capped or transferred to the issuer. This is also a risk that is present in many regular Auto ABS transactions.

Structure of the used car market

The number of new-car sales in the various jurisdictions can vary substantially from year to year. Consumers tend to postpone purchases during downturns, while new-car registrations often rebound swiftly during an economic recovery given rising consumer confidence, pent-up demand and the advanced age of the vehicle stock. Equally important, the structure of the used car market is greatly influenced by origination strategies of automakers' financing companies and increased competition from lease companies and fleet management firms. To boost sales, automakers often rely on more aggressive leasing or hire purchase contracts or offer additional incentives such as discounts or "one-day registrations". The latter refers to the registration of a vehicle in the dealer's name for a maximum of 30 days and the sale of the vehicle at a substantial discount. These measures often entail high volumes of effectively new cars, which then have to be absorbed by the market. Thus, at times, they can bring tremendous pressure to the RV stability of used vehicles. Similarly, more-aggressive strategies in the car leasing market lead to large proportions of newer model-year, off-lease vehicles returning to dealerships, often within a short timeframe. This puts downward pressure on used-vehicle prices. Hence, oversupply triggered by a sharp rise in one-day registrations and off-lease vehicle volumes can be a key contributor to used-car-price deterioration. In the US, inventory overhangs and the tendency for large proportions of leasing vehicles to come back to the used-car market, in combination with weakening credit quality, can lead to above-average price depreciation. Moreover, fluctuations in used-car values are also affected by developments in regional car markets. Low numbers of new-car registrations in the year of a lease's inception tend to stabilize or drive up used-car market prices upon a contract's maturity a few years later. Conversely, the implications of strong growth in new-car registrations are often observable a few years later. For example, as shown by Moody's (link), falling used-car values in the UK have been correlated with higher new-car sales in preceding years.

Event risks

Event risk or unforeseen circumstances can also take their toll on RVs. For example, the emissions-cheating scandal, which affected EA 189 diesel engines in a number of Volkswagen vehicles led to a reduction in the resale values of some of the vehicle models in question, particularly in the US. Moreover, a number of government actions involved temporarily halting admission of the models in question, thus putting additional pressure on RVs. Although the drastic measures had only a temporary impact on RVs, VW Financial Services took an extraordinary write-down of EUR 353mn in 2016 to cover a potential decline in the RV of its fleet of leasing vehicles. Environmental rules such as banning diesel cars from city centers or discussions to phase-out fossil-fuel-powered cars could also weigh on RVs. Elsewhere, extensive media coverage of emission irregularities has been increasing regulatory pressure to encourage a shift away from diesel engines, which form a substantial part of the European car market. In 2016, politicians in major European cities, such as Paris, Madrid, and Athens, announced plans to ban diesel vehicles from city centers by 2025. The ramifications of such initiatives on auto ABS transactions are likely to have the biggest impact on deals with RV exposure, if used-diesel-vehicle prices dropped sharply below the price assumed within the contractual RV amount. Absent drastic measures and an ambitious short-term timeline with respect to diesel bans, we do not consider such plans as detrimental to the performance of RV Auto ABS and expect the changes to have a limited impact on ABS in the short term.

Adverse migration in pool and replenishment periods

Most Auto ABS transactions are revolving, which means a pool's credit quality could be susceptible to adverse migration in credit quality during the replenishment period. Although portfolios are typically subject to strict substitution criteria, a pool's credit quality may shift, and its collateral performance may deteriorate subsequently. We consider pools with long revolving periods and large portions of RV to be more vulnerable. Additional uncertainty associated with a deterioration in pool quality and potential portfolio volatility is typically remedied through stringent single-obligor or industry-concentration limits and early amortization triggers.

Lack of historical data

Inaugural RV deals tend to come with higher risks, especially if originators do not provide comprehensive historical default and RV data, especially those during periods of stress and economic downturns. Rating agencies assess RV risk by examining historical depreciation rates or forecast market RVs based on their expertise or through independent third parties, depending on data availability. A lack of historical data is usually taken into account by rating agencies when applying stress to and assigning ratings.

Macroeconomic risks

Needless to say, RV risk is sensitive to adverse macroeconomic developments (most notably rising unemployment, a slowdown in GDP growth or falling consumer confidence) and cyclical factors (such as a rise in the insolvency rate or corporate default rate and the availability of credit). Hence, recovery rates and residual values are ultimately determined by the current stage of the economic cycle.

RV Auto ABS structures

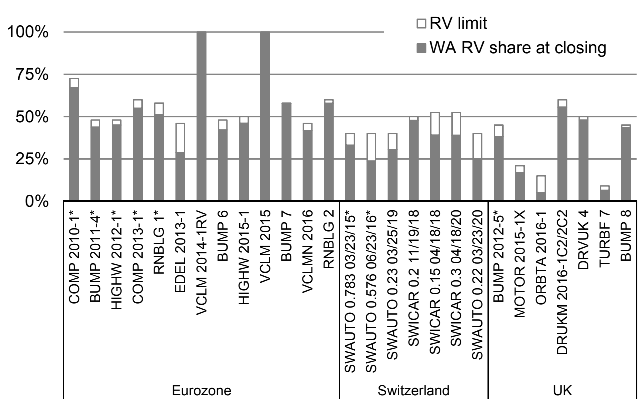
Part of this section, which deals with structural features, addresses questions received from clients as a flurry of RV transactions came onto the ABS market in 2016. The questions pertained to the use of the risk arising from revolving structures in RV transactions, the extent to which higher RV can be mitigated by higher levels of credit support and the degree to which RV risk might impact a deal's lifecycle (for more on this, see also the sections on RV risks and risk scenarios). Importantly, we see neither a trend towards riskier transactions nor, for that matter, considerable leeway for structural trade-offs between ratings and collateral characteristics given rating agencies' restrictive requirements when it comes to assigning ratings. There is, however, an element of risk involved when it comes to originator preferences regarding structural flexibility and collateral quality, which are usually mitigated

Key features in RV transactions

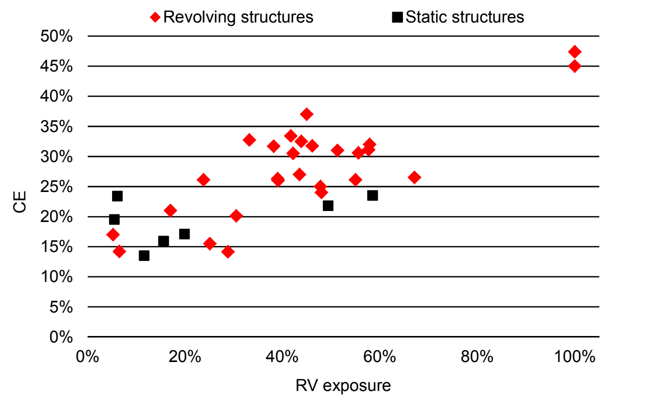
Structures in European RV deals typically do not have a standard template, as is common among many benchmark transactions, but can differ greatly from transaction to transaction depending on originator preferences and collateral characteristics. RV exposure is a key component for determining what a structure looks like. This in turn determines the level of CE. Rating agencies calculate the amount of attachment points (CE) needed to offset RV risk and that would be consistent with the targeted rating. The higher CE levels are based on rating agencies' future depreciation of the vehicles and haircuts applied to account for the uncertainty associated with the respective expectations and models alongside the expected losses derived from the historical performance of collateral, among other factors.

RV RISK MITIGANTS IN AUTO ABS STRUCTURES

Weighted-average RV share and pool limits across transactions



CE-RV exposure trade-off in revolving and static structures



*paid off

Source: rating agency reports, UniCredit Research

Another differentiating factor is potential migration in portfolio assets. The vast majority of eurozone Auto ABS transactions, and about half of all UK Auto ABS deals, are revolving. This means a pool's credit quality could be susceptible to deterioration in credit quality during the replenishment period. The left chart above depicts the underlying weighted-average portion of RV exposures across selected Auto ABS placed with investors since 2010 in chronological order. The data show that most transactions' RV exposures at origination were already close to the maximum allowed in the deals' documentation. Another distinct pattern revealed by the data is that large RV exposure requires larger levels or CE for senior tranches (see right chart above), with rating agencies demanding slightly less-conservative levels for static deals.

The table on the next page provides an overview of structural characteristics and collateral features impacting CE levels in investor-placed transactions issued since 2009. Other distinctive features are the different forms of amortization and repayment, ranging from strict sequential amortization to pro rata repayment forms and bullet-type redemptions, as well as varying degrees of risk regarding pool granularity, exposure to a single obligor or industry and the portion of cars in the pools that are used cars.

STRUCTURAL CHARACTERISTICS OF RV TRANSACTIONS

	Bloomberg ticker	Originator	Launch date	Country	Revolving period (years)	Original CE (AAA)	WAL (years)	Redemption (amortization period)	WA RV share	Max. RV share	Granularity	Obligors	No. of loans/ leases	Portion of used cars (max.)
Eurozone	COMP 2010-1	Banque PSA Finance	25-Nov-10	DE	1	26.5%	1.9	sequential	67%	73%	high	N/A	68,426	0%**
	BUMP 2011-4	LeasePlan (NL)	14-Apr-11	NL	1	33.3%	1.9	sequential	44%	48%	medium	4,770	56,597	1%
	HIGHW 2012-1	Athlon Car Lease (Rabobank)	03-May-12	NL	1	37.0%	1.9	sequential	45%	48%	medium	3,833	40,646	0%
	COMP 2013-1	Banque PSA Finance	02-May-13	DE	1	26.1%	2.7	sequential	55%	60%	medium	N/A	36,838	0%**
	RNBLG 1	ALD (Société Générale)	14-May-13	DE	1	31.0%	1.9	sequential	51%	58%	medium	9,212	34,634	0%
	EDEL 2013-1	EBV Leasing (Erste Bank)	06-Dec-13	AT	1	14.2%	2.5	sequential	29%	46%	high	16,675	20,801	20% (25% max.)
	VCLM 2014-1RV	Volkswagen Leasing	28-Jan-14	DE	0.6*	45.0%	2.4	seq. with pro rata switch	100%	100%	high	23,250	30,340	(6% max.)
	BUMP 6	LeasePlan (NL)	05-Nov-14	NL	1	30.5%	2.2	sequential	42%	48%	medium	4,957	34,380	3%
	BSKY FRE1	BMW Finance (France)	13-May-15	FR	static	21.8%	1.3	sequential	49%	-	high	N/A	18,611	11% (N/A)
	HIGHW 2015-1	Athlon Car Lease (Rabobank)	11-Jun-15	NL	1	31.8%	1.9	sequential	46%	50%	medium	3,469	41,320	0%
	VCLM 2015	Volkswagen Leasing	25-Nov-15	DE	0.8*	47.4%	2.7	seq. with pro rata switch	100%	100%	high	41,303	63,119	(6% max.)
	BUMP 7	LeasePlan (DE)	14-Apr-16	DE	1	31.1%	1.8	sequential	58%	58%	medium	2,515	36,580	0%
	VCLMN 2016	Volkswagen Leasing (NL)	26-May-16	NL	1	33.4%	2.5	seq. with pro rata switch	42%	46%	high	9,067	13,854	4% (6.5%)
	BSKY FRE2	BMW Finance (France)	18-Nov-16	FR	static	23.5%	1.2	sequential	59%	75%	high	N/A	21,867	10% (N/A)
	RNBLG 2	ALD (Société Générale)	30-Nov-16	DE	1	32.0%	1.9	sequential	58%	60%	medium	14,684	45,125	0%
Switzerland	SWAUTO 0.783 03/23/15	Cembra Money Bank (GE Money)	12-Mar-12	CH	3	32.8%	3	sequential (bullet)	33%	40%	very high	15,182	15,611	41% (55% max.)
	BSKYS 0.313 05/15/16	BMW (CH)	29-Apr-13	CH	3	27.5%	3	sequential (bullet)	N/A	60%	medium	10,248	40,500	20% (20% max.)
	SWAUTO 0.576 06/23/2016	Cembra Money Bank (GE Money)	11-Jun-13	CH	3	26.1%	3	sequential (bullet)	24%	40%	very high	13,909	14,185	41.5% (55% max.)
	SWAUTO 0.23 03/25/19	Cembra Money Bank	05-Mar-15	CH	4	20.1%	4	sequential (bullet)	31%	40%	very high	12,131	12,355	43% (55% max.)
	SWICAR 0.2 11/19/18	AMAG Leasing (ALAG)	23-Nov-15	CH	3	25.0%	3	sequential (bullet)	48%	50%	very high	18,417	21,719	26% (30% max.)
	SWICAR 0.15 04/18/18	AMAG Leasing (ALAG)	21-Apr-16	CH	2	26.0%	2	sequential (bullet)	39%	53%	very high	8,042	8,237	25% (30% max.)
	SWICAR 0.3 04/18/20	AMAG Leasing (ALAG)	21-Apr-16	CH	4	26.3%	4	sequential (bullet)	39%	53%	very high	11,969	12,289	23% (30% max.)
	SWAUTO 0.22 03/23/20	Cembra Money Bank	08-Jun-16	CH	3.75	15.5%	3.75	sequential (bullet)	25%	40%	very high	12,122	12,306	50% (55% max.)
	SWMOBI	Multilease AG	29-Mar-17	CH	2.66	23.1%	2.66	sequential (bullet)	34%	40%	very high	19,034	19,670	30.8% (35% max.)

	Bloomberg ticker	Originator	Launch date	Country	Revolving period (years)	Original CE (AAA)	WAL (years)	Redemption (amortization period)	WA RV share	Max. RV share	Granularity	Obligors	No. of loans/ leases	Portion of used cars (max.)
UK	BUMP 2009-3 A	LeasePlan (UK)	08-Apr-09	UK	1	25.8%	2.1	sequential	N/A	50%	medium	30,877	82,708	N/A
	BUMP 2012-5 A1/A2	LeasePlan (UK)	02-Apr-12	UK	0.75	31.7%	2	sequential (A1/A2 pro rata)	38%	45%	high	30,915	67,601	N/A
	MOTOR 2013-1A A2	Santander Consumer (UK)	12-Jun-13	UK	static	23.4%	1.2	sequential (A1/A2 pro rata)	6%	-	high	N/A	154,161	54.5% (N/A)
	MOTOR 2014-1X	Santander Consumer (UK)	09-Apr-14	UK	static	19.5%	1.7	sequential (A1/A2 pro rata)	6%	-	very high	139,430	139,865	59% (N/A)
	MOTOR 2015-1X	Santander Consumer (UK)	20-Feb-15	UK	1	21.0%	2.75	sequential (A1/A2 pro rata)	17%	21%	very high	89,653	89,978	56% (62% max.)
	ECARA 5 A	GMAC UK	26-Mar-15	UK	static	13.5%	1.7	sequential	12%	-	very high	55,312	55,331	22% (N/A)
	ECARA 6 A	GMAC UK	22-Mar-16	UK	static	15.9%	1.45	sequential	16%	-	very high	40,665	40,686	19% (N/A)
	ORBTA 2016-1 A	Close Brothers	25-May-16	UK	1	17.0%	2.1	sequential	5%	15%	very high	N/A	69,512	84%
	DRUKM 2016-1C2/2C2	VW Financial Services (UK)	24-Jun-16	UK	0.9*	30.6%	2.12	seq. with pro rata switch	56%	60%	very high	350,484	356,202	26% (50%)
	GLDR 2016-UKA	FCE Bank	20-Oct-16	UK	1	26.2%	2	sequential	46%	N/A	high	N/A	49348	15% (20% max.)
	DRVUK 4 A	VW Financial Services (UK)	21-Oct-16	UK	0.5	24.0%	2.2	seq. with pro rata switch	48%	50%	very high	N/A	43,487	28% (50%)
	ECARA 7 A	GMAC UK	10-Nov-16	UK	static	17.1%	1.5	sequential	20%	-	very high	N/A	47842	17% (N/A)
	TURBF 7 A1/A2	FirstRand Bank	23-Nov-16	UK	0.5	14.2%	1.7	sequential	7%	9%	very high	N/A	86354	83%
	BUMP 8 A	LeasePlan (UK)	31-Jan-17	UK	1	27.0%	1.9	sequential	44%	45%	medium	13,519	40588	N/A
	DRVUK 5 A	VW Financial Services (UK)	01-Mar-17	UK	0.5	23.6%	2	seq. with pro rata switch	48%	50%	very high	N/A	24238	25.9% (N/A)

*replenishment period is extendable with investors' consent; **includes demonstration vehicles

Source: rating agencies, Bloomberg, offering circulars, UniCredit Research

Collateral characteristics

In this section, we briefly outline changes in collateral characteristics and elaborate, in more detail, on the loan types that carry RV risks or similar risks. More specifically, we focus on the contract types most exposed to RV risk, i.e. those involving leasing receivables, including the RV portion and personal contract purchase (PCP) loans in the UK. The latter are unique to the UK and are essentially a mixed form of hire purchase (HP) and leasing. The table below provides an overview of the most common loans and leases in European Auto ABS transactions.

General trends in securitized loans and leases

Overall, the composition of European Auto ABS portfolios has undergone a number of shifts in terms of collateral characteristics over time, most notably towards loan and lease terms and interest rates but also regarding the use of balloon loans, interest rates and proportion of used cars. As shown in a previous Auto ABS note, lease terms and amortizing loan terms decreased significantly from 2010 to 2014. This trend has since continued. As discussed in the section entitled “Drivers of Auto ABS supply”, originators’ incentives to use leases as well as the tendency towards shorter lease terms have also translated into shorter weighted-average loan and lease terms for Auto ABS collateral, particularly in plain-vanilla leasing transactions, which in turn have shortened transactions’ WAL in the absence of a revolving period.

RV risk types

Perhaps more importantly, securitized assets in eurozone transactions can differ greatly from their UK counterparts. The difference in loan and lease types does not only affect the inclusion of RV cash flows but also the optionality regarding the final balloon payment, i.e. whether the originator is exposed to RV or not.

EUROPEAN AUTO ABS CONTRACT LOAN AND LEASE TYPES

Country	ABS contract type	Amortization features	RV risk	Obligor balloon payment	Voluntary termination risk	Initial ownership
Europe	loan	fully amortizing	no	no	no	obligor
	loan	balloon	no	yes	no	obligor
	lease	installment	no	no	no	seller
	lease	installment plus RV	yes	no	no	seller
UK	loan (unsecured)	various types	no	no	no	obligor
	conditional sale	installments, early repayment	no	usually no	yes	seller
	HP	installments, early repayment	no	usually no	yes	seller
	lease purchase	down payment, installments	no	yes	no	seller
	PCP	installments, hand back the vehicle	yes	no	yes	seller

Source: Moody’s, UniCredit Research

Eurozone loan types

Recent contracts securitized in captive transactions are typically leases of new cars with three to four-year contract terms and low WA seasoning. Non-captive transactions often come with somewhat higher contract lifespans and higher seasoning. Unlike their UK counterparts, leasing contracts represent the only type of collateral that is securitized in eurozone RV ABS. Conversely, on the loan side, balloon loans have gained increasing popularity among originators. Similarly to the more widespread use of lease contracts, origination of balloon-type loans is a strategy frequently employed by car dealers to promote new-vehicle turnover and customer retention. However, while balloon loan contracts typically contain a put option for customers to sell their vehicles back to originators at a fixed repurchase price, the Auto ABS issuer does not take on the RV risk. Hence, upon the expiration of a loan contract term (which is when the balloon payment is due), obligors are typically approached by the dealer, who then offers to roll the loan into a follow-up contract for a new car, assuming the vehicle’s value has not dropped below the fixed repurchase price (see table above). As outlined below, this contrasts with PCP loans made to borrowers in the UK, where customers can simply hand in their cars in lieu of the final balloon payment and walk away, thus exposing the Auto ABS to RV risk.

Hence, a borrower can terminate a contract without personal obligation, provided that 50% of the total amount payable has been repaid and subject to other conditions, such as that the cars in question have not been extraordinarily damaged.

UK loan loan-types are different

Broadly speaking, UK lease products span conditional sale, hire-purchase, lease-purchase and personal contract purchases. The most frequently securitized UK loan types can differ greatly from their eurozone counterparts, particularly regarding early termination and voluntary prepayment risks. We briefly summarize the loan types encountered most often.

- **Hire purchase contracts** are among the most widespread contract types in the UK and are available to most customers through car dealers. HP contracts are very popular given their low monthly payments and low deposit requirements – even for buyers with low credit ratings. Thus, they are among the most frequently securitized receivables in the world. Importantly, HP contracts are secured against their underlying cars, which act as collateral (dealers have the right to repossess the cars should a borrower becoming delinquent). Auto ABS backed by HP loans are not exposed to RV risk.
- **Personal contract purchase contracts** are taken out by borrowers who prefer low monthly payments and flexible terms with respect to affordability. These contracts have enjoyed increasing popularity in UK car financing and are often promoted by manufactures. However, their increased flexibility means that they are more complex than HP contracts. Buyers who sign PCP contracts typically pay a deposit and smaller monthly installments while having to pay a larger balloon payment at the end of the contract term. This balloon payment typically cannot exceed 60% of the sum of the total amount payable (the original financed amount and any down payment). In addition, PCP contracts often contain stipulations regarding mileage limits and maintenance or service obligations. What makes PCP loans unique is that, once monthly installments have been paid, borrowers who have taken out PCP loans are presented with three options: **1.** to make the final balloon payment and take ownership of the vehicle; **2.** to use the value of the partially repaid car to broker a financing deal on a new model – this option is particularly attractive for car dealers, as most borrowers find themselves locked into the vehicle make or brand if they cannot make the final lump sum payment; however, taking ownership of the car is often more expensive than it is under HP contracts; **3.** to hand in the car in lieu of the final balloon payment and walk away. Hence, the borrower can terminate the contract without personal obligation, provided that 50% of the total amount payable has been repaid and that other conditions (such as the vehicle's not having suffered extraordinary damage) have been met. On the downside, the increased flexibility afforded to customers by being able to return the vehicle comes at a cost: returning a car might not be the most economically viable solution; by returning their cars, borrowers forego ownership of the vehicle for their payments made. Hence, the contract type is akin to a regular lease contract.

Hence, RV risk is usually present in UK transactions that securitize PCP loans. The more frequent origination of PCP agreements to retail customers has entailed much higher portions of RV exposure in UK Auto ABS, from less than 20% prior to 2016 to about 20-55% thereafter.

Fundamental performance

Auto ABS collateral metrics hover at record lows

European Auto ABS have enjoyed a prolonged period of strong performance in number of key collateral performance metrics. The sound fundamental performance has been driven by an all-time low in German and French delinquencies and a stabilization in peripheral assets. According to Moody's data, in February 2016, 60-plus-day delinquencies as a proportion of the current outstanding balance stood at 0.26% in Germany and 0.25% in France, thus hovering near recent lows. The benign economic backdrop in Spain has translated into a new post-crisis low in 60-plus-day arrears, reaching 0.64% in February after peaking at almost 6% in 2010. Likewise, early-stage delinquencies across major eurozone ABS countries continued to edge lower, also hitting all-time lows in recent months, which bodes well for future collateral performance. Conversely, UK delinquency metrics have experienced some weakness in 1Q17, with arrears drifting slightly higher. Put in context, however, both 60-plus-day (at 0.41%) and 60-90-daydelinquencies (at 0.26%) remain well below their long-term averages. In other European ABS metrics, both cumulative defaults and cumulative losses registered strong improvements in February, hitting new long-term lows of 0.77% and 0.37%, respectively, driven by new post-crisis lows in Spanish pools. Fitch notes that annualized losses decreased further yoy to 0.23% while 60-plus-day delinquencies increased marginally yoy to 0.37%.

RV collateral metrics do not differ materially

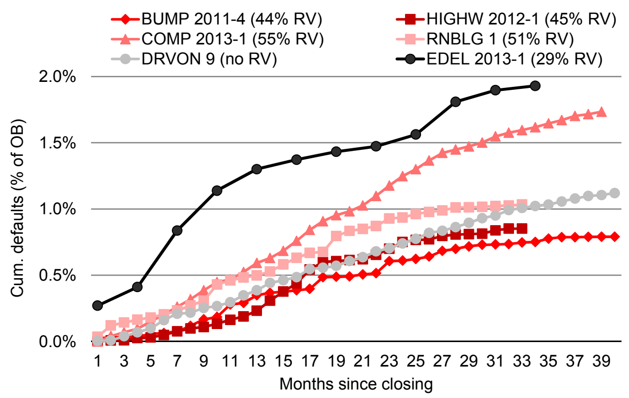
We note that RV ABS do not show a material deviation from the broader indices in terms of delinquencies. Although some transactions register higher cumulative defaults, there is little evidence that the RV risk caused the transactions to underperform standard leasing and loan transactions. In the absence of risks pertaining to RV exposure, obligor default risk should not differ materially, in our view. The charts below illustrate the sound performance of selected RV transactions, which are broadly in line with the benchmark transactions excluding RV. Instances where UK transactions underperformed in terms of defaults are more attributable to the vintage and the macroeconomic backdrop affecting performance, in our view.

Stable rating performance

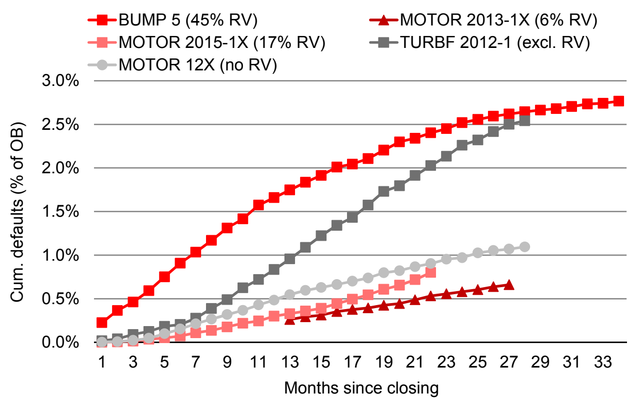
The Auto ABS sector has experienced a long period of rating stability, with rating actions largely limited to deleveraging upgrades of subordinated tranches or rating actions triggered by sovereign debt rating upgrades. Considering the solid economic backdrop and structural support, we do not expect the rating trend to deteriorate going forward.

CUMULATIVE DEFAULTS

EUR deal comparison



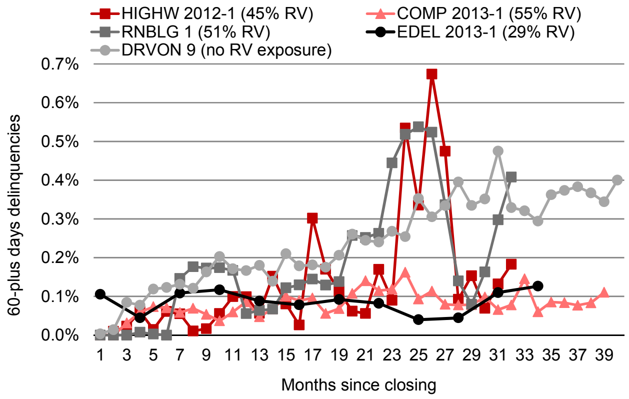
UK deal comparison



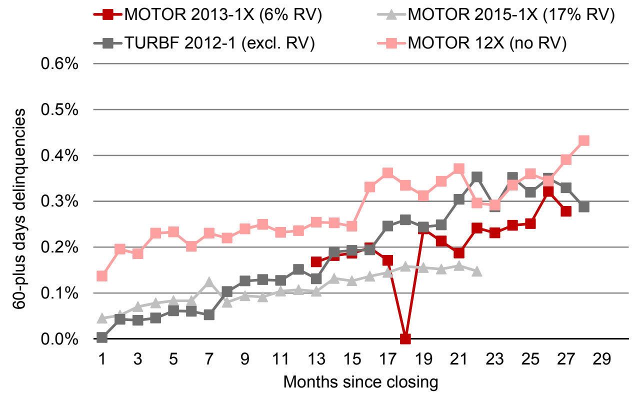
Source: Moody's, UniCredit Research

DELINQUENCIES

EUR deals



UK deals



Source: Moody's, Bloomberg, UniCredit Research

Negative trends from the US used-car market are unlikely to affect European RVs

Another frequent question we receive from clients concerns risks that could potentially spill over from the US subprime Auto ABS sector to the used car market in Europe, affecting residual values and recovery rates. While we believe that the adverse trends in parts of the US Auto ABS sector, particularly that of lower recovery rates, needs to be carefully monitored, we consider imminent knock-on effects as unlikely. Apart from the structure of the US Auto ABS sector, which is fundamentally different due to the large proportion of subprime transactions from independent finance companies, the US is in a more advanced stage of the credit cycle, as evidenced by looser credit standards and more intense competition, which result in lower recovery rates and higher losses for the subprime sector. In contrast, origination standards in Europe tend to be more conservative while securitized loans are subject to stricter criteria. Used vehicles, in particular, have come under pressure in light of rapidly rising off-lease and off-rental vehicle volumes, which could reach a record 3.6mn cars, according to S&P. This contrasts sharply with the tailwinds that the European car market is currently experiencing together with leasing playing less of a role overall.

RV ABS risk scenarios

Stressing RV ABS transactions

In this section, we conduct a quick stress-test exercise to demonstrate the robustness of RV ABS senior tranches to severe levels of defaults (CDR) and loss severities (LS). We show that all senior classes inherently have a high tolerance for risk.

Severe levels of loss severity alone cannot break a senior tranche…

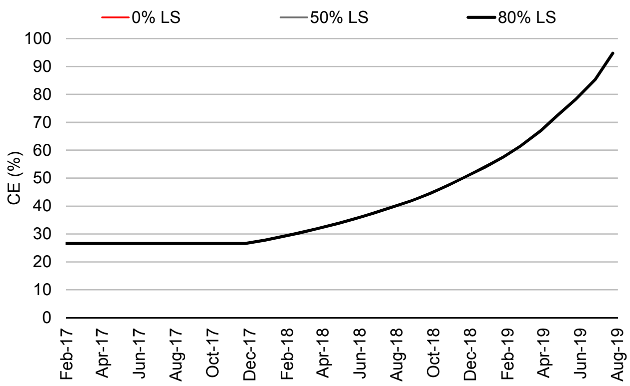
We ran two simple stress scenarios for the senior tranches, two representative RV transactions launched in 4Q16 (RNBLG 2 A) and 1Q17 (BUMP 8 A). The former is a German transaction issued by a Société Générale subsidiary, the latter is a UK transaction originated by LeasePlan UK. Both transactions are similar in that they have a one-year revolving period and medium-to-high pool granularity with significant commercial exposure. The German RNBLG 2 offered 32% of senior credit enhancement (CE) against 27% offered by BUMP 8. The maximum RV exposure is 60% for RNBLG 2's pool while BUMP 8 has a limit of 45%. Using the MTCS and SPA functions of the Bloomberg credit model, we ran a number stress scenarios by applying high levels of LS and CDR. In the first scenario, we set the CDR to a moderate 5% and used LS levels of 0%, 50% and 80%. Our analysis demonstrates that structures in both deals can easily cope with the stresses due to high CE levels and conservative collateral performance triggers. The right chart shows that RNBLG 2's revolving period would be terminated prematurely, thus initiating immediate amortization. Moreover, trigger events would divert cash flows to the senior note, resulting in some WAL contraction for the Class A. Importantly, losses for the subordinated note would be moderate, which leads to a buildup in CE throughout the amortization process as the tranche deleverages.

…nor can severe levels of CDR

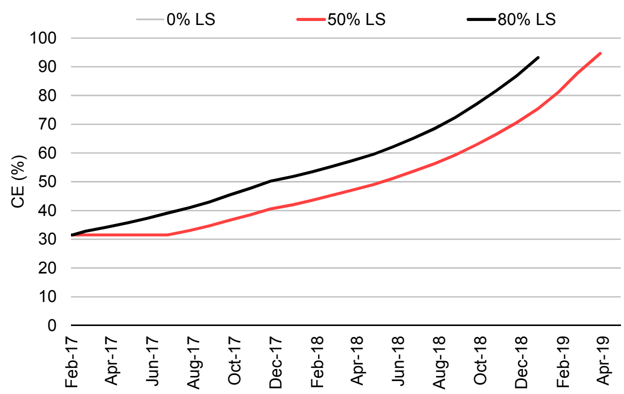
In a second scenario, we specify more severe CDR assumptions while keeping LS constant at 50%. As shown in the lower charts, our analysis reveals that even in the 30% CDR scenario, the two senior classes can withstand high levels of losses. The stresses also reveal a similar pattern for both deals, with accelerated amortization leading to shorter lifespans but no losses eating into senior tranches.

CE LEVELS SHOW HIGH TOLERANCE FOR RISK IN SENIOR TRANCHES TO VARIOUS LOSS SEVERITIES

BUMP 8 (CDR=5%, CPR=5%)*



RNBLG 2 (CDR=5%, CPR=5%)

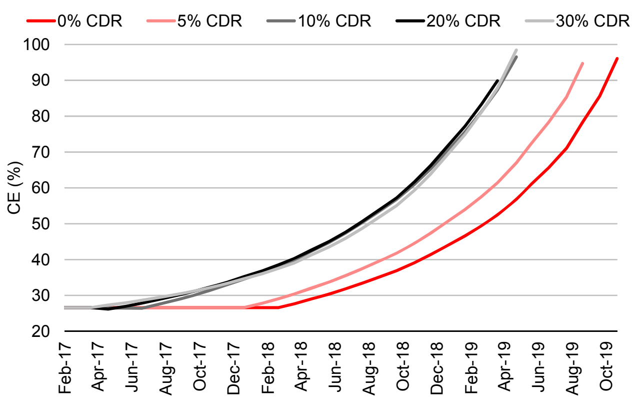


*BUMP 8 senior CE levels do not change as the loss severity reaches 80%

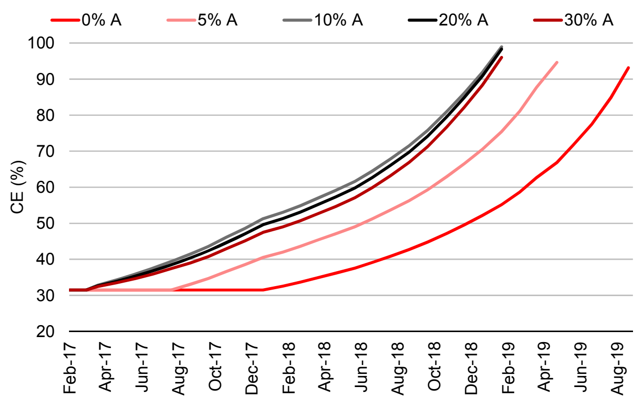
Source: Bloomberg, UniCredit Research

CE LEVELS SHOW HIGH TOLERANCE FOR RISK IN SENIOR TRANCHES TO DEFAULT STRESS LEVELS

BUMP 8 (50% LS, 5% CPR)



RNBLG 2 (50% LS, 5% CPR)



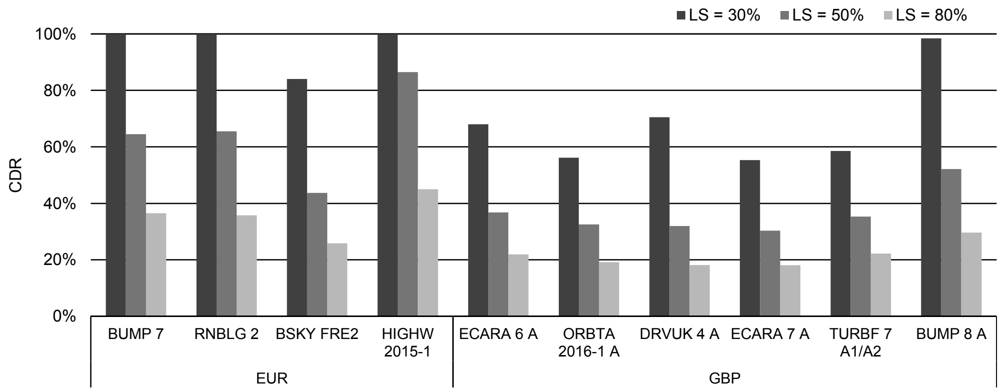
Source: Bloomberg, UniCredit Research

Breaking senior notes

In the final exercise, we take stresses one step further, testing the hypothetical level of CDR (for a set of given LS scenarios) required to break senior tranches of a number of recent RV Auto ABS. As illustrated in the chart below, we stress each deal with CDR and LS until their senior tranche suffers the first unit of loss (i.e. the first EUR/GBP of loss). Put differently, we discover the maximum CDR level a senior tranche can sustain before experiencing a loss. At exaggerated LS levels of 80%, EUR RV transactions demonstrate the strongest breakeven levels, ranging from 26-45%. This compares with 18-30% for UK seniors. While such a nightmarish scenario of severe RV stresses and an adverse economic scenario is admittedly unrealistic, it shows the resilience of these transactions to high levels of stress.

WHAT IT TAKES TO BREAK A SENIOR TRANCHE

EUR and GBP demonstrate high risk tolerance in hypothetical CDR and loss-severity scenarios



Source: Bloomberg, UniCredit Research

Regulation and ECB eligibility

Challenges related to the regulatory roadmap and Eurosystem eligibility

On the regulatory front, 2017 could provide more clarity for market participants on European ABS risk-retention rules. One of the high-level objectives of the European Central Bank and regulators is the revitalization of the European securitization market (please also refer to our *Securitization Outlook 2017 "Two steps forward, one step back"*, for a more comprehensive picture of the regulatory roadmap). Another regulatory milestone will be upcoming European STS legislation, the draft text of which was agreed on in December by the ECON committee of the European Parliament. Before being passed and becoming effective, the legislation will first have to be reconciled with other EU institutions, with the process evidently being subject to conflict-fraught negotiations given the realization that there is no "one-size-fits-all" approach. As of this writing, the trilogue negotiations are still not completed, with the ECON committee unable to reach an agreement this week on STS rules. We outline three fields where the treatment of ABS backed by RV is highly different, thus preventing a more-level playing field between regular Auto ABS and their RV equivalents.

- **STS regulation**: With respect to rules pertaining to RV exposure and structural elements present in ABS that include RV, most regulatory draft proposals on STS securitization (such as those of the BIS, the EBA and the EC) demand homogenous asset characteristics and low RV content and that investors need to be sufficiently protected from the associated risks through adequate structural provisions and documentation language. However, proposals differ on risk retention. The European Parliament (EP) aims to tighten the rules for minimum risk-retention requirements ("skin in the game") and has proposed a set of varying minimum levels for the different types[1]. Provided that originators of Auto ABS securitizing RVs retain a horizontal slice (also referred to as the first-loss piece), the treatment would be no different than for other true-sale transactions, resulting in a 5% minimum risk-retention rate (as opposed to a 10% rate for vertical slices). However, the EP proposal also targets a 10% minimum risk-retention rate for revolving securitizations, regardless of the type of retention. This contrasts with the EC's proposal of a retention of net economic interest of 5% for revolving securitizations.

[1] European Parliament, Report (19 December 2016).

- **LCR and Solvency treatment**: Other regulatory frameworks, such as current LCR rules, permit the use of residual-value exposure as part of the Level 2B high-quality liquid assets (HQLA) group, which can be used up to a maximum of 15% in banks' liquidity buffers. These transactions are subject to a 25% haircut. Likewise, RV exposure in Auto ABS also qualify under Solvency II rules as Type 1 securitization positions, thus enjoying more-favorable capital treatment provided they are rated AAA and short WAL. The moderate risk weights for Auto ABS are conditional on being "secured with a first-ranking charge or security over the vehicle".
- **Eurosystem criteria**: Current Eurosystem eligibility criteria penalize ABS exposed to RV, which has far-reaching implications. As of 31 August 2015[2], RV exposure is no longer eligible as part of the ECB's repo window. This is not only a disadvantage regarding the use as collateral but also entails non-eligibility as part of the ECB'S ABSPP. Hence, none of European ABS securitizing RVs is currently on the list of eligible marketable assets, and thus excluded for potential purchase as part of the ABSPP.

In light of the above uncertainties, we expect downside risks related to regulatory changes, and RV transactions in particular, to increase in 2017.

Conclusion

Main takeaways

The European Auto ABS landscape has seen a remarkable increase in transactions that securitize RVs. In 2016, the number of deals exposed to RV reached a record high at roughly EUR 5.7bn from 14 transactions, thus accounting for almost a third of primary market Auto ABS supply. We project new issuance of RV deals to be of a similar magnitude in 2017, fuelled by automakers' incentives to originate lease contracts. From a relative-value perspective, we prefer RV seniors of well-established issuers to plain-vanilla captive deals, given the 10-20bp pickup in spread for no meaningfully higher risk. Going forward, collateral performance metrics are likely to hover near recent lows and we do not expect any material underperformance compared to benchmark deals. Moreover, pool performance should be supported by the benign macroeconomic backdrop, low early-stage delinquencies and a stable used car market. We think that RV structures are not only well equipped to withstand severe-risk scenarios and portfolio stress given CE levels ranging from 14-34% in recent transactions, but also already have a proven track record in terms of collateral performance and ratings stability. Structurally, we demonstrated that Auto ABS securitizing RV are able to withstand significant levels of losses and defaults..

[2] ECB Eurosystem, Guideline (EU) 2015/510 of the ECB of 19 December 2014 on the implementation of the Eurosystem monetary policy framework (ECB/2014/60),

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–	–	–	–	–	–	–	–	–

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