Alternatives 101

An introduction to ABS

Martin McCubbin
Senior Research Analyst

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“Alternatives 101 is a series of investment primers on alternative asset classes. In this series, we want to provide an overview of the investment landscape, as well as the benefits and risks of investing in these asset classes in order to help trustees of pension funds, investment advisers, and portfolio managers make better investment decisions. Timeless in nature, these reports are intended to help anyone new to a specific alternative asset class get up to speed. In this edition, we will focus on asset backed securities (ABS).”

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Introduction

Asset backed securities (ABS) are bonds backed by specific pools of financial assets, pay interest periodically, and then pay back the principal amount at maturity, just like other bonds. ABS are typically issued as a funding tool for the sponsoring entity (typically a bank) to acquire the underlying pools of assets, making up part of the sponsoring entity's treasury funding options and allowing them to obtain leverage on their capital. To date, most ABS have been structured referencing underlying pools of mortgage loans and senior secured loans - these types of ABS are called, respectively, mortgage backed securities (MBS) and collateralised loan obligations (CLO), and will be the subject of future Alternatives 101 primers. However, an increasingly wide range of other types of income-producing assets have been used as reference pools over the years, including auto loans, credit card receivables and student loans.

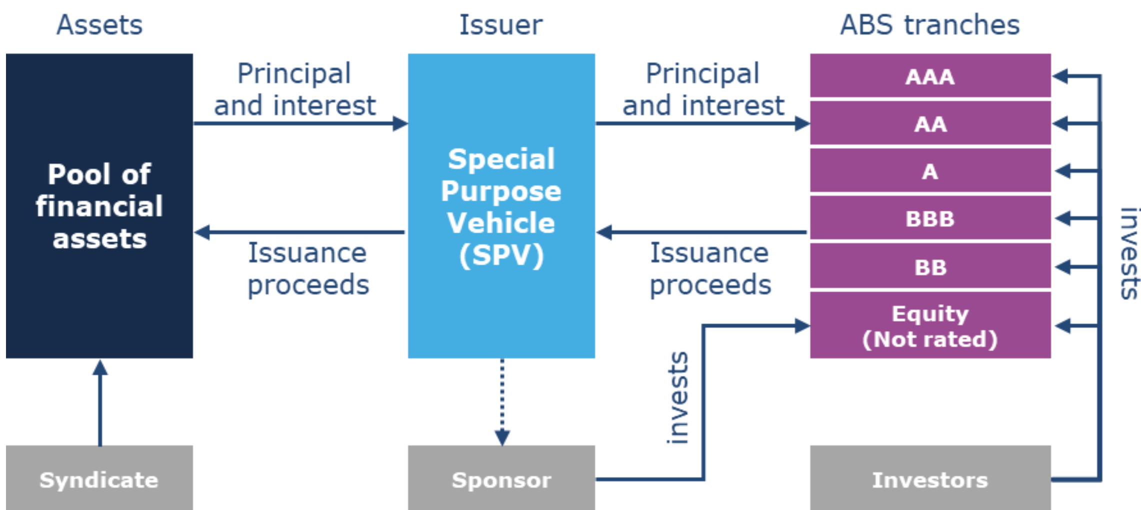
ABS have been around for a long time – amongst the first to emerge were those backed by mortgages during the 1980s, with other early non-mortgage-related assets being auto loans and credit card receivables. The developmental path for ABS since then has not always been smooth – for example, certain segments of the ABS market sold off sharply during the Global Financial Crisis, starting in late 2007, due to heightened risk aversion, and remained in the doldrums for some time after that. However, recovery started in early 2009, as with the equity markets, once investors realised that these securities had been oversold and concluded that the associated risks had diminished. More recently, the ABS market has seen some net growth in response to investors' search for higher yields amidst the prevailing low rate environment. To give an indication of the size of the market, the total outstanding amount of US ABS was $2.9tn as at the end of Q3 2018 ($1.4tn excluding MBS).

In this note, we will first describe a typical ABS structure, together with the capital structure of the issued bonds and the built-in protections. We then move on to describe the different types of ABS that exist, the current size of the market and the historical development of the market. Next, we summarise the general performance-related attributes of these securities, both currently and in the past, together with various risk considerations. Then, these points are brought together in a section which highlights the benefits that ABS can bring to a portfolio of other investments. Towards the end, we briefly discuss the treatment of ABS under Solvency II, which has limited insurance companies' investment in the sector. Finally, a summary of the ABS investment proposition is given.

Structure of ABS

At the outset of an ABS transaction, a special purpose vehicle (SPV) is set up by the sponsoring entity – this is the legal entity which issues the ABS bonds to the end investors. The SPV purchases the underlying pool of assets, from a financial institution, which funds the payment of the coupons on the bonds and the repayment of the principle amount at maturity. ABS typically focus on assets from a single country (exceptions being CLOs and commercial MBS, for which a blending of geographies may occur), a single type of underlying asset, a diverse set of payers, and a single originator. The interest payments made by the ABS are typically not fixed but floating, at a defined margin over a floating-rate index such as 3-month LIBOR.

Fig 1: ABS structure, cash flows and capital structure



Source: Fidante Partners.

An ABS transaction often results in the issuance of multiple bonds, with tranches differing by seniority, maturity and currency. Senior ABS at the top of the structure may be AAA-rated, while the more junior mezzanine tranches may be BB- or B-rated. The cashflows from the underlying assets pay the tranches in turn, flowing down the structure, from the senior to the junior tranches. The risk associated with holding a given tranche of ABS depends primarily on the quality of the collateral and the probability of default in the underlying asset pool. If there are any defaults, then the seniority of the tranche in the ABS structure becomes important, with the junior tranches being affected first. To compensate investors for the risk taken, the junior tranches offer higher returns than the more senior tranches. This structure allows investors to target the specific tranches that are likely to satisfy their appetite for risk and yield.

ABS typically come with several structural protections:

- **Equity cushion**, or **over-collateralisation** – This is the difference in the value of the assets held and the underlying loans used to finance the acquisition of those assets. For example, a £100m property pool may be linked with a mortgage pool of £75m which forms the reference pool for a particular ABS. Before the holder of the ABS suffers any losses, the property prices would have to fall by £25m (25%), the owners of those properties would need default on their mortgage payments, and the other protections below would need to be exhausted.
- **Excess interest** – The interest over and above that needed to pay the ABS coupons normally goes to the issuer of the ABS (the equity holder of the SPV). However, sticking with the mortgage example, if there is a loss on the sale of a defaulted property or deterioration in the credit

quality of the underlying pool, the excess interest is diverted to cover any losses, for the most senior tranches initially, providing additional protection for the ABS holder.
- **Reserve fund** – This is a cash account set up by the issuer which acts as a further cushion for protection that can be drawn down to offset any losses.

Once these three layers of protection are exhausted, further losses are allocated to the most junior tranche first. If and when that tranche is written down to zero, the next most junior tranche will start to accrue losses. Thus, the most senior tranches benefit from additional protection. Collectively, the three layers of protection plus the tranched capital structure provide what is called "credit enhancement".

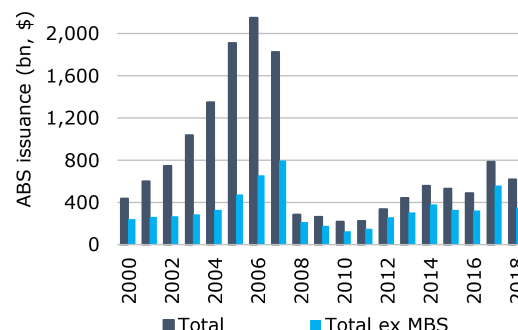
ABS risks generally reduce with time. As the underlying loans are paid down the outstanding principal is reduced, and rising asset prices improve the value of the collateral. The same is also true for the ABS themselves. As the underlying asset pool is amortised, through prepayment, maturity and the gradual amortisation through scheduled monthly repayments, the relative size of the protection layers generally increase.

The ABS market – issuance and size

There are many different types of ABS that investors can choose from, backed by different types of assets (see the table in the appendix), each with their own set of characteristics. It should be noted that some of these "flavours" of ABS are relatively insignificant, in terms of issuance and outstanding amounts.

The Securities Industry and Financial Markets Association (SIFMA) has compiled and published historical data on US ABS issuance and outstanding amounts. The first chart below shows the issuance since 2000 and for 2018 up to the end of Q3, both with and without MBS, and excluding agency MBS. The rapid increase in the years leading up to 2006 and the subsequent sharp decline as a result of the Global Financial Crisis can be clearly seen. As suggested earlier, there has been a gradual recovery in issuance over the last few years and it looks likely that 2018 will be the best year since 2007 in this regard.

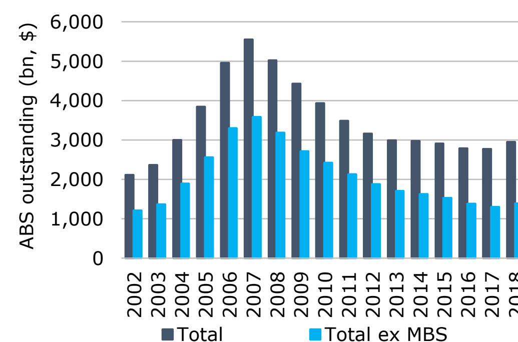
Fig 2: US total ABS issuance ($, bn)



Source: SIFMA, Fidante Partners. To September 2018.

The same SIFMA data for US ABS shows that CLOs/CDOs (collateralised debt obligations) have seen the largest relative growth in issuance over the last couple of decades, and this year they have constituted over 40% of ABS issuance (when excluding MBS). In 2018, RMBS (residential MBS) has seen the largest issuance (just over $200bn for the first three quarters), followed by around $144bn for CLOs/CDOs. More details, by year, are given in the appendix.

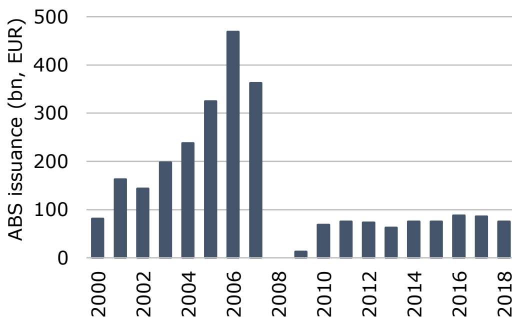
Fig 3: US ABS total outstanding ($, bn)



Source: SIFMA, Fidante Partners. As at 30 September 2018.

According to a report published by Morgan Stanley, the peak year for European ABS was 2006, during which around €470m of securities were issued. In the height of the Global Financial Crisis, there was close to zero issuance, but from 2010 onwards the annual amounts have been approximately the same each year. As with the data from the US, it looks likely that 2018 will see the largest total since 2007. The total outstanding for European ABS as at 30 September 2018 was c. €455m.

Fig 4: European total ABS issuance (€, bn)



Source: Morgan Stanley, Fidante Partners. To 30 September 2018.

Fig 5: European ABS issuance by type and country/region in 2018 (€, bn)

	RMBS	CMBS	CLO	Other ABS	Tot.
UK	19.9	1.2		5.5	26.6
EU		0.2	21.2		21.4
D				8.7	8.7
NL	6.8	0.2			7.1
F	2.0			2.6	4.6
Other	1.8	1.3		4.8	7.9
Total	30.6	2.9	21.2	21.5	76.3

Source: Morgan Stanley, Fidante Partners. To the end of Q3 2018.

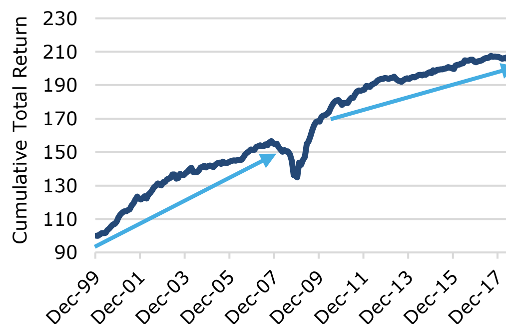
ABS performance

The total return from an investment in an ABS bond over a defined period, as with other bonds, comes from a combination of the price change between entry and exit and the income received while invested.

The chart shows the cumulative return for US ABS in aggregate, for all ABS types and credit ratings, over the period since the end of 1999 (the corresponding index for European ABS only started in the middle of 2017 and so a similar, extended analysis cannot be carried out for European ABS). This performance history can be characterised by a period of outperformance in the earlier years of the asset class (as is often the case), followed by steady gains with occasional volatility, interrupted by a large negative return (and subsequent recovery) in association with the Global Financial Crisis. More granular ABS performance, for example in terms of credit rating or ABS type, may be expected to have generated rather different, more extreme, total return behaviour over the period.

The 2.5% annualised return since the end of 2009, with an annualised volatility of just 1.5%, is fairly attractive given the low interest rate sensitivity inherent in these investments.

Fig 6: Total return for aggregate US ABS ($, unhedged)

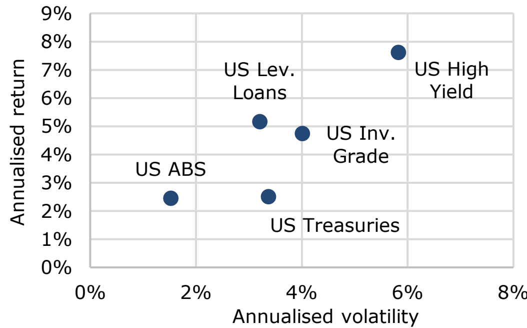


Period	Return (%)	Ann. Ret. (%)	Ann. Vol. (%)
1999 to 2007	54.6	5.6	2.7
2008	-12.7	n/a	n/a
2009	24.7	n/a	n/a
2009 to Sep. 2018	23.6	2.5	1.5

Source: Bloomberg Barclays, Fidante Partners. To September 2018. Past performance is not a reliable indicator of future results.

US ABS has demonstrated attractive risk-return characteristics compared to other US fixed income assets. For example, the annualised return from 2010 onwards has equalled that for US Treasuries but with less than half the risk (as measured by annualised volatility).

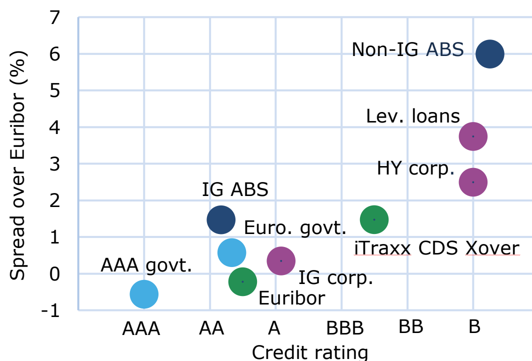
Fig 7: Risk-return analysis for US ABS and other US fixed income



Source: Bloomberg, Fidante Partners. From December 2009 to September 2018. Past performance is not a reliable indicator of future results.

ABS bonds have typically delivered higher yields than traditional fixed income instruments for a given credit rating – this is illustrated in the chart below. The investment case for ABS currently partly arises due to these relatively attractive yields, and is further under-pinned by: a) the continuing general improvement in the global economy, which is supporting the underlying borrowers and their ability to make payments as per the terms of the loans; b) the relatively limited ABS supply in the face of growing demand; and c) the potential for capital gains should (credit) spreads tighten further.

Fig 8: Yield spread v. rating for European fixed income assets



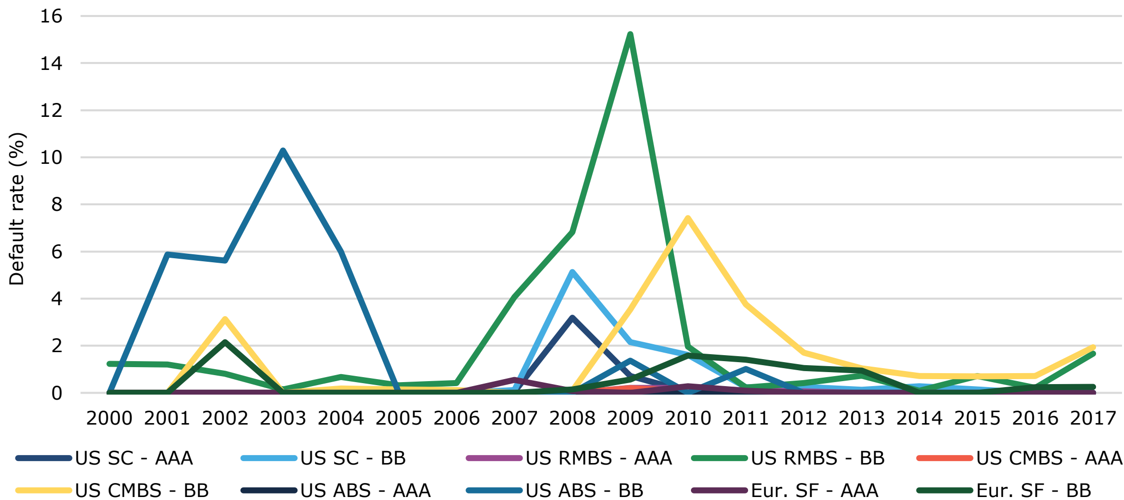
Source: M&G Investments, Fidante Partners. IG – investment grade; HY – high yield. As at 28 February 2018.

Risks associated with ABS

There are a number of risks associated with an ABS bond. First of all, there is the **interest rate risk** (or **duration**), which measures the sensitivity of the valuation of the bond with respect to changes in interest rates. However, given the floating rate nature of most ABS bonds, this risk is much reduced compared to other types of fixed income assets.

The ABS **credit risk** (denoted by the tranche credit rating) is driven by a number of fundamental characteristics of the security itself, such as the quality of the collateral, the defensiveness of the ABS structure, and the geography. Ratings are determined independently by the ratings agencies and are based on a detailed assessment of these, and other, factors. Related to credit risk, and contrary to what might have been expected, European ABS have historically seen low default rates, even during and after stress periods such as the Global Financial Crisis. In fact, during that period, defaults in some ABS sectors were significantly lower than similarly-rated corporate bonds – the chart below indicates that European BB-rated structured finance default rates peaked at just 1.6% during 2010. The same cannot be said for ABS originated in the US, however, where aggressive subprime mortgage lending practices and synthetic securitisations led to large losses in some cases – BB-rated US RMBS defaults reached 15.2% in 2009.

Fig 9: One-year default rates for structured finance



Source: S&P Global, Fidante Partners. SC – structured credit; SF – structured finance (includes structured credit, RMBS, CMBS and ABS).

Also of importance from a risk perspective is the ABS valuation sensitivity to changes in credit spreads (or **credit spread duration)**, that is, how much the credit spread of an ABS bond changes when the credit spread of a similarly-rated bond with a duration of one-year changes. Credit spreads tend to decline when the economy and markets are healthy and widen during periods of difficulty. In addition, they can be volatile and subject to sudden movements in response to specific events. The credit spread duration associated with ABS is not "low", as is the case with duration (interest rate risk), and it is through this sensitivity that price volatility occurs in the ABS sector.

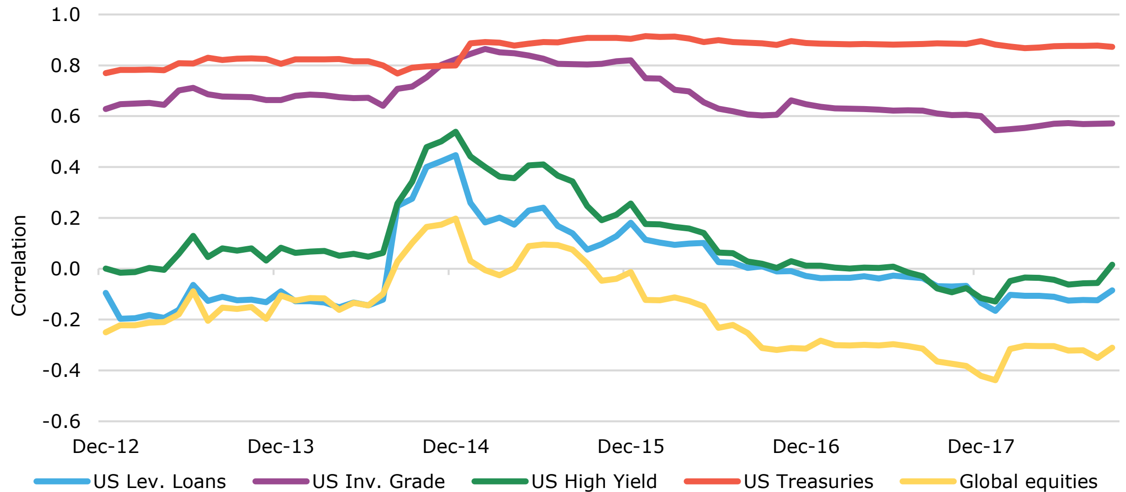
One risk mitigation technique open to ABS investors results from the fact that issuers typically produce granular and transport reporting, which describes how each of the assets within the underlying pool are performing. This helps such investors to accurately analyse and value ABS bonds prior to investment, and also to monitor exposures to these assets after investment.

ABS in a portfolio context

The ABS asset class has a number of positive attributes which it can bring to investors' (fixed income) portfolios:

- The first benefit concerns diversification. As was referred to in an earlier section, certain types of ABS access consumer risk, as opposed to the sovereign and corporate risk which is well-represented in most fixed income portfolios. This feature may be expected to have contributed to the historically low correlation of ABS returns with other assets. Though the correlations have been quite high with some fixed income assets since the end of 2009 (0.7 with investment grade corporate credit and 0.8 with US Treasuries), there are others with for which correlations have been low, or negative (0.0, 0.1 and -0.2, for US leveraged loans, US high yield and global equities, respectively).
- The specific nature of ABS, in terms of sectors and geographies, means that investors can take on the precise risk required within their portfolios.
- Finally, given their relatively enhanced yields, ABS have the potential to boost the overall portfolio yield when included in portfolios with other assets.

Fig 10: Rolling three-year correlations with US ABS



Source: Bloomberg, Fidante Partners. Past performance is not a reliable indicator of future results.

ABS under Solvency II

Since 2016, insurance companies in the European Union and the European Economic Area (EEA) have had to follow the Solvency II regulations that define the solvency capital requirements for investments. These rules were developed in the aftermath of the 2008 Global Financial Crisis to help prevent the most egregious actions that had led to the declines in MBS.

Solvency II includes compliance with European risk retention standards that require originators of structured credit products such as ABS to retain a material net economic interest of 5% in issued securitisations. Under the Volcker rule adapted in the US in 2011 these risk retention rules also applied to US issuers, but in early 2018 a court ruling effectively abolished the risk retention rules for US issues – however, they remain in place for European issues. This also means that investors in European issues enjoy a higher degree of security than investors in US issues because the risk retention rules create an incentive for issuers not to issue ABS with hidden risks.

In order to provide an additional layer of safety, insurance companies must ensure that a minimum amount of solvency capital is assigned to investments in structured credit products in order to create a buffer against potential drawdowns. The size of this capital buffer, known as the Solvency Capital Ratio (SCR), depends on the credit quality of the investment as well as the credit spread duration. For traditional fixed income investments, the credit spread duration is the same as the well-known (interest rate) duration, but for floating rate instruments such as ABS the credit spread duration can differ significantly from the duration of the bond.

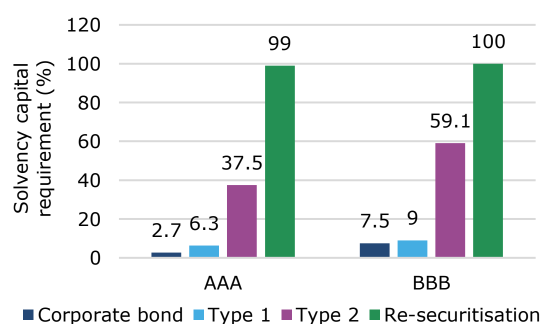
The Solvency II regulations create significant differences in SCR for so-called type 1 and type 2 securitisations. Type 1 securitisations are the most senior tranches of ABS and are based primarily on loans to small and medium enterprises, auto loans and consumer loans, as well as performing RMBS. These type 1 securitisations are considered less risky by the regulator and hence command a much lower capital requirement than type 2 securitisations. Type 2 securitisations are any tranches and securitisations that do not qualify as type 1. Most notably, this includes CMBS (commercial MBS) and CLOs. Finally, there are re-securitisations, i.e. structured credit products on structured credit products (e.g. CDO on ABS) that command SCRs that are prohibitively high in almost every case.

In the chart below we show a comparison of SCR for AAA-rated and BBB-rated

investments with a spread duration of three years. We compare a standard corporate bond with a type 1 securitisation, a type 2 securitisation and a re-securitisation. The chart shows that while type 1 securitisations tend to have similar solvency capital requirements to traditional corporate bonds, type 2 securitisation and re-securitisations command solvency capital requirements that tend to be five to ten times higher than the capital requirements for type 1 securitisations. This gives ABS a distinct advantage as investments for insurance companies, as higher expected returns than those achievable for corporate bonds have to be secured with similar amounts of capital.

It should be noted that the Simple, Transparent and Standardised (STS) securitisation framework is set to be introduced in January 2019 for all EU securitisations. Apart from introducing new due diligence and risk retention requirements under existing legislation, this should have the effect of lowering the capital charges associated with ABS for insurance companies which may, in turn, result in insurers stepping back into the market.

Fig 11: Solvency II capital requirements for different types of securitisations



Source: Fidante Partners.

Summary

ABS have a number of general structural attributes which can be summarised as follows:

- ABS are **bankruptcy remote**, as the assets sit within a segregated legal entity – the SPV – protecting ABS holders from external events such as a bankruptcy of the sponsor;
- ABS are **direct recourse** investments, backed by specific asset pools, with the coupons and principal generated by the underlying assets;
- ABS have **built-in loss protection**, together with multiple layers of risk, which means that the junior tranches take on losses ahead of the senior tranches;
- ABS are **highly granular**, typically containing hundreds or thousands of assets in their reference pools, across individual sectors – they are also often narrowly-focused, geographically;
- ABS typically offer **detailed and frequent reporting**, for example loan-level data in real time, which allows investors to conduct quantitative and qualitative research prior to (and during) investment;
- ABS issuers in Europe are required by the regulatory authorities to retain at least 5% of the credit risk of the underlying asset pool through the lifetime of the ABS securitisation, also known as **"skin in the game"**, helping ensure that there is alignment of interest with the end investors.

ABS performance has been steady over the years, barring the period during and immediately after the Global Financial Crisis, and has compared well to other fixed income assets in a risk-adjusted basis. In terms of ABS risks, their sensitivities to interest rate movements is low as they are generally floating rate, while historical default rates have been lower (notably in the 2008 to 2010 period) than similarly-rated assets. These performance characteristics, together with low correlations to other assets, suggest that benefits can be gained when included in investors' portfolios.

Admittedly, ABS constitute a niche, relatively complex sector which, as a result, does not receive much research coverage. This helps experienced ABS fund managers to consistently find value and increases the chances that they will be able to deliver attractive returns to their investors.

Appendix

Appendix figure 1: Selected ABS types

ABS type	Payment source	Payer	Payer type	Sponsor
RMBS, CMBS	Mortgage payments	Property owner	Consumer/ commercial	Bank, building society
CLO	Bank loans	Non-IG corporations	Commercial	Credit asset manager, bank loan manager
Auto loan	Auto loan	Auto owner	Consumer	Auto finance company
Credit card loan	Credit card receivables	Cardholder	Consumer	Bank
Student loan	Student loan	Student (guarantor or parents)	Consumer	Student lender
Equipment leasing	Equipment lease agreements	Equipment operator	Commercial	Equipment leasing company
Auto lease	Lease agreements	Driver	Consumer	Auto finance company
Marketplace lending	Unsecured consumer loans	Borrower	Consumer	Online lender
Timeshare	Timeshare contracts	Resident	Consumer	Timeshare company
Residential solar	Solar PPA/solar equipment loans	Resident	Consumer	Solar finance company
Structured settlement	Insurance settlement	Insurance company	Commercial	Structured settlement originator
Aircraft	Aircraft lease agreement	Airline	Commercial	Aircraft leasing company
Royalty	Royalty and licensing agreements	Agreement counterparty	Commercial	Royalty acquirer
Shipping container	Container lease agreements	Shipping line	Commercial	Container leasing company

Source: Fidante Partners.

There are many different types of ABS that investors can choose from, backed by different types of assets, each with their own set of characteristics. However, issuance in some of these sectors is relatively small, compared to MBS and CLO issuance.

Appendix figure 2: US ABS issuance by type ($, bn)

	Auto	CDO/CLO	Credit cards	Equipment	Other	Student loans	RMBS	CMBS	Total	Total (ex-MBS)
2000	70	55	53	18	29	16	148	47	436	240
2001	83	55	68	13	29	13	270	67	599	261
2002	94	56	68	7	18	26	421	54	744	269
2003	85	59	63	15	25	41	665	84	1,036	288
2004	81	124	51	10	18	47	917	101	1,349	331
2005	106	194	59	17	34	63	1,259	176	1,908	474
2006	89	396	61	14	30	68	1,278	214	2,150	658
2007	86	490	96	15	50	60	788	241	1,825	796
2008	36	81	56	3	12	28	53	17	285	215
2009	64	13	52	9	19	22	72	11	261	178
2010	59	8	7	9	28	15	67	25	217	126
2011	66	22	12	12	24	14	37	34	223	151
2012	88	60	32	18	35	25	28	48	335	259
2013	88	95	37	19	42	23	50	88	442	304
2014	99	127	51	20	67	16	74	101	555	381
2015	98	112	25	18	61	14	97	102	528	329
2016	92	117	27	15	55	16	86	78	486	322
2017	101	303	43	24	71	16	126	98	783	559
2018	83	144	26	21	60	16	202	67	618	350

Source: SIFMA, Fidante Partners. To 30 September 2018.

2006 was the peak year for ABS issuance in the US, with over $2tn coming on to the market. The Global Financial Crisis put a firm brake on this activity in the years following. Throughout the period since the year 2000, MBS has constituted the largest part of the issuance, ranging from 23% to 75% of the annual total. The least significant issuance has come from equipment leasing (2% of the total over the last c. 19 years) and student loans (4%).

RESEARCH

Joachim Klement
+44 20 7832 0956
jklement@fidante.com

Martin McCubbin
+44 20 7832 0952
mmccubbin@fidante.com

Aliy Akbarov
+44 20 7832 0957
aakbarov@fidante.com

MARKET MAKING

STX 79411 79412

Mark Naughton
+44 20 7832 0991
mnaughton@fidante.com

Anthony Harmer
+44 20 7832 0995
aharmer@fidante.com

UK SALES

Daniel Balabanoff
+44 20 7832 0955
dbalabanoff@fidante.com

Max Bickford
+44 20 7832 0934
mbickford@fidante.com

Hugh Ferrand
+44 20 7832 0935
hferrand@fidante.com

Patrick Valentine
+44 20 7832 0932
pvalentine@fidante.com

Justin Zawoda-Martin
+44 20 7832 0931
jzawodamartin@fidante.com

INTERNATIONAL SALES

Christian Andersson
+46 8 1215 1360
candersson@fidante.com

Ian Brenninkmeijer
+46 8 1215 1361
ibrenninkmeijer@fidante.com

Trevor Barnett
+1 212 897 2807
tbarnett@fidante-us.com

Adam Randall
+1 212 897 2807
arandall@fidante-us.com

Yves van Langenhove
AAMYS* (Fidante Partners)
+34 468 29 08 04
yvanlangenhove@fidante.com

PRODUCT DEVELOPMENT

Tom Skinner
+44 20 7832 0953
tskinner@fidante.com

CORPORATE FINANCE

John Armstrong-Denby
+44 20 7832 0982
jdenby@fidante.com

Nick Donovan
+44 20 7832 0981
ndonovan@fidante.com

Will Talkington
+44 20 7832 0936
wtalkington@fidante.com

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