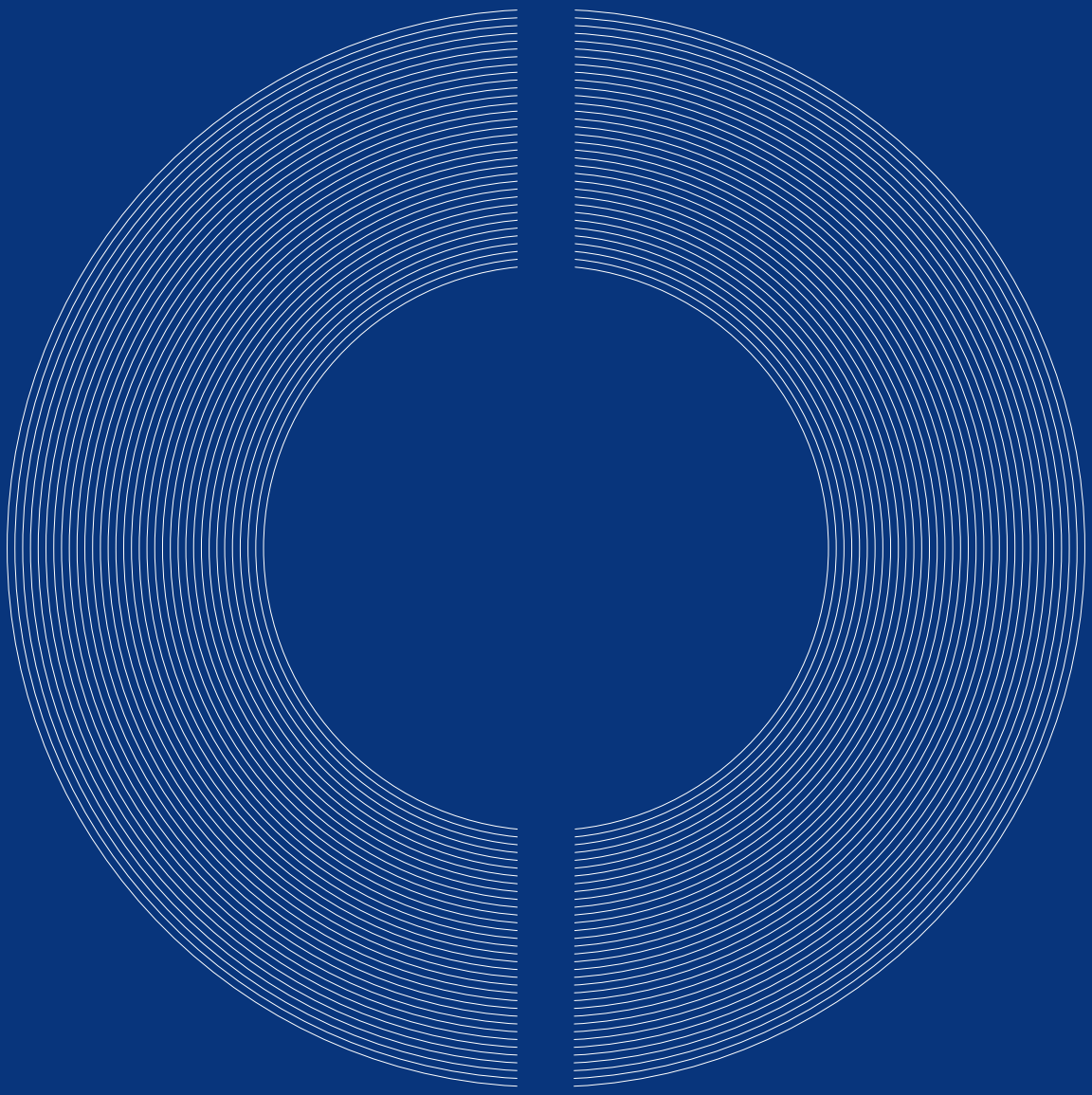
Schroders

A primer on securitisation

October 2019



ABS, MBS, CMBS...it's all about the backing

What we refer to as securitised debt is known by many names: structured products, structured finance, securitised credit, or it can be known by its acronyms, ABS, MBS, CMBS, and CLO[1] to name a few. With this many monikers, it's no wonder that this area of finance is considered more complex than 'traditional' fixed income.

Truth all told, we chose the term "securitised" because it contains the word "secure" and we think that the secured nature of the debt is one of the most important features of the sector. We often think of securitised debt as benefiting from three pillars: collateral (secured nature), structure (credit protection) and amortization (of the underlying debt).

Michelle Russell-Dowe
Head of Securitised Credit

1 Asset-backed securities (ABS) are securities backed by cash flows from receivables or loans such as automobile loans, credit card receivables or student loans. Mortgage-backed securities (MBS) are securities backed by cash flows from residential mortgage loans. Commercial mortgage-backed securities (CMBS) are securities backed by cash flows on commercial mortgage loans. Collateralized loan obligations (CLOs) are securities backed by cash flows from corporate loans.

Introduction

Securitised debt is backed by financial contracts. For example, auto ABS are backed by loans secured by automobiles. As the loans are repaid by the borrowers, the payments are forwarded to the securitisation trust and used to repay the ABS bonds that have been issued. The securitisation trust is a key concept which we will discuss further in this primer, but the trust itself is a vehicle set up to own the loans and to issue the debt.

The "security" for the ABS debt is two-fold: first, the primary security is the financial contract, or loan, which provides that the borrower repay their debt. Second, it is common that the financial contract contains terms which provides for recourse to collateral (in this case, the automobile) should the borrower cease making payments as required by the auto loan contract. These two components represent the "secured" and "collateralized" nature of the debt, which is our first pillar (we will dive deeper into the other two pillars later in the paper).

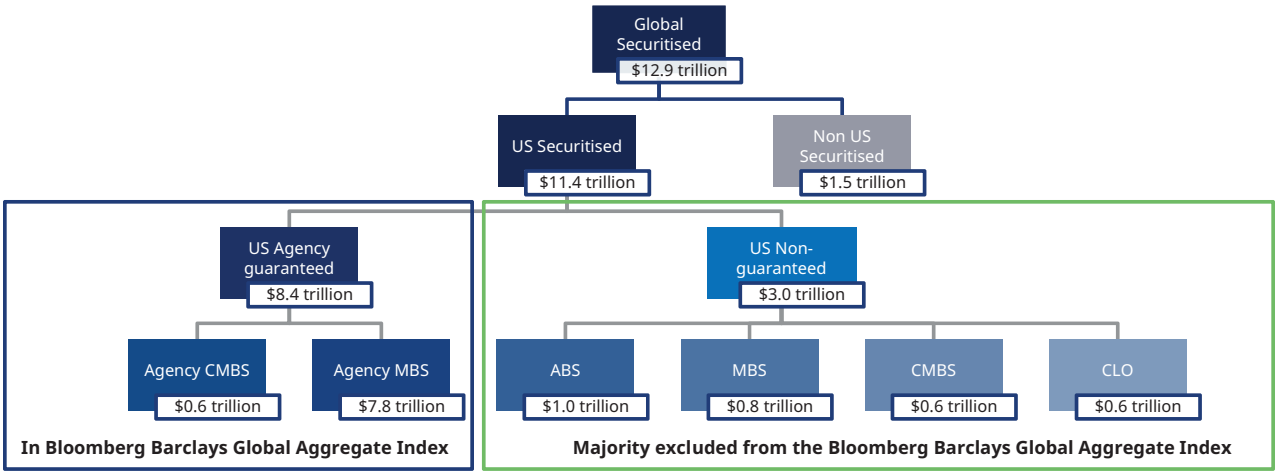
Size is a surprise; the consumer debt, housing debt and real estate debt are large markets. Consumer debt, real estate debt, and commercial and residential mortgage debt, are all substantial, sizable markets. Figure 1 helps illustrate this point as there is a wide universe of debts that are securitised. On the consumer side, there are auto loans, cell phone loans, mortgage loans, student loans, personal loans, credit card receivables and even peer-to-peer lending. As well, there are loans that face a business rather than a consumer; these are often commercial real estate mortgage loans, small business loans, equipment leases, cellular tower loans, solar power purchase contracts, insurance linked-securities, or even leveraged loans. This diversity means that the universe is large. The outstanding current face value of "securitised debt" globally is $12.9 trillion. This makes it one of the largest debt markets outstanding.

The breakdown of this sizable market offers insight into why there is value to be found within and across the securitised markets.

A substantial component of the global securitised market is the $8 trillion market that is guaranteed by Fannie Mae, Freddie Mac and Ginnie Mae. The US mortgage market has more than $11 trillion in debt outstanding and the government guarantees about three quarters of it to ensure access to financing. This government guaranteed mortgage market (Agency MBS) is the portion of the securitised debt market that is represented as "securitised" in the Bloomberg Barclays Global Aggregate Index universe, a major benchmark for investors. Agency MBS is clearly a major category of debt, and it offers a different type of "high-grade" risk premium than the risk premium that is offered by corporate debt. It has value as a diversifying source of return and as a risk mitigating, guaranteed debt with principal protection similar to Treasury notes. The principal risk that Agency MBS compensates investors for is prepayment risk, or the risk that a US mortgage borrower refinances their higher rate mortgage when interest rates decline.

The Securitised Component of the Bloomberg Barclays Global Aggregate Index is primarily Agency MBS. As such, it excludes most of the $4.5 trillion in securitised debt that is not Agency MBS. Most ABS, non-agency MBS, CMBS, CLO, European MBS/ABS and Australian ABS/MBS are not included in the index. Therefore, these securitised debts are generally regarded as out-of-benchmark exposures. As out-of-benchmark exposures, index buyers are not required to buy these securities and ETF's that replicate the index would not include them. These exposures have typically been embraced by managers with significant resources and with histories in managing these specific, research-intensive assets, and in a format accessible mainly by larger institutional investors. Without an audience from passive investors, we think the securities typically excluded from the index offer attractive return without taking on additional risk.

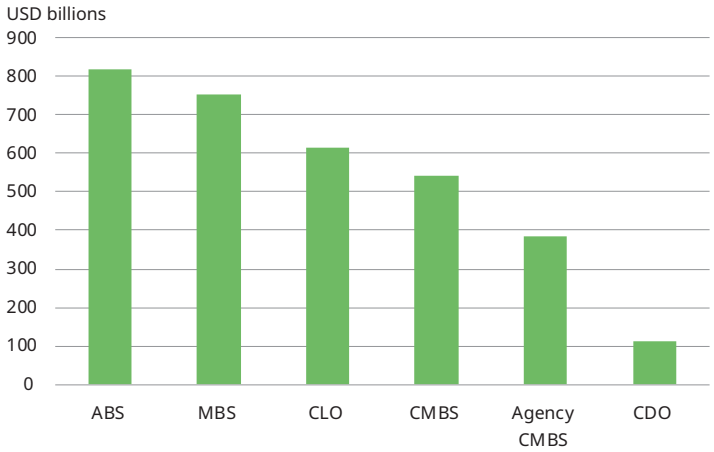
Figure 1: Securitisation is a sizable market, comprised of diverse asset classes



Source: Schroders, SIFMA, Fed, Barclays as of June 2019.

Figure 2 shows that there is more than $3 trillion of securitised debts outside of the Agency MBS market in aggregate, a substantial out-of-benchmark opportunity set.

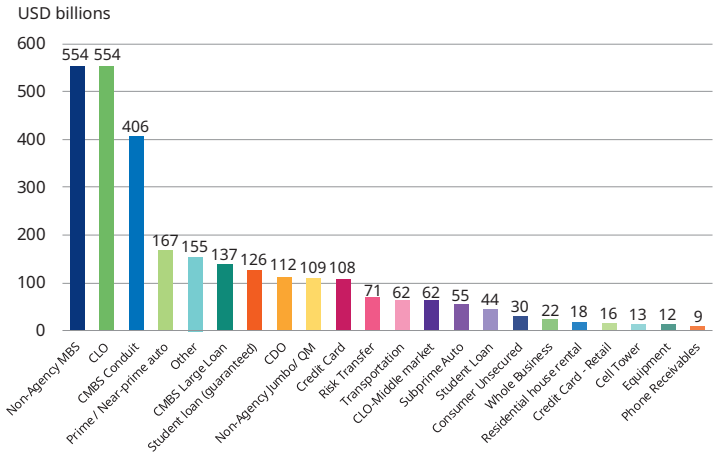
Figure 2: US securitised aggregate issuance by high level category (ex Agency MBS)



Source: SIFMA, Schroders as of December 31, 2018.

There is a very diverse set of debt types, as shown in Figure 3 below, that an investor can access through these markets, offering a tremendous advantage in making selections of sectors and securities that have better fundamental support.

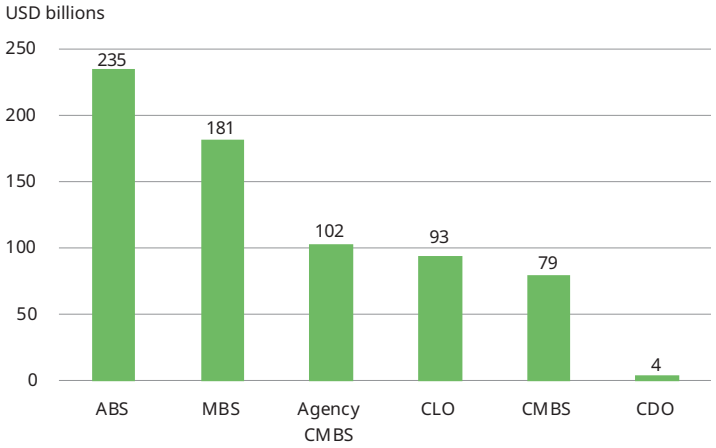
Figure 3: Outstanding debt (excluding agency guaranteed)



Source: SIFMA, Schroders as of December 31, 2018

As well, annual issuance is quite robust across these sectors, offering ample supply. Figure 4 shows that even after excluding Agency MBS there is close to $600 billion in annual issuance in the US securitised markets.

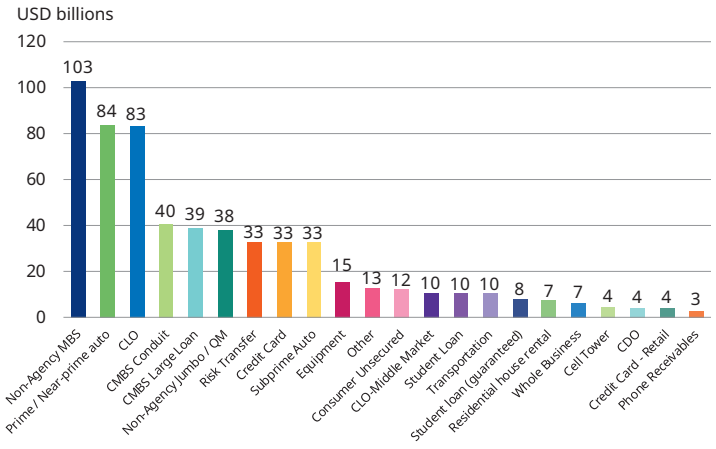
Figure 4: US securitised 2018 issuance by high level category (ex Agency MBS)



Source: SIFMA, Schroders as of December 31, 2018.

Figure 5 shows the nearly $600 billion in annual issuance from 2018 was also diversified across sectors.

Figure 5: 2018 debt issuance (excluding agency guaranteed)

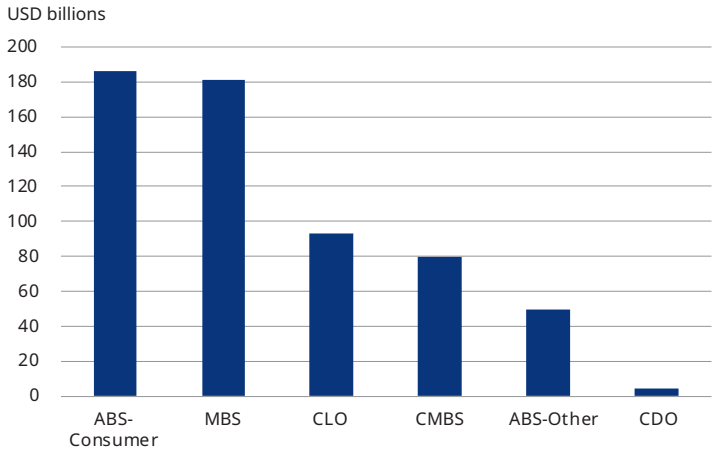


Source: SIFMA, Schroders as of December 31, 2018.

The most granular, data rich, sectors are also the largest: MBS, or securities backed by residential mortgage loans, auto loan-backed securities (prime, near-prime and sub-prime), CLOs and CMBS, or securities backed by commercial real estate mortgages all offer the most extensive range of opportunities. It is difficult to access this type of debt exposure through the corporate bond market or the equity market without also taking on the business risk of bank or non-bank lenders or retailers. So, with a principal focus on the consumer, on housing and on commercial real estate, the securitised market offers diversification to traditional credit exposure.

Figure 6 highlights the issuance of ABS debt backed by the consumer, housing debt (MBS) and commercial real estate debt (CMBS).

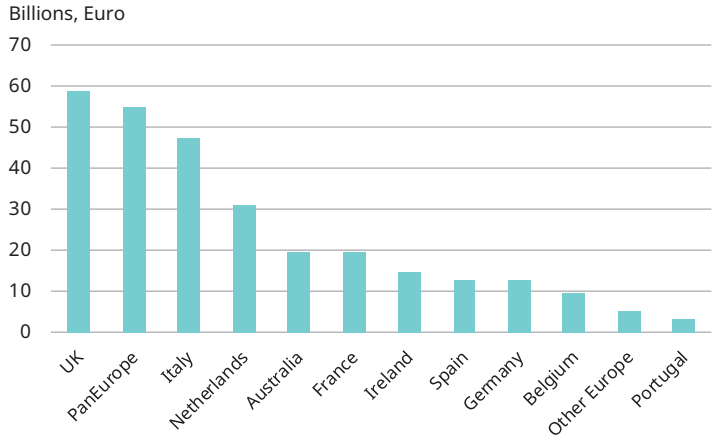
Figure 6: 2018 ABS issuance excluding agency, $592 billion



Source: SIFMA, Schroders as of December 31, 2018.

In addition to these US markets there is a roughly 1.2 trillion Euro non-US securitised debt market, equivalent to $1.5 trillion in US dollars. So, not only is there a substantial diversification across sectors and types of debt, there is the ability to access regional diversification. Figure 7 illustrates securitised debt by country.

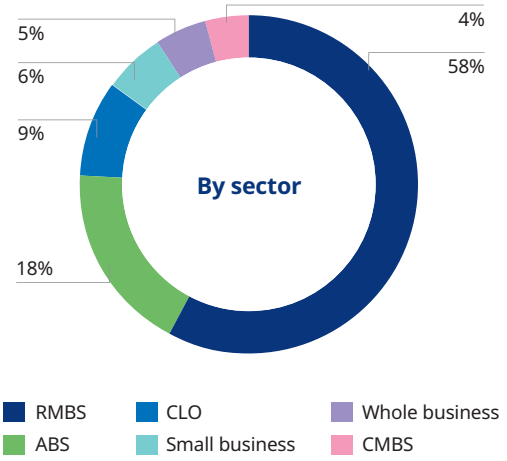
Figure 7: Issuance by country



Source: SIFMA, Schroders as of December 31, 2018.

As shown in the pie chart (Figure 8), RMBS, or residential mortgage-backed securities, dominates the European and Australian markets. This RMBS exposure in Europe and Australia is not guaranteed and is a parallel to the US non-agency MBS market. The acronyms RMBS and MBS are often used interchangeably, whereas commercial mortgage-backed securities are always called CMBS.

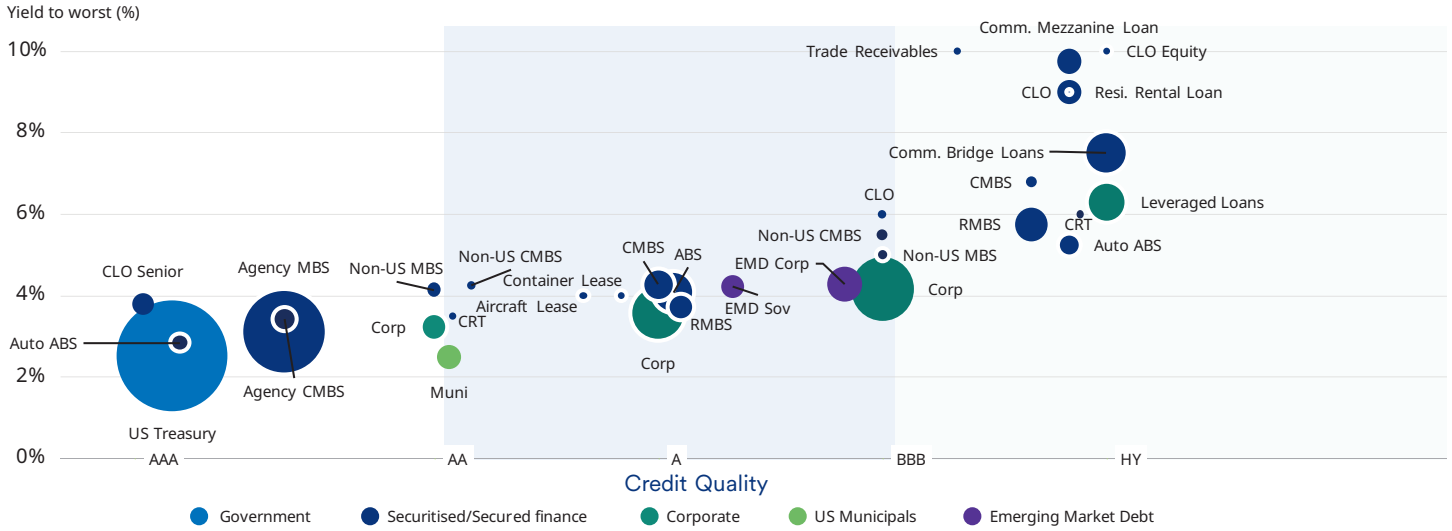
Figure 8: European and Australian percent of outstanding issuance by sector



Source: SIFMA, Schroders as of December 31, 2018.

The sum of all of these global securitised markets is an investment universe that is extraordinarily large, diverse, and one that allows for excess return generation as it is not a formal portion of the largest, more "traditional" fixed income indices. From a creditworthiness perspective, the securitised opportunity spans from the highest grade (AAA, government guaranteed), to higher-yielding, below-investment-grade opportunities. As such, there is a wide range of investment tools that can be called on to create low risk, low volatility strategies, or investment tools to take advantage of credit opportunities. The wide range of options also offers a compelling case for using different investments over the course of a credit cycle to manage credit risk. In Figure 9 on the next page, we illustrate the relative attractiveness of return by rating of securitised sectors versus other traditional fixed income. For example, some AAA rated classes in ABS and MBS earn a similar return as corporate securities rated two categories lower (single-A).

Figure 9: Superior return (yield) per unit of risk relative to many traditional sectors



Circle size represents size of market. For illustrative purposes only and should not be viewed as a recommendation to buy or sell. Source: Bloomberg, SIFMA, as of August 31, 2019. Based on 5 year duration equivalent yield to worst for index proxies of each asset class. Past performance is no guarantee of future results. Yields can fluctuate over time.

In addition to the diversity of collateral backing securitised debt, each segment offers a wide range of debt maturities as well. This enhances a manager's ability to cope with a variety of yield curve environments. Using the current environment as an example, the yield curve is very flat, and has even been slightly inverted earlier this year. The amortizing nature of many consumer debts (mortgage, auto, etc.) is therefore attractive today given the flat yield curve. In this flat yield curve environment investors are not paid addition yield to extend out the maturity curve, nor are they offered additional yield spread for taking on longer exposures. As such, maximizing yield and spread really occurs at the 3-year point in the yield curve, where a lot of ABS cash flows sit. With the shorter maturity profile and limited contribution of roll down to security return, ABS look attractive in a flat yield curve environment, like today. However, the amortizing nature of ABS debt is valuable even in other environments for a few reasons: it offers liquidity through pay downs, it offers a reduction in risk exposure (the outstanding debt declines as the debt gets closer to maturity), and it offers shorter maturity options which minimize volatility with a lower exposure to "spread duration".

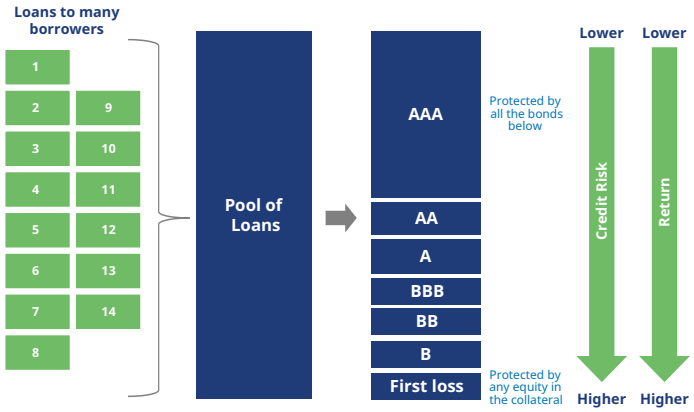
The second pillar: looking at the benefits of a securitisation trust and structure

Our second pillar of securitisation is "structure". When we refer to structure it means the priority of payments that the securitisation uses to pay the debt issued by the securitisation trust. But let's stop there and talk about the importance of the securitisation trust as the issuer of the debt. Securitisation was built so that the assets, or the loans sold to the trust/issuer, could be relied upon as payment for debt regardless of what happened to the loan originator. This independence from the corporate risk of the loan originator is a key concept; it makes the loans, or assets, remote from the bankruptcy risk of the lender. This protects investors from the more idiosyncratic nature of corporate risk. Second, diversification is another feature of securitisation. Securitisation pools the risk across hundreds, or even thousands of borrowers. With bankruptcy remoteness and diversification highlighted, we will discuss with significant detail our second important pillar of securitisation which is structure, or credit tranching, (see next page for diagram).

Structure can facilitate additional credit protection, or it can isolate other risks such as cash flow timing, or prepayment risk, as is done in collateralized mortgage obligation (CMO) structuring.

What do these advantages look like?

Figure 10: Different risk and return for different investors



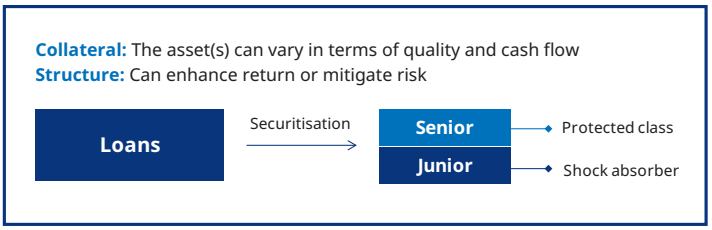
Source: Wikipedia (https://en.wikipedia.org/wiki/Tranche), Schroders.

The diagram above is what pooling a diverse group of loans together and issuing multiple classes of debt looks like. There is a specific priority of payments, typically first to the senior-most class and then, once that security has been satisfied, the next most senior class is paid. In this way the more senior classes benefit from additional protection beyond the first pillar (collateral). The rules of payment and the number of classes can be quite simple, as simple as even a single class issuance, which is known as a pass-through certificate. As well, the rules of payment can also be more complex, including classes of various credit priority, and, classes with various timing priority. Timing priority can be used and serve demand from different investor types to create debt with very certain payment windows. The concept of structure allows cash flows from loans to

be used to create debt of various qualities and maturities. In this way, a variety of risk profiles can be created, and sold, to optimize the cost of capital for an issuer. The importance of structure is why many people refer to securitisation as "structured finance" or "structured products".

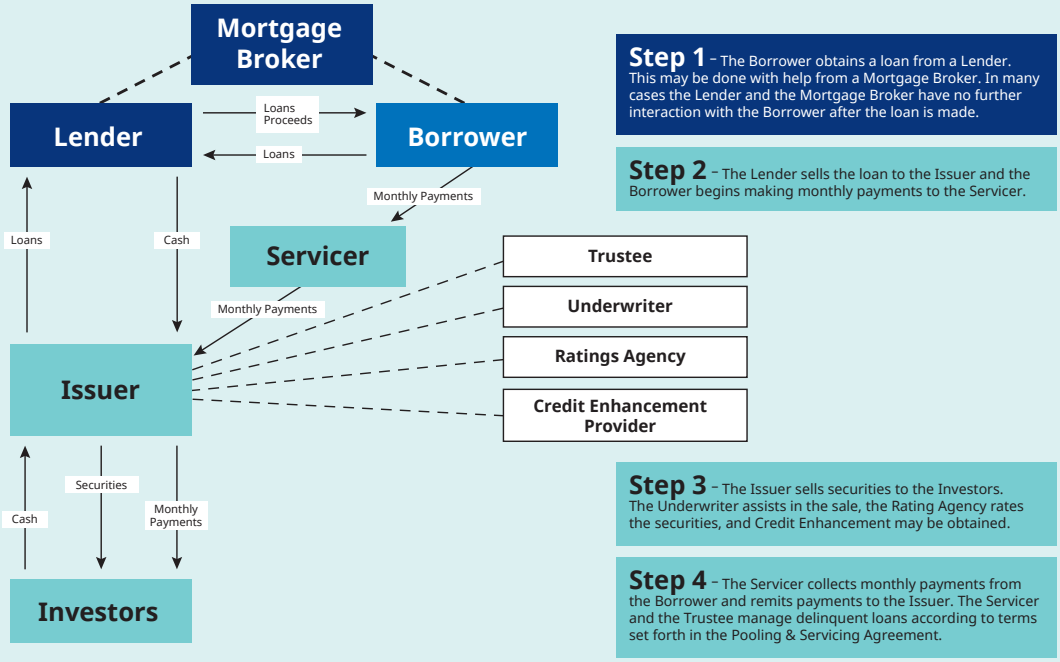
We have discussed the importance of the securitisation trust, but to illustrate the concept, the securitisation itself is a legal arrangement where the debt is issued by a special purpose vehicle often referred to as a "trust". Even Wikipedia has a diagram on securitisation. There are several parties to a securitisation that manage the cash flow (payment rules) and the independence of the trust. An illustration is below.

Figure 11: Two critical components work together to impact return, stability and liquidity



For illustrative purposes only. Protection refers to relative capital structure standing, not an absolute guarantee against capital loss.

Figure 12: A mortgage securitisation flow chart



Source: Wikipedia.

The initial parties to a loan are simple: a borrower, a lender and a payment collector, often known as the servicer.

Sometimes there is a broker that arranges the loan between the borrower and the lender, but the steps flow as follows: 1) a lender makes a loan to a borrower, 2) borrower makes payments on the loan, 3) servicer collects the periodic payments on the loan and 4) the servicer would *work-out* the loan if the borrower stopped paying.

In the case of a securitisation, the lender sells the loan to a trust; there are required representations about the underwriting and quality of the loans. The lender is then out of the picture except for these representations. The servicer is hired and paid by the trust and continues their role in collecting payments. An underwriter sets up the trust and underwrites the bond issuance, often making secondary markets in the issued debt. A trustee (fiduciary) oversees the trust and the cash flow. The trust issues debt (bonds), which is purchased by investors and the trust, makes payments to the bondholders. The rating agencies assess the debt quality based on their criterion to provide information to investors. They also monitor performance.

So why securitise?

From an issuer's perspective, securitisation typically offers a lower cost of funding, or a diversified funding source, and in many cases, the issuer's credit rating becomes less relevant. As such, if a junk-rated lender has very high-quality debt receivables, they can often achieve much more attractive cost of capital through selling the receivables through a securitisation. Why? This is the importance of bankruptcy remoteness discussed earlier. Once the loans are sold to the securitisation trust, the lender is effectively out of the picture, the loans are separated from the lender's assets and are not subject to the lender's higher risk of bankruptcy or default. But issuers do not have to be smaller, lower rated corporations. Common issuers include large companies as well as government entities. Examples are: Capital One, Wells Fargo, JPMorgan Chase, Ford, General Motors, Harley Davidson, Ginnie Mae, Fannie Mae, and Freddie Mac. In addition, private firms like Starwood, Annaly, Redwood, Exeter, Blackstone, Brookfield, Fortress, and many others all use securitisation.

The third pillar relates to cash flow from the underlying loans or receivables; basically what supports the amortization. While we have touched on amortization twice already, it is worth mentioning this as a differentiator. Many loans provide for the amortization of the debt prior to the maturity of the loan. This is quite different from that of most fixed-income debt, which is typically a bullet maturity (corporate securities and sovereign debt are typically bullet maturity). But many loans, in particular consumer loans such as mortgages and automobile loans, are amortizing. As the loans repay principal, this principal is often used to pay down principal on the outstanding securitised debt. This creates a deleveraging, or de-risking, of the debt outstanding, over time. It also creates some liquidity over time.

So with our new-found understanding of the three pillars – collateral, structure and amortization – we now move to understanding some of the changes to the market, post financial crisis, and the use of the debt within strategies and portfolios.

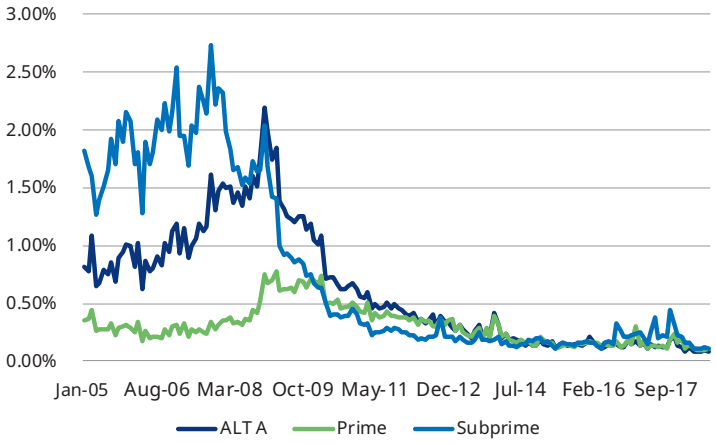
The house won't fall if the bones are good

The securitisation market is often a polarizing one. Given the massive run up in unregulated, and poorly underwritten consumer debt prior to the last financial crisis, a few investors still have an emotional bias against securitised debt and exclude it without regard to the changes that have happened in the subsequent 12 years post financial crisis.

During the financial crisis, many investors experienced losses in MBS or CDOs. These losses were concentrated in CDOs and in more junior MBS and CMBS exposures which were smaller shock absorbing classes. There were losses in 2006-2007 vintage non-agency MBS where sufficient borrower income underwriting was not done. Investors that did not own MBS or CDOs still experienced significant price volatility which has left a lasting impression. But, as a result of the financial crisis, there have been several critical changes. **Regulation of lenders, issuers and investors** has restricted lending, improved the quality of origination, and required risk retention – no more "no income" loans. Intermediaries, such as rating agencies, as well as investors, have a **much larger data set** with which to make performance assessments. **Risk has been meaningfully re-priced** with a conservative tilt as regulation has limited buyers like European insurance companies.

Even for vilified sectors such as subprime MBS, time has provided a sort of healing. Many of the weaker loans have been liquidated from pools, and because of lasting regulatory change, many well-performing borrowers have not been able to refinance, keeping them in these older vintage debts. If we were to ask you what would you call a borrower which has been making consistent payments for five, even 10 years. Would you call it 'sub-prime'? We wouldn't. There are many instances of this very debt servicing adherence. They are no longer really the same "subprime" customer they were five years prior. These facts are often ignored as the baby has been "thrown out with the bath water" and it is one of the key reasons managers with data, experience, and skill can generate alpha in these markets. Mortgage loans in the US generally have term to maturity of 30 years. As such there are many, many vintages of securities backed by loans with a variety of seasoning and a variety of borrowers.

Figure 13: Always current default rate (first time becoming 30 days delinquent)



Source: Loan Performance as of May 2018. Past performance is no guarantee of future results. Yields can fluctuate over time.

But let's touch on the vast array of regulation of securitisation as it has created inefficiencies that create excess return opportunity and they have massively changed lending standards. Very little "risky" product origination occurs in US mortgage space. NINJA loans (the so-called "no income, no job, no assets" underwriting) are a thing of the past.

US Regulation

Basel III (rolling into Basel IV) establishes risk weightings and capital requirements for banks' securities investments and loan books. This limits banks' ability to leverage these holdings and reduces demand from banks leading to more attractive yield spreads and less competition. As well, the Dodd-Frank Wall Street Reform and Consumer Protection Act was incredibly wide-ranging, dishing out rules such as: The Volcker Rule which eliminated bank prop desk trading. The rule establishes standards for mortgage lending, servicing, appraisal regulation. Dodd Frank brings hedge funds in scope for regulation, and brings in risk retention requirements for issuers in securitisation. Dodd Frank establishes higher bank capital requirements, minimum capital charges, maximum leverage levels and it includes Structurally Important Financial Institution (SIFI) designations for extra regulation. But, in our view, importantly Dodd Frank established criterion for income-based underwriting in mortgage loans through the definition of a qualifying mortgage (QM) and through Ability to Repay (ATR) underwriting standards for all non-QM loans.

European regulation

The EU Capital Requirements Directive (CRD) established the risk retention and due diligence requirements for European Securitisation issuers; this is an issuer requirement to keep "skin in the game". Basel III (rolling into Basel IV) establishes risk weightings and capital requirements for banks' securities investments and loan books; this limits banks' ability to leverage these holdings and reduces demand from banks. Solvency II for European Insurance Companies establishes risk weightings, (extremely high for securitised relative to corporate and covered bonds). Solvency II effectively limited EU insurance buying of securitisation completely post crisis. The Alternative Investment Fund Managers Directive (AIFMD) covers European hedge funds, private equity, and any other alternative investment firms and it established requirements for buyers (EU-RR, due diligence). EU Securitisation Regulation, in effect from 1/1/19 established rules for issuance of Simple, Transparent, and Standardised (STS) Securitisations, and it brings UCITS (equivalent to 40-Act) vehicles into the risk retention and due diligence requirements.

As can be seen, post global financial crisis, the regulatory pendulum has swung hard in terms of monitoring and limiting securitisation practices globally. In many cases the impact has been massive; limits to lending (outstanding lending on homes in the US actually declined for 10-years post financial crisis, while over the same time period, outstanding non-financial corporate debt, roughly doubled in size. Regulation of this magnitude has long lasting implications, including cheaper valuations for impacted asset classes and stronger fundamentals.

Asset class positioning

The asset class offers three principal benefits

1 Diversification from corporate credit

2 Less recent growth and better supply/demand balance (lower volatility)

3 More attractive valuations (less crowded)

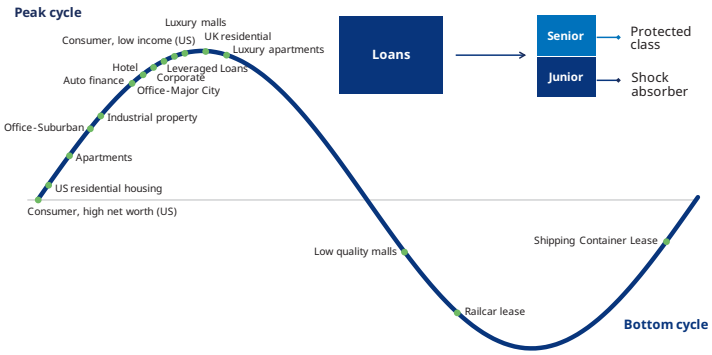
Securitised credit is a way to access exposure to the consumer, to housing and to commercial real estate. There are, of course, other ways to get this access through lenders, through REITs, for example. However, in this case you are buying exposure to on-going business models of corporations, whereas in the securitised market you have direct exposure to a specific pool of loans without the exposure to the corporation or the business model. Think Wells Fargo Corporation versus the risk of prime mortgage loans originated and sold by Wells Fargo. This is quite different than corporate credit.

US securitisation offers variety and there is a high number of underlying asset classes, which offers a way to manage through credit cycles given the diversity of the exposures.

Figure 14: Asset cycles are not always synchronized

Offers diversification to traditional credit risk such as corporate or sovereign credit risk

- Access to differentiated consumer sectors: real-estate, finance and housing
- Diverse universe with wide range of fundamental exposure

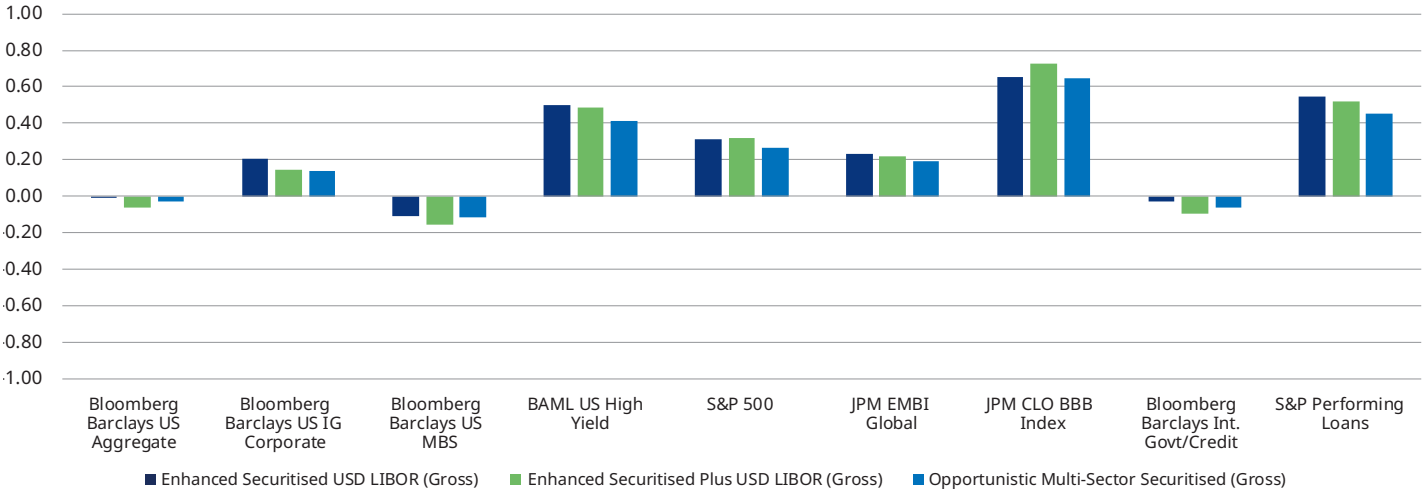


Source: Schroders. For illustration only.

Our strategies offer the ability to help diversify portfolios, given their lower correlations to traditional fixed income asset returns. We believe this is especially important as we move later in the corporate credit cycle and see more idiosyncratic risk.

Figure 15: Securitised strategies have low correlation to various asset classes, including other 'floating rate' sectors

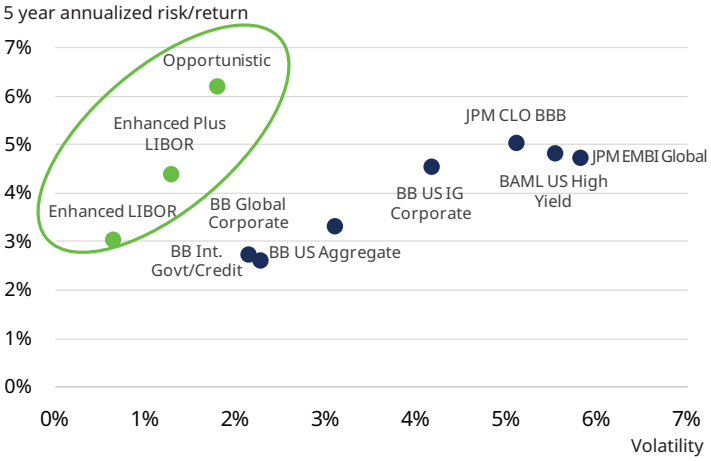
Five year correlation as of March 2019



Source: Schroders, Bloomberg, as of August 31, 2019. Correlations based on composite returns, gross of fees, relative to unmanaged index proxies. Correlations reflect past performance, which is no guarantee of future results. Please refer to the back for important information.

The risk/return profile has been superior across both the lower volatility strategies and the return-seeking strategies.

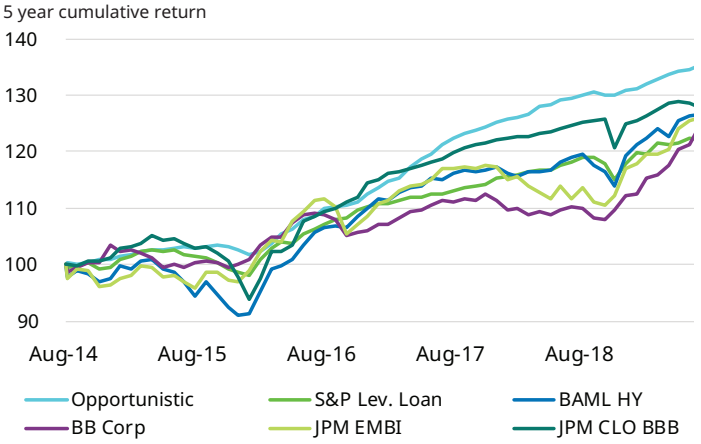
Figure 16: Low historical volatility/diversification



Source: Schroders, Bloomberg as of August 31, 2019.

Without giving up return, investors have the ability to capture security, structure and amortization.

Figure 17: Attractive return seeking potential



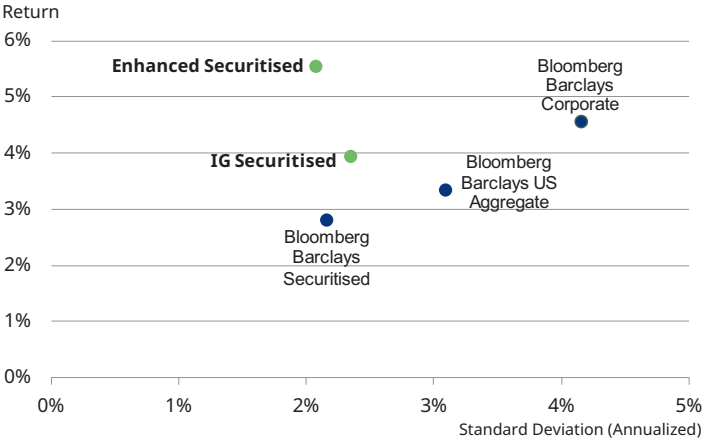
Source: Schroders, Bloomberg as of August 31, 2019. Past performance is no guarantee of future results. Yields can fluctuate over time.

Overall there is significant alpha added, substantial benefit to risk premium diversification and an additional benefit to a specialist manager that can mine for the values across the complex and diverse market place.

Figure 18: Securitised credit: attractive returns & diversification relative to traditional and alternative fixed income strategies

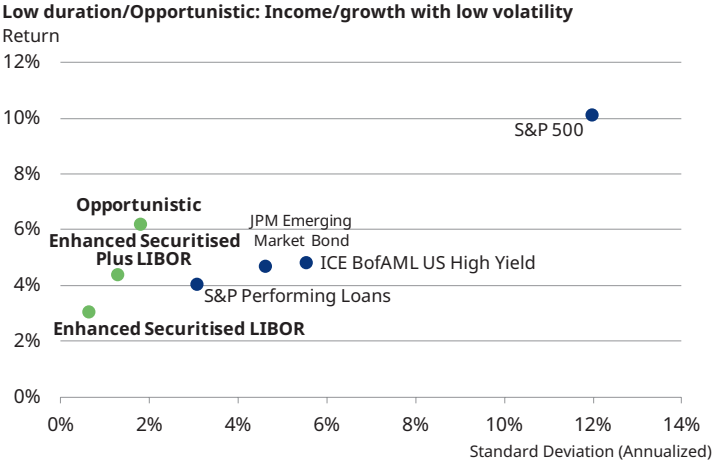
5-year risk/return as of August 2019

Benchmarked: Index duration with added return



Correlation Comparison (5 years)	Bloomberg Barclays Securitised	Bloomberg Barclays US Aggregate	Bloomberg Barclays Corporates
Investment Grade Securitised	0.95	0.95	0.78
Enhanced Securitised	0.84	0.80	0.66

Low duration/Opportunistic: Income/growth with low volatility



Correlation Comparison (5 years)	S&P 500	JPM Emerging Market Bond	ICE BoAML US High Yield	S&P Performing Loans
Opportunistic Securitised	0.26	0.21	0.41	0.45
Enhanced Securitised	0.32	0.24	0.49	0.52
Enhance LIBOR	0.32	0.25	0.50	0.55

Wide range of underlying assets creates opportunity to benefit from asynchronous asset cycles

Source: Bloomberg, Schroders as of August 31, 2019. Performance shown reflects past performance, which is no guarantee of future results. The value of an investment can go down as well as up and is not guaranteed. Please refer to the back for important information.

Within this diverse and dynamic market, Schroder's team has a genuine appreciation for risk and opportunity, and a long history of serving clients in this regard.

Figure 19: Securitised credit strategy performance as of June 30, 2019

	1 Year		3 years (p.a)		5 years (p.a.)		7 years (p.a.)		10 years (p.a.)	
	Total return	Excess return	Total return	Excess return	Total return	Excess return	Total return	Excess return	Total return	Excess return
Investment Grade Securitised (vs Barclays Securitised)	7.16%	0.79%	3.12%	1.01%	3.83%	1.24%	4.40%	2.02%	6.85%	3.34%
Enhanced Securitised (vs Barclays Securitised)	7.38%	1.01%	4.47%	2.37%	5.56%	2.96%	7.44%	5.06%	9.49%	5.97%
Enhanced Securitised LIBOR (vs 3-Month LIBOR)	3.68%	1.12%	4.05%	2.30%	3.01%	1.82%	4.25%	3.32%	6.07%	5.30%
Enhanced Securitised Plus LIBOR (vs 3-Month LIBOR)	4.09%	1.53%	6.14%	4.40%	4.44%	3.25%	5.91%	4.97%	-	-
Opportunistic Multi-Sector Securitised (vs 1-Month LIBOR)	4.44%	2.09%	8.13%	6.61%	6.33%	5.32%	9.76%	8.99%	11.13%	10.52%
Opportunistic Long/Short Securitised	5.14%	-	10.11%	-	7.24%	-	10.56%	-	-	-
Schroder European ABS* (vs 3-Month GBP LIBOR)	0.63%	-0.20%	2.54%	1.98%	1.42%	0.86%	2.65%	2.09%	-	-

Source: Schroders. Returns reflect past performance gross of any fees, which would have been lower on a net basis. Past performance is no guarantee of future results. Please refer to the back of this presentation for more details. *Schroder European ABS returns are shown in GBP.

A word about securitised investment risk

All investments involve risks including the risk of possible loss of principal. The market value of a bond portfolio may decline as a result of a number of factors, including interest rate risk, credit risk, inflation/deflation risk, mortgage and asset-backed securities risk, US Government securities risk, foreign investment risk, high-yield securities risk and derivatives risk. Asset-backed, mortgage-backed or mortgage-related securities are subject to specific prepayment and extension risks, delinquency and foreclosure. Bonds rated BBB/Baa or higher are considered investment grade, while bonds rated BB/Ba or lower are considered speculative as to the timely payment of principal and interest. The use of derivatives involves risks different from, or possibly greater than, the risks associated with investing directly in the underlying assets. The use of leverage may magnify gains or loses. No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment. Asset allocation and diversification cannot ensure a profit or protect against loss of principal. Duration is a measure of volatility expressed in years. The higher the number, the greater potential for volatility as interest rates change.

Appendix

Benchmarking is the hardest part

Benchmark data is attainable with the exception of non-agency MBS

- Mortgage Indices are focused on Agency MBS and do not cover non agency MBS
  - Bloomberg Barclays MBS Index
  - BAML Mortgage Master II
- ABS indices
  - the BAML family have reasonable coverage
    - BAML ABS fixed
    - BAML ABS floating
  - The Bloomberg Barclays Securitised Index has almost no ABS due to inclusion criteria like size, and 144a eligibility
- CMBS indices
  - the BAML family have reasonable coverage
    - BAML CMBS fixed
    - BAML CMBS floating
  - The Bloomberg Barclays Securitised Index has almost no CMBS due to inclusion criteria like size, and 144a eligibility
- JP CLOIE Index covers CLOs
- Non-agency MBS is a large sector without an index, creating an inefficiency

Mark to market is the easy part

What data is available for pricing?

Most ABS, MBS and CMBS became TRACE eligible in 2016

Trace reporting is now a required element of trading for securitised products

- ABS, CMBS, certain non-agency MBS
  - Volume and price reporting required within 15 minutes of a trade
  - More price transparency for independent services
- FT-IDCD, Reuters, S&P Markit all provide daily pricing

Disclosures

Schroder Enhanced Securitised Composite

As of: December 31, 2018

Definition of the Firm: The Firm is defined as all accounts managed by Schroder Investment Management in the US, UK, Switzerland, Singapore, Hong Kong, Japan and Australia by wholly owned subsidiaries of Schroders PLC. Accounts managed by Schroders Adveq are excluded, Schroders Adveq claims compliance separately. Assets managed against a liability driven mandate or invested in direct property are excluded from the GIPS Firm. Advisory portfolios signed to Schroders Investment Management Hong Kong (SIMHK) are also excluded from the GIPS Firm. On January 1, 2017 the Schroders Investment Management GIPS Firm ('the Firm") was formed following the merger of independent regional Schroders Investment Management (SIM) GIPS Firms defined based predominantly on location of the investment desk and held out to clients or prospective clients as the following distinct firms: combined London/New York/ Zurich (SIMUK/US & SIMSAG respectively), Singapore (SIMSL), Hong Kong (SIMHK), Australia (SIMAL) and Japan (SIMJP). These Firms were merged as a result of the increasingly global nature of the business, details of previous firm mergers are available upon request. On September 19, 2016, Schroder U.S. Holdings Inc., a subsidiary of Schroders plc, purchased a securitised products team from another manager, assets managed by the securitised products team are included in the Firm from December 31, 2016.

Composite Definition: The Diversified Growth Composite (the "Composite") is comprised of all fully discretionary accounts in the Firm, which target a return of Inflation plus 5.0% p.a. over an investment cycle, primarily through investment in a diversified range of asset classes including equities, credit, government bonds and alternatives. Derivatives may be used to achieve the investment objective and to reduce risk or manage the fund more efficiently. Funds may use gross leverage and take short positions, however funds do not employ net leverage. Composite reports published from January 1, 2017 have replaced the UK Retail Price Index (RPI) with the UK Consumer Price Index (CPI) as our reported measure of inflation, since evidence shows CPI is a better measure of economy-wide inflation and this brings the fund in line with the industry convention.

Composite Construction: The composite returns include all of the Firm's separate accounts and commingled funds which are discretionary, fee paying, tax exempt, above $30 million and managed as described above. New accounts are included in the composite one full month after inception date to ensure the account has been fully invested. Terminated accounts are excluded from the composite at the end of the previous month. The composite's creation date is October 31, 2016. The composite's start date is December 31, 2005.

Performance Calculation: Composite returns are presented as gross returns, including cash, reinvestment of dividends, interest and other income earned in the period and are calculated on a trade date basis after transaction charges (brokerage commissions). Each account's investment performance rate of return is calculated monthly in accordance with the 'time-weighted' rate of return method (Modified Dietz). Additional information regarding policies for valuing portfolios, calculating and reporting returns is available upon request. The Currency of the Composite is USD. Withholding Tax treatment may vary from portfolio to portfolio within this composite.

Fee Schedule: Returns are net of trading expenses but gross of custody fees and other costs. Net of fees returns have been calculated based upon the following schedules: Inception to May 31, 2012: gross returns have been reduced by a model fee rate of 35 bps From May 31, 2012: gross returns have been reduced by a model fee rate of 50 bps.

Dispersion: The dispersion of annual returns is measured by the asset weighted standard deviation of portfolio returns represented within the composite for the full year provided a minimum of 5 portfolios are available.

GIPS Compliance and Verification: Schroder Investment Management ('the Firm') claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. The Firm has been independently verified for the periods January 1, 1996 to December 31, 2018. The verification report(s) is/are available upon request. Verification assesses whether (1) the Firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the Firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. A complete list of all composites and their descriptions is available upon request. Additional information regarding policies for calculating and reporting returns is available upon request.

Additional Information: The exchange rates used are provided by WM. Each currency is valued at 4 pm on the last business day of the month. Additional information regarding policies for valuing portfolios, calculating and reporting returns and a description of all composites are available on request.

Risk Statistics: Unavailability Standard Deviations for composite and its benchmark that have not been active or in existence for 3 years or more are not provided in the presentation.

Composite: Schroder Enhanced Securitised **Composite Benchmark:** Barclays U.S. Securitised Index TL **Currency:** USD **Returns as of:** Dec-31-2018 **Inception Date:** Dec-31-2005

Year	Gross Composite Return (%)	Net Composite Return (%)	Primary Benchmark Return (%)	3 Year Composite Risk (%)[1]	3 Year Primary Benchmark Risk (%)[1]	Number of Portfolios (throughout period)	Account Dispersion (%)[2]	Market Value at end of Period	Average Account Value at end of Period	Percentage of Firm Assets (%)	Total Firm Assets[4]
2018	1.71	1.20	0.99	2.16	2.28	< 5	N/A	1,664,518,813.00	554,839,604.33	0.43	384,803,377,261.21
2017	4.65	4.13	2.51	1.74	1.81	< 5	N/A	1,378,766,751.00	459,588,917.00	0.30	455,112,000,742.08
2016	5.34	4.81	1.78	1.85	2.13	< 5	N/A	1,543,042,837.00	385,760,709.25	0.51	302,127,480,638.57
2015	6.93	6.40	1.47	2.45	2.30	< 5	N/A	415,702,415.77	207,851,207.89	2.48	16,795,000,000.00
2014	11.06	10.51	5.88	2.45	2.20	< 5	N/A	482,600,145.34	241,300,072.67	2.68	18,006,000,000.00
2013	9.92	9.37	-1.31	2.71	2.03	< 5	N/A	568,870,422.13	284,435,211.07	2.79	20,416,000,000.00
2012	15.25	14.75	3.01	2.66	1.66	< 5	N/A	984,612,262.20	328,204,087.40	5.92	16,623,000,000.00
2011	10.13	9.74	6.22	3.81	2.15	< 5	N/A	991,842,950.10	330,614,316.70	4.73	20,980,000,000.00
2010	18.25	17.84	6.52	9.24	3.19	< 5	N/A	1,263,845,184.90	421,281,728.30	5.72	22,112,000,000.00
2009	9.88	9.50	7.78	8.39	3.21	5 (5)	1.50	1,496,220,591.70	299,244,118.34	6.22	24,054,000,000.00
2008	-29.47	-29.72	4.64	7.78	3.13	6 (6)	9.48	1,550,155,084.82	258,359,180.80	9.32	16,636,000,000.00
2007	-1.27	-1.61	6.64	N/A	N/A	8 (6)	0.77	3,114,274,271.00	389,284,283.88	14.01	22,228,000,000.00
2006	5.66	5.29	5.16	N/A	N/A	6 (5)	0.30	2,613,607,123.00	435,601,187.17	12.62	20,707,000,000.00

As of Dec-2018	Gross Composite Return (%)	Net Composite Return (%)	Primary Benchmark Return (%)	Composite Risk (%)[1]	Primary Benchmark Risk (%)[1]
Annualized 3 Year	3.89	3.37	1.76	2.16	2.28
Annualized 5 Year	5.89	5.37	2.51	2.07	2.16
Annualized 7 Year	7.76	7.23	2.03	2.43	2.14
Annualized 10 Yea	9.21	8.72	3.45	2.96	2.22
Annualized S.I.[3]	4.52	4.07	3.91	5.06	2.46

Past performance is not indicative of future results.

1 Annualized standard deviation of gross monthly returns for the composite and monthly returns for the benchmark

2 Asset weighted standard deviation of annual gross returns of accounts that have been in the composite for the entire year. Part periods are not annualized.

3 Since Inception December 31, 2005

4 Since Dec 31, 2003 Total Firm Assets include non-fee paying accounts. 2003 Total Firm Assets value has been restated due to the inclusion of those non-fee paying accounts. Total Firm Assets from 2007 incorporate the UK & US firm merger as detailed in the Definition of the Firm, from the start of 2011 Schroder Property Investment Management Multi Manager accounts are included in the Total Firm Assets

5 Benchmark volatility not shown as the benchmark is cash which is not comparable to the composite

* Returns are for a part period year

N/A - Information is not statistically meaningful due to an insufficient number of portfolios for the entire year

N/A for periods with less than 36 months of available returns

Schroder Enhanced Securitised Plus USD LIBOR Composite

As of: December 31, 2018

Definition of the Firm: The Firm is defined as all accounts managed by Schroder Investment Management in the US, UK, Switzerland, Singapore, Hong Kong, Japan and Australia by wholly owned subsidiaries of Schroders PLC. Accounts managed by Schroders Adveq are excluded, Schroders Adveq claims compliance separately. Assets managed against a liability driven mandate or invested in direct property are excluded from the GIPS Firm. Advisory portfolios signed to Schroders Investment Management Hong Kong (SIMHK) are also excluded from the GIPS Firm. On January 1, 2017 the Schroders Investment Management GIPS Firm ('the Firm") was formed following the merger of independent regional Schroders Investment Management (SIM) GIPS Firms defined based predominantly on location of the investment desk and held out to clients or prospective clients as the following distinct firms: combined London/New York/ Zurich (SIMUK/US & SIMSAG respectively), Singapore (SIMSL), Hong Kong (SIMHK), Australia (SIMAL) and Japan (SIMJP). These Firms were merged as a result of the increasingly global nature of the business, details of previous firm mergers are available upon request. On September 19, 2016, Schroder U.S. Holdings Inc., a subsidiary of Schroders plc, purchased a securitised products team from another manager, assets managed by the securitised products team are included in the Firm from December 31, 2016.

Composite Definition: Accounts included in the Schroder Enhanced Securitised USD LIBOR Composite seek to achieve returns above 3 month USD LIBOR or an equivalent benchmark by providing capital growth and income primarily through investment in securitised assets such as asset-backed securities and mortgage-backed securities. The accounts may substantially invest in below investment grade securities.

Composite Construction: The composite returns include all of the Firm's separate accounts and commingled funds which are discretionary, fee paying, tax exempt, above $30 million and managed as described above. New accounts are included in the composite one full month after inception date to ensure the account has been fully invested. Terminated accounts are excluded from the composite at the end of the previous month. The composite's creation date is October 31, 2016. The composite's start date is August 31, 2009.

Performance Calculation: The composite returns include all of the Firm's separate accounts and commingled funds which are discretionary, fee paying, tax exempt, above $30 million and managed as described above. New accounts are included in the composite one full month after inception date to ensure the account has been fully invested. Terminated accounts are excluded from the composite at the end of the previous month. The composite's creation date is October 31, 2016. The composite's start date is August 31, 2009. Composite returns are presented as gross returns, including cash, reinvestment of dividends, interest and other income earned in the period and are calculated on a trade date basis after transaction charges (brokerage commissions). Each account's investment performance rate of return is calculated monthly in accordance with the 'time-weighted' rate of return method (Modified Dietz). Additional information regarding policies for valuing portfolios, calculating and reporting returns is available upon request. The Currency of the Composite is USD. Withholding Tax treatment may vary from portfolio to portfolio within this composite. Performance results can be presented both net of fees and/or gross of fees. "Net of fees" performance results are net of management fee. Clients with accounts in the composite incur other expenses in connection with their accounts such as custody fees and other costs. Net returns have been calculated based upon the highest fee rate charged to each account in the composite.

Fee Schedule: Returns are net of trading expenses but gross of custody fees and other costs. Net of fees returns have been calculated based upon the gross returns and a model fee rate of 50 bps p.a.

Dispersion: Internal dispersion is calculated using asset weighted standard deviation of all portfolios where there are at least 5 portfolios that are included in the composite for the entire year.

GIPS Compliance and Verification: Schroder Investment Management ('the Firm') claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. The Firm has been independently verified for the periods January 1, 1996 to December 31, 2018. The verification report(s) is/are available upon request. Verification assesses whether (1) the Firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the Firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. A complete list of all composites and their descriptions is available upon request. Additional information regarding policies for calculating and reporting returns is available upon request.

Additional Information: The exchange rates used are provided by WM. Each currency is valued at 4 pm on the last business day of the month. Additional information regarding policies for valuing portfolios, calculating and reporting returns and a description of all composites are available on request.

Risk Statistics: Unavailability Standard Deviations for composite and its benchmark that have not been active or in existence for 3 years or more are not provided in the presentation.

Composite: Schroder Enhanced Securitised Plus USD LIBOR **Composite Benchmark:** 3 Month US Libor **Currency:** USD **Returns as of:** Dec-31-2018 **Inception Date:** Aug-31-2009

Year	Gross Composite Return (%)	Net Composite Return (%)	Primary Benchmark Return (%)	3 Year Composite Risk (%)[1]	3 Year Primary Benchmark Risk (%)[1]	Number of Portfolios (throughout period)	Account Dispersion (%)[2]	Market Value at end of Period	Average Account Value at end of Period	Percentage of Firm Assets (%)	Total Firm Assets[4]
2018	3.43	2.91	2.37	1.44	0.20	< 5	N/A	180,038,143.00	180,038,143.00	0.05	384,803,377,261.21
2017	8.50	7.96	1.29	1.52	0.12	< 5	N/A	203,499,944.00	203,499,944.00	0.04	455,112,000,742.08
2016	4.48	3.96	0.75	1.75	0.07	< 5	N/A	206,983,918.10	206,983,918.10	0.07	302,127,480,638.57
2015	1.44	0.93	0.31	2.80	0.01	< 5	N/A	197,644,208.10	197,644,208.10	1.18	16,795,000,000.00
2014	5.95	5.42	0.24	3.60	0.03	< 5	N/A	177,097,898.50	177,097,898.50	0.98	18,006,000,000.00
2013	4.70	4.18	0.27	4.30	0.03	< 5	N/A	158,188,972.60	158,188,972.60	0.77	20,416,000,000.00
2012	16.92	16.33	0.44	4.69	0.03	< 5	N/A	115,986,114.60	115,986,114.60	0.70	16,623,000,000.00
2011	-5.10	-5.57	0.34	N/A	N/A	< 5	N/A	58,289,010.74	58,289,010.74	0.28	20,980,000,000.00
2010	14.17	13.60	0 35	N/A	N/A	< 5	N/A	135,929,006.70	135,929,006.70	0.61	22,112,000,000.00
Sep 09 to end Dec 09	4.14	3.96	0.09	N/A	N/A	< 5	N/A	257,113,861.40	257,113,861.40		

As of Dec-2018	Gross Composite Return (%)	Net Composite Return (%)	Primary Benchmark Return (%)	Composite Risk (%)[1]	Primary Benchmark Risk (%)[1]
Annualized 3 Year	5.45	4.92	1.47	1.44	0.20
Annualized 5 Year	4.73	4.21	0.99	1.51	0.23
Annualized 7 Year	6.39	5.86	0.81	2.63	0.21
Annualized 10 Year	N/A	N/A	N/A	N/A	N/A
Annualized S.I.[3]	6.12	5.59	0.69	3.27	0.19

Past performance is not indicative of future results.

1 Annualized standard deviation of gross monthly returns for the composite and monthly returns for the benchmark

2 Asset weighted standard deviation of annual gross returns of accounts that have been in the composite for the entire year. Part periods are not annualized.

3 Since Inception August 31, 2009

4 Since Dec 31, 2003 Total Firm Assets include non-fee paying accounts. 2003 Total Firm Assets value has been restated due to the inclusion of those non-fee paying accounts. Total Firm Assets from 2007 incorporate the UK & US firm merger as detailed in the Definition of the Firm, from the start of 2011 Schroder Property Investment Management Multi Manager accounts are included in the Total Firm Assets

5 Benchmark volatility not shown as the benchmark is cash which is not comparable to the composite

* Returns are for a part period year

N/A - Information is not statistically meaningful due to an insufficient number of portfolios for the entire year

N/A for periods with less than 36 months of available returns

Schroder – European ABS Composite

As of: December 31, 2018

Past performance is not indicative of future results. Future performance may be more or less than the performance shown. Time-weighted total rates of return adjust for contributions and withdrawals. They include both income and change in market value.

The benchmark for the Schroder – European ABS Portfolio is 3-month GBP LIBOR.

The European ABS portfolio holds GBP, USD, and EUR-denominated ABS and is managed by Chris Ames (Fund Manager, Fixed Income). It has been set up as a separate GBP-denominated custody account. Some points to note:

- Apart from currency forwards (to hedge the EUR and USD exposures back to GBP) there is to be no exchange traded or OTC derivatives
- The portfolio is set up for spot FX with GBP as base currency
- As this is a UK AUT, coupons, maturities, principal payments and all other income will be set to automatically sweep to GBP
- Benchmark is 3-mo GBP LIBOR (UKC0TR03)
- Return Target: +150-250bp in excess of LIBOR
- No tracking error as this is a cash benchmark

The ABS portfolio operates as a lead portfolio with GBP reporting with all trading from GBP with trades setup with CRTS FX from Sterling. Coupons, maturities, principle payments and all other income are set to automatically sweep to GBP.

Schroder Investment Grade Securitised Composite

As of: December 31, 2018

Definition of the Firm: The Firm is defined as all accounts managed by Schroder Investment Management in the US, UK, Switzerland, Singapore, Hong Kong, Japan and Australia by wholly owned subsidiaries of Schroders PLC. Accounts managed by Schroders Adveq are excluded, Schroders Adveq claims compliance separately. Assets managed against a liability driven mandate or invested in direct property are excluded from the GIPS Firm. Advisory portfolios signed to Schroders Investment Management Hong Kong (SIMHK) are also excluded from the GIPS Firm. On January 1, 2017 the Schroders Investment Management GIPS Firm ('the Firm") was formed following the merger of independent regional Schroders Investment Management (SIM) GIPS Firms defined based predominantly on location of the investment desk and held out to clients or prospective clients as the following distinct firms: combined London/New York/ Zurich (SIMUK/US & SIMSAG respectively), Singapore (SIMSL), Hong Kong (SIMHK), Australia (SIMAL) and Japan (SIMJP). These Firms were merged as a result of the increasingly global nature of the business, details of previous firm mergers are available upon request. On September 19, 2016, Schroder U.S. Holdings Inc., a subsidiary of Schroders plc, purchased a securitised products team from another manager, assets managed by the securitised products team are included in the Firm from December 31, 2016.

Composite Definition: Accounts included in the Schroder Investment Grade Securitised Composite seek to achieve returns above the Bloomberg Barclays US Securitised Index or an equivalent benchmark by providing capital growth and income primarily through investment in investment grade securitised assets such as asset-backed securities and mortgage-backed securities. A minimum account size restriction of USD 30m applies to accounts in this composite.

Performance Calculation: The composite returns include all of the Firm's separate accounts and commingled funds which are discretionary, fee paying, tax exempt, above $30 million and managed as described above. New accounts are included in the composite one full month after inception date to ensure the account has been fully invested. Terminated accounts are excluded from the composite at the end of the previous month. The composite's creation date is October 31, 2016 The composite's start date is December 31, 2005 Composite returns are presented as gross returns, including cash, reinvestment of dividends, interest and other income earned in the period and are calculated on a trade date basis after transaction charges (brokerage commissions). Each account's investment performance rate of return is calculated monthly in accordance with the 'time-weighted' rate of return method (Modified Dietz). Additional information regarding policies for valuing portfolios, calculating and reporting returns is available upon request. The Currency of the Composite is USD. Withholding Tax treatment may vary from portfolio to portfolio within this composite. Performance results can be presented both net of fees and/or gross of fees. "Net of fees" performance results are net of management fee. Clients with accounts in the composite incur other expenses in connection with their accounts such as custody fees and other costs. Net returns have been calculated based upon the highest fee rate charged to each account in the composite.

Fee Schedule: Returns are net of trading expenses but gross of custody fees and other costs. Net of fees returns have been calculated based upon the gross returns and a model fee rate of 30 bps p.a.

Dispersion: Internal dispersion is calculated using asset weighted standard deviation of all portfolios where there are at least 5 portfolios that are included in the composite for the entire year.

Leverage: None of the accounts in the Composite use leverage.

GIPS Compliance and Verification: Schroder Investment Management ('the Firm') claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. The Firm has been independently verified for the periods January 1, 1996 to December 31, 2018. The verification report(s) is/are available upon request. Verification assesses whether (1) the Firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the Firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. A complete list of all composites and their descriptions is available upon request. Additional information regarding policies for calculating and reporting returns is available upon request.

Additional Information: The exchange rates used are provided by WM. Each currency is valued at 4 pm on the last business day of the month. Additional information regarding policies for valuing portfolios, calculating and reporting returns and a description of all composites are available on request.

Risk Statistics: Unavailability Standard Deviations for composite and its benchmark that have not been active or in existence for 3 years or more are not provided in the presentation.

Composite: Schroder Investment Grade Securitised **Composite Benchmark:** Barclays U.S. Securitised Index **Currency:** USD **Returns as of:** Dec-31-2018 **Inception Date:** Dec-31-2005

Year	Gross Composite Return (%)	Net Composite Return (%)	Primary Benchmark Return (%)	3 Year Composite Risk (%)[1]	3 Year Primary Benchmark Risk (%)[1]	Number of Portfolios (throughout period)	Account Dispersion (%)[2]	Market Value at end of Period	Average Account Value at end of Period	Percentage of Firm Assets (%)	Total Firm Assets[4]
2018	1.35	1.05	0.99	2.29	2.28	< 5	N/A	1,116,112,245.00	279,028,061.25	0.29	384,803,377,261.21
2017	3.24	2.93	2.51	2.14	1.81	< 5	N/A	837,457,890.00	209,364,472.50	0.18	455,112,000,742.08
2016	3.69	3.38	1.78	2.32	2.13	< 5	N/A	273,900,525.00	136,950,262.50	0.09	302,127,480,638.57
2015	2.66	2.35	1.47	2.71	2.30	< 5	N/A	264,621,861.54	132,310,930.77	1.58	16,795,000,000.00
2014	7.04	6.72	5.88	2.61	2.20	< 5	N/A	264,384,063.50	132,192,031.75	1.47	18,006,000,000.00
2013	2.19	1.88	-1.31	2.61	2.03	< 5	N/A	179,190,798.10	179,190,798.10	0.88	20,416,000,000.00
2012	11.97	11.64	3.01	1.90	1.66	< 5	N/A	175,620,327.96	175,620,327.96	1.06	16,623,000,000.00
2011	8.70	8.38	6.22	2.88	2.15	< 5	N/A	157,089,706.61	157,089,706.61	0.75	20,980,000,000.00
2010	13.72	13.38	6.52	8.97	3.19	< 5	N/A	144,738,362.32	144,738,362.32	0.65	22,112,000,000.00
2009	14.85	14.51	7.78	8.53	3.21	< 5	N/A	127,490,239.98	127,490,239.98	0.53	24,054,000,000.00
2008	-29.54	-29.75	4.64	7.77	3.13	< 5	N/A	111,100,392.68	111,100,392.68	0.67	16,636,000,000.00
2007	-1.92	-2.22	6.64	N/A	N/A	< 5	N/A	157,899,572.31	157,899,572.31	0.71	22,228,000,000.00
2006	6.10	5.78	5.16	N/A	N/A	< 5	N/A	105,017,859.21	105,017,859.21	0.51	20,707,000,000.00

As of Dec-2018	Gross Composite Return (%)	Net Composite Return (%)	Primary Benchmark Return (%)	Composite Risk (%)[1]	Primary Benchmark Risk (%)[1]
Annualized 3 Year	2.76	2.45	1.76	2.29	2.28
Annualized 5 Year	3.58	3.27	2.51	2.29	2.16
Annualized 7 Year	4.54	4.22	2.03	2.49	2.14
Annualized 10 Year	6.83	6.51	3.45	2.78	2.22
Annualized S.I.[3]	2.74	2.43	3.91	4.87	2.46

Past performance is not indicative of future results.

1 Annualized standard deviation of gross monthly returns for the composite and monthly returns for the benchmark

2 Asset weighted standard deviation of annual gross returns of accounts that have been in the composite for the entire year. Part periods are not annualized.

3 Since Inception December 31, 2005

4 Since Dec 31, 2003 Total Firm Assets include non-fee paying accounts. 2003 Total Firm Assets value has been restated due to the inclusion of those non-fee paying accounts. Total Firm Assets from 2007 incorporate the UK & US firm merger as detailed in the Definition of the Firm, from the start of 2011 Schroder Property Investment Management Multi Manager accounts are included in the Total Firm Assets

5 Benchmark volatility not shown as the benchmark is cash which is not comparable to the composite

* Returns are for a part period year

N/A - Information is not statistically meaningful due to an insufficient number of portfolios for the entire year

N/A for periods with less than 36 months of available returns

Schroder Opportunistic Long Short Securitised Composite

As of: December 31, 2018

Definition of the Firm: The Firm is defined as all accounts managed by Schroder Investment Management in the US, UK, Switzerland, Singapore, Hong Kong, Japan and Australia by wholly owned subsidiaries of Schroders PLC. Accounts managed by Schroders Adveq are excluded, Schroders Adveq claims compliance separately. Assets managed against a liability driven mandate or invested in direct property are excluded from the GIPS Firm. Advisory portfolios signed to Schroders Investment Management Hong Kong (SIMHK) are also excluded from the GIPS Firm. On January 1, 2017 the Schroders Investment Management GIPS Firm ('the Firm") was formed following the merger of independent regional Schroders Investment Management (SIM) GIPS Firms defined based predominantly on location of the investment desk and held out to clients or prospective clients as the following distinct firms: combined London/New York/ Zurich (SIMUK/US & SIMSAG respectively), Singapore (SIMSL), Hong Kong (SIMHK), Australia (SIMAL) and Japan (SIMJP). These Firms were merged as a result of the increasingly global nature of the business, details of previous firm mergers are available upon request.

Composite Definition: Accounts included in the Schroder Long Short Securitised Composite seeks to achieve a return of 10%-12% over an investment cycle by providing capital growth and income primarily through investment in securitised assets such as asset-backed securities, mortgage-backed securities and related loans. The accounts may invest in below investment grade securities and derivatives. In May 2017 the name of the composite changed from Opportunistic Long Short Composite to Schroder Opportunistic Long Short Securitised Composite. This change does not affect the composite history or the investment strategy.

Performance Calculation: The composite returns include all of the Firm's separate accounts and commingled funds which are discretionary, fee paying, tax exempt and managed as described above. New accounts are included in the composite one full month after inception date to ensure the account has been fully invested. Terminated accounts are excluded from the composite at the end of the previous month. NOTE – NO Minimum on this composite. The composite's creation date is October 31, 2016 The composite's start date is April 30, 2012. Composite returns are presented as gross returns, including cash, reinvestment of dividends, interest and other income earned in the period and are calculated on a trade date basis after transaction charges (brokerage commissions). Each account's investment performance rate of return is calculated monthly in accordance with the 'time-weighted' rate of return method (Modified Dietz). Additional information regarding policies for valuing portfolios, calculating and reporting returns is available upon request. The Currency of the Composite is USD. Withholding Tax treatment may vary from portfolio to portfolio within this composite. Performance results can be presented both net of fees and/or gross of fees. "Net of fees" performance results are net of management fee. Clients with accounts in the composite incur other expenses in connection with their accounts such as custody fees and other costs. Net returns have been calculated based upon the highest fee rate charged to each account in the composite. The fee schedules may have a range of combined management and performance fees, the highest base fee is 1.5% per annum.

Fee Schedule: Returns are net of trading expenses but gross of custody fees and other costs. Accounts may pay a performance fee, net returns are the asset weighted actual net returns for the underlying accounts. Net of fees returns have been calculated based upon the following schedules: From May 1, 2012 to Apr 30, 2017: a model highest fee of 1% p.a. plus a 10% performance fee. From Apr 30, 2017: a model highest fee of 1.5% p.a. plus a 20% performance fee.

Dispersion: Internal dispersion is calculated using asset weighted standard deviation of all portfolios where there are at least 5 portfolios that are included in the composite for the entire year.

Leverage: Leverage is permitted in the account in this composite up to 300%.

GIPS Compliance and Verification: Schroder Investment Management ('the Firm') claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. The Firm has been independently verified for the periods January 1, 1996 to December 31, 2018. The verification report(s) is/are available upon request. Verification assesses whether (1) the Firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the Firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. A complete list of all composites and their descriptions is available upon request. Additional information regarding policies for calculating and reporting returns is available upon request.

Additional Information: The exchange rates used are provided by WM. Each currency is valued at 4 pm on the last business day of the month. Additional information regarding policies for valuing portfolios, calculating and reporting returns and a description of all composites are available on request.

Risk Statistics: Unavailability Standard Deviations for composite and its benchmark that have not been active or in existence for 3 years or more are not provided in the presentation.

Composite: Schroder Opportunistic Long Short Securitised **Composite Benchmark:** n/a **Currency:** USD **Returns as of:** Dec-31-2018 **Inception Date:** Apr-30-2012

Year	Gross Composite Return (%)	Net Composite Return (%)	Primary Benchmark Return (%)	3 Year Composite Risk (%)[1]	3 Year Primary Benchmark Risk (%)[1]	Number of Portfolios (throughout period)	Account Dispersion (%)[2]	Market Value at end of Period	Average Account Value at end of Period	Percentage of Firm Assets (%)	Total Firm Assets[4]
2018	5.12	2.74	N/A	2.88	N/A	< 5	N/A	36,289,711.49	36,289,711.49	0.01	384,803,377,261.21
2017	15.56	12.23	N/A	3.03	N/A	< 5	N/A	32,142,177.98	32,142,177.98	0.01	455,112,000,742.08
2016	7.19	5.91	N/A	3.28	N/A	< 5	N/A	28,093,582.42	28,093,582.42	0.01	302,127,480,638.57
2015	1.45	0.40	N/A	5.00	N/A	< 5	N/A	31,103,726.88	31,103,726.88	0.19	16,795,000,000.00
2014	13.14	10.76	N/A	N/A	N/A	< 5	N/A	36,800,129.47	36,800,129.47	0.20	18,006,000,000.00
2013	12.40	10.51	N/A	N/A	N/A	< 5	N/A	32,291,794.26	32,291,794.26	0.16	20,416,000,000.00
May 12 to end Dec 12	16.08	13.80	N/A	N/A	N/A	< 5	N/A	29,374,499.51	29,374,499.51		

As of Dec-2018	Gross Composite Return (%)	Net Composite Return (%)	Primary Benchmark Return (%)	Composite Risk (%)[1]	Primary Benchmark Risk (%)[1]
Annualized 3 Year	9.20	6.89	N/A	2.88	N/A
Annualized 5 Year	8.37	6.31	N/A	2.93	N/A
Annualized 7 Year	N/A	N/A	N/A	N/A	N/A
Annualized 10 Year	N/A	N/A	N/A	N/A	N/A
Annualized S.I.[3]	10.54	8.36	N/A	4.38	N/A

Past performance is not indicative of future results.

1 Annualized standard deviation of gross monthly returns for the composite and monthly returns for the benchmark

2 Asset weighted standard deviation of annual gross returns of accounts that have been in the composite for the entire year. Part periods are not annualized.

3 Since Inception April 30, 2012

4 Since Dec 31, 2003 Total Firm Assets include non-fee paying accounts. 2003 Total Firm Assets value has been restated due to the inclusion of those non-fee paying accounts. Total Firm Assets from 2007 incorporate the UK & US firm merger as detailed in the Definition of the Firm, from the start of 2011 Schroder Property Investment Management Multi Manager accounts are included in the Total Firm Assets

5 Benchmark volatility not shown as the benchmark is cash which is not comparable to the composite

* Returns are for a part period year

N/A - Information is not statistically meaningful due to an insufficient number of portfolios for the entire year

N/A for periods with less than 36 months of available returns

Schroder Opportunistic Multi-Sector Securitised Composite
As of: December 31, 2017

Definition of the Firm: The Firm is defined as all accounts managed by Schroder Investment Management in the US, UK, Switzerland, Singapore, Hong Kong, Japan and Australia by wholly owned subsidiaries of Schroders PLC. Accounts managed by Schroders Adveq are excluded, Schroders Adveq claims compliance separately. Assets managed against a liability driven mandate or invested in direct property are excluded from the GIPS Firm. Advisory portfolios signed to Schroders Investment Management Hong Kong (SIMHK) are also excluded from the GIPS Firm. On January 1, 2017 the Schroders Investment Management GIPS Firm ('the Firm") was formed following the merger of independent regional Schroders Investment Management (SIM) GIPS Firms defined based predominantly on location of the investment desk and held out to clients or prospective clients as the following distinct firms: combined London/New York/ Zurich (SIMUK/US & SIMSAG respectively), Singapore (SIMSL), Hong Kong (SIMHK), Australia (SIMAL) and Japan (SIMJP). These Firms were merged as a result of the increasingly global nature of the business, details of previous firm mergers are available upon request.

Composite Definition: Accounts included in the Schroder Opportunistic Multi-Sector Securitised Composite seek to achieve returns above USD LIBOR or an equivalent benchmark by providing capital growth and income primarily through investment in securitised assets such as asset-backed securities, mortgage-backed securities and related loans. The accounts may substantially invest in below investment grade securities. In May 2017 the name of the composite changed from SIMNA Opportunistic Multi-Sector MBS Composite to SIMNA Opportunistic Multi-Sector Securitised Composite. This change does not affect the composite history or the investment strategy.

Composite Construction: The composite returns include all of the Firm's separate accounts and commingled funds which are discretionary, fee paying, tax exempt, and managed as described above. New accounts are included in the composite one full month after inception date to ensure the account has been fully invested. Terminated accounts are excluded from the composite at the end of the previous month. The Composite has no minimum asset level. The composite's creation date is October 31, 2016. The composite's start date is March 31, 2008.

Performance Calculation: Composite returns are presented as gross returns, including cash, reinvestment of dividends, interest and other income earned in the period and are calculated on a trade date basis after transaction charges (brokerage commissions). Each account's investment performance rate of return is calculated monthly in accordance with the 'time-weighted' rate of return method (Modified Dietz). Additional information regarding policies for valuing portfolios, calculating and reporting returns is available upon request. The Currency of the Composite is USD. Withholding Tax treatment may vary from portfolio to portfolio within this composite. Performance results can be presented both net of fees and/or gross of fees. "Net of fees" performance results are net of management fee. Clients with accounts in the composite incur other expenses in connection with their accounts such as custody fees and other costs. Net returns have been calculated based upon the highest fee rate charged to each account in the composite.

Fee Schedule: Returns are net of trading expenses but gross of custody fees and other costs. Net of fees returns have been calculated based upon the following schedules: Inception to Dec 31, 2012: gross returns have been reduced by a model fee rate of 75 bps. From Jan 1, 2013 to Apr 30, 2017: asset weighted actual net returns for the underlying accounts From Apr 30, 2017: gross returns have been reduced by a model fee rate of 75 bps.

Dispersion: Internal dispersion is calculated using asset weighted standard deviation of all portfolios where there are at least 5 portfolios that are included in the composite for the entire year.

Leverage: None of the accounts in the Composite use leverage.

GIPS Compliance and Verification: Schroder Investment Management ('the Firm') claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. The Firm has been independently verified for the periods January 1, 1996 to December 31, 2018. The verification report(s) is/are available upon request. Verification assesses whether (1) the Firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the Firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. A complete list of all composites and their descriptions is available upon request. Additional information regarding policies for calculating and reporting returns is available upon request.

Additional Information: The exchange rates used are provided by WM. Each currency is valued at 4 pm on the last business day of the month. Additional information regarding policies for valuing portfolios, calculating and reporting returns and a description of all composites are available on request.

Risk Statistics: Unavailability Standard Deviations for composite and its benchmark that have not been active or in existence for 3 years or more are not provided in the presentation.

Composite: Schroder Opportunistic Multi-Sector Securitised **Composite Benchmark:** 1 Month US LIBOR **Currency:** USD **Returns as of:** Dec-31-2018 **Inception Date:** Mar-31-2008

Year	Gross Composite Return (%)	Net Composite Return (%)	Primary Benchmark Return (%)	3 Year Composite Risk (%)[1]	3 Year Primary Benchmark Risk (%)[1]	Number of Portfolios (throughout period)	Account Dispersion (%)[2]	Market Value at end of Period	Average Account Value at end of Period	Percentage of Firm Assets (%)	Total Firm Assets[4]
2018	4.41	3.63	2.07	2.07	0.20	< 5	N/A	1,400,372,360.00	700,186,180.00	0.36	384,803,377,261.21
2017	12.05	11.39	1.13	2.09	0.12	< 5	N/A	1,289,083,340.00	644,541,670.00	0.28	455,112,000,742.08
2016	7.49	7.15	0.49	2.50	0.05	< 5	N/A	1,151,760,432.00	575,880,216.00	0.38	302,127,480,638.57
2015	2.48	2.15	0.20	4.49	0.01	< 5	N/A	1,072,535,954.10	536,267,977.05	6.39	16,795,000,000.00
2014	9.94	8.87	0.16	5.58	0.01	< 5	N/A	924,656,268.53	462,328,134.27	5.14	18,006,000,000.00
2013	10.61	9.56	0.19	6.65	0.01	< 5	N/A	784,384,074.19	392,192,037.10	3.84	20,416,000,000.00
2012	29.14	28.18	0.24	6.43	0.01	< 5	N/A	690,721,459.39	345,360,729.70	4.16	16,623,000,000.00
2011	-5.51	-6.21	0.24	8.09	0.02	< 5	N/A	460,404,373.70	230,202,186.85	2.19	20,980,000,000.00
2010	21.44	20.54	0.28	N/A	N/A	< 5	N/A	871,479,233.80	290,493,077.93	3.94	22,112,000,000.00
2009	19.89	19.00	0.34	N/A	N/A	5 (4)	N/A	990,588,773.60	198,117,754.72	4.12	24,054,000,000.00
Q2 08 to end Q4 08	-20.89	-21.33	1.89	N/A	N/A	< 5	N/A	556,465,304.90	139,116,326.23		

As of Dec-2018	Gross Composite Return (%)	Net Composite Return (%)	Primary Benchmark Return (%)	Composite Risk (%)[1]	Primary Benchmark Risk (%)[1]
Annualized 3 Year	7.94	7.34	1.23	2.07	0.20
Annualized 5 Year	7.22	6.58	0.81	2.19	0.21
Annualized 7 Year	10.60	9.86	0.64	4.11	0.20
Annualized 10 Year	10.78	10.02	0.53	5.57	0.17
Annualized S.I.[3]	7.62	6.88	0.67	8.28	0.23

Past performance is not indicative of future results.

1 Annualized standard deviation of gross monthly returns for the composite and monthly returns for the benchmark

2 Asset weighted standard deviation of annual gross returns of accounts that have been in the composite for the entire year. Part periods are not annualized.

3 Since Inception March 31, 2008

4 Since Dec 31, 2003 Total Firm Assets include non-fee paying accounts. 2003 Total Firm Assets value has been restated due to the inclusion of those non-fee paying accounts. Total Firm Assets from 2007 incorporate the UK & US firm merger as detailed in the Definition of the Firm, from the start of 2011 Schroder Property Investment Management Multi Manager accounts are included in the Total Firm Assets

5 Benchmark volatility not shown as the benchmark is cash which is not comparable to the composite

* Returns are for a part period year

N/A - Information is not statistically meaningful due to an insufficient number of portfolios for the entire year

N/A for periods with less than 36 months of available returns

Important information

The returns are presented as gross returns, including cash, reinvestment of dividends, interest and other income earned in the period and are calculated on a trade date basis after transaction charges (brokerage commissions), but before taxes and management and custody fees. Performance would have been reduced by such fees and the effect of these fees on performance compounds over time.

As an illustration see the chart below. The value of a $5,000,000 account would be reduced by the following amounts due to the compound effect of the management fees. (This has been calculated assuming an assumed constant return of 10% per annum* and a hypothetical management fee of 0.75% per annum, which has been applied on a simple average of opening and closing annual fund values).

	Gross value	Net value	Compound effect
1 Year	$5,500,000	$5,460,625	$39,375
3 Years	6,655,000	6,513,090	141,910
5 Years	8,052,550	7,768.403	284,147
10 Years	12,968,712	12,069,617	899,095

*The assumed 10% return is hypothetical and should not be considered a representation of past or future returns. The actual effect of fees on the value of an account over time will vary with future returns, which cannot be predicted and may be more or less than the amount assumed in this illustration. Actual fees may differ from the assumed rate presented above. Please consult the Firm's Advisory Brochure (ADV Part 2) for a description of the fees.

EST. 1804

Schroders Investment Management Australia Limited
Level 20, 123 Pitt Street, Sydney, NSW 2000
Tel: + 612 9210 9200

schroders.com.au