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In a paper published in May (Finding value in the Covid-19 crisis – an ABS view) we looked into how securitisation markets have generally performed in the early weeks of the Covid-19 related market volatility. In this paper, we look at securitisation transactions on a fundamental basis, across various sectors to date, and assess their performance prospects as the impact of the Covid-19 crisis evolves.

We believe the impact can be distilled down into three primary areas: the immediate impact of forbearance measures; how the broad macro implications will translate into increased personal and corporate defaults (and how these will be absorbed within asset-backed securities (ABS) structures), and how the combination of forbearance, increased defaults and other factors will impact the speed at which ABS structures repay. The latter is important, as unlike investment grade corporate bonds, ABS typically do not have fixed maturity dates and the expected repayment profile can vary, potentially impacting the returns available from an investment (both positively and negatively).

Assessment of the forbearance implications

To help individuals deal with the financial impacts of Covid-19, we have seen governments globally seek to ensure lenders provide appropriate flexibility with respect to the collection of debt repayment obligations, whether related to mortgages, personal loans or credit card balances. Quite correctly, it does not matter whether such obligations sit on the balance sheets of the original lenders or have been transferred into securitisation vehicles.

In the UK for example, on 17 March the chancellor, Rishi Sunak, announced plans for all UK mortgage lenders to grant a mortgage payment holiday of up to three months to any

borrower affected financially as a direct result of Covid-19. More recently, the Financial Conduct Authority (FCA) has published guidance to extend the scheme by a further three months with all residential and buy-to-let customers able to request a payment holiday, if they have not already done so, up to the 31 October.

At the end of April, the FCA expanded this guidance to cover consumer/auto financing arrangements for up to three months. As expected, this has since been extended in-line with mortgage payment holidays to support consumer credit, personal loan customers and motor finance contracts for a further three months.

We expect that the immediate peak has now been passed in terms of absolute levels of borrowers in forbearance. Anecdotally, the UK government policy of self-certifying payment holidays led to an initial surge in the early days of the crisis when it is believed that many borrowers pre-emptively sought forbearance, even if ultimately not required by their personal circumstances.

With lockdown easing and some people now being more comfortable with their finances, it is expected that many will resume repayments as they choose not to extend their forbearance. However, with high levels of employees still in furlough and that support measure due to start unwinding this year, we expect forbearance levels will remain significant.

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This could potentially remain the case for an extended period of time as the government may view it as a relatively inexpensive way to provide support to the economy.

Table 1 summarises some of the forbearance levels that we have seen across different countries and types of debt obligations. This is based upon our direct engagement in recent months, not only with respect to UK residential mortgage-backed securities (RMBS) transactions, but also a range of other ABS transactions across the UK and European jurisdictions. In addition to this direct approach, we have logged observed instances of reported payment holidays found in investor reports and independent research.

The data shows that the level of payment holidays or forbearance seen across deals has been proportionate to the underlying average credit standing of the borrowers — prime being the best credit quality portfolios.

Table 1: some observed forbearance levels at the end of $Q2\ 20$

Payment holidays/deferrals							
Sector	Average	Max	Min	Count			
UK prime RMBS	20.1%	52.7%	10.4%	23			
UK non-conforming RMBS	26.3%	43.1%	3.6%	51			
UK buy-to-let RMBS	17.6%	36.7%	4.3%	42			
Prime auto (GBP)	5.4%	12.7%	0.9%	13			
Prime auto (EUR)	2.4%	4.0%	1.9%	9			
Near prime auto	15.1%	22.5%	9.8%	5			

Source: Janus Henderson Investors, JP Morgan, as at 10 July 2020.

Note: UK RMBS: JP Morgan, UK RMBS COVID-10 Payment Holiday Tracker, 12 June 2020; UK auto prime/near prime: JP Morgan, UK AUTO ABS Performance Tracker, 10 July 2020, and European prime auto: Janus Henderson Investors.

Liquidity within transactions

The common question around forbearance is how many of these may ultimately turn into defaults? We shall address this in the next section; however, the more immediate issue today is one of available liquidity within transactions to pay noteholder interest.

We are comfortable that, in general, there is a strong level of liquidity coverage. For example, UK RMBS positions typically have an available liquidity reserve to cover any temporary interest shortfalls (as a result of a payment deferral or otherwise). To put this into context, if we assume that 100% of the underlying borrowers within the typical RMBS transactions we are invested in were granted a full principal and interest payment holiday indefinitely, the time it would take for the cash flow shortfall to impact the most junior debt tranches of the structures (as a result of full depletion of the liquidity reserve) we estimate to be, on average, over four years.

Moreover, UK RMBS investments are typically structured such that cash flows from the portfolio's principal repayments can cover interest shortfalls on the senior ranking securitisation tranches after the liquidity reserves are exhausted. Therefore, from a liquidity perspective, we do not have any material concerns for our owned transactions in general.

Ability to withstand increased collateral defaults

Securitisation transactions are typically structured to absorb multiple levels of default and delinquencies and provide varying degrees of credit support for the different tranches of the notes issued.

Credit support takes various forms, including:

- over-collateralisation, which provides protection to all tranches of notes
- subordination of more junior notes, to provide protection to more senior notes in the structure
- reserve funds, designed to cover note interest shortfalls and losses in the collateral pool
- excess spread, being the interest earned on collateral pool, net of note interest and expenses

In the following sections we review some typical securitisation structures, focusing on UK RMBS (prime and non-conforming) and European collateralised loan obligations (CLOs). We detail the amount of overall credit support typically available to various tranches of notes within a structure, and present analysis on how much stress the collateral pools can withstand before incurring principal losses on the notes.

Prime and non-conforming RMBS

Prime RMBS transactions are securitisations of high quality prime borrowers. These deals are typically used as funding tools for bank originators, as opposed to means of risk transfer. Therefore, the structures of these deals are simple, comprising a senior tranche and a subordinated tranche. The level of credit support varies between deals but is typically sized at around 14% for the senior tranche (see table 2).

Non-conforming RMBS (NC RMBS) transactions are also backed by residential mortgages; although, unlike prime RMBS, comprise mortgages that do not conform to high street prime origination criteria. This does not necessarily mean that the borrowers are of much poorer quality or are non-performing; it is mainly an indication of some specific circumstances that would disqualify the borrowers from high street lenders. Such circumstances among others include, self-employment and reduced ability to provide income history or the presence of some adverse credit history in the past.

Non-conforming RMBS structures typically include multiple tranches, offering investors varying risk profiles. Table 2 shows the general levels of overall credit support available to each tranche of prime and NC RMBS structures. It can be seen that typically, credit support for a senior tranche of NC RMBS is around 26% versus 14% for a prime transaction, which reflects the fact that the former mortgages are somewhat more risky, with a higher risk of defaulting.

Table 2: credit support levels for prime and nonconforming RMBS transactions

Tranche	Туріс	al rating	Overall credit support*		
	Prime	Non- Conforming	Prime	Non- Conforming	
А	AAA	AAA/AA+	14%	26%	
В	-	AA/A+	-	21%	
С	-	А	-	17%	
D	-	BBB	-	14%	
Е	-	BB	-	12%	
F	-	В	-	10%	
Sub debt	-	-	-	-	

Source: Janus Henderson Investors, as at 1 July 2020.

Note: *Including excess spread and reserve fund. Prime RMBS average reserve fund: 1.6%, Non-conforming RMBS average reserve fund: 1.8%.

Current performance of prime collateral pools remains strong with delinquencies of just 0.2% and near zero actual losses on average. NC RMBS performance is also relatively stable, with average delinquencies at 5.3%. However, as described earlier, the impact of Covid-19 has resulted in an increase of forbearance and payment holidays, which may convert into actual delinquencies and eventually defaults should the negative impact of the pandemic persist in the economy.

We believe, RMBS transactions — both prime and nonconforming, remain well insulated from such increased potential losses. While each transaction needs to be analysed based on its specific characteristics, the following simple stress analysis examples will help to illustrate the typical inherent protections that are available.

Stress analysis — prime RMBS

As seen earlier in table 1, the average proportion of borrowers that have requested payment holidays is 20%. Let us assume all of these, combined with the currently delinquent borrowers, eventually default (not our view, but it keeps things simple). Let us also assume a 70% recovery on the defaulted mortgages (reasonable, based on observed historical recovery rates). This translates into cumulative portfolio losses of around 6%. With an average 14% credit support, the senior bonds under this scenario are still far from taking credit losses. In fact, generally, these structures can

withstand over two times the current levels of forbearance and delinquencies converting into defaults (at a 70% recovery rate), before a typical senior bond incurs a loss.

Stress analysis — non-conforming RMBS

In these transactions, even with all current delinquencies combined with current typical forbearances (average 26% — table 1) defaulting, again assuming 70% recovery rates, the accumulated losses amounting to around 9% will not even completely erode the credit support available to the most junior tranche, leaving the senior bonds unaffected. In fact, it would take an 85% default rate at 70% recovery in this example, for the senior NC RMBS bond to incur first principal losses.

While it is hard to estimate the actual level of distress economies may experience in the months to come, it is worth highlighting that the level of defaults described in the stress analysis above is much more severe than that seen generally during the Global Financial Crisis (GFC) in 2008, when we saw cumulative losses on typical NC RMBS portfolios of around 4%.

Stress analysis — European CLOs

Collateralised loan obligations (CLO) are securitisation transactions primarily backed by 100-150 BB/B rated secured loans and floating rate bonds. Similar to other securitisations, CLO structures include multiple tranches offering varying degrees of risk. Typical levels of overall credit support by tranche are detailed in table 3.

Table 3: typical credit support levels for European CLOs

Tranche	Typical rating	Overall credit support*		
А	AAA	42%		
В	AA	29%		
С	А	23%		
D	BBB	18%		
Е	BB	12%		
F	В	9%		
Sub debt	NR	-		

Source: Janus Henderson Investors, as at 1 July 2020.

Note: *Including excess spread and subordination.

While secured loan borrowers have clearly not been offered the option of payment holidays in the same way that many consumer loan and mortgage borrowers have, in some respect, individual country Covid-19 loan support programmes have had a similar effect, and to date European loan defaults have remained modest. The important question, however, is to what extent will these rise over the longer term and what is the potential impact on CLO tranches?

Looking at the level of more distressed loans in CLO portfolios generally, our base assumption is to assume a 6% default rate in the collateral pool over the next 12-month period, followed by an additional 3% defaults in the following 12 months, and stabilising at 2% defaults per year thereafter. These assumptions result in an overall cumulative default rate of 16% over the life of a typical deal. On defaulted loans we assume a recovery rate of 50% (which compares with an observed average recovery rate of around 65% historically, including the period of GFC in 2008).

With these default and recovery assumptions, we estimate a typical CLO structure would experience cumulative loan pool losses of around 8-9% over the life of the deal (similar to the levels of portfolio losses seen during the GFC). Comparing to levels of credit support shown in table 3, it illustrates that all but the most junior tranches of CLO tranches remain able to withstand such losses.

To more vividly illustrate the amount of credit support available, we consider a typical single A rated CLO tranche. In order for this tranche to incur first principal losses, CLO structures would need to experience a cumulative 45% default, at 50% recovery rate, realising default losses greater than 22% (over 2x the level seen during the GFC).

In table 4 we summarise, for a range of ABS tranches and asset classes, the estimated level of coverage that typical credit support levels provide versus an estimate of historically observed worst case portfolio losses. These are generic estimates, but we believe still illustrative.

Table 4: credit support levels and coverage versus historical losses

	Total credit support	JHI estimated losses (Covid-19 Stress) *	Worst historically observed losses **	Credit support multiple for JHI assumed losses	Credit support multiple for historically observed losses
AAA CLO	42%	8%	8%	5x	5x
AA CLO	29%	8%	8%	4x	4x
A CLO	23%	8%	8%	3x	3x
AAA prime RMBS	14%	6%	1%	2x	20x
AAA NC RMBS	26%	9%	4%	3x	6x
AA NC RMBS	21%	9%	4%	2x	5x
AAA prime auto ABS (GBP)	30%	3%	1%	9x	30x
AAA prime auto ABS (EUR)	12%	2%	1%	7x	22x
AAA near prime auto ABS	44%	10%	5%	5x	9x

Source: Janus Henderson Investors, Moody's, selected individual transactions from investor presentations

Notes:

*JHI estimated losses: 70% recovery rate was assumed for RMBS, 40% recovery rate for auto ABS and 50% recovery for corporate credit in CLOs.

** Worst historically observed losses:

- CLOs based on worst 5-year cumulative defaults for the period between 2007-20, based on Moody's speculative grade default data and long-term recovery rate of 65%
- Prime and non-conforming RMBS based on cumulative losses for the period 2007-19
- Prime auto ABS based on Moody's 5-year cumulative loss data on deals up to 2013, capturing the Global Financial Crisis period
- Near prime auto based on selected individual transactions worst vintage cumulative defaults and 40% recovery rate.

Assessment of expected maturity profile and return implications

The impact of both Covid-19 and the resulting measures taken to address the crisis, have had an immediate effect on the underlying borrowers of securitisations across asset classes. Furthermore, we expect this stress to continue over time and evolve as emergency support measures are wound down. These stresses will directly affect securitisation transactions and understanding the impact of the shocks is at the core of our analysis.

First, the rate at which bonds are repaid, as borrowers' payments will be reduced through a combination of forbearance and restricted access to refinancing, driven by tightening of underwriting criteria.

This was realised quickly in March as lenders withdrew mortgage products en masse. Even now, new products are gradually being reintroduced but with more stringent criteria. One way the lenders have sought to reduce their risk in new origination has been to increase the minimum deposit required. Whereas prior to March many lenders would lend up to 95% of the price of a property, many have recently retreated from lending to borrowers with less than 10% deposit.

Tightened market conditions can also potentially impact some issuers' ability to call outstanding transactions, as arranging banks are now less inclined to provide financing to warehouse the collateral pools. While the banking system is now awash with liquidity, non-bank lenders behind many non-prime transactions have not been provided the same degree of support and their ability to call transactions is less certain. Additionally, a widening spread environment reduces the economic incentive for some of those sponsors to refinance.

There are already several transactions that have not repaid at the first possible date, where prior to the pandemic had been pricing to first call dates, which are now in the past. The result of that occurring could be both to potentially extend the weighted average life (WAL — a measure of spread duration, which the market uses to price amortising bonds), so increasing sensitivity to spread volatility, but most importantly, also delaying the full repayment of bonds.

Second, even in best case scenarios there will be tough times ahead, at least in the near term as the economy will take time to heal from the lockdown. Increasing unemployment, coupled with the unwinding of emergency support programme, will certainly increase default rates of individual borrowers.

At this point, it is impossible to gauge the timing and severity of defaults as it is mostly reliant on the degree and the rate at which the government unwinds its generous support. Our collateral portfolio loss examples above demonstrate that the more senior ranking tranches of securitisations generally have abundant overall credit support to withstand extreme portfolio loss outcomes. However, this does not mean that we can ignore the potential changes to WAL that may occur.

Table 5 highlights the extension risk of the senior tranche of a typical non-bank sponsored, UK non-conforming RMBS. There is a growing list of similar profiles, which had been expected to repay in Q2 this year but are still outstanding now.

In stressed market environments, where both borrower credit quality and financial conditions tighten, the impact on the extension of a bond can be twofold; first repricing to the full extension and second slowing prepayment rates. As can be seen in the table, while forbearance has an immediate impact on near-term cashflows and can result in some extension, the primary driver is the prepayment rate.

Table 5: extension risk from forbearance and prepayment rates

Class A WAL (in years)		Prepayment rate (annualised %)							
		25	20	15	10	5	0		
	0	2.4	2.9	3.9	5.4	8.6	15.7		
e month ay)	5	2.4	3.0	3.9	5.5	8.7	15.8		
rance 12-n holida	10	2.5	3.0	4.0	5.5	8.7	15.8		
Forbea of pool or payment	15	2.5	3.1	4.0	5.6	8.8	15.9		
Forbearance (% of pool on 12-mg payment holiday,	20	2.6	3.1	4.1	5.6	8.8	15.9		
	25	2.6	3.2	4.1	5.7	8.9	16.0		

Source: Intex, Janus Henderson Investors as at July 2020

This is representative of a typical profile, which would have been issued pre-Covid at a price of 100, with a margin of 80 basis points (bp) and would have assumed a first call on the third anniversary from pricing to achieve a 2.3 year WAL. Focusing on the prepayment rate to demonstrate the potential sensitivity of bond prices, the following scenario in table 6 assumes that 25% of the pool is in forbearance for 12 months across a range of prepayment scenarios, from 0% to 25% per annum. The current market spread of 95bp is lower than the step up margin of the bond at 1.2%, so price sensitivity of extending is mitigated (assuming that there is no material term premium required and the bond remains immediately callable).

However, pricing the bond at this years' widest spread of around 230bp shows that even senior bonds have a potentially high degree of mark-to-market volatility should various factors be realised.

Table 6: potential sensitivity of bond prices to prepayment rates

Prepayment Rate (ann. %)	25	20	15	10	5	0	Current Bid
Valuation at 230bp spread	96.5	95.8	93.2	90.5	90.5	84.8	99.5

Source: Janus Henderson Investors, as at July 2020

This potential mark-to-market volatility, for what are even the most default remote tranches, demonstrates the importance of understanding how ever-changing fundamental factors can drive differing return profiles.

It should be noted that such analyses help identify opportunities as well as risks. For example, buying a bond that the market prices to an assumed 4-year WAL, which repays within two years, can realise material additional return (as the bond is bought below par and it pulls back to par far more quickly than assumed).

In writing this paper we have clearly needed to comment in general terms and skim through certain concepts at a high level. We welcome any further engagement that readers would find helpful.

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