

Recent Developments in the European Car Market and Auto ABS Issuance Activity

Semiannual Report 2018

Financial Research
September 2018



Management Summary

1.

The European car market gained significant strength over the past four years. Spanish and Italian car markets showed material improvement, reflecting pent-up demand. On the other hand, new car sales in core auto markets such as Germany, the UK and France stood below EU's annual average growth, with the UK relatively facing more headwinds since 2016. The growth momentum of the new car market in the EU was even stronger in the first half of 2018, as compared to the corresponding period last year – mainly driven by new EU member states where new car sales continued to post double-digit growth. In addition, the German, French and Spanish market turned out quite resilient, while the UK market remained under pressure.

2.

One key trend in the EU markets remains the sharp decline in the demand for new diesel cars, especially from 2017. The pain was felt more in Spain (-8.5% y-o-y), Germany (-7.2% y-o-y) and the UK (-5.7% y-o-y) in 2017 onwards. However, the fall in diesel car sales in the EU was offset by higher demand for petrol cars. Volkswagen's emission scandal, diesel bans in Hamburg towards the end of May following the 27 February German court ruling and its possible repercussions across the EU cast a shadow over the outlook for diesel cars. As a result, the residual value of diesel cars is likely to remain under pressure going forward.

3.

New auto ABS issuance volumes were relatively modest in 2017 (24.0bn euros), following a healthy primary activity witnessed during 2014-16. Germany, the largest auto ABS market, saw issuances falling to 11.6bn euros in 2017, 7.9bn euros below the peak level of 19.5bn euros in 2015. However, the auto ABS market got off to a good start this year, with issuance volumes coming in at 14.1bn euros as compared to 12.8bn euros during the same period last year.

4.

Volkswagen remained the leader in terms of auto ABS originators, although its new issuance volumes decreased to 5.5bn euros last year. That said, Volkswagen's issuance activity is set to shift into a higher gear this year, as new issuances up to June came close to the total amount issued in 2017 as a whole. On the other hand, BMW's issuance volumes continued to increase for the fourth consecutive year in 2017. BMW appears on-

Contact

Dr. Benjamin Mohr
Chief Economist

Creditreform Rating
Hellersbergstrasse 11
41460 Neuss

B.Mohr@creditreform-rating.de

track to issue a similar level of volume this year as well, with 1.5bn euros already being securitized so far. Renault is another key player in the auto ABS market, issuing 4bn euros in 2017 and 1.8bn this year through June, while Santander continued to lead in the category of non-captives, though issuance volumes declined to around 2.0bn euros in 2017.

5.

The total share of AAA ratings in new issuances remained broadly unchanged as compared to 2016, edging down from 77.8% to 77.3%. To be sure, the share of AA and A ratings increased over the recent years, from 8.2% and 7.1% in 2015 to 12.6% and 9.6% in 2017, respectively. In the first half of 2018, the share of AA ratings further increased to 21.5%, while the AAA-share fell to some 72%.

6.

We expect auto ABS issuance volumes in 2018 to come in higher than in 2017, but not as high as in 2014-16. since the second half has tended to be more dynamic in the past few years and we assess a relatively busy first half 2018. Medium-term volumes should keep rising as investment ramp-up plans by European automakers warrant greater funding needs, though investments in the UK have deteriorated due to Brexit uncertainty.

Disclaimer

This study is protected by copyright. Commercial use is not permitted without the written consent of Creditreform rating AG. In order to prevent distortion of content, this study must be published in its entirety. Excerpts may be used only with the consent of Creditreform rating AG. A publication of this study without the prior knowledge of Creditreform Rating AG is not permitted. Creditreform Rating AG assumes no liability for the correctness, completeness or topicality of the information contained in this publication. The analyses underlying this study and their results do not constitute a recommendation for investment.

I. The European Car Market at a Glance

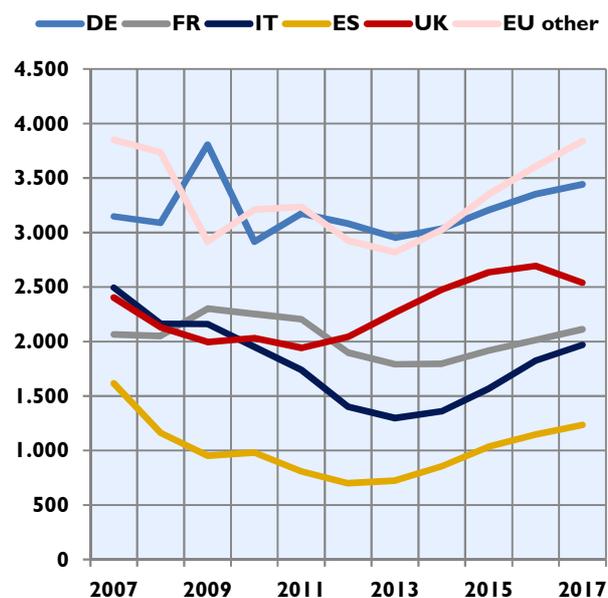
The European Union (EU) is the world's second largest car market, accounting for a global share of 19.0% in 2017 following China (30.1%). In the EU region, Germany, the UK, France, Italy and Spain are the key auto markets, together accounting for 14.0% of the global market share and three-fourths of the EU market.

The European car market remained robust, with the demand for cars in the EU growing for the fourth consecutive year through 2017. New car registrations grew 3.4% y-o-y last year, bringing total registrations to over 15 million for the first time since 2007. Over the last four years, Spain and Italy displayed a noticeable compounded growth rate of 14.0% and 11.0%, respectively (see fig. 1). This was mainly driven by favorable credit conditions resulting from the ECB's accommodative monetary policy, in addition to the pent-up demand following the debt crisis in the euro area. On the other hand, Germany, France and the UK grew at 3-4% during the same period, although the UK saw a 6.0% decline in 2017. However, the market share in terms of new registrations in Spain and Italy shrunk during 2007–2017 unlike Germany and the UK, which witnessed expansion by 2.5 and 1.4 percentage points to 22.7% and 16.8% respectively. The growth momentum in new car sales turned out to be even stronger in the first half of 2018, clocking 2.9% growth to reach 8.5 million units with record monthly sales volumes of 1.6 million being witnessed in June. Notably, registrations in new EU member states remained healthy at 11.4% in the first half of this year, led by Hungary (+29.0%), Bulgaria (22.6%) and Croatia (+19.3%) amongst others. Key car markets such as Germany (+2.9% y-o-y) and France (+4.7% y-o-y) displayed decent growth. New car sales in Spain

(+10.1%) stood out, while the UK (-6.3%) market continued to face challenges due to concerns of a disorderly Brexit and relatively lower demand for the country's vehicles in international markets.

Fig. 1: New car registrations in the EU

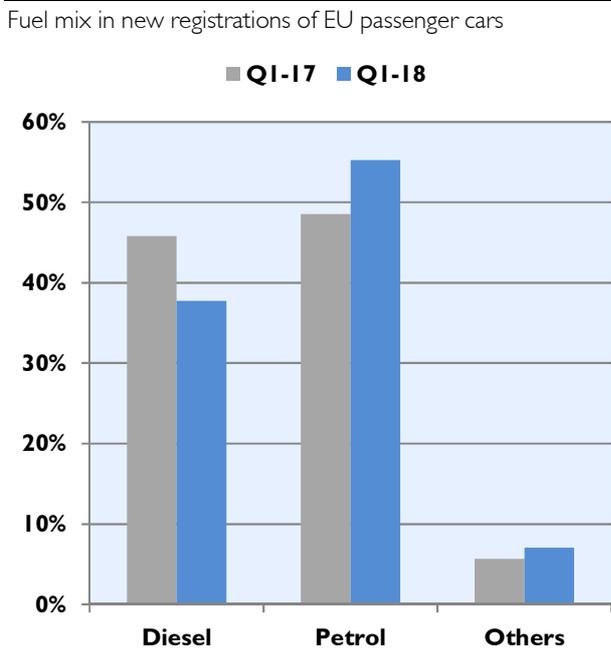
Data is shown in thousand units



Source: ACEA, Creditreform Rating

One key trend in the regional markets is that the diesel share of new car registrations has been declining at a rapid pace, especially since 2016. Amongst the key markets, the decline was felt more in Spain (-8.5% y-o-y), Germany (-7.2%) and the UK (-5.7%) in 2017. German new diesel cars accounted for 32.0% of new car registrations in Q1-18, reflecting a sharp fall from Q1-17 (43.0%). Similarly, new diesel car registrations in the UK made up 33.0% in Q1-18, versus 44.0% in Q1-17. However, this contrasts with Italy where the demand for diesel cars remained stable in Q1-18. Overall, in the EU, diesel car sales had declined from 45.8% in Q1-17 to 37.7% in Q1-18 as depicted in figure 2 – being offset by increased petrol car sales, which rose from 48.5% to 55.2% during the same period.

Fig. 2: Declining share of diesel cars in the EU



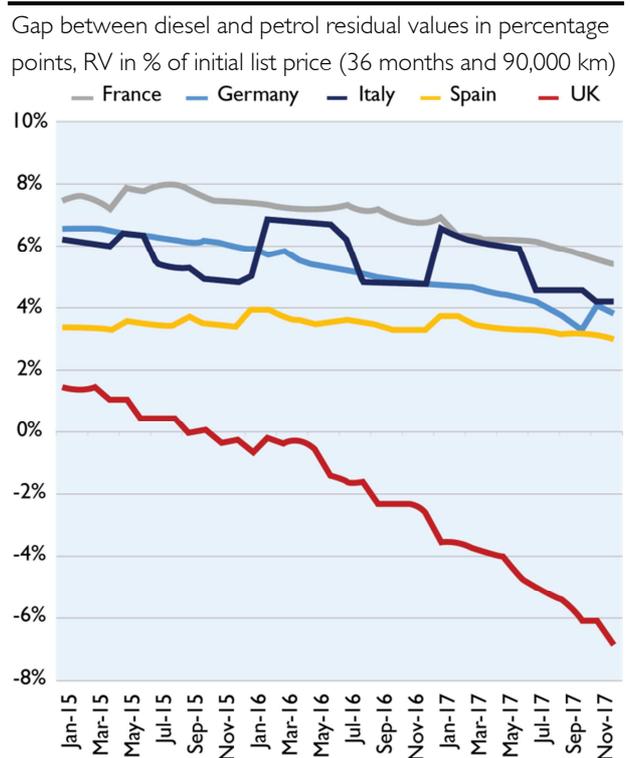
Source: ACEA, Creditreform Rating

Looking forward, it appears that auto sales may stabilize this year due to tough comps as evident from the recent slowdown in Germany, France and Italy, despite hefty discounts offered by car makers. According to JATO, average discounts as a percentage of list prices are currently almost 16.0% in Germany and 14.0% in France. Furthermore, input price inflation would make it difficult for auto makers to pass it on to their customers in an already competitive pricing environment. That said, private consumption in key European auto markets remained solid, buttressed by rising disposable income and buoyant consumer sentiment, which should keep supporting demand for cars.

Alongside the recovery in new cars demand in the past few years, the supply of used cars has increased, putting pressure on the residual value of cars. According to the Autovista Group, the residual value gap between diesel and petrol used cars in Germany has narrowed swiftly since the beginning of 2015 (see fig. 3). From a gap of some six percentage points in January 2015 to four per-

centage points at the end of 2017, diesel cars command 43.0% of their initial list price after 3 years and 90,000 km versus 39.0% for petrol cars. The volumes for used car sales had contracted by 1.4% y-o-y in 2017, in contrast with the growth during 2010–2016, barring a negligible contraction in 2013. The pent-up demand for fleet vehicles coupled with the overall robustness in the new car market has led to an oversupply of used cars in Germany. In addition, given Volkswagen's emission scandal in 2015 and the uncertain outlook for diesel cars due to environmental concerns and regulations, the demand for used cars remains benign.

Fig. 3: Diesel advantage over petrol in residual values



Source: Autovista, Creditreform Rating

In the UK, residual value performance of diesels was much weaker than in Germany, while petrol cars have been gaining strength. Used petrol cars retained 45.0% of the initial list price over the same period. On the other hand, used diesel cars

were worth 38.0% of their original list price after three years and 90,000 km in December 2017 as per Autovista, representing a gap of seven percentage points between petrol and diesel cars. Hence, the premium over diesel cars in the UK has widened significantly since the Volkswagen diesel scandal of September 2015.

Following the 27 February 2018 German court ruling in favor of banning heavily polluting diesel cars in Hamburg, other German cities and even some of the EU members may follow suit. In this vein, on 5 September the administrative court in Wiesbaden, Germany decided that the city of Frankfurt must introduce driving bans for diesel vehicles. Countries such as France, UK, Spain and Greece have also envisaged their intention of banning diesel vehicles in the long term. In our view, the downside pressure on the residual value of diesel cars is likely to continue ahead as German car makers shift their strategy to alternative powertrains.

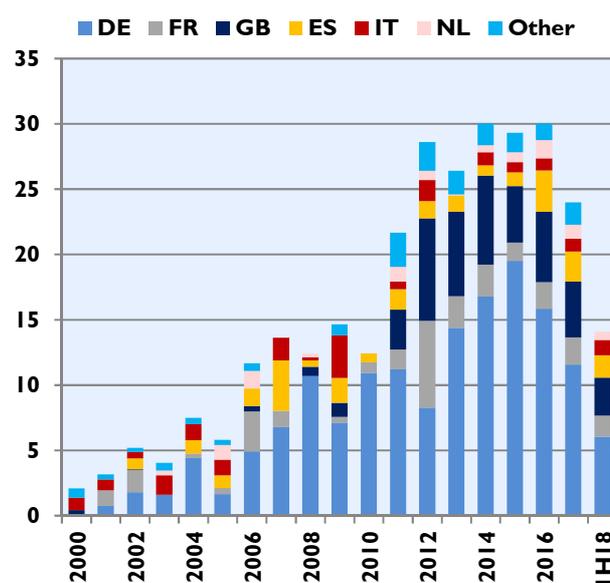
2. The Auto ABS Markets in Europe

The new issuance activity in the European auto ABS market turned out to be relatively modest last year, following healthy issuances being witnessed during 2014-16 (see fig. 4). The annual volume of new issuances fell to 24.0bn euros in 2017, as compared to 30.0bn euros in 2016, the largest annual issuance volumes recorded so far in Europe. Last year's relative weakness in terms of the issuance activity was felt across the key European markets, including Germany, the UK and Spain, while France and Italy showed marginal growth in 2017.

Germany, the biggest European market for auto ABS, led the decline, with the annual volume of new issuances falling to 11.6bn euros last year (2016: -18.8% y-o-y), 7.9bn euros below the peak level of 19.5bn euros reached in 2015. This weakness in the volume of new issuances may reflect shifts in the car maker's decision on their sources of funding since Volkswagen's emission scandal in 2015. Furthermore, the decline may also mirror a gradual slowdown in the growth of domestic car sales in Europe. In other parts of Europe, issuance volumes decreased as well, with Spain and the UK displaying y-o-y declines of 0.9 and 1.1bn euros, respectively. As a result, the overall issuances in the EU shrunk in 2017, unlike in 2016 where the weakness in the German auto ABS market was cushioned by resilient auto securitization in other core markets, including Spain (+2.1bn euros), France (+0.7bn euros) and the UK (+1.1bn euros).

Fig. 4: Development of auto ABS issuance activity in Europe

Volume of new auto ABS issuances in billion euros, by origin of collateral, year-to-date until the end of June 2018

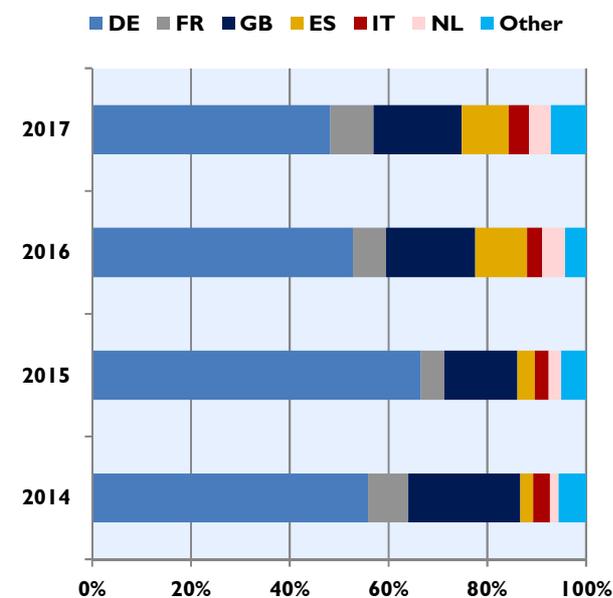


Source: Thomson Reuters, Creditreform Rating

However, the auto ABS market got off to a good start in 2018, with new issuances coming in at 14.1bn euros in the first half, as compared to 12.8bn euros during the corresponding period last year. The German collateral continued to dominate the European auto ABS market (6.0bn euros between January and June 2018), followed by the UK (2.9bn euros) and France (1.6bn euros).

Fig. 5: Country of origin for underlyings of European Auto ABS

Share in annual issuance volume in Europe, by origin of collateral



Source: Thomson Reuters, Creditreform Rating

Although auto ABS issuances backed by German collateral have eased somewhat more recently, the country remains a key market for auto ABS in Europe. Germany accounted for 52.0% of the volume of new issuances from 2000 to June 2018, well ahead of the other two key markets, the UK and France, which shared 14.8% and 9.9% of the volume of new issuances in Europe, respectively. Still, the share of German deals in the annual issuance volume in Europe has been declining since 2015 (see fig. 5). Germany accounted for two-thirds of the European new auto securitizations in

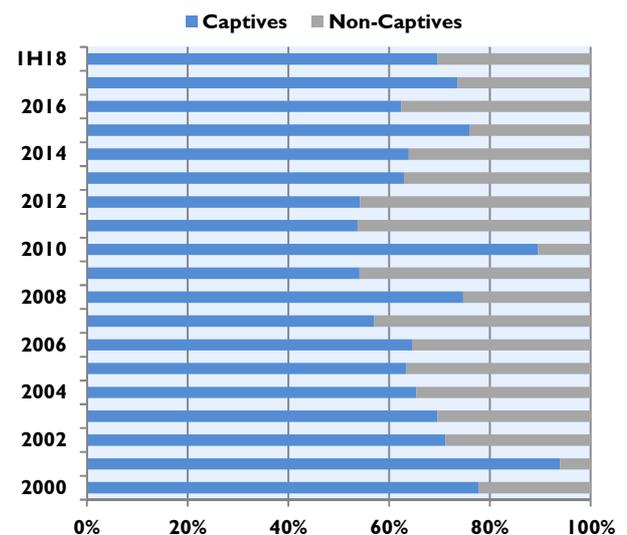
2015 and the share had decreased to 48.2% in 2017. Meanwhile, this decline in the new issues mix was partly offset by Spain and France, as the share of auto ABS deals with Spanish and French underlyings increased from 3.5 and 4.7% to 9.5 and 8.7% respectively over the same period. From an annual perspective, UK auto ABS have remained robust amidst Brexit uncertainty, displaying a share of 17.8% in 2017, slightly down from 18.0% in 2016.

3. Originators of Auto ABS

The major European issuers of auto ABS continue to be banks affiliated with automobile manufacturers (so-called captives). Indeed the share of new auto ABS issuances by captives increased from 62.4% in 2016 to 73.5% in 2017 (see fig. 6).

Fig. 6: Captives and non-captives in the European ABS market

Share in volume of new issues by originator, in %

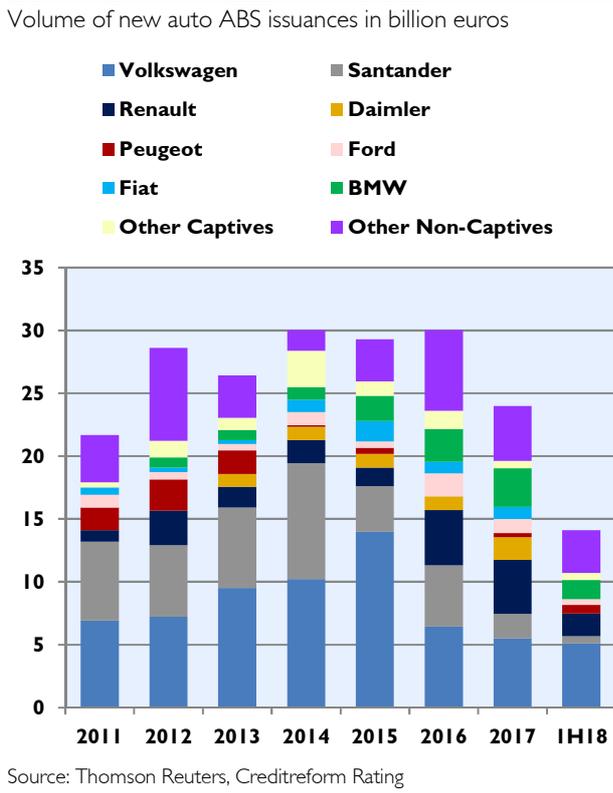


Source: Thomson Reuters, Creditreform Rating

The long-term average share of captives in new issuances is 65.5%. This clearly reflects the persistent dominance of captive auto finance companies

linked to different manufacturers in Europe. Of the new issues in the first half of 2018, approx. 9.8bn euros (69.6%) were shared by banks affiliated with auto manufacturers.

Fig. 7: Recent development in the European auto ABS issuances by originator



Volkswagen remained the leader in terms of auto ABS originators, although its new issuance volumes dropped from 6.4 to 5.5bn euros in 2016-17 (see fig. 7). At the same time, Volkswagen's new issuances this year through June stood at 5.1bn euros, already reaching close to the total amount issued last year. On the other hand, BMW's issuance volumes continued to increase for the fourth consecutive year in 2017. BMW issued 3.1bn euros last year, reflecting an increase of approx. 0.5bn euros over 2016. BMW appears on-track to issue a similar volume this year as well, with 1.5bn euros already being securitized so far. Renault and Peugeot are two other key players in the auto ABS market, with the former being more

active than the latter. Renault issued 1.8bn euros this year through June, as compared to 700mn euros by Peugeot. Amongst the non-captives, Santander continued to lead in the category, though issuance volumes significantly declined to around 2.0bn euros in 2017. The bank has come up with just 600mn euros in the first half of 2018.

Fig. 8: Originators in the European auto ABS market

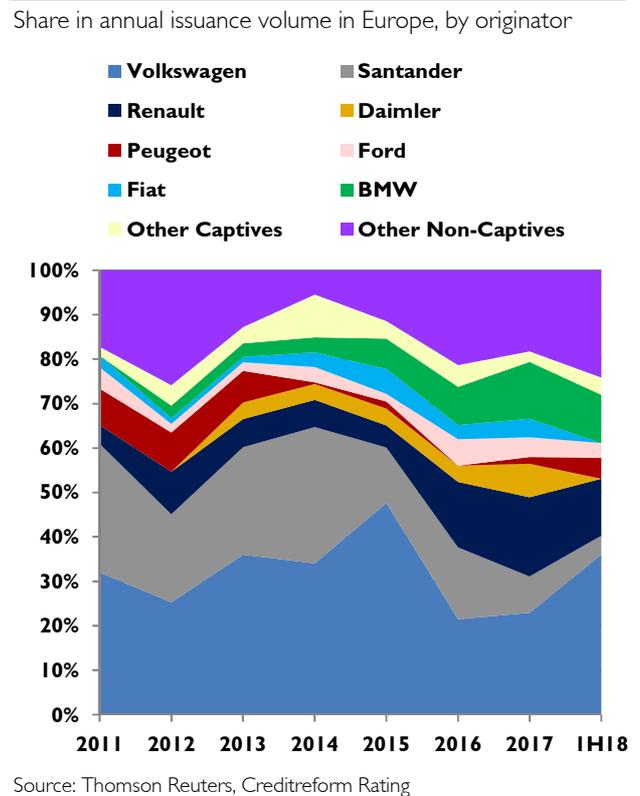


Figure eight impressively illustrates the dominant position of Volkswagen in the European auto ABS market. After its share in the market somewhat levelled off to 21.4 and 22.9% in 2016 and 2017 respectively, it rose to 36.1% in the first half of 2018. Looking at the total volume of new issuances in Europe since 2000, Volkswagen's market share amounts to almost a third (30.4%). The volume of BMW's new issuances accounted 12.8% of the European auto ABS market in 2017, mirroring its growing importance lately in the auto securitization market as its share has edged up from 3.3%

in 2014. In addition, 2017 marked another strong year for Renault, which expanded its share in the auto ABS market from 5.0% in 2015 to 17.8% last year. By the same token, Daimler doubled its share to roughly 7.5% in 2017, up from 3.8% two years ago.

4. Rating Profile of Auto ABS in Europe

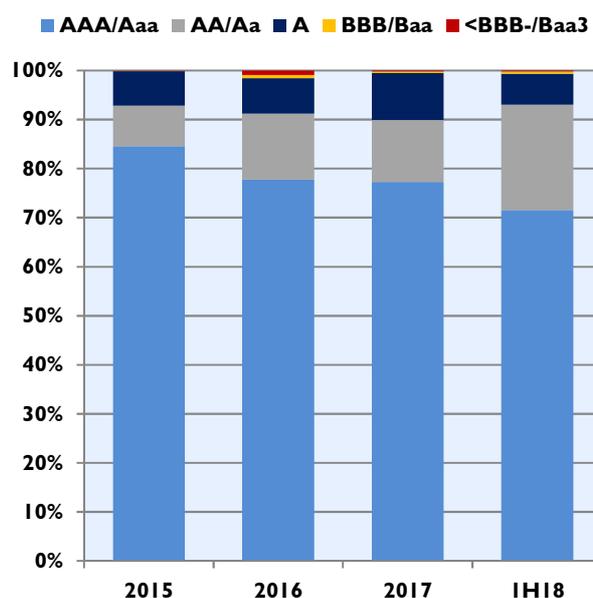
Auto ABS remains a high-quality asset class as evident from its credit rating profile. The largest majority of new auto ABS issuances continued to receive an initial rating of AAA. In 2017, just over 80% of new senior auto ABS tranches were assigned AAA ratings within the rated universe by S&P, Moody's and Fitch, which was almost in line with the last year (82.1%). Subordinated issuances received ratings below AAA in 2017, with 40.2% being rated AA and another 44.2% receiving an A rating. The remaining subordinated notes were rated BBB or lower. However, in 2016, around 3.5% of the subordinated tranches were put in the highest rating category and 67.7% of them fell in the AA and A categories, while more than a quarter displayed a rating of BBB or lower. The first half of 2018 broadly followed the footsteps of last year, with approx. 75% of auto ABS senior tranches accounting for the highest credit quality. As in 2017, major subordinated tranches received a rating of AA/A, of which half of them (51.8%) were rated with A.

The total share of AAA ratings in new issuances remained broadly unchanged as compared to 2016, edging down from 77.8% to 77.3%, with the AAA volume declining by 5.5bn euros (see fig. 9). To be sure, the share of AA and A ratings increased over the recent years, from 8.2% and 7.1% in 2015 to 12.6% and 9.6% in 2017, respectively. In the first half of 2018, the share of AA

rating further increased to 21.5%, while the AAA-share fell to some 72%. We believe that this development is not a great cause for concern, given the still excellent overall rating profile of auto ABS in Europe. Still, over the past few years, more auto ABS tranches with an AA/A rating were issued, seemingly to attract investors seeking relatively higher yield amidst the ongoing low interest rate environment. Most of these were deals collateralized with Spanish, Portuguese, or Italian auto finance.

Fig. 9: Recent Development of European auto ABS ratings

Initial ratings (S&P, Moody's, Fitch) include class A and subordinate tranches, per year of issue in %, measured by issue volume of all rated notes



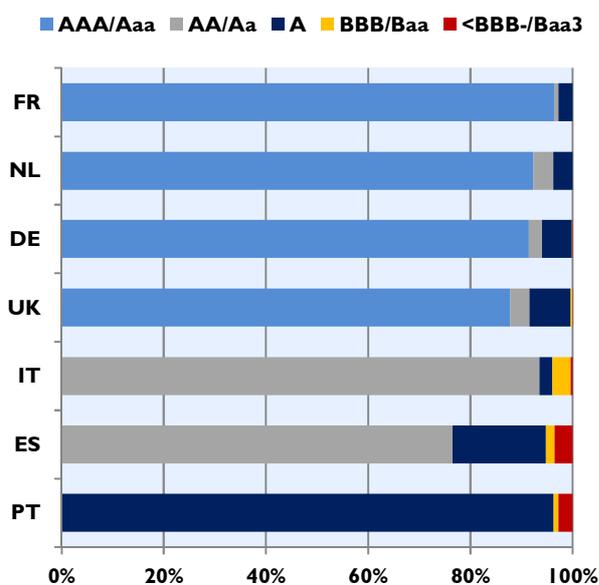
Source: Thomson Reuters, Creditreform Rating

It is evident from figure 10 that the rating profile varies depending on the origin of collateral. Between 2015 and June 2018, France held the largest percentage of auto ABS notes with the highest credit quality (96.4%). Following closely are auto ABS tranches from the Netherlands (92.3%) and Germany (91.4%), while the UK came in lower with 87.7%. Concurrently, the share of UK deals

with a AAA rating appears to have fallen between January and June 2018, clocking 71.0, while 98.5% of the deals originating from Germany were assigned AAA ratings. On the other hand, we have seen no deals with a AAA rating stemming from Italy and Portugal over the last three years. Likewise, the vast majority of Spanish notes received a AA rating (76.5%), partly due to country ceiling considerations.

Fig. 10: Auto ABS ratings by origin of collateral

Initial ratings (S&P, Moody's, Fitch), include class A and subordinate tranches, measured by issue volume of all rated notes between 2015 and June 2018



Source: Thomson Reuters, Creditreform Rating

Meanwhile, captives continue to exhibit a lower default risk, indicated by a higher AAA share as compared to non-captives. Thus, the percentage of notes originated by captives with a AAA rating was 79.4% in 2017, while securitized auto finance issued by non-captives stood at 71.8%. Captives' AAA issuance remained high this year through June, equating to a share of 74.9%, comparing well to 64.0% on the non-captives' side.

5. Perspectives for the Issuance of European Auto ABS

The activity in the primary market in the first half of 2018 was relatively healthy as compared to the corresponding period last year. As issuance volumes have tended to be more dynamic in the second half of the year over the recent past, we expect a similar trend to continue in the remaining half of this year. As a result, we expect the 2018 auto ABS issuance volumes to surpass the level of 24.0bn euros registered last year, though not as high as the volumes recorded in 2014-16.

While we acknowledge the recent slower growth in car sales, higher investment plans by the European automobile manufacturers may warrant greater funding needs ahead. The prospects of diesel demise have already urged European automakers to commit heavy investment to supplement the transition towards electric vehicle (EV). Volkswagen expects to invest around 20bn euros to support its plan for the accelerated EV rollout. The company expects to electrify 300 models and produce 80 new EVs by 2025. Similarly, Mercedes has committed to come up with 50 EV models by 2022 and BMW with 25 EV models by 2025. Thus, in the medium term, we expect issuance volumes to remain healthy in order to support funding needs for major players, with further support likely to stem from the ECB's accommodative policies and liquidity supplement in the meanwhile.

The ECB has set a rather dovish tone during the meeting on 26 July. The central bank reiterated to push back its rate hike expectations at least through the summer of the next year and intends to end its quantitative program by the end of this year instead of September previously. We expect a first rate hike towards the end of 2019. The current net asset purchases of 30bn euros on an

average would be reduced to 15bn euros from September depending on incoming macro data. However, the central bank intends to reinvest the principal payments from maturing securities purchased under the APP for an extended period of time to maintain favorable liquidity conditions. There are also speculations that the ECB may conduct 'Operation Twist' that involves buying long-term bonds and selling shorter maturities, after the end of this year. The ECB's policy normalization could anyway have little impact on new auto ABS issuance volumes due to a relatively low volume of purchases. At the end of June 2018, the volume of ABS purchased since November 2014 amounted to 27.4bn euros, which account for just 1.1% of the ECB's Expanded Asset Purchase Program that held approx. 2.5tn euros in total through June 2018. To be sure, the largest share of the ABSPP's purchasing volume appears to be allocated to MBS.

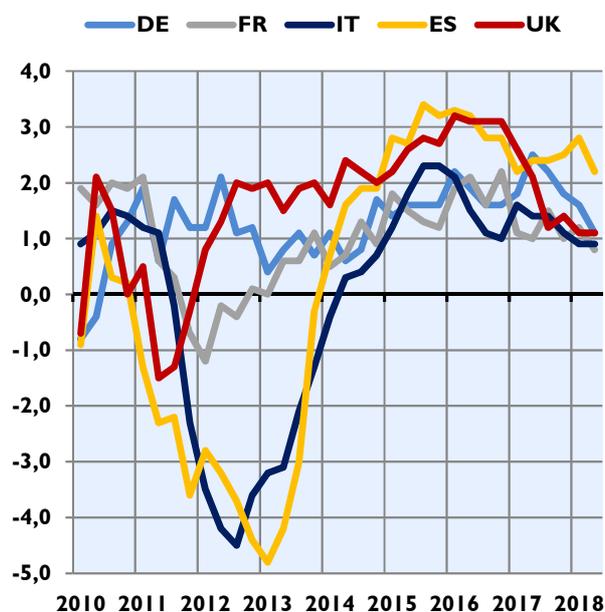
The macroeconomic environment remains favorable, even though growth is expected to moderate somewhat in 2018 due to fading tailwinds of the past, including a very accommodative monetary policy, brisk global trade growth and strong employment growth. The euro area's GDP growth slowed down in the first half of this year, due to several temporary factors, such as extreme weather conditions, weaker exports caused by a lagged impact of euro appreciation and strong base effects. GDP grew at a slower pace of 2.1% y-o-y in Q2-18, after 2.5% in the first quarter, following exceptionally strong growth in 2017. Nevertheless, we expect real GDP growth to remain robust at 2.1% in 2018 after a decade-high growth clocked in 2017 at 2.5%. For 2019, we forecast growth to further ease to 1.8%. Fixed investment spending should remain solid, driving growth going forward. We forecast robust growth in business investment as a result of the ongoing positive

business sentiment, high capacity utilization and improving bank lending to corporates.

The labor market continues to tighten, with the unemployment rate reaching a decade low of 8.3% in June. The unemployment rate should narrow further in 2018/19, facilitating private consumption which is likely to stay healthy in the euro area, even though it came off its heights reached in 2016/17 more recently (see fig. 11).

Fig. 11: Private consumption in key auto markets

Year-on-year, in %



Source: Eurostat, Creditreform Rating

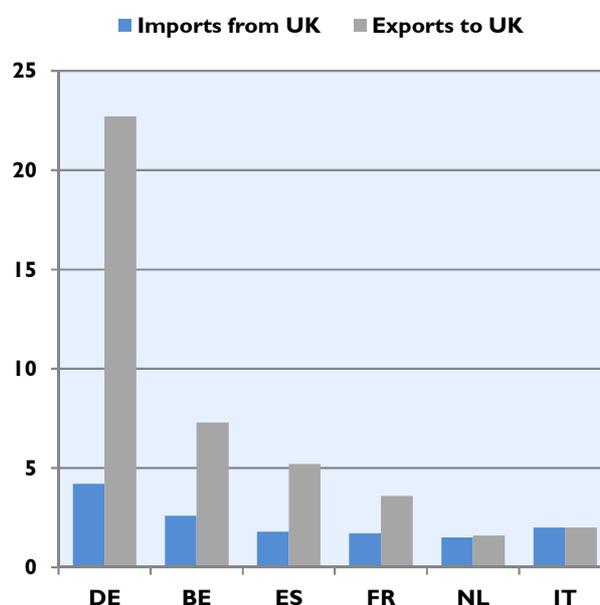
In the UK, economic growth ticked up in Q2-18, with 1.3% growth y-o-y on the heels of a weak 1.2% in Q1-18 (the weakest since Q2-12), which was partially attributed to extreme weather conditions in February and early March. Services and construction activity bounced back strongly in Q2-18, leading to solid GDP growth during the quarter. This was despite continued weakness in manufacturing exports and the resulting widening in the trade deficit (0.9% of GDP as of Q2-18), which was the major caveat in the GDP component. Such an unfavorable movement in the trade

balance partly reflected the fall of 12.5% in the value of car exports, the sharpest quarterly decline since Q1-09. The continued decline in car exports is consistent with the overall manufacturing weakness. The auto investment environment has significantly deteriorated in the UK due to uncertainty over Brexit. As per Society of Motor Manufacturers and Traders (SMMT), fresh investments in the domestic car industry had almost halved to 347.3m pounds in between January and June 2018, down from 647.4m pounds in the first half of 2017.

A hard Brexit remains a key risk (as hard Brexit could result in 10% WTO import tariffs on both sides), especially for German car makers within the EU, given the size of transactions between the Germany and the UK (see fig. 12). However, our baseline scenario for now is an orderly Brexit in March 2019, followed by a transition period that ensures greater continuity for corporates, consumers and policy-makers alike, thereby cushioning cliff effects and enabling a relatively smooth adjustment to a post-Brexit world. Despite soft Brexit expectations, we forecast the UK's economic growth to moderate further to 1.5% each in 2018 and 2019 respectively, down from 1.7% in 2017, as the output gap remains limited with the unemployment rate already floating at 4.2%, a level close to the Bank of England's (BOE) estimates of the natural rate. Furthermore, our forecast reflects subdued investment activity and slow growth in labor productivity, while private consumption should benefit from a modest recovery in disposal income as inflation gets anchored along the way. The BOE targets to bring down inflation to 2.2% in 2019 and 2.1% by 2020, from 2.4% in June 2018. The BOE expectedly hiked the interest rate by 25bps to 0.75% during its latest meeting in August.

Fig. 12: Trade value of motor vehicles, automotive parts and accessories for 2017

Data for 2017, in billion euros



Source: ACEA, Creditreform Rating

With regard to regulation, the European Union has approved and published the long-awaited Securitization Regulation on 28 December 2017 in the Official Journal of the European Union. The regulation entered into force on 17 January 2018 and will be applicable to all securitizations from 1 January 2019. The regulation aims to rejuvenate the European securitization market, which was partly plagued by the 2008 financial crisis. For key provisions, please refer to our 2017 report "European Auto ABS Keeping on Track".

Creditreform Rating AG has been registered by ESMA as a European rating agency. We are specialist providers of credit risk assessments and offer our customers a wide range of rating and credit services as well as risk management solutions. Our reports inform investment decisions of global investors and creditors and are also widely used for regulatory purposes. We issue corporate, sovereign and bank ratings and evaluate structured finance products. Many of our ratings, provided for the benefit of institutional investors, focus on debt funds in the asset classes Corporates, Real Estate and Infrastructure. Creditreform Rating is a shareholder of European DataWarehouse GmbH.

Research studies of Creditreform Rating AG provide a comprehensive overview of the latest developments on global financial markets. Creditreform Rating regularly releases analyses about developments on the financial markets and the economic situation in Germany, the euro area and several other countries. On our website, you can download studies that focus on specific industries and new economic policies or regulations.

For more details, please visit www.creditreform-rating.de