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Whitepaper

How will Covid-19 shape used car markets?

Forecast for residual value development in Europe for 2021 and 2022

Last updated: 20 April 2021

Autovista Group

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One year into Covid-19 – lessons of resilience

*Following the emergence of Europe's automotive sector from coronavirus (Covid-19) lockdowns, a three-speed development of residual values (RVs) has prevailed across the region. Autovista Group chief economist **Dr Christof Engelskirchen** and senior data journalist **Neil King** explore the latest developments. How resilient are Europe's used-car markets and residual values? What factors have helped stabilise them?*

Autovista Group's Covid-19 tracker (Figure 1), which tracks 12 European markets, shows that in the week to 21 March 2021, the index of residual values (RVs), compared to early February 2020, is back above pre-crisis levels in all countries except Portugal and Finland. The measurements began in February, with an index value of 100.

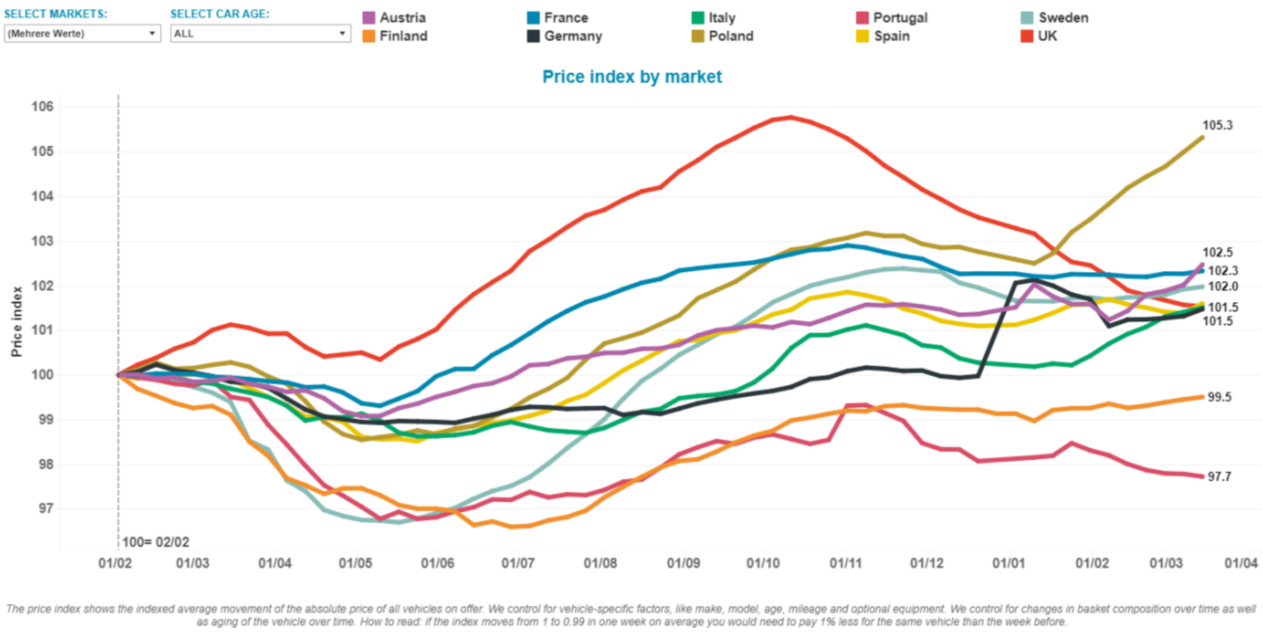
Rapid downward reaction in the non-lockdown markets

'There has been a lot of movement in offer prices over the past year due to Covid-19, with multiple factors influencing pricing decisions,' King emphasises. 'There was a rapid downward reaction in the non-lockdown markets Finland and Sweden, in light of the impending economic crisis. On the other hand, markets that entered into a lockdown effectively hit the pause button. Prices stayed stable initially.'

Three speeds of recovery

The UK market faced a double-whammy of Covid-19 and fears of a no-deal Brexit. It enjoyed the strongest rally in used-car prices, driven by the release of pent-up demand. The UK also faced a starker vehicle-supply challenge than any other market, which translated into higher RVs as used-car demand outstripped supply. Values rose from mid-May and peaked at 106 (a 6% rise) in the week to 11 October. However, RVs have since fallen from this great height as pent-up demand is increasingly satisfied as supply improves, and fear of a longer period of economic recovery weigh in. The buffer that had been built up is almost gone and we are closing in on pre-pandemic pricing levels in March 2021.

Figure 1: Used-vehicle offer price development – by country (indexed)



Source: Autovista Group

France also benefitted strongly from pent-up demand and a new incentive scheme that came into effect on 1 June 2020. The €8 billion package includes a €7,000 grant for private buyers of new battery-electric vehicles (BEVs) costing less than €45,000 (€5,000 for fleet buyers), while buyers of new plug-in hybrids (PHEVs) can claim a €2,000 subsidy.

Additionally, France doubled its premiums for those looking to trade in older vehicles for a cleaner model, with a €3,000 grant for vehicles with internal-combustion engines (ICE) and €5,000 for BEVs and PHEVs. Crucially, the enhanced trade-in bonus also applied to used cars and hence the notable rise in RVs. However, the scheme reached its 200,000-vehicle cap before the end of July 2020 and the Ministry of Ecological Transition announced the replacement of the recovery scheme with a conversion bonus, applicable from 3 August. This has translated into stagnation in the development of RVs since late August.

Not all markets have fared that well. Portugal endured falling RVs since the tracker index started in February 2020, and a more pronounced downturn commenced at the end of March. After some moderate recovery towards the end of 2020, RVs are now at the lowest level compared to other countries – at 98%, 2% down on pre-pandemic levels, slightly below Finland, which has also not recovered to pre-coronavirus levels. 'Used-car values enjoyed a recovery until November 2020 and after a slight decline, they are now stable and the closure of dealers during the last lockdown (from 15 January to 14 March) did not impact values,' said Joao Areal, Head of Valuations of Autovista Group in Portugal.

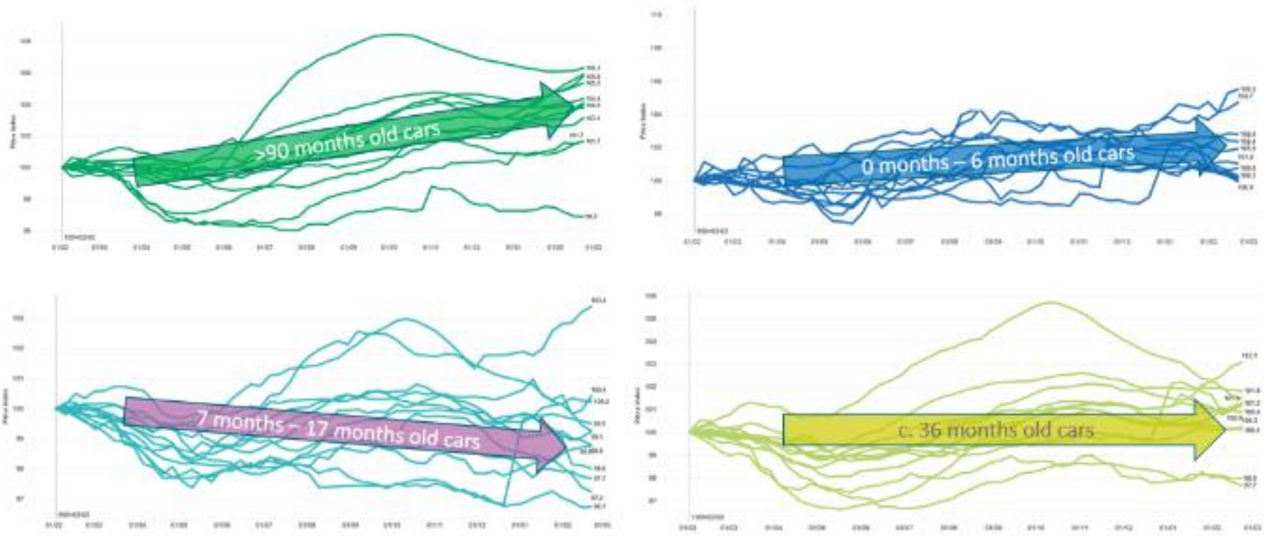
'For 2021, we have small changes in the incentive scheme for BEVs. For passenger cars, incentives are only available for private buyers, amounting to €3,000. Companies no longer have the possibility to apply for the incentive for passenger cars, but can get the incentive for light-commercial BEVs. This has trebled in relation to 2020, rising from €2,000 to €6,000 per vehicle,' Areal added.

Budget-car demand

We need to dig deeper to understand the varying dynamics through the pandemic. 'We have to distinguish price developments for different age clusters to get to the bottom of remarketing dynamics,' highlights Engelskirchen. 'Budget cars older than 90 months have pushed prices up over the past 14 months as people needed safe alternatives to public transport – and that has been largely consistent across Europe.'

Figure 2 lays out the price-index development by vehicle-age cluster across Europe. The almost new vehicles (0-6 months old) rose slightly, mostly due to the disruption of the supply chain, but ex-rental cars (7-17 months old) have been struggling. The typical off-lease vehicle (36 months old) fared stably through the crisis. One factor here is the steady or slightly reduced supply of these cars to the market as customers had to extend leasing contracts while awaiting a replacement vehicle. The second factor contributing to stability is pent-up demand for these typically sought-after used vehicles.

Figure 2: Used-vehicle offer price development – by age cluster across Europe (indexed)



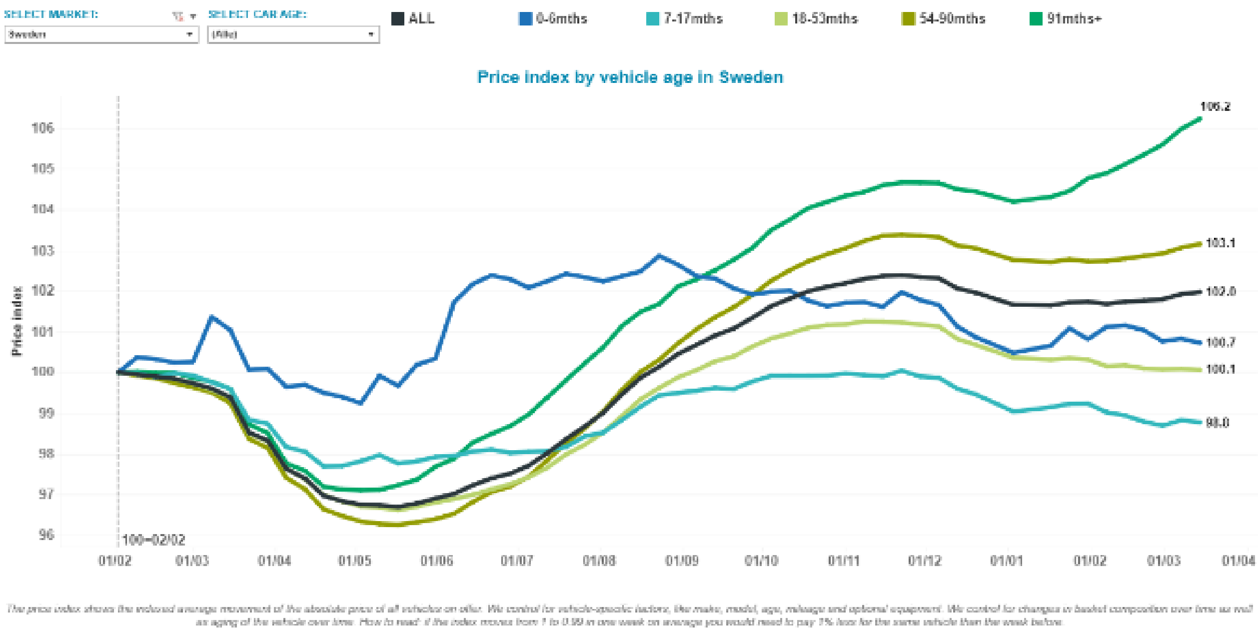
Source: Autovista Group

Sweden saw the most elastic reactions to the pandemic. Used-vehicle offer prices had dropped swiftly by about 3% on average during the first three months of the crisis (Figure 3; black line), as dealerships remained open but economic uncertainty kept buyers away from making a purchase decision. A surge in demand for older used cars and budget cars, as consumers sought safe transport alternatives, commenced in May and June, and continued throughout 2020.

Sweden saw the most elastic reaction to the pandemic

Demand for these cars is overcompensating the slight downward pressure on the younger and high-value used cars. This pattern is very visible across many European markets.

Figure 3: Used-vehicle offer price development in Sweden – by age cluster (indexed)



Source: Autovista Group

Markets on hold again

With the third wave of the pandemic hitting continental Europe, markets are largely on hold again. The combination of closed dealerships, a still mostly non-digital purchase experience across many segments of the market, and plenty of government stimulus and support has stabilised many markets at the beginning of 2021. 'We continue to experience supply-chain issues, more recently due to a shortage of semiconductor chips,' comments Engelskirchen. 'This limits the supply of new and young used cars to the market, supporting prices despite the ongoing economic uncertainty.'

Meanwhile, the strongest development of RVs in recent weeks has been in Poland. 'We can still observe huge demand for used vehicles, especially the youngest, as demand for new vehicles is limited due to fast-growing list prices and lack of availability,' comments Marcin Kardas, head of the Autovista Group editorial team in Poland.

Poland: Strong demand for the internal-combustion engine on used-car markets

Furthermore, the majority of offer prices captured with our used-vehicle price index still relate to internal-combustion-engine vehicles. 'Rising RVs in Poland show that there is still strong demand for the internal-combustion engine on used-car markets,' added Kardas. 'Rising list prices of ICE vehicles and the fast phasing-out will reduce the supply of used cars – demand on used-car markets may outstrip supply, in particular when there is currently so little incentive to buy used electric vehicles.'

Used-car markets 2021 – crisis, what crisis?

*The year 2021 has started with another series of lockdowns. Economic forecasts for the year have seen another hit. That said, government stimuli continue to soften the impact on market participants. What is more, most used-car markets have proven more resilient than many expected. So what does 2021 mean for used-car markets? Chief economist **Dr Christof Engelskirchen** and the Autovista Group editors and market specialists Ana Azofra (Valuation and Insights Manager Spain), **Johan Trus** (Head of Data and Valuations Nordics) and **Yoann Taitz** (Chief Editor & Valuations Manager France) share their views and advise on what measures to take to manage risks in this time of high uncertainty.*

The pandemic has left its bruises and scars on families and businesses alike as we continue the struggle against Covid-19. How did events unfold during the first quarter of 2021 – were there even some positive surprises? In Sweden, where dealerships had stayed open across the whole of 2020, the new normal may have been achieved much quicker than elsewhere. As Trus points out: 'we could witness that OEMs and importers have adapted to the new reality and are organising virtual events and product demonstrations. Some have been set up as normal business presentations but others are more innovative, such as following a person's test-drive. In contrast to other European markets, launch events by dealers to private customers are possible in Sweden, as dealerships have remained open. The only restriction is the number of customers in the showroom.'

The scarcity of semiconductors is disrupting supply chains again

Used-car markets have developed quite resiliently into 2021. In fact, very few used-car markets have come under pressure. Negative momentum on new-car markets is turning into positive momentum for used-car markets. Taitz offers one explanation: 'The scarcity of semiconductors is disrupting supply chains again, resulting in a shortage of supply of new cars. Consequently, consumers are turning to buy a used car instead, which then helps residual-value formation.'

Southern Europe, in contrast, saw some of the most restrictive lockdowns, which are continuing into 2021. The economic consequences have been more severe in Spain than in any other European market.

Economic consequences more severe in Spain

'The magnitude of the economic impact is very visible, especially in Spain, which experienced an 11% drop in GDP in 2020. We have faced new waves of infections, at different times but with similar intensity. The situation has also been hard in Portugal at the beginning of the year with a very restrictive new lockdown,' according to Azofra. It is difficult to see the light at the end of the tunnel, but 'the fast authorisation of vaccines by the EU has been important. It improves the outlook and facilitates the start of thinking and working on the economic recovery.'

The heightened disconnect

Autovista Group experts have voiced concerns that supply-chain issues for new-car markets and substantial government-funded incentive schemes mask some of the challenges that used-car markets will soon face. 'We can confirm for 2020 and Q1 2021 that new-car markets are more and more disconnected from used-car markets. Battery-Electric vehicles (BEVs) and plug-in hybrid vehicles (PHEVs) are being pushed into the new-car market, while transactions for electric vehicles in used-car markets remain subdued. Diesel engines still represent 55% of total used-car sales,' points out Taitz.

This disconnect may not be felt as strongly in Sweden, where the negative impact on the economy and private consumption was subdued. However, it may be more pronounced in Spain. Azofra remarks that 'the effects of European aid programmes have not materialised, yet. Private consumption has contracted sharply. In Spain, sales of new cars dropped by more than 50% in the first two months of 2021.' In terms of EV adoption, Ana Azofra points out that 'there are continuous challenges, both in the new- and used-car markets. The high price and the lack of infrastructure made it impossible for these markets to get off to a better start in 2021 - BEV sales in Spain fell by 64% in January and 36% in February, starting from already low figures in 2020.'

Crisis, what crisis?

'The pandemic has not been a crisis for used-car markets,' says Engelskirchen. He points out that: 'In fact, it has finally helped some things over the finish line that had been long in the making, in particular the digitisation of the sales and marketing value chains.'

The pandemic has not been a crisis for used-car markets

In addition, market participants have addressed further supply issues during the past 12 months. 'Supply-chain disruptions allowed some of the demand for cars to be directed to used cars. This helped clean up some unhealthy stock levels. Several OEMs have proven very skilful in adjusting the sales channel mix during this year,' according to Taitz. And Trus agrees. He points out that 'OEMs and dealers have learned that they need to be innovative and always try to come up with new ways of reaching their customers. In order to survive as a business you need to adapt.'

Tactics and digitisation

So what should OEMs, dealers and leasing companies do during these challenging times. 'Avoid discounting activity,' remarks Azofra, 'as they will only help in the short term but have a long-term negative impact on remarketing. Furthermore, leverage all the flexibility formulas, e.g. around digitised business processes and sales channels.'

> ***Pay special attention to sales-channel management***

Taitz also advocates that market participants should pay special attention to sales-channel management. Furthermore, 'due to the trend towards leasing, OEMs and dealers have to pay special attention to configure their demos and tactical registrations to be favourably equipped from a used-car market perspective.'

Putting much more attention on the future earning potential of a business or idea, the investor community has clearly moved ahead of immediate Covid-19 concerns. So when will we consider Covid-19 a 'thing of the past'? 'Economic momentum will return during the second half of 2021, but it will take time to recover, for some sectors longer than for others and for some regions as well', according to Azofra. 'Manufacturers and large leasing and mobility companies have their minds on the future and are already working on post-Covid-19 scenarios.'

Taitz adds, that 'new economic momentum will show when most people have been vaccinated.' Trus confirms, 'that the main variable in the equation is the speed of vaccination'. Even though Covid-19 will hopefully be a thing of the past soon, Trus expects some things to become a permanent fixture. 'Flexible/ home working is here to stay, while travel patterns will probably take longer to get back to normal, if it ever will.'

Electric Vehicle (EV) Tax Guide

*Some governments have further extended EV incentive schemes; some have modified or even ended them. Autovista Group's chief economist **Dr Christof Engelskirchen** ponders the pros and cons of electric-vehicle (EV) incentive programmes and summarises the latest status on government activities.*

High up-front discounts granted on the purchase of new cars and their negative impact on residual values (RVs) is a phenomenon well described and frequently observed in the automotive industry. We covered it in more detail in our publication on the impact of sales planning on residual values. Lower residual values do not only represent a direct economic loss for those with vehicles on their balance sheets; they also prevent profitable new car sales, as they make it almost impossible to offer competitive and sustainable leasing rates.

Many governments are determined to support the particularly battered automotive industry, which is confronting several expensive fights. It is battling with new technologies, new competitors, the shift to zero-emissions and depressed margins. The pandemic and the associated lockdowns have intensified the pressure. Recovery will take some time. Many jobs are still at risk, and it is sensible for governments to continue to soften the blow by supporting the transition financially.

There is one caveat: too often, the government-funded stimulus programmes focus solely on stimulating demand for new cars. Governments should avoid this and other common mistakes such as:

1. Up-front, transparent and long-term incentives send the signal that new cars are overpriced without them. Lower transaction prices of new cars will lower transaction prices of used cars. A good example of this can be seen in France, where many years of a bonus/malus system have depressed the used car price of battery-electric vehicles (BEVs);
2. Governments risk creating an oversupply of used cars. The German government has reduced company-car taxes for many plug-in hybrid electric vehicles (PHEVs) by 50% (and by 75% for BEVs). That makes them highly attractive as company cars, in particular PHEVs due to their versatility. There is a substantial risk that the rise in the supply of used PHEVs will not meet the same demand on used car markets, as there is no similar relative benefit for a used car buyer to choose PHEV over petrol;

3. Although governments mostly stimulate alternative powertrain types, the incentives – easily 10%-20% of the list price – deliver negative spillovers on all used car prices, even those of internal combustion engine (ICE) vehicles;

Strong stimulating effect from high purchase incentives for EVs

4. Reducing VAT for used cars is risky, as it may directly lower the signalled retail used car price. Germany had implemented such a measure for the period July to December 2020: VAT rates were reduced from 19% to 16% for used cars. Stimulating used car purchases can be RV-supportive, if done this way: ex-post refund of part of the VAT or simply a purchase incentive for used cars – as seen in France and the Netherlands, works better; and
5. Incentives are like a drug, and an exhausted incentive scheme creates a bigger demand gap. Many push the purchase of their vehicle forward because of a scheme, as we observed in France in 2020 where used car prices were rising because their purchase was incentivised. The original used car purchase incentive scheme ran out by the end of July 2020. Now there is a used car incentive scheme in place, which focuses solely on BEVs.

European incentive schemes: more pressure

The existing government incentive schemes in Europe are diverse and show how differently countries approach the topic. We compare them in Table 1. We see that 17 of the 19 countries we analyse have an incentive scheme for electric vehicles (BEV/ PHEV) in place. It is the first time that Norway is featured in this overview. The Czech Republic and Switzerland have no incentive schemes in place. We have evaluated the relative strength of the stimulating effects for each dimension of the schemes.

Most governments offer purchase incentives as part of the scheme. France, Germany, Italy, Austria, Norway, Romania and Sweden are particularly generous. Company car tax benefits exist in ten out of the 17 schemes, and they act as impactful stimuli.

Acquisition-tax and ownership-tax benefits are frequent as well, but usually have less of a stimulating effect. The exception is Finland, where lower acquisition taxes bring the prices of BEVs down to ICE-vehicle levels. In Norway, the ownership tax benefits are highly impactful: 0% are due for BEVs and the weight component in the PHEV taxation is reduced by 23% if the battery offers 50km or more range.

In Italy and Sweden, our editors moved the indicative impact score one box to the right, indicating an expected higher negative impact on RVs than previously anticipated in our last update from November 2020. Norway, due to the very substantial and continued government support, sees a medium-high negative impact on used EV RVs as well.

Norway's EV policy is the most substantial one in Europe and offers benefits for buying a BEV over an ICE in the area of €11,000 and above. Strictly speaking, the scheme does not include a purchase incentive in the narrow sense of a government-funded discount for buying a BEV. However, we put a + under purchase incentives new and used cars to account for the magnitude of the tax benefits for buying an EV, in particular a BEV.

Other changes shown in the table are for the UK, reflecting a reduction of government grants from £3000 to £2500 for BEVs and the reduced the upper price limit for eligible vehicles, resulting in a (+) under purchase incentives. In Belgium, on the other hand, the company car tax benefits proved to be more stimulating, which is why we upped the evaluation from ++ to +++. In the Netherlands, the budget for purchase incentives on new EVs has been exhausted for 2021. Therefore we took the +++ rating out and replaced with a 'no stimulation' rating. The French scheme does not have a scrappage element anymore, and the used car purchase incentives are now only applying to buying a used BEV and reduced to €1,000. Purchase incentives have also been slightly reduced, but we kept the +++ rating intact for the time being. Spain introduced a more generous EV incentive with 'Plan MOVES III' and we moved the RV impact risk to medium in this update.

Our description and evaluation of the schemes (Tables 1 to 18) include schemes in place prior to Covid-19 as well.

Table 1: Government incentive schemes, their potency and risk of building up RV pressure

	Incentive Scheme for Electric Vehicles (BEV & PHEV) (how much demand is stimulated: + = mildly; ++ = moderately; +++ = strongly)						Incentive Scheme-induced Pressure on RVs for Electric Vehicles in 2021/2022				
	Acqui-sition Tax Benefit	Owner-ship Tax Benefit	Company Car Tax Benefit	Purchase Incen-tive ...	... incl. used cars ...	... and (optional) scrappage	Low	-----	Med	-----	High
FR	+		++	+++	+				X		
DE	+	+	+++	+++	(+)					X	
IT		+		+++		++			X		
ES	+	+		+++	+	+			X		
UK		+	+++	(+)			X				
AT	++	++	++	+++					X		
BE		+	+++				X				
FI	+++	+		+			X				
HU	+	+	++				X				
NL		+	+++		++		X				
NO	+++	++	++	+	+					X	
PL	+						X				
PT	+	+	+	+			X				
RO				+++		+				X	
SE		++	++	+++						X	
SI	+			++				X			
SK	+						X				

= changes vs. November 2020

Source: Autovista Group

Table 2: France – significant EV incentives; stimuli for used cars helps to ease RV pressure

Description of scheme	Verdict for EVs
▪ Acquisition-tax exemption for all alternatively powered vehicles (total or 50%, depending on region). ▪ No ownership-tax benefits. ▪ Exemption from CO_2-based company-car tax component, if less than 20g CO_2/km; two year exemption for PHEVs and HEVs with more than 20g CO_2/km. ▪ Purchase incentive now up to €7,000 for private buyers for cars if <20g CO_2/km. This will be reduced by €1,000 for all categories in July 2021 and by another €1,000 in January 2022. PHEVs (less than 50g CO_2/km; minimum 50km autonomy; maximum list price of €50,000) have a purchase incentive of €2,000 until the end of June 2021. It will be reduced to €1,000 thereafter and stop as of January 2022. ▪ No scrappage scheme for new and used BEVs/PHEVs anymore, it ended in 2020. ▪ Used car purchases are incentivised, but to a lower extend than in 2020. Now you can receive €1,000 for buying a used BEV.	**Medium pressure for 2021/2022** The French bonus/malus scheme has been in place for a long time and has already put EVs under pressure. The enhanced scheme increases pressure on used car prices due to increased up-front discount on new cars (easily beyond €10,000). Used-car sales are stimulated as well, and the incentive is income-dependant. This moderates the risk of negative impacts on used car prices, although not enough for a better score.

Table 3: Germany – risk of higher pressure on EV RVs than in other markets

Description of scheme	Verdict for EVs
▪ VAT reduction from July - December 2020 from 19% to 16%, but little stimulating effect observed. ▪ 10-year exemption for BEVs registered until end of 2025, but small economic impact compared to petrol taxes. ▪ Benefit-in-kind taxation: reduction of taxable amount (from 1% to as far down as 0.5% for PHEV and 0.25% for BEV). This is very stimulating for the demand for new PHEVs or BEVs as company cars. ▪ Further enhanced-purchase incentive scheme: until 2021, further incentive of up to €9,000 for cars under €40,000 net list price. Mostly targeted at new cars. Only BEVs and PHEVs benefit. Very strong expected stimulation of new PHEV demand, in particular.	**Medium-high pressure for 2021/22** Germany has the biggest stimulus package across Europe, besides Norway. The substantial increase in top-down incentives on new EVs adds pressure on used-car values. There is very little emphasis on stimulating demand for used EVs, so there is no moderating effect. The lower company-car taxation will stimulate many new-car transactions. There is a risk that used-car markets will not absorb these cars, in particular PHEVs, which adds further pressure towards 2022/2023. Albeit small, the VAT reduction directly lowered new car prices while used-car prices were kept stable by dealers. The switch back to 19% as of Jan of 2021 caused a temporary peak in prices, but they are back to normal now.

Table 4: Italy – among the largest purchase incentives for EVs

Description of scheme	Verdict for EVs
▪ No reduced acquisition taxes. ▪ Ownership tax benefits: five-year exemption for EV from first date of registration. Then 25% of equivalent petrol vehicle tax applies. ▪ No company-car tax benefits. ▪ Purchase incentives until end of 2021: (1) €4,000 (without scrappage) and €6,000 (with scrappage of Euro 0-4) for cars emitting <=20g C_{O2}/km; price less than €50,000, excl. VAT; (2) €1,500-€2,500 for emissions between 21g and 60g CO_2/km; (3) malus of up to €2,500 for cars emitting more than 250g CO_2/km. ▪ Additional purchase incentive until end of 2021: with scrappage of a car older 10 years and as long as the new car emits below 135g CO_2/km, €1,500 (€2,000 if below 61g CO_2/km). On top, dealers must add another €2,000 for this scheme to apply; price of new car to be below €40,000, excl. VAT. ▪ Without scrappage, the government contributes with €1,000 with dealers having to add another €1,000. ▪ Purchase incentives between 01/2021 and 06/2021 added for commercial vehicles with a weight below 3.5 tons. The scheme is up to €8,000 (with scrappage) and €6,400 (without scrappage) for BEV, but there are lower incentives for Hybrid and ICE, too.	**Medium pressure for 2021/22** The long-term tax reduction for EVs delivers small but positive momentum not only on the new- but also on the used-car market. It makes buying a used BEV attractive. The lack of company-car benefits reduces risks of oversupply of PHEVs or BEVs as used cars. Nevertheless, the growth of new sales of electrified vehicles could lead to an increase of offers in used market faster than the demand. The moderately long bonus/ malus scheme (until the end of 2021) and the additional purchase incentives (until end of 2021) grants a substantial discount on new EVs. This puts pressure on used-EV prices.

Table 5: Spain – sizeable ownership tax cut & enhanced EV incentives

Description of scheme	Verdict for EVs

▪ Acquisition-tax exemption from 'special tax' for vehicles emitting up to 120g CO2/km; VAT exemption for alternative powertrain types, incl. HEVs, emitting up to 110g CO2/km on Canary Islands.
▪ Ownership-tax reduction already in place for longer time: reduction of 70-75% for BEVs and PHEVs in main cities (e.g. Madrid, Barcelona, Zaragoza, Valencia); more schemes should follow.
▪ No company-car tax benefits.
▪ Plan MOVES III, specific for new and young used BEVs, PHEVs, FCVs, FCHVs
    ○ BEVs (<45K or <53K if 8-9 seats) and PHEVs (<45K). Incentives from €2,500 to €7,000 depending on the range and whether or not a car is delivered for scrapping.
    ○ FCVs and FCHVs. Incentives from €4,500 to €7,000 if a car is delivered for scrapping.
    ○ In both cases above, an additional €1,000 discount will be granted by OEM or dealer.
	Medium pressure for 2021/22
	The biggest potential risk for pressure on RVs stems from the purchase incentives, which cover BEVs and PHEVs up to €45,000 list price. A positive and moderating effect comes from the longer-term ownership tax reduction and a lack of company car tax benefit.

Table 6: UK – Lower incentives; still applying solely to zero-emission vehicles

Description of scheme	Verdict for EVs
▪ No ownership tax exemption. ▪ Exemption for excise duty – ownership tax – for zero-emission vehicles. ▪ Sizeable company-car tax benefits for zero-emission vehicles: 0% in 2020-2021, 1% in 2021-2022, and 2% in 2022-2025. ▪ Purchase incentive for zero-emission vehicles of £2,500 if the purchase price is below £35,000 (recommended retail price, incl. VAT and delivery fees). ▪ Ongoing discussions to enhance the scheme further, but no decision has been communicated, and previous suggestions have been rejected.	**Low pressure for 2021/22** The scheme still puts its entire emphasis on BEVs. The purchase incentive is sizeable but smaller than in other European countries. Moreover, it has been reduced. The company-car tax benefits are strong and will lead to more BEVs becoming company cars. However, there is an inherent supply shortage of new and used BEVs in the UK market, so no negative impact on RVs is expected.

Table 7: Austria – generous government purchase incentives; slightly reduced for companies

Description of scheme	Verdict for EVs
▪ Purchase incentives: E-Mobility bonus in effect for passenger cars for private buyers: BEVs (and FCEVs) are subsidised by €5,000; Plug-In Hybrid (PHEVs) und Range Extender (REX, REEV) are subsidised by €2,500. ▪ As of 2021 subsidies for companies have been reduced compared to private buyers: BEVs (and FCEVs) are subsidised by €4,000. Plug-In Hybrid (PHEVs) are subsidised by €2,000. ▪ Some conditions apply for purchase incentives: List price of up to €60,000 (incl. VAT) of the base model; min. range of 50 km fully electric; only petrol hybrids eligible. ▪ LCV purchase incentives: between >2.0 and ≤2.5 tons max. load receive a subsidy of €7,500; over >2.5 tons max. load: €12,500.	**Medium pressure for 2021/22** There is less discounting on BEVs and PHEVs than on ICE models. However, the government subsidy schemes will have a negative impact on RVs as they work similar to discounts.

Table 8: Belgium – 100% focus on business registrations, rather than private purchases

Description of scheme	Verdict for EVs
▪ Bonus schemes and tax relief are regional and federal. ▪ No purchase incentive anymore: in recent years, a bonus was allocated for the purchase of EVs and the installation of charging stations, but this is no longer the case. ▪ Tax benefits: company (leasing cars) are granted 100% VAT deduction on expenses for BEVs and PHEVs (<50gr CO_2). From 1 January 2021, Flanders defines WLTP CO_2 as calculation base for annual Road Tax and First Registration Tax. ▪ Tax relief granted to CNG; PHEV is cancelled for new vehicles only (standard taxation scheme) but advantage maintained for already registered vehicles. ▪ EVs and fuel-cell vehicles are exempt from national annual road tax and registration tax (BIV). ▪ In Wallonia (Brussels), annual Road Tax is based on fiscal HP classes, and First Registration Tax based on kW (and or engine size) classes; there is a CO_2 malus on top.	**Low pressure for 2021/22** Lack of charging infrastructure is more impactful on RVs than incentive schemes. ICE engines to be banned from city centres and company cars have to become green/electric (CO_2-neutral) by 2026.

Table 9: Finland – high-impact CO2-based acquisition tax benefits make EVs attractive

Description of scheme	Verdict for EVs
▪ CO_2-based acquisition tax brings purchase price for BEVs/PHEVs to comparable levels with ICE. ▪ €2,000 incentive for BEVs <€50,000. ▪ Lower yearly road tax for PHEVs petrol/BEVs against diesel/PHEV diesel.	**Low pressure for 2021/22** With the current incentives and regulations, we see no extra pressure on BEV/PHEV RVs.

Table 10: Hungary – no purchase incentives but free parking for BEVs and PHEVs

Description of scheme	Verdict for EVs
For all BEV and PHEV cars with green number plates (i.e. where range in EV mode is more than 25 km): ▪ No acquisition tax. ▪ Lower registration tax for PHEVs than ICE vehicles and zero for BEV (for example, petrol car with 1,600ccm pays c. €375). ▪ Exempt from company car taxes (c. €333 for a 110kW ICE) ▪ Another regional/ local scheme 'TAO' allows for deductions from taxable profit of companies if an EV is registered instead of an ICE (in Budapest, for small businesses this can represent c. €10,000 per vehicle in C-segment/ C-SUV-segment). ▪ No ownership taxes (e.g. ICE with 110 kW pays c. €105 annually). ▪ Free parking in the larger cities.	**Low pressure for 2020/21** No purchase incentives and some of the incentives extend to used car ownership and thus compensate for RV pressure.

Table 11: Netherlands – strong incentives for the purchase of used BEVs

Description of scheme	Verdict for EVs
▪ Since 1 July 2020, there is a subsidy of €4,000 for the private purchase/lease of a new BEV, but it is effectively now 0 as the budget has been exhausted. ▪ Purchasing a used BEV: subsidy is €2,000 and there is still around €11 million of budget available (March 2021). ▪ Conditions for obtaining the subsidies: 100% electric passenger car with a range of at least 120km; list price (original new price) not lower than €12,000 and no higher than €45,000; the car was produced as an electric passenger car and may not have been converted into an electric car. ▪ LCV: up to €5,000 purchase incentive. The scheme runs from March 15, 2021 to December 31, 2025. In 2021 the budget is €22 million. ▪ For BEVs: no bpm (tax on motor vehicles) must be paid and no road tax. In addition, the 'bijtelling' (personal contribution for the private use of the company car) is 12% over the first €40,000 (22% for the balance above that amount). ▪ PHEVs do pay bpm; the road tax is halved. The 'bijtelling' is just like an ICE. With an ICE you always pay bpm and road tax and the 'bijtelling' is always 22% over the full sum.	**Low pressure for 2021/22** 2021 budget for new cars has been exhausted. Therefore no pressure on RVs. In fact, these subsidies mean that there is currently a shortage of used BEVs. Frequently, used electric cars are imported.

Table 12: Norway – high incentives; very stimulating to buy new/used EVs, in particular BEVs

Description of scheme	Verdict for EVs
▪ Norway's EV policy is the most substantial one in Europe and covers a variety of angles – although it used to be even more generous. A comprehensive review will happen towards the end of 2021 and likely, a lighter scheme will apply in the years after that. ▪ Currently, BEVs are vehicle purchase tax-exempt, which is a substantial lever; they are also VAT-exempt (normal rate is 25%) and they pay zero road tax. Some further benefits may apply, e.g. free or discounted parking, free tolls, access to bus line, some discounts for ferries. ▪ For PHEV, a reduction of the weight component in the taxation scheme of 23% applies, if the electric range is 50 km or higher. ▪ Company car taxes are reduced for electric vehicles.	**Medium-high pressure for 2021/22** Pressure for BEV is increasing since there are currently still few new models, but the market is heating up due to the generous incentives, which are likely going to be reduced in 2022. This puts some pressures on current generation BEV residual values.

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Table 13: Poland – no purchase incentives currently, but planned

Description of scheme	Verdict for EVs
▪ Poland postponed plans of a generous purchase incentive, but there are ongoing discussions around such a programme. ▪ Acquisition tax (excise tax) reduction based on engine size: hybrids pay 50% of acquisition taxes if engine size is below 3,500cc; PHEVs used to be exempt but are now paying 50% of ICE taxes between 2,001 and 3,500cc. BEVs are exempt.	**Low pressure for 2021/22** There is little demand for BEVs in Poland. It is amongst those markets in Europe with the lowest BEV adoption.

Table 14: Portugal – balanced scheme also supporting ICE; limited budget/ short-term impact

Description of scheme	Verdict for EVs
▪ Acquisition taxes are based on CO_2 emission and engines size. BEVs are exempt. PHEVs pay 25% of total tax, if CO_2 emissions are below 50g and the range is at least 50km. The impact on demand is higher in PHEV than in BEV. ▪ Ownership taxes: BEVs are exempt. ▪ Company Tax for vehicles: this tax applies for cars registered by businesses. BEVs are exempt and PHEVs pay less depending on the new price. VAT is refunded for company diesel vehicles. ▪ Purchase incentives: for private purchases, €3,000 for BEVs, if final gross purchase costs do not exceed €62,500. Companies can get an incentive of €6,000 for light commercial vehicles, but not for passenger cars anymore. All these incentives have a limit of €4,000,000 (included EV motorcycles and EV bicycles). ▪ All of these incentives are pre-Covid-19 (no new incentives during the pandemic).	**Low pressure for 2021/22** Very balanced scheme, short-term only and with limited budget. No new incentive schemes expected for 2021.

Table 15: Romania – very generous scheme – BEV purchases incentivised with c. €10,000

Description of scheme	Verdict for EVs
▪ Incentives program 'Rabla' in place this year and is quite sizeable: 60,000 vouchers each worth RON 6,500 (c. €1,340), if you discard your old vehicle. The voucher is used to purchase a new car; the scope of the programme is to renew the national car park and at the same time to stimulate the economy. ▪ Eco bonus worth RON 1,000 (c. €206) if you purchase a new vehicle with less than 105g CO_2/km under WLTP regime. ▪ Eco bonus worth RON 2,500 (c. €515) for a new non-PHEV. ▪ Purchase incentive for PHEV: RON 20,000 (c. €4,123): 5,000 vouchers available in 2021. ▪ Purchase incentive for BEV: RON 45,000 (c. €9,278): 6000 vouchers available in 2021.	**Medium-high pressure for 2021/22** Since the BEVs purchase voucher is almost €10,000, this puts pressure on BEV RVs.

Table 16: Sweden – strong stimulating effect for new BEVs and PHEVs

Description of scheme	Verdict for EVs
▪ Incentive of up to €7,000 if CO_2 <60 g. ▪ CO_2-based on road tax, punishing cars >90g CO_2. ▪ Lower company car taxation for BEV/PHEV.	**Medium pressure for 2021/22** The further increased incentive from €6,000 to €7,000 pushes down the transaction price – at the same time list prices are reduced as new models are being launched.

Table 17: Slovenia – sizeable incentives, but limited to BEVs with a 3-year holding period

Description of scheme	Verdict for EVs
▪ Purchase incentive of maximum of €4,500 for BEV (condition: holding period of 3 years). ▪ Exemption from the payment of road taxes for BEVs. ▪ Motor vehicle tax at lowest rate of 0.5% for BEVs.	**Low-medium pressure for 2021/22** Limited to BEV. Some pressure on RVs because of the substantial size of the incentives. 3-year holding period manages risks down a bit.

Table 18: Slovakia – reduced acquisition taxes for hybrids, PHEVs and BEVs only

Description of scheme	Verdict for EVs
▪ 50% reduction of acquisition tax for hybrid cars (plug-ins too) – this represents c. €130 benefit for a car with 110 kW and €550 for a car with 155 kW ▪ BEV acquisition tax is minimal: €33.	**Low pressure for 2020/21** Only acquisition tax benefits for BEV and PHEV.

Conclusion

Incentive schemes are necessary to compensate for an expected loss of private purchasing power as part of the economic crisis that will follow Covid-19 lockdowns. Most European countries have enhanced their schemes, and they offer very sizeable purchase incentives. Schemes are largely targeted towards new electric vehicles (i.e. BEVs and PHEVs), which is why the expected negative impact on RVs is higher for electric vehicles. The schemes may create an oversupply of electric vehicles on used-car markets towards 2022.

We are less concerned about RV pressure building up for used ICE vehicles across Europe, as they receive less attention in government schemes.

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Smarter schemes make sure that demand is also stimulated on the used car market: France, the Netherlands and Spain are good examples of this. Here, governments have installed schemes that include purchase incentives for used vehicles.

Europe’s used-car market forecasts for 2021 and 2022

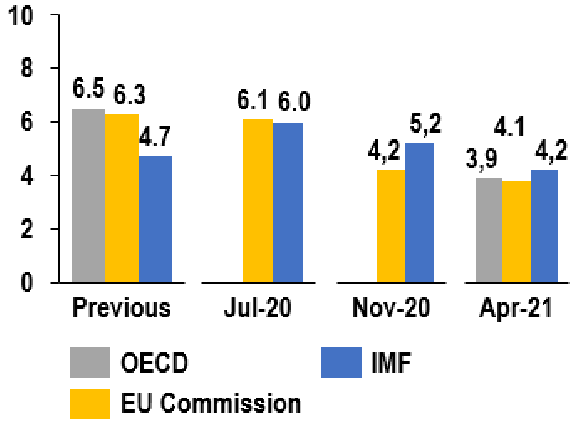
Thoughts had turned towards a longer period of economic recovery, now that the third wave of Covid-19 has hit Europe hard in most markets. So far, massive government support programmes and historically low interest rates have limited the negative impact on private income and businesses. Europe’s used-car markets have proven to be resilient over the past year, but what is in store for them in 2021 and 2022? When will pent-up demand be exhausted? When will the ever-present supply chain issues be resolved? Here, Autovista Group experts analyse the latest trends and scenario for Europe’s used-car market development.

2020 economies contracted by c. 7% on average in the European Union. The UK fared worse with -10%. Spain closed in at -11%, the heftiest contraction in Europe. In 2020, the South of Europe fared worse than the North, the East better than the West.

As countries are hit by a third wave of Covid-19 infections and associated lockdowns, forecasts for 2021 have come down. Anticipate a GDP recovery of c. 4% for the Eurozone in 2021, down from previous forecasts for the year (Figure 4).

Some forecasts had been in the area of a 5% and even 6% recovery for 2021. We do not see such variations anymore and the publications from the OECD, the EU Commission and the IMF are quite recent. Given that we are now at the beginning of a third wave of infections, a growth even of 4% would mean a highly energetic recovery during the second half of 2021. Government support programmes are in place in most markets to fuel this recovery. Vaccination programmes are picking up pace.

Figure 4: 2021 GDP Y/Y forecasts Eurozone (%)



Economic recovery will extend into 2022 in Europe

Forecast institutes expect that it will take the full year of 2022 to bring economies back to the levels of 2019. For example, in their latest March 2021 Interim Economic Outlook, the OECD expects that the 2020 GDP contraction of 6.8% in the Euro area will be followed by a growth of 3.9% in 2021 and 3.8% in 2022. This also holds true for the UK (-9.9% contraction followed by 5.1% growth in 2021 and 4.7% in 2022).

According to the European Commission Winter 2021 forecast, published in February 2021, Northern European economies should recover more quickly. For example, Finland saw a contraction of GDP of 3.1% in 2020 (Sweden 2.9%), and should expand by 2.8% (Sweden 2.7%) already in 2021, almost fully compensating for the contraction.

Northern European economies should recover more quickly

We should expect a slightly less elastic recovery in Eastern Europe than in Northern Europe, with most markets not fully recovering in 2021. For example, Hungary's GDP contracted by 5.3% in 2020. It will grow by 4.0% in 2021. Romania's economy contracted by 5.0%. Expect an expansion of 3.8% in 2021. Slovenia, Slovakia and Czechia fared slightly worse in 2020 and will not fully recover in 2021, either.

A notable exception is Poland, which saw a contraction of 2.8% in 2020 and should grow by 3.1% in 2021 and 5.1% in 2022. You will see this more dynamic recovery of demand for used vehicles also in our RV outlooks for this market.

The US and China will recover more swiftly. For the US, we saw a contraction of a moderate 3.5% in 2020 and the OECD expects a full return to above 2019 levels by the end of 2021 (+6.5% growth in GDP for 2021). China actually saw a small GDP growth in 2020 (+2.3%). For 2021, the OECD expects China's GDP to expand by 7.8%.

Reasons for improved RV outlooks

We see residual value outlook improve further in 2021 and 2022 compared to pre-Covid-19-times (February 2020) in most markets vs. our last update of this whitepaper. There are several reasons for this.

One, supply chain issues of new, and consequently used, cars are more substantial and longer than we anticipated last year. As Marcin Kardas, Head of Editorial Team, Autovista Poland comments: 'we can observe stronger demand for used vehicles due to continued problems with availability of new cars. Current production level is subdued due to problems with semiconductors and other components. It extends the time of waiting for new vehicles and makes customers look for used cars.'

Secondly, the extended lockdowns result in fewer opportunities to spend money, e.g. for travel and vacation. Simultaneously, strong government support, particularly towards employees, puts more expensive consumer products higher up on shopping lists. 'As supply of new cars continues to be limited, consumers direct more spend towards used-car markets, which supports residual values,' according to Dr Christof Engelskirchen, Chief Economist of Autovista Group.

Thirdly, as supply chain issues will continue for the near future, vaccination campaigns gain speed and business and consumer sentiment improves, our editorial teams expect that this will positively influence RV formation over the coming two years, in many markets. For example, in Austria 'we expect a further increase in RVs until the end of the year. For 2022 we think RVs will stagnate depending on the supply situation', says Robert Madas, Regional Head of Valuations, Eurotax AT, CH, PL.

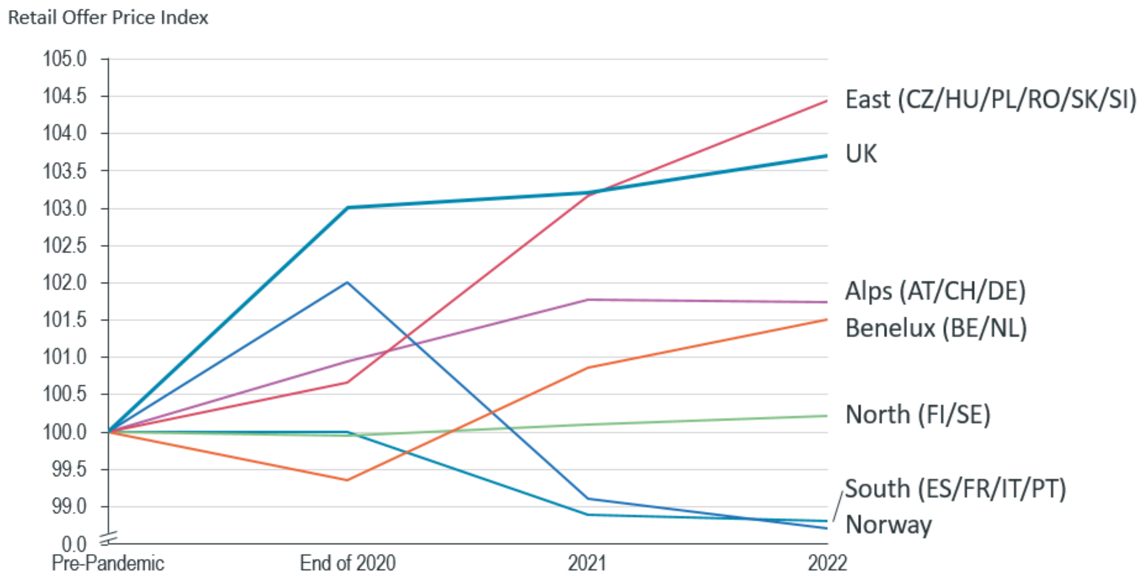
Regional differences in trajectories

Figure 5 shows the regionally different trajectories of how the continued economic crisis and supply chain issues will affect used car markets over the next two years. In the case of Norway, it is also the powertrain mix, which affects the outlook. 'In 2020, more than 50% of new cars registered were BEVs, up roughly 10 points. There are still high government incentives available, putting pressure on RV formation in the coming years,' comments Geir Kristofferson, CEO Rødboka AS, Norway. 'On top, newer BEV generations at lower list price levels and higher lifecycle deprecation puts some pressure on RVs. Our outlook is less influenced by Covid-19 or economic challenges.' Norway expects to end 2022 1.3% below pre-pandemic (98.7; Table 19).

Finland and Sweden expect to perform stably

Finland and Sweden expect to perform stably, having had a more elastic reaction up until today (Fig. 1 and 3). Johan Trus, Head of Data and Valuations Nordics, Autovista, argues: 'we believe that the used-car values for ICE cars will be stable or slightly positive during 2021 and 2022. This is mostly due to the lower supply, as the new-car market is switching to more electric-drive fuel types. There are no incentives for BEV/PHEV on the used car market and with the current charging infrastructure outside the bigger cities, used car buyers are still looking for ICE cars.'

Figure 5: Used car price development by regional cluster (index)



Note: These clusters represent unweighted averages of countries and do not represent country-specific forecasts, unless we depict individual country lines. Please refer to Table 19 for the country-specific forecasts.

Source: Autovista Group

In Southern Europe, RV-positive effects that have helped used-car markets to perform so resiliently against the pandemic and economic crisis will not be enough to compensate for the higher economic pressure that markets are facing. Marco Pasquetti, Forecast and Data Specialist, Autovista Italy, points out that 'even if the impact on residual values will be milder in 2021 compared to previous outlooks, the economic recovery will take longer than expected.' As new-car markets continue to be under siege, some of this pressure will eventually wash through to used-car markets, albeit with a bit of a delay.

'The economic outlook for Spain is amongst the lowest ones in Europe. There is little optimism at the beginning of 2021. The third wave of infections solidifies the economic crisis, mostly affecting private consumption. In the first two months of the year, sales of new vehicles fell by 45%,' highlights Ana Azofra, Regional Head of Valuation & Insights, Autovista ES, IT, PT. Consequently, our RV forecasts for 2022 anticipate -1.6% RV performance vs. pre-pandemic times in Spain (98.4) and -1.8% in Italy and Portugal (98.2; Table 19).

France: increase or stabilisation of diesel RVs

France sees a stabilisation or slight decrease of petrol RVs and a slight increase or stabilisation of diesel RVs, depending on the segment. As these are still the dominant used-vehicle powertrain types, used cars are expected to trade slightly above pre-pandemic levels in 2021 and 2020 (to 100.8 and 100.4, respectively).

The Benelux and Alps regions see a recovery of used-car markets to above pre-pandemic levels and ahead of the Southern and the Northern European markets (Fig. 5). 'Petrol will remain the most popular ICE (40% share of the used-car market), in the Netherlands,' remarks Nico VanHalst, Residual Value Manager, Eurotax Netherlands. RVs will develop favourably vs. the pre-crisis levels, up 2.4% by the end of 2022 (102.4; Table 19). In Belgium, regulatory changes and the introduction of driving bans for very old vehicles, Euro 0 and Euro 1 as of 1 January 2023, will continue to direct consumers to the used car market. Overall, the impacts on RVs will be smaller in Belgium than in the Netherlands. Performance at +0.6% to 100.6 vs. pre-pandemic levels by the end of 2022 is our current estimate.

Table 19 highlights the positive momentum for Austria, Germany and Switzerland, the latter coming out of the crisis particularly well. 'In Germany, it is the combination of consumer spending power and continued supply chain disruptions that have helped used car markets perform so stably until today,' says Andreas Geilenbruegge, Head of Valuations and Insights, Schwacke (DE). 'We expect some slight downward trend once production of new cars resumes to closer-to-normal levels, but 2021 and 2022 RVs for ICE will still perform above pre-pandemic levels amidst strong spending power and the economic rebound.'

Anthony Machin, Head of Content and Product, Glass's (UK), expects the UK to maintain its positive used-car market momentum. Glass's estimates RVs to stay above pre-pandemic levels: 103.2 end of 2021 and 103.7 end of 2022 (Table 19). Machin anticipates that 'now that dealerships have a clearer indication of when they can reopen, we are expecting a significant uptick in activity as dealers begin building forecourt stock. There currently does not appear to be an abundance of stock available in auction channels, so if the activity does increase, it will likely lead to a strengthening of hammer prices.'

Table 19: Forecast of RV performance EoY vs. Pre-Covid-19 point in time (indexed)

	Pre-Covid-19 (Feb 2020)	Dec 2021	Dec 2022
Austria	100	102.5	102.7
Belgium	100	100.5	100.6
Czechia	100	102.4	102.6
Finland	100	99.7	99.8
France	100	100.8	100.4
Germany	100	101.3	101.0
Hungary	100	106.6	108.1
Italy	100	97.7	98.2
Netherlands	100	101.2	102.4
Norway	100	99.1	98.7
Poland	100	107.1	109.9
Portugal	100	98.1	98.2
Romania	100	102.6	104.0
Slovakia	100	101.3	101.6
Slovenia	100	99.0	100.4
Spain	100	98.9	98.4
Sweden	100	100.5	100.6
Switzerland	100	101.5	101.5
UK	100	103.2	103.7

*Note: Values shown are indices for RV performance of absolute RVs for 36m old cars/ 60,000km between February 2020 (set to 100) and December of the following year. The index reflects retail asking price changes and controls for changes in models mix. For example, the RV in February 2020 is €10,000 or 48% of the list price, the RV in December 2020 is €9,780 or 46.94% (€10,000*0.978, respectively 48%*0.978). This results in the index moving from 100 to 97.8.*

Source: Autovista Group

We anticipate the most favourable trajectory for several Eastern European markets. Poland (+9.9% vs. pre-pandemic levels by end of 2022), Hungary (+8.1%) and Romania (+4%) mark the expected top performers in the region. Slovenia, Slovakia and Czechia come in slightly weaker, but are still expected to perform well vs. pre-crisis levels (Table 19).

Poland, Hungary, Romania – the expected top performers

Zsolt Horvath, Head of Valuations, Autovista Czechia, Hungary, Slovakia: 'Many Eastern European consumers are focused on used cars rather than new cars. The use of more expensive technology to reduce emissions continues to drive up prices for used cars as well. The car park is very old: cars are on average older than 14 years. Reduced used car supplies, an expensive new car market burdened with semiconductor shortages and a permanently weak Forint will let RVs rise further in 2021 and 2022.

Summary

This is the seventh update to our analysis of the impact that the coronavirus will have on societies, the economy and used-car markets.

During the 2008/2009 financial crisis, we saw substantial drops in RVs. At the time, declines of 12% (Germany) or 15% (Spain) on average across segments had built up over 12-18 months into the crisis. We do not expect this level of impact on used-car markets.

Several things are different in this crisis. Governments have taken much stronger policy actions against the collapsing demand. The current economic shock is not paired with a lack of financing opportunity. In addition, after the peak of the crisis, we are seeing substantial pent-up demand as private consumers perceive the shock as temporary, and several incentive schemes support the purchase of new and used vehicles.

Furthermore, there are continued supply chain issues, which play out favourably for residual values.

Fourteen out of 19 countries' editorial teams expect residual values to perform better in 2022 than before the crisis. The main reasons for this are ongoing supply chain issues and strong consumer spending power due to continued strong government support. On top, there are limited opportunities to spend money and consumer and business sentiments are improving in anticipation of a rebound in economic and social activities during the second half of the year.

While these trends apply to all markets, their impact is different. For example, Southern European markets, in particular Spain and Italy, expect used car markets to come under pressure as supply chain issues begin to resolve before a full economic recovery. In Eastern Europe, a more elastic economic recovery will drive demand up for cars and the lack of supply will raise used car prices.

On the downside, a third wave of infections has hit Europe harder than many expected. Many countries and regions have entered another (softer) lockdown or will do this soon. At the same time, vaccination programmes progress. We believe that the pandemic will be contained towards the second half of the year, and economic recovery will be more visible in many countries.

Used-car markets are still dominated by the ICE engine, with the exception of Norway. There, residual values will come under mild pressure, but less Covid-19-induced but rather due to continued high incentives on EVs, higher lifecycle depreciation and lower list prices. We do not see this effect yet in other European markets.

Priorities for 2021 and 2022

We see the following priorities to minimise risks and maximise opportunities, which are building up around remarketing of ICE and EV powertrain vehicles.

#1 Professionalise cross-border remarketing skills. The continued trend to leasing and flexible ownership will drive up the number of young used cars that will need to be remarketed in the coming years. For BEV/ PHEV, in particular, there is an overstimulation in high-subsidies markets. Domestic markets will not be in a condition to absorb these volumes fully. For ICE, there are significant remarketing opportunities considering the declining supply and continuously strong demand, in many markets but in particular also from Eastern Europe.

#2 Add a TCO perspective when remarketing BEVs. This will counter some of the price pressure and help to justify a higher transaction price vs. ICE vehicles. This also applies to new and used car selling/ leasing, where considering the different total cost of ownership profiles is equally important. BEVs can save 20-30% of utilisation costs of an ICE – this represents a value for the buyer/ owner that can be accounted for.

#3 OEMs need to focus on the ‘post-subsidies’ scenario. The example of Norway shows that high market shares for EVs come with incentives. Once they run out, lower list prices must compensate for it. Some support is coming from rising ICE list prices, due to more advanced technologies required to meet tougher emissions targets. This helps to bridge the price gap. Furthermore, new-vehicle EV list prices should also be harmonised across Europe, as for ICE, to avoid grey imports.

#4 The build-up of charging infrastructure should be a priority for all stakeholders as it will help counter more substantial lifecycle depreciation for BEVs. Even older BEVs with shorter ranges become relatively more attractive in light of a build-up of charging infrastructure.

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