

Automotive & Assembly Practice

Car leasing in Europe: Managing residual value for a €12 billion opportunity

Residual value management will be the critical success factor in the auto finance sector, notably for scaling and running a car leasing portfolio.

This article is a collaborative effort by Colombar Basset, Benjamin Köck, Mathilde Lavacquery, Benjamin Tschauner, Ursula Weigl, and Romain Zilahi, representing views from McKinsey's Automotive & Assembly Practice.



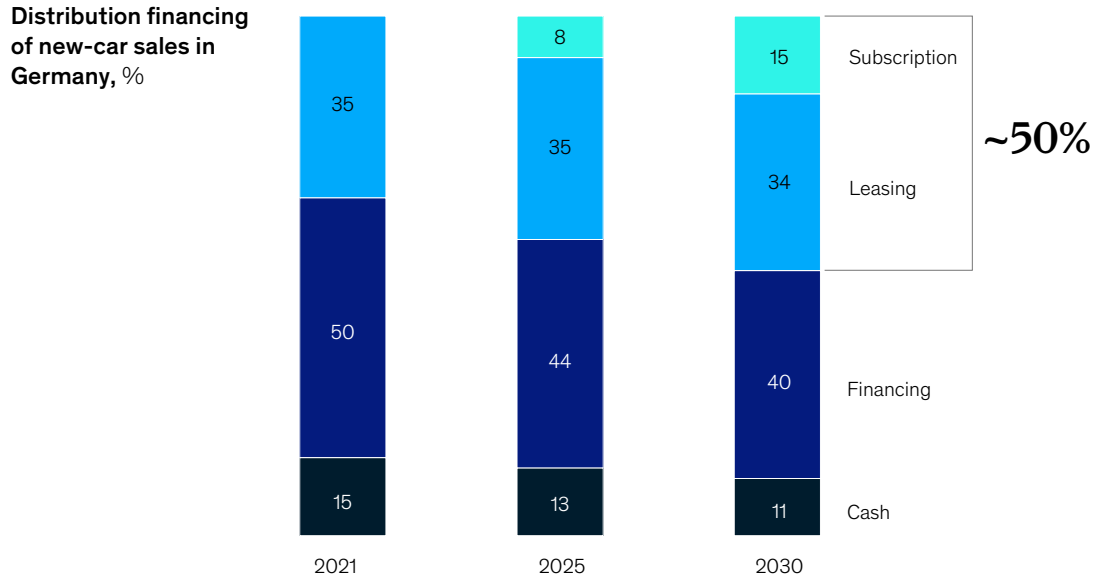
Is leasing the new credit financing? The auto financing industry is making a structural shift that threatens the long-term profitability of established car financing players. While credit financing remains the industry's dominant product, by 2030 we believe lease-based products will cover about 50 percent of the cars financed from stock in Germany (Exhibit 1). The lease-based used-car market will likely reach about €390 billion in Europe, which would lead to a €12 billion opportunity if we include a 3 percent improvement in estimating residual values, that is, used-car prices.¹ In this evolving game, established players must redefine their strategies and the risks they are willing to take.

By adding direct risk to their balance sheets and developing a strong residual value (RV)

management operating model, leasing players can capture the value created in this expanding space. Taking on direct risk can open new opportunities because of the new availability of direct data, which enables leasing players to extract unique insights from the latest market trends. For example, leasing companies can access the used-car market and generate profits that were previously only accessible to car dealers. In this context, the ability to estimate RVs is key both from a regulatory (risk provisioning) and a business (competitive offerings) perspective. This is true not only for leasing players but also for used-car platforms and OEMs (for instance, estimating the RV of feature optimization). In Germany, while customers purchase 50 percent of stock cars through financing, they buy 35 percent via lease-based products and additional services.

Exhibit 1

By 2030 in Germany, every second new car will likely be purchased via a lease-based product.



Source: Statista; McKinsey European Auto Finance Survey

McKinsey & Company

¹ The used-car market should reach €955 billion by 2026, with about €390 billion for lease-based cars (40 percent).

Four changes influencing residual values

Forecasting RVs can become extremely complex in the current environment. We have identified four structural shifts affecting residual values: macroeconomic changes, technology disruptions, the new OEM competitive landscape, and regulation.

Macroeconomic changes. Macroeconomic shocks and changes in legislation can heavily influence used-car-market prices and increase their volatility. For example, the combination of semiconductor shortages and the political turmoil in Europe has led to a significant general price increase in 2021–22, which has deeply affected used-vehicle values in Germany. Exhibit 2 highlights recent changes in the Manheim Index, a recognized financial measurement of used-car values independent of underlying characteristics shifts. Considering what lies ahead in terms of possible shocks and disruptions, one can expect price volatility to

remain high. Consequently, accounting for those macroeconomic changes in leasing residual value estimations will remain a challenge.

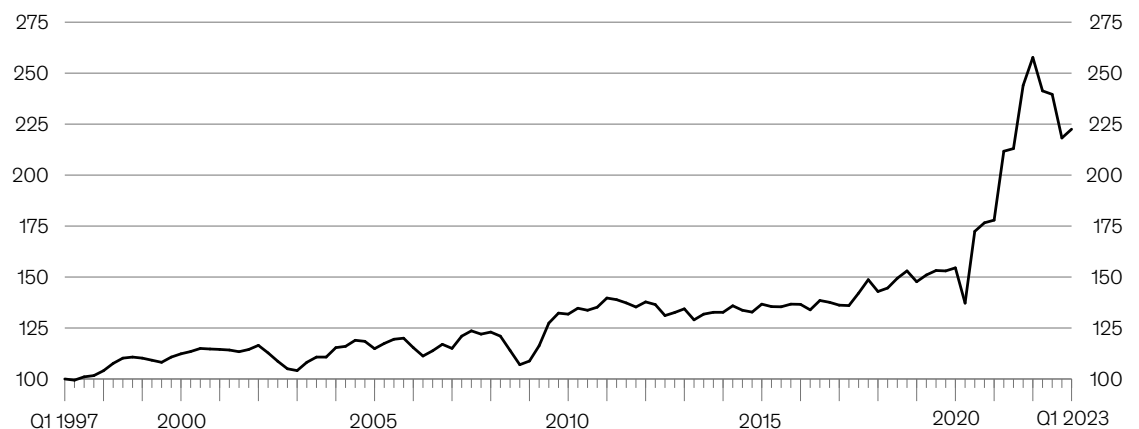
Technology disruptions. We expect the car landscape in a decade to have few things in common with today's topography, and technology will drive most disruptions. By 2030, if battery ranges continue to increase as anticipated, many expect sales of electric vehicles (EVs) to outshine those of traditional internal combustion engine (ICE) vehicles. However, predicting the depreciation of EVs is challenging because their residual profiles can differ significantly from those of traditional cars. For instance, the EV used-car market today still struggles to emerge as a viable entity.

New OEM competitive landscape. Competition among OEMs should also increase in Europe, as Asian manufacturers start to invest massively to acquire European customers. Polestar and MG, both Chinese-owned European brands, have

Exhibit 2

Recent volatility in used-vehicle prices can affect leasing residual.

Manheim Used Vehicle Value Index, index (January 1997 = 100) quarterly



Source: Manheim Used Vehicle Value Index

McKinsey & Company

already achieved significant sales in 2021, while other Chinese OEMs (for example, XPENG and NIO) are only starting to unveil their full acquisition potential. This competition has changed the overall distribution dynamic by focusing on direct-to-customer (DTC) models, which is consequently changing OEM pricing strategies and the landscape itself.

Regulation. Beyond competition, regulation also has a direct impact on price volatility. Bans of diesel vehicles in specific geographies (for instance, Paris, Madrid, and Athens by 2025) tend to reduce the prices of diesel cars, while public subsidies on EVs have the opposite effect. For example, 17 European countries were offering purchase incentives such as bonus payments or premiums to buyers of EVs.

How used-car prices affect residual values

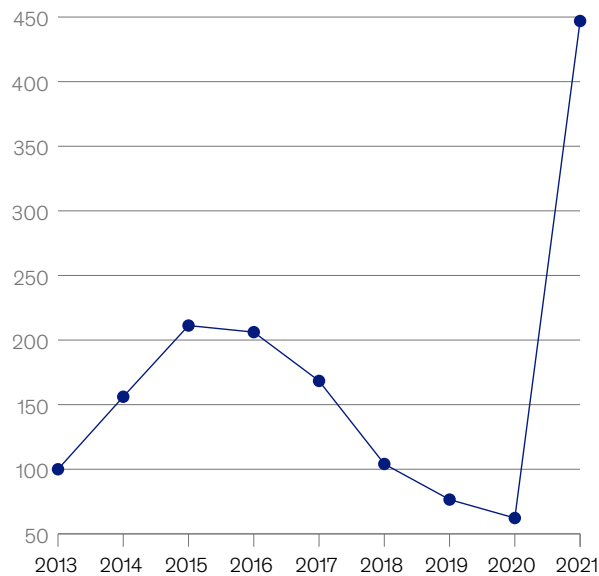
Changes in used-car prices have a direct bottom-line impact on residual values. For instance, from 2020 to 2021, most leasing players reported a strong surge in their used-car-sales profits driven directly by the high demand for these vehicles. However, the recent decline in new-car availability has significantly affected leasing companies' profitability. The decrease in purchase discounts, which are now more common, can particularly hurt a company's profit and loss (P&L) performance, as highlighted by the long-term decrease over the 2015–20 period (Exhibit 3).

Sustaining long-term profits in this volatile environment will require a strong data-driven residual value management operating model. Such

Exhibit 3

Used-car price volatility has affected the sales of some large leasing players over the past several years.

Used-car profits per car sold,¹ index (2013 = 100)



¹Index built upon large leasing players. Source: McKinsey analysis

an operating model will enable a variety of auto financing efforts. For instance, companies can manage direct risk better in either a full operational lease or by taking over risk from partners. The accuracy of RV predictions helps reduce risks on a company's P&L statement, while also making their provisioning calculations more precise. It also frees up resources because it requires less manual effort to produce residual values depreciation grids (percentage of list price value given age and mileage), meaning analysts can spend more time on value-added activities like macroeconomic-trends analysis. Finally, from a business perspective, greater near-term transparency on used-car prices enables companies to optimize remarketing efforts and offer additional financing products such as balloon financing.

Five key residual value management building blocks

Because of this shifting environment, leading players are building in-house solutions to generate

data-driven RV forecasts (Exhibit 4). Better RV risk management makes it possible to increase risk exposure. Likewise, the ability to estimate accurate RVs might translate into more competitive commercial offerings and help companies sustain organic growth.

Best-in-class RV tools typically highlight five specific elements:

1. **Data: develop granular and structured historical transaction prices.** Collecting high-quality historical data is the key (Exhibit 5). Leasing players can rely on various sources, both internal and external, and the data should represent the market, which requires analysts to smooth out idiosyncratic variations. Likewise, the data's granularity should match the portfolio's classifications. Data with high granularity allows analysts to increase the number of RV grids, thus increasing RV accuracy. One player successfully increased its prediction accuracy of RV (plus or minus

Exhibit 4

Leading players chose to develop their own tools to unlock the full residual value potential.

Insights into core businesses provided by a best-in-class tool

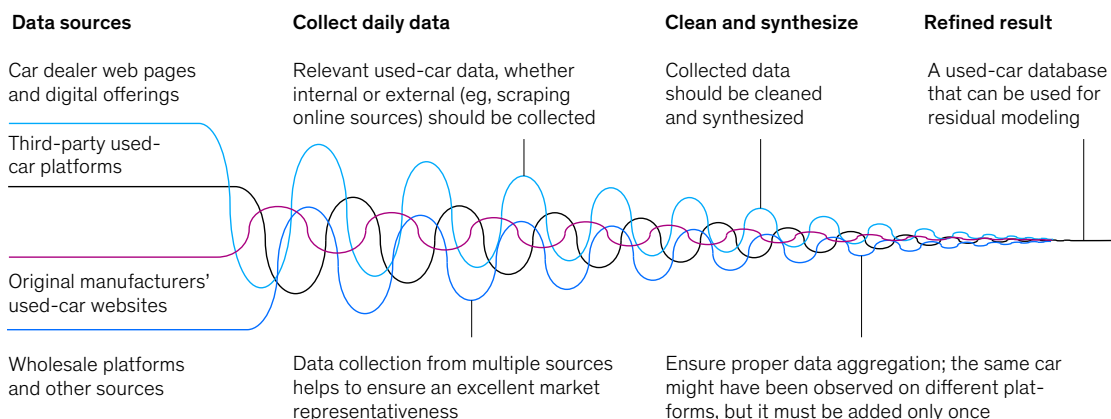
Full transparency	Precise forecasting	Increased flexibility	Extended finance products	Increased resilience
Full transparency on historical used-car prices, comparison via competitive baskets make you smarter in your business decisions	Precise forecasting from residual value (RV) grids with higher granularity and increased accuracy foster your remarketing decisions	Increased flexibility in your offerings due to full information on all possible age-mileage combinations allows you to offer tailored products	Extended finance product options, including balloon financing or used-car leasing, open up new growth markets to you	Increased resilience due to simulations on macro-economic effects on your business and insights into the factors driving the RV forecast support you in your strategic decisions

McKinsey & Company

Exhibit 5

The reference database should rely on various granular data sources that must be cleaned and synthesized.

Running a reference database



McKinsey & Company

€100/car) by one to two percentage points by expanding its original five grids to 30. Beyond better predictive power, high-quality data is also necessary to capture new trends affecting specific car segments in real time. As shown in Exhibit 5, the key elements of a best-in-class database are daily data collection to capture real-time trends, a diversity of data sources to represent the market more accurately, and the comprehensive cleaning and synthesis of all data points into a reference classification system. For example, in Germany, a “leading player” database representative of the market would include ten years of historical data and 400,000 to one million observations per brand (for example, vehicle version, age, and mileage). Traditional providers typically only offer access to the current market view.

- RV prediction: use the most suitable analytical models and build capabilities.**
The data thus obtained will feed advanced algorithms, which in turn will generate RV

forecasts. Leading players favor accurate machine learning algorithms (for example, boosting trees, random forests), but various methodologies exist. The deciding factor on which to use (for example, machine learning versus traditional statistics) should be the company’s internal capabilities to maintain and adjust the model. Organizations should also track the model performance with RV-tailored measures (for instance, a mean absolute error in RV percentages), not only during project development but also in production. They should use these RV predictions continuously throughout the contracts’ life cycles: the RV established at the contract’s origination should undergo frequent reviews based on the latest market trends. This allows companies to reevaluate the full leasing portfolio regularly and increase impairment accuracy. Organizations can also set up competitive baskets of similar cars to gain a better understanding of the overall market situation per car type.

Dealers implementing a true remarketing strategy have typically achieved an improvement of about five percentage points of average profitability.

3. **Automation: receive outputs automatically and in 'near-time.'** Leading leasing players use a dedicated front-office RV tool for residual value predictions that's easy to access. Companies should make sure automated data pipelines bridge the gap between modeling outputs and the RV tool. Since they are no longer doing manual work, sales representatives can focus on scaling the business while relying on the tool to gain access to the latest longer-term RV predictions or shorter-term remarketing estimations. As a result, time spent on value-added activities should increase by 10–15 percent.

4. **Residual value risk management and governance: enable fact-based decisions.** Companies should define a strong governance structure to ensure the stability and robustness of the full value chain. Advanced analytics approaches do provide a best-estimate perspective, but the central RV team is responsible for making expert adjustments to account for exogenous shocks included in the training data. The RV committees must validate these final residual values, which will be available in the RV tool. Companies should eventually use dynamic RV estimates periodically to update the portfolio estimation used for provisioning.

5. **Operational excellence: remake remarketing.** Companies need to achieve great execution in their remarketing operations to channel the

aforementioned elements into value creation. Players should make sure they differentiate their remarketing approaches on a per-channel basis (for example, business to consumer, dealers, and wholesale auctions), including estimating one RV per channel based on historical data and investigating multiple options per channel (for instance, not selling to a single platform). Dealers implementing a true remarketing strategy have typically achieved an improvement of about five percentage points of average profitability compared with the retail practice benchmarks.

Ready for a full residual value operating model transformation?

Your organization must commit to the new RV operating model to make the transformation a success. The following four suggestions can help you begin.

Identify the added annual potential from additional risk or refined products. Gather representative and granular used-car data because it is a no-regret option no matter your final strategic choice. This will allow you to achieve a more accurate view of the market, recalibrate your portfolio value, and evaluate potential changes.

Recalibrate your risk appetite and decide how much direct risk you are willing to add to the balance sheet. If the company eventually decides to bear significant direct risk, the data gathered will

Find more content like this on the
McKinsey Insights App



Scan • Download • Personalize



help you undertake a full residual value operating model transformation.

Plan your transformation in terms of timing and resources. An RV transformation can happen quickly. Most players that dedicate a knowledgeable team to the task successfully achieve it in four to six months. Such a unit should include a project management office (PMO), the front office, data scientists, and IT experts. Companies should carefully anticipate this need for extra resources. Beyond good-quality data and capabilities, the project launch also requires proper IT infrastructure.

Ensure that the organization fully accepts the new solution. Rigorous testing must precede implementation. We advise opting for a long-term

parallel run where the in-house solution coexists with the external solution historically in place. The in-house solution should take over as a unique solution only when all relevant stakeholders trust it.

The structural shift occurring in auto financing threatens industry players that are unprepared for the changes it will bring. Companies need to optimize their risk management capabilities and learn how to accurately estimate residual values. Doing so will enable them to develop more competitive commercial offerings and continue to grow organically. As this new game unfolds, established players must adjust their strategies, including the risks they are willing to take on.

Colomban Basset and **Mathilde Lavacquery** are consultants in McKinsey's Paris office, where **Romain Zilahi** is a partner; **Benjamin Köck** is an associate partner in the Vienna office; **Benjamin Tschauner** is an associate partner in the Cologne office; and **Ursula Weigl** is a partner in the Munich office.

The authors wish to thank Szymon Albinski, Juan Antonio Bahillo, Philipp Espel, and Ruth Heuss for their contributions to this article.

Designed by McKinsey Global Publishing
Copyright © 2023 McKinsey & Company. All rights reserved.