June 2019

Future used car market overview

Welcome to the latest version of our overview, previously known as the 'gold book used car editorial'. Our aim is to bring you improved content and layout, making it easy to identify new and revised information. As always, any customer feedback on this new format would be appreciated: e-mail andrew.mee@cap-hpi.com

The content is structured as follows:

1. Headlines - key changes and additions to the overview this month
2. Reforecast details this month
3. Market conditions
4. Historic forecast accuracy
5. Forecast methodology
6. Sector reforecast schedule 2019-2020

1. Headlines - key changes and additions to the overview this month

Forecast changes

This month, we publish new reforecasts for the MPV, Convertible, and Coupe Cabriolat sectors. Our future market deflation assumptions have been revised for the MPV sector.

See section 2 for more details.

Market Conditions Changes

Although we now know we will have a new Prime Minister soon, the Brexit outcome and its impact on the car market still remains unknown.

New independent forecasts for the UK economy were published by the Treasury Department in May and were very similar to the previous forecasts from February.

SMMT figures show UK new car registrations up to the end of April 2019 were down -2.7% against 2018, with diesel down -18.4%; broadly in line with our expectations.

The used car market strength continues to decline from its over-heated peak in 2018, as we expected. With no significant changes in supply and demand side factors, we expect the decline to subside as we go through the rest of 2019.

See section 3 for more details on market conditions changes.

Historic Forecast Accuracy Changes

We continue to see a gradual improvement in historic petrol forecast accuracy, as the previous strength in current market values for petrol has largely eroded, as we predicted. In addition, our sector reforecasts since early 2017 took this strength into account, and this is now flowing into accuracy results, starting with 12 month forecasts.

See section 4 for more details on accuracy.

2. Reforecast details this month

This month, we publish our new reforecasts for the MPV, Convertible, and Coupe Cabriolet sectors.

In all of these sectors, current market values have fallen by more than normal seasonal expectation over the 5 months since the previous sector reforecasts, in line with the overall market correction we are now seeing following a prolonged period of market strength which started to dissipate in late 2018.

Convertibles in particular have struggled as they tend to be at the more expensive end of the market. However we expect values will stabilise in the longer term and so we have not changed our future market deflation assumption for this sector. The reforecast changes are therefore based on the movement in current values over the last 5 months. The same is true of Coupe Cabriolets.

MPVs have also come down in value over the last 5 months, however for this sector we expect that continued reduction in used volume and continued strong demand will result in improved future market deflation, and so we have improved our deflation assumptions for this sector. For diesel, the reduction (improvement) in our deflation assumption is around 1.5% per annum and for petrol it is around 0.5% per annum.

Seasonality changes

In line with our gold book methodology, all other model ranges which are outside of the sector reforecasts, have had their used forecasts moved forward from month to month by seasonal factors (without plate effect) which are differentiated by sector and fuel type and are based on analysis of historical black book movements.

3. Market Conditions

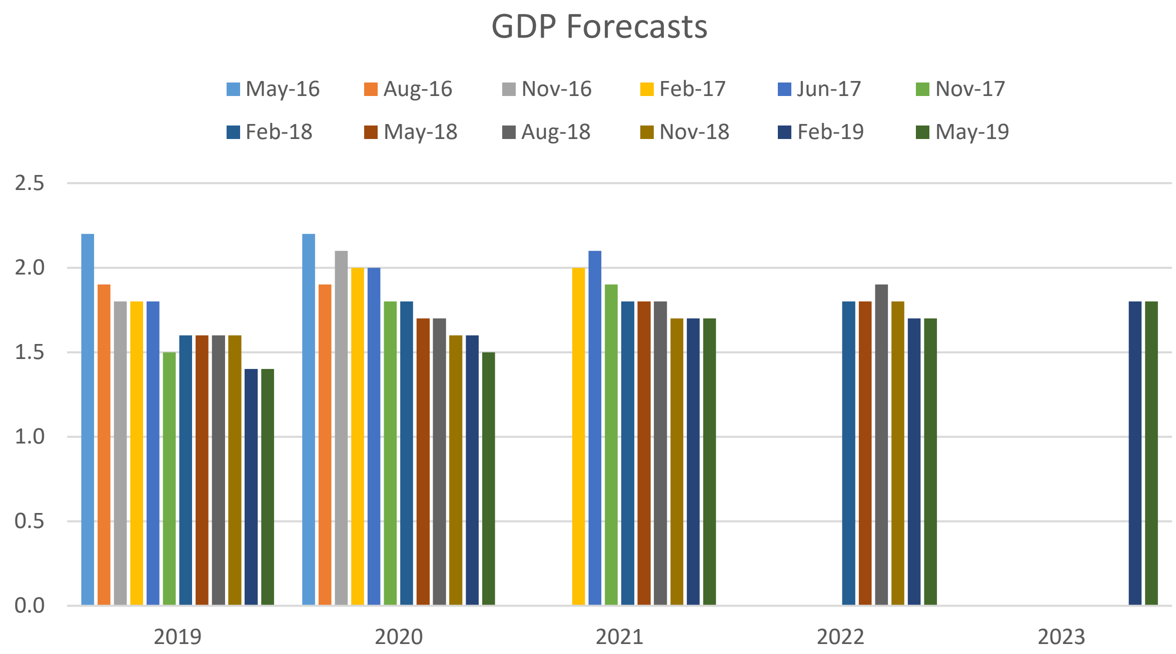
The economy

Although we now know we will have a new Prime Minister soon, the Brexit outcome and its impact on the car market still remains unknown.

Therefore we are still planning to conform to our original timetable of sector reforecasts and do not consider it necessary to embark on a concurrent reforecast of every sector at the same time. We will of course continue to monitor the situation very closely.

It is worth noting that even under a Brexit scenario where new car prices may increase, and new car supply may be disrupted for a period, this could have a positive impact on used car values, which would only be offset if the UK were to go into long term recession.

Despite uncertainty over Brexit, the outlook for the UK economy remains unchanged. New independent economic forecasts were published by HM Treasury in May, and these still do not forecast a recession, so remain in line with our own view. Compared with the previous February forecasts, there was practically no change in GDP or other forecasts.



These forecasts are consistent with the recent history of GDP growth, and with the trend in quarterly growth since 2016, with the UK economy continuing a trajectory of consistent but sluggish growth.

Not all ages and sectors of vehicle are directly impacted by GDP, but for those that are then in some cases lower future registration volumes will offset reduced GDP.

CPI is currently running at 1.8% (March 2019); and the average of the latest independent forecasts (May 2019) are for it to remain around 2% over the next 5 years.

Unemployment is currently running at 3.8% (May 2019); and the average of the latest independent forecasts (May 2019) are for it to remain around 4% over the next 5 years.

Interest rates are expected to remain low for the medium term. Any significant further increase in base rate still seem unlikely until there is a combination of further improvements in wage growth and increases in rates of headline inflation.

Wage growth remains reasonably healthy, although slow by historical standards, and price inflation is now more stable, so these conditions should continue to provide a positive impetus to the overall economy.

Oil prices seem to have stabilised following following the recent decision by OPEC and others to curb output.

Forecasts for future house price increases vary dramatically by sector and especially by geography. Despite a view expressed by the Bank of England's Financial Stability Committee that the buy to let sector could "amplify" any boom or bust in the housing market, any negative effects are likely to be centred on London, with the rest of the country significantly more insulated from the impact of any such downturn.

Supply outlook

Exchange rates are a major influence on the profitability of the UK new car market and they strongly influence eventual used vehicle volumes. Sterling rates against the Euro reduced from around 1.43 in late 2015 to around 1.14 by late 2017, where they have broadly remained. This has limited manufacturers' scope for heavy discounting and forced registration activity in the UK.

New car registrations in other key European markets continue to grow because of the release of pent up demand, allowing manufacturers to divert volume to these markets. In the three years before the financial crisis, France, Germany, Italy and Spain represented an annual combined volume of almost 9.4 million units. They have recovered to 7.7 million in 2015, 8.3M in 2016, 8.7M in 2017 and 8.85M in 2018, suggesting there is still further growth to come, despite a contracting market in Italy and sluggish growth in Germany.

As a result of the exchange rate position and the capacity of other markets, UK new car registrations for 2017 reflected a 'true market' and came in at 2.54M compared with 2016's 2.69 million (down -5.7%), Most of that fall came from diesel registrations (down -17.1%) as a result of ongoing bad press about air pollution.

2018 registrations finished at -6.8% less than 2017, the further fall being due in part to the production and delivery issues caused by WLTP changes; and diesel registrations were down -29.6% compared with 2017, resulting in 31.7% market share, with most of the volume shift still being into petrol cars.

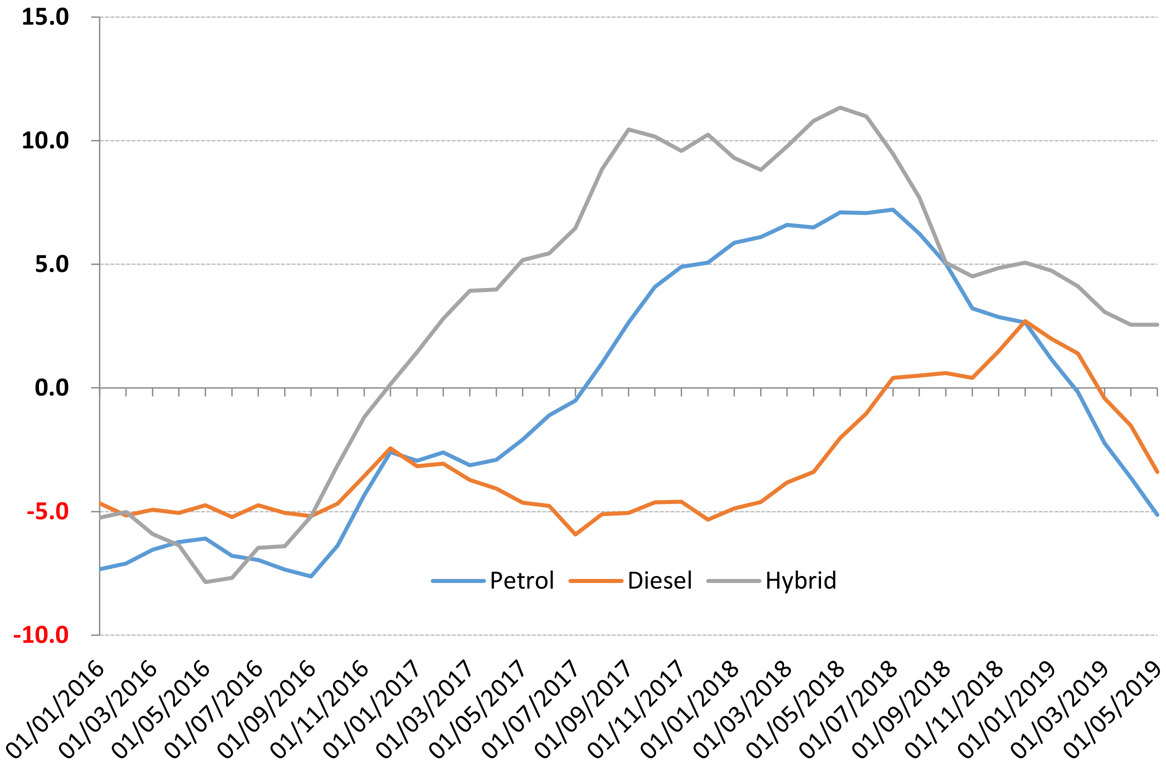
Looking to the next few years, and subject to the outcome of Brexit, we expect the total UK market to stabilise, with 2019 and 2020 volumes similar to but probably less than 2018, at around 2.3M; and with some possible growth back to around 2.5M by 2023 if GDP forecasts materialise and exchange rates remain relatively stable. The shift out of diesel will continue, but the rate of decline will slow down as we reach the hard core of drivers for whom diesel makes sense, and there could be return to diesel from some drivers who switched to petrol but have not liked the increase in fuel costs. There should be increased take-up of alternative fuelled vehicles but this is very dependent on taxation incentives and charging infrastructure. Petrol will remain the dominant fuel type.

Demand outlook and impact on future used values

Contrary to the new car market where diesel share has declined sharply, used diesel values have continued to hold up well (broadly in line with our historic future deflation assumptions) as demand has continued to meet supply; with a temporary peak in strength in late 2018 when WLTP interrupted new car and part exchange supply.

Petrol and hybrid values were particularly strong (exceeding our historic future deflation assumptions) up to late 2018, as buyers sought an alternative to diesel where available. We always considered this strength to be unsustainable, and since 2018 this strength has quickly dissipated, especially for petrol cars, as used volumes increase. There is still some remaining strength in hybrid cars, where volumes remain low.

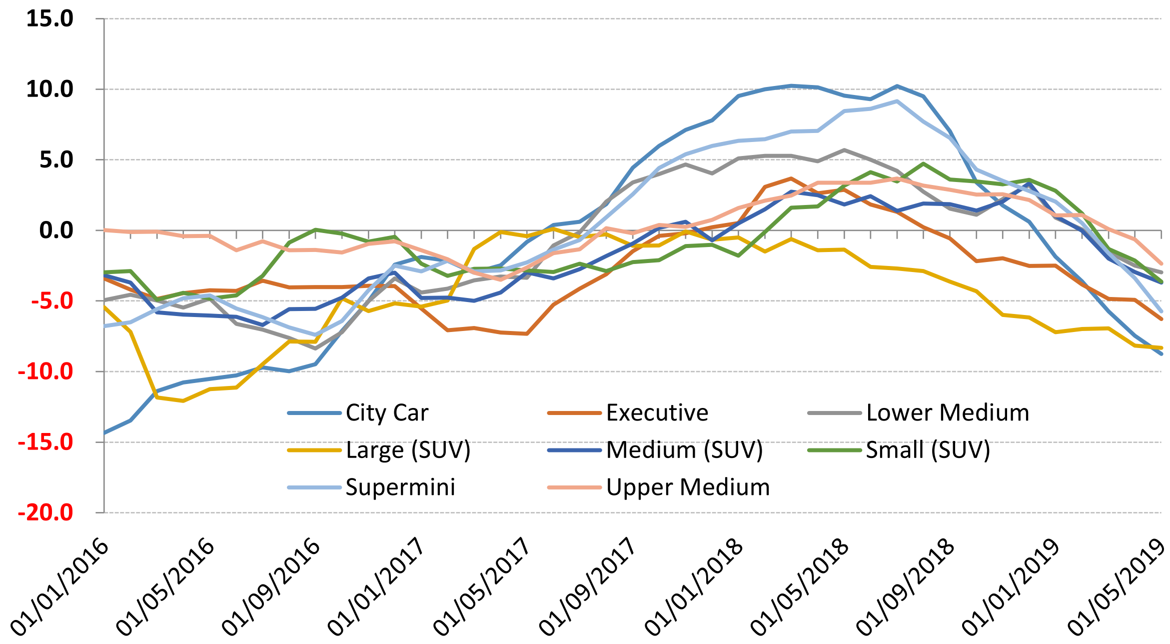
The following chart shows the average year-on-year change in value of the same model (cap id) at 36/60k, split by fuel type.



So year-on-year deflation is returning to normal levels for petrol and diesel, and we expect relative stability to return as we go through 2019.

In the main vehicle sectors, petrol values have shown the same trends of growing strength since early 2017, and declining strength since mid-2018.

The following chart shoes the average year-on-year change in value of the same model (cap id) at 36/60k, split by sector, for petrol cars.



Looking to the next few years, we expect the supply/demand equation to re-stabilise across all fuel types, subject to the outcome of Brexit. Our forecast assumptions are for year-on year deflation broadly in the range of -3% to -6% per annum, varying by sector and fuel type.

There will be an increase in supply of used diesel cars coming onto the market until 2020, as a result higher registration volumes up until 2017. However we expect demand will meet this supply, unless there is widespread implementation of city charging zones for diesel cars in this period, or significant government legislation changes affecting the running costs of diesel cars. We do not consider either of these actions to be likely.

4. Historic Forecast Accuracy

Since the introduction of gold book at the end of 2013, we have been able to track the accuracy of historic forecasts against current (black book) values. This tracking is longest for 12 month forecasts (tracked since January 2015) and shortest for 60 month forecasts (tracked since January 2019).

Overall we are satisfied that accuracy results have generally been within the +/- 5% target agreed with customers, but recognise that results have been affected by the unexpected strength of petrol values which started in 2017 as a result of anti-diesel press, but which has fallen away since late 2018, as we had always predicted. Diesel forecast accuracy has generally been within target, while petrol forecast accuracy has fallen outside of target due to the period of strong values

Our historic forecast accuracy is now starting to improve as a result of this cooling of current petrol values, and also as a result of historic sector reforecasts that took petrol strength into account now starting to flow through in to the accuracy results. This flow is happening first with 12 month forecasts, then with 24 month forecasts, etc.

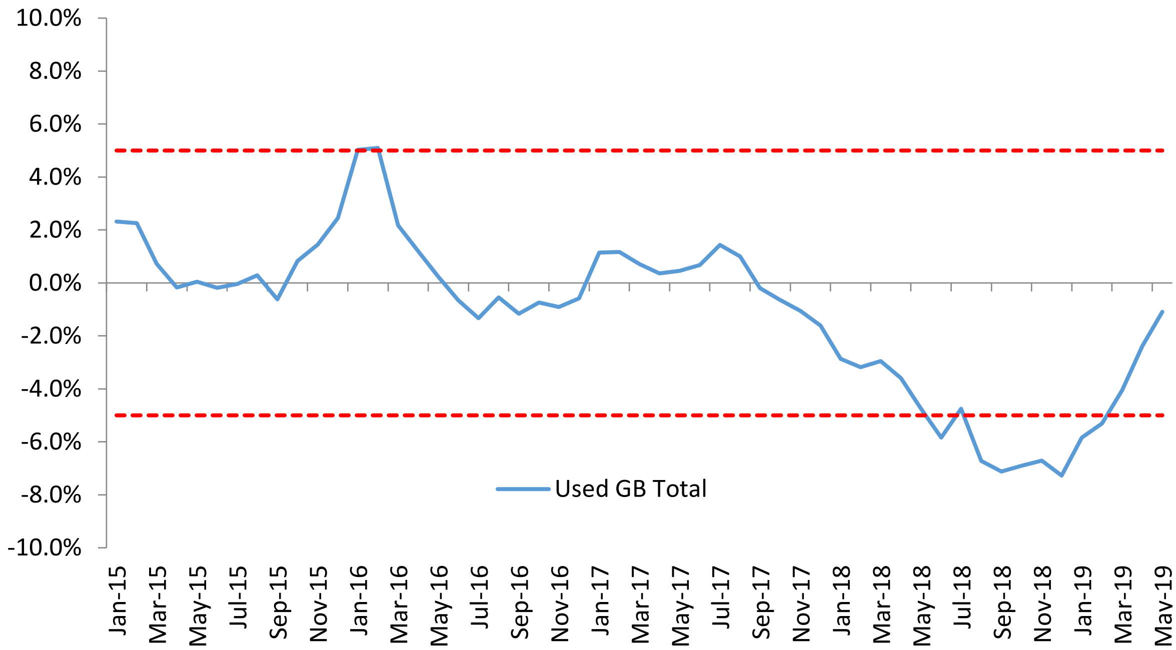
Therefore the tracking charts below all show the same general pattern of returning to improving results, with the difference to target being less for 12 month forecasts (reforecast most recently); and being more for longer term forecasts (reforecast less recently).

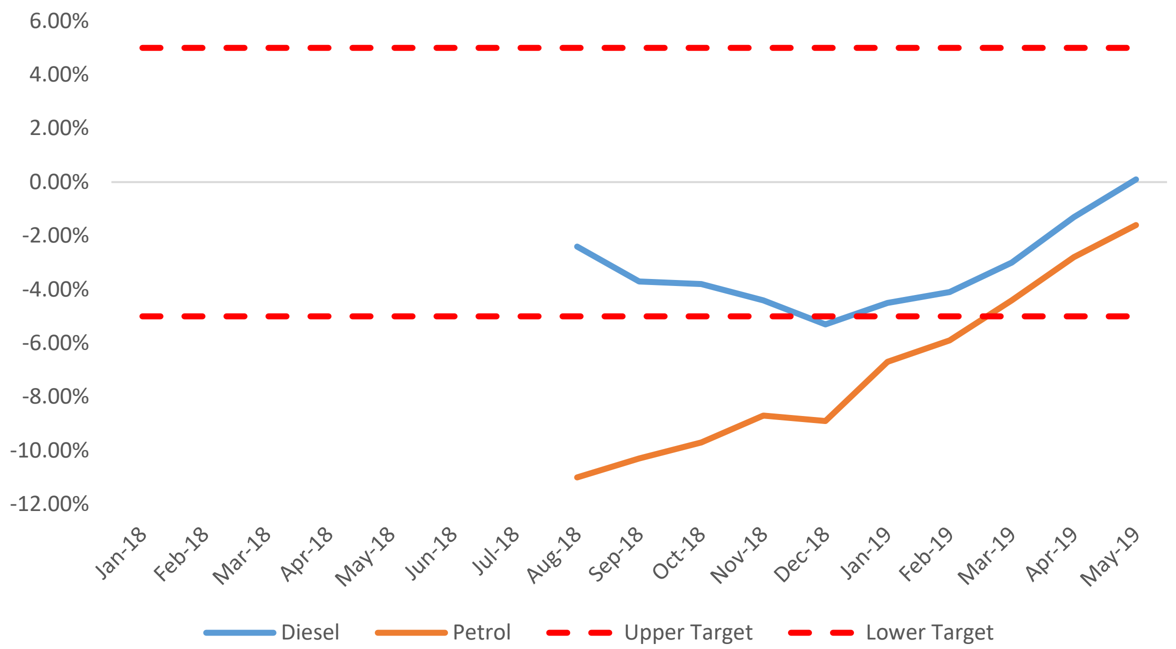
City Car forecast accuracy, followed by Supermini, have been most volatile over the long term, partly as a result of variable manufacturer behaviour regarding forced registrations, and partly because their low pound values results in relatively large percentage figures.

More recently, MPV forecast accuracy has been affected by the strength in values due to demand outstripping supply; but sector reforecasts have taken this into account, and will flow through into improved results in the future.

12 month results

Since measurement started our 12 month used forecasts have averaged -1.2% less than black book across all vehicle ids, and the most recent results show May 2018 12/20 gold book forecasts being -1.1% less than May 2019 12/20 black book.

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Diesel
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Upper Target
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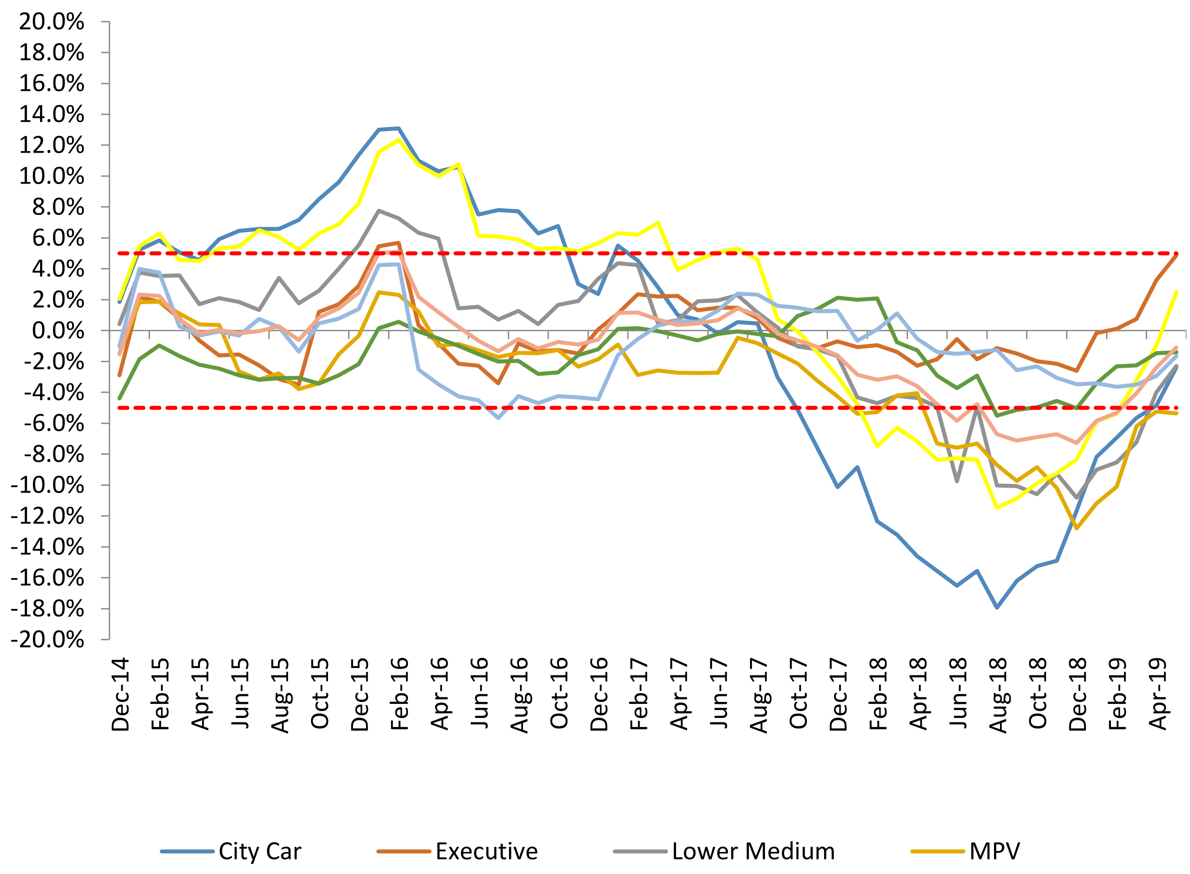
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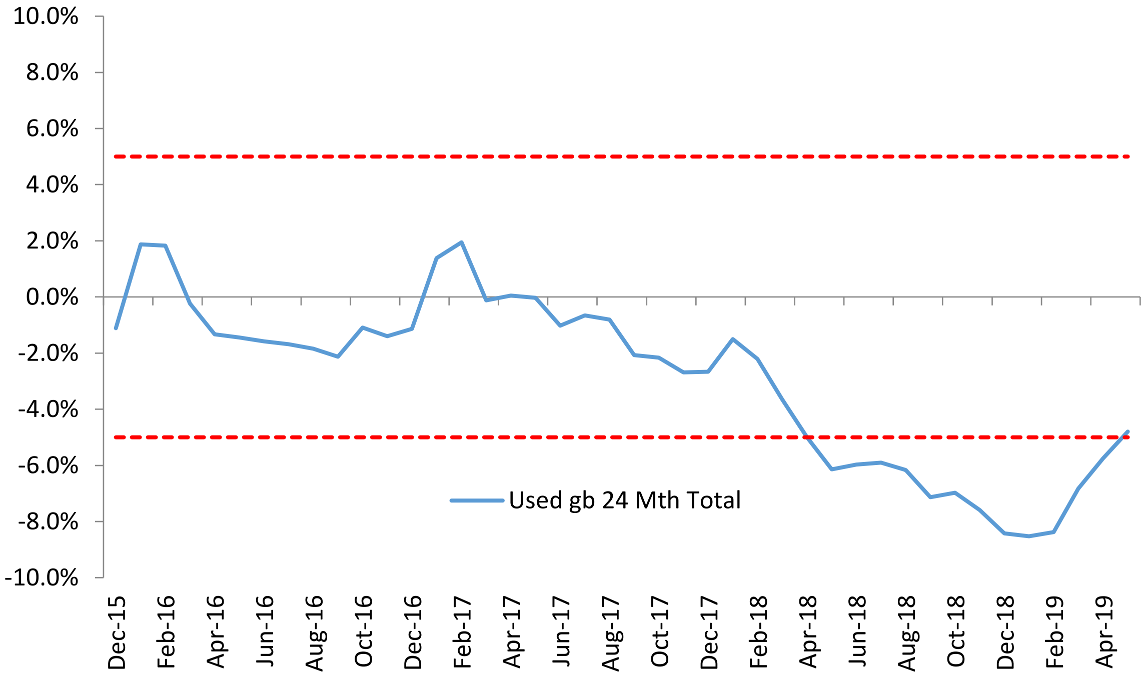
City Car
Executive
Lower Medium
MPV

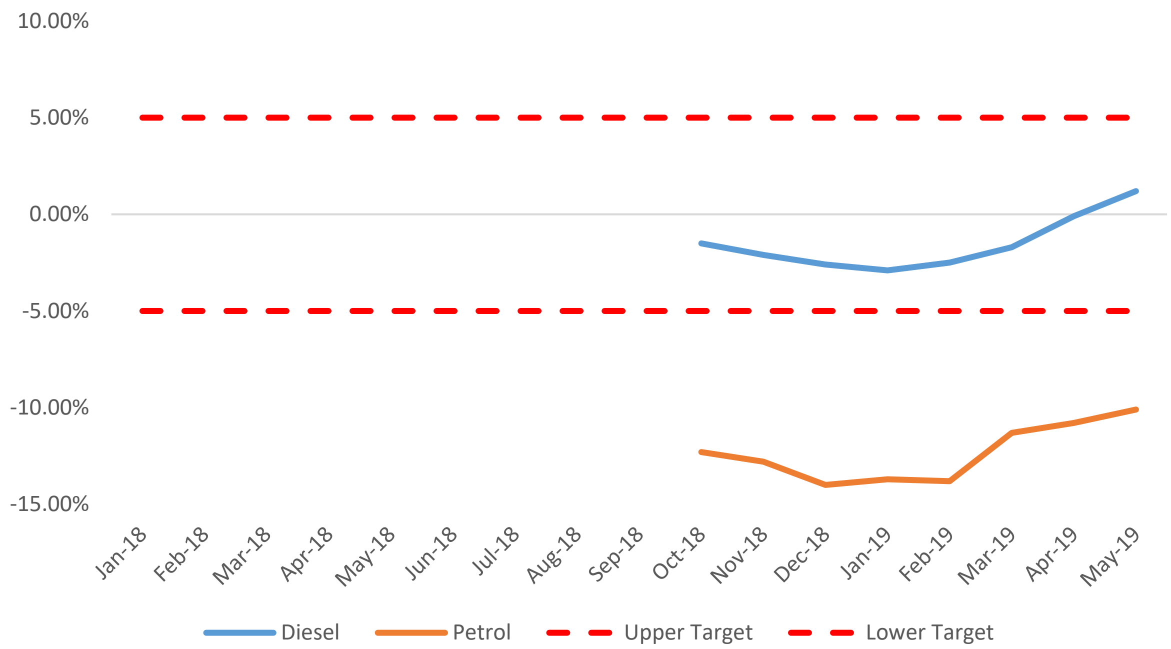
The most recent results for the main sectors are as follows:

Row Labels	Average of GB Diff (%)
City Car	-2.4%
Executive	4.9%
Lower Medium	-2.3%
MPV	-5.4%
Supermini	2.5%
SUV	-1.4%
Upper Medium	-1.6%
Grand Total	**-1.1%**

24 month results

Since measurement started our 24 month used forecasts have averaged -2.9% less than black book across all vehicle ids, and the most recent results show May 2017 24/40 gold book forecasts being -4.8% less than May 2019 24/40 black book.

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Upper Target
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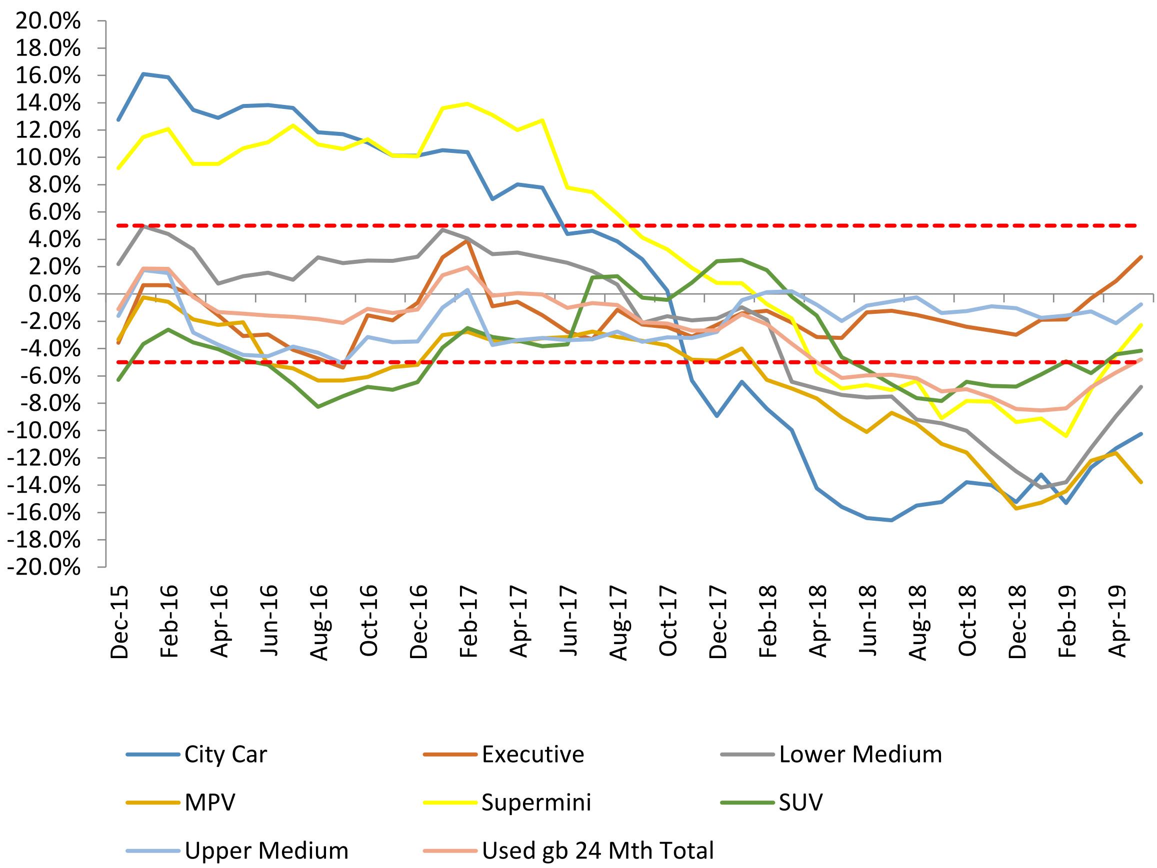
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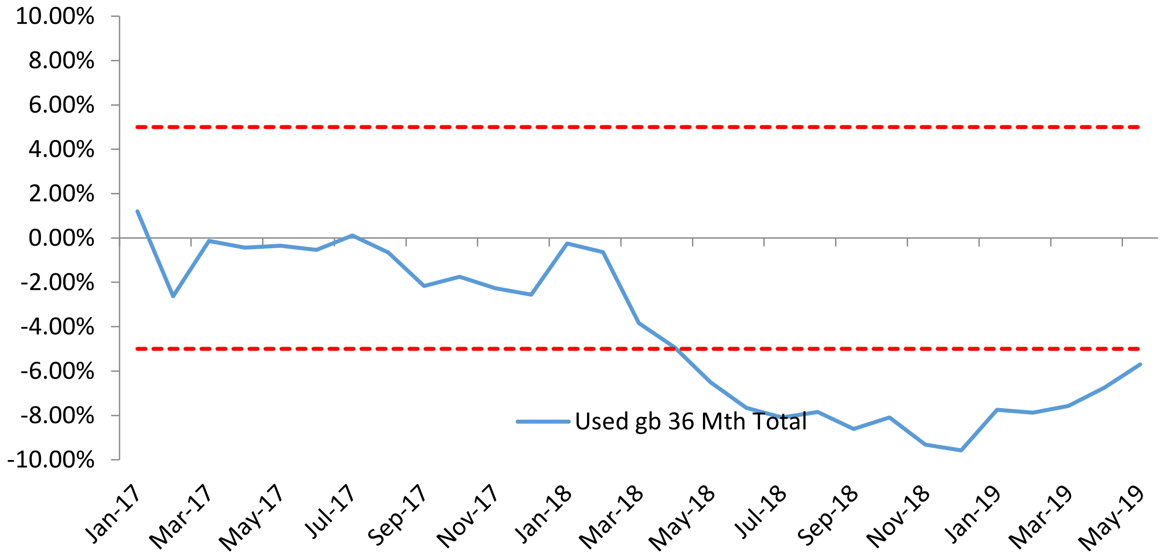
City Car
Executive
Lower Medium
MPV
Supermini
SUV
Upper Medium
Used gb 24 Mth Total

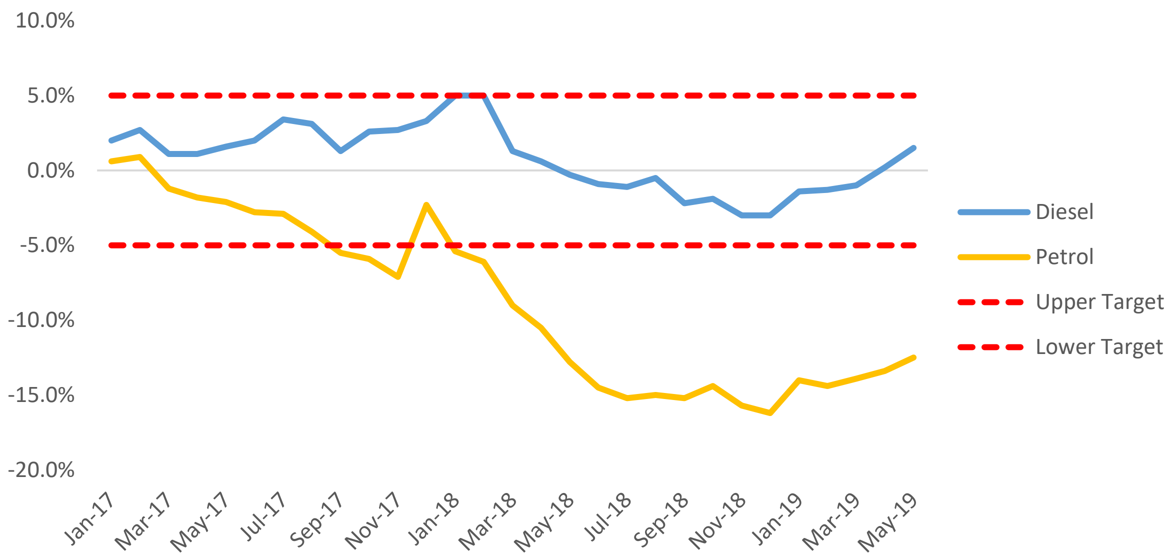
The most recent results for the main sectors are as follows:

Row Labels	Average of GB Diff (%)
City Car	-10.3%
Executive	2.7%
Lower Medium	-6.8%
MPV	-13.8%
Supermini	-2.3%
SUV	-4.2%
Upper Medium	-0.8%
Grand Total	**-4.8%**

36 month results

Since measurement started our 36 month used forecasts have averaged -4.2% less than black book across all vehicle ids, and the most recent results show May 2016 36/60 gold book forecasts being -5.7% less than May 2019 36/60 black book.

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Diesel
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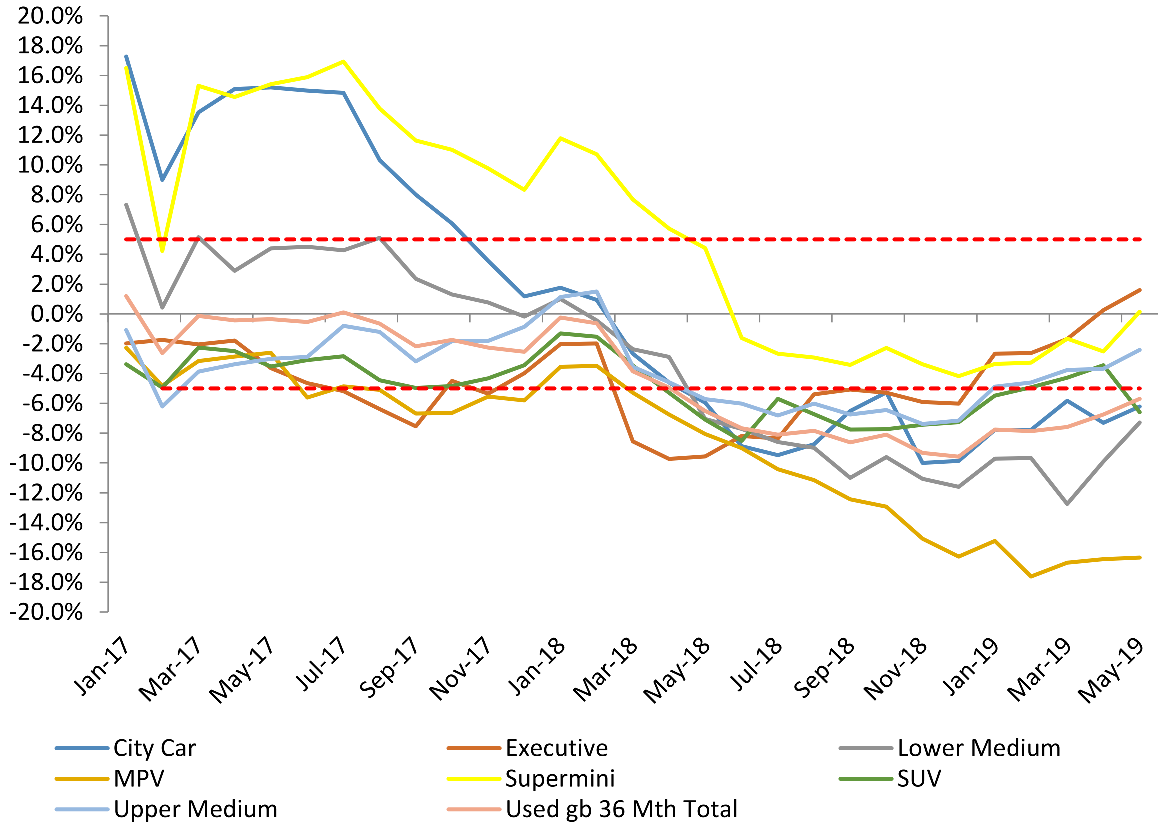
Upper Target
Lower Target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Sep-18
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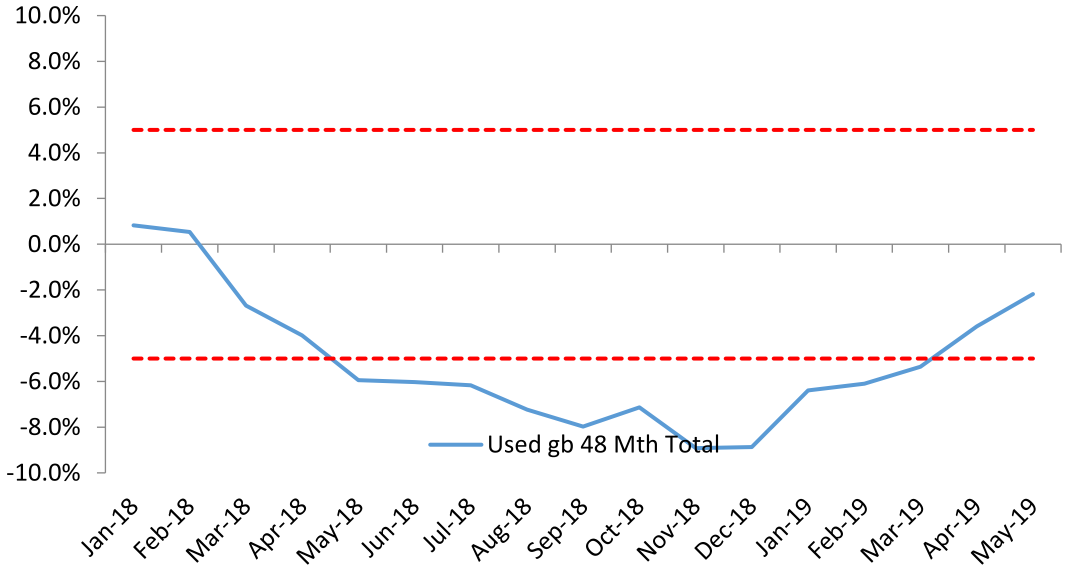
City Car
Executive
Lower Medium
MPV
Supermini
SUV
Upper Medium
Used gb 36 Mth Total

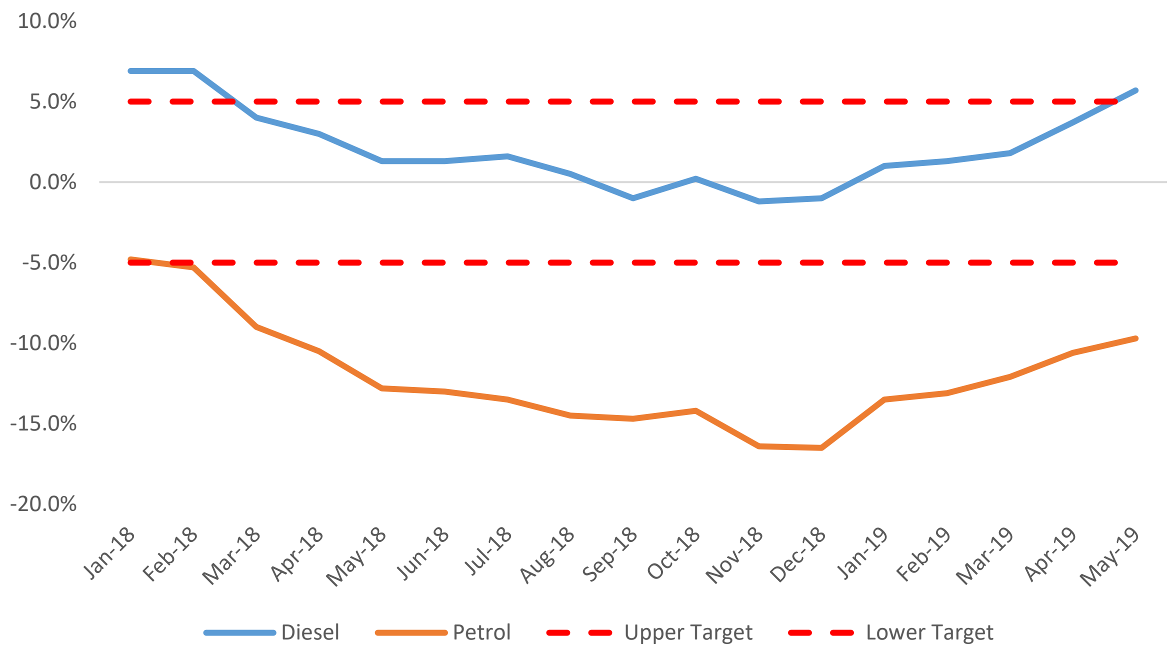
The most recent results for the main sectors are as follows:

Row Labels	Average of GB Diff (%)
City Car	-6.2%
Executive	1.6%
Lower Medium	-7.3%
MPV	-16.3%
Supermini	0.2%
SUV	-6.6%
Upper Medium	-2.4%
Grand Total	**-5.7%**

48 month results

Since measurement started our 48 month used forecasts have averaged -5.1% less than black book across all vehicle ids, and the most recent results show May 2015 48/80 gold book forecasts being -2.2% less than May 2019 48/80 black book.

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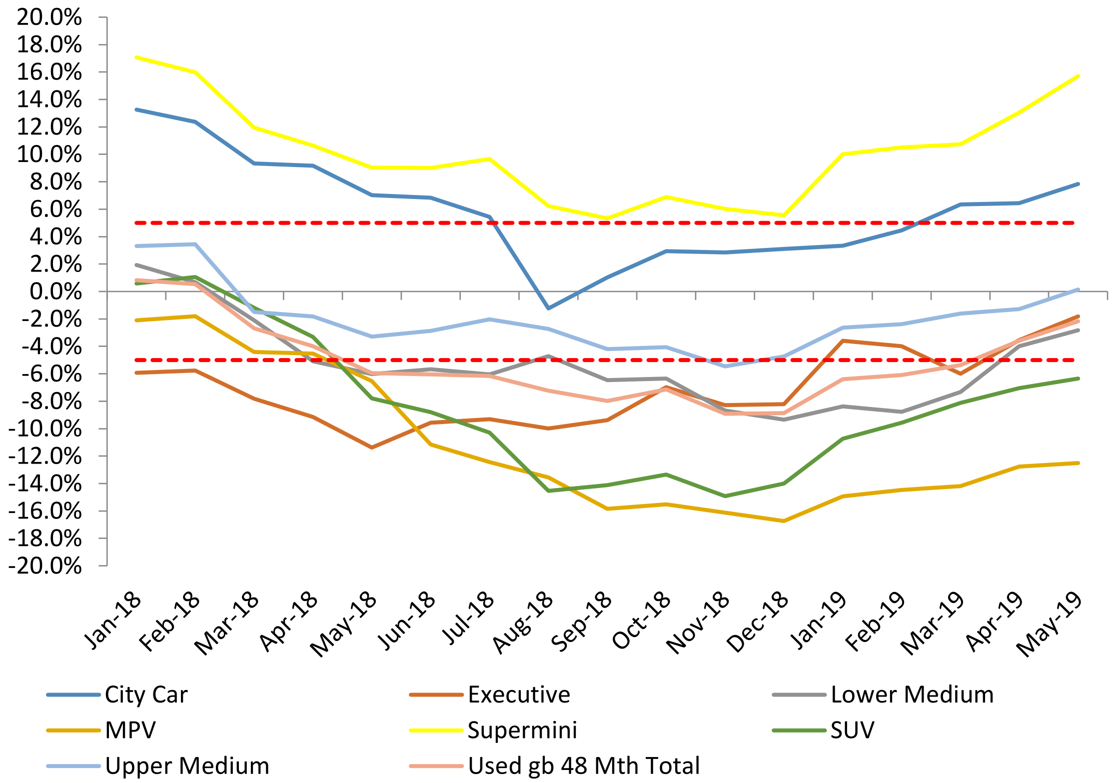
Diesel
Petrol
Upper Target
Lower Target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Dec-18
Jan-19
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May-19
City Car
Executive
Lower Medium
MPV
Supermini
SUV
Upper Medium
Used gb 48 Mth Total

The most recent results for the main sectors are as follows:

Row Labels	Average of GB Diff (%)
City Car	7.9%
Executive	-1.8%
Lower Medium	-2.8%
MPV	-12.5%
Supermini	15.7%
SUV	-6.4%
Upper Medium	0.1%
Grand Total	**-2.2%**

60 month results

In April our overall results were -0.5% less than Black Book.

We will provide further analysis and trending as we progress through 2019.

5. Gold Book Methodology:

Overview

All of our future residual values are based on the gold book methodology. Our values take current month black book values as a starting point (uplifted for model changes where necessary), are moved forward according to age/sector/fuel specific year on year deflation assumptions regarding future used car price movements, and are then subjected to additional adjustments by the Editorial Team. Finally, the values are moved forward by the next month's seasonality adjustments which are differentiated by sector and fuel type and are based on analysis of historical black book movements.

All of these assumptions and adjustments are available for scrutiny to our customers through our gold book iQ product. For years our customers have been asking for transparency in automotive forecasting and we have delivered a ground-breaking product to provide exactly that.

With an increasing number of customers subscribing to gold book iQ, we are entering into a range of debates and discussions around both our overall forecasting methodology and individual elements of the forecasts for particular vehicles. This is expected to evolve over time into a 'virtuous circle', with the feedback looping back into the forecast process and delivering continuous improvement. We are embracing a new era of customer communication, with a greatly improved quality of interaction and debate around our forecast values.

Changes may be actioned wherever there is reason to do so outside of the sector reforecast process and we continue our monthly Interproduct analysis with our black book colleagues exactly as before. This has intensified following the availability of our short term forecast data (gold book 0-12, now available to customers), which incorporates detailed exception reporting at a cap hpi ID level and will also be used increasingly going forward to manage the relationships between black book and gold book.

Forecasting Model Development - gold book & iQ

gold book iQ was launched in December 2013 and gives unparalleled transparent insight into the assumptions used to produce our forecasts.

Our short-term forecast product, gold book 0-12, (also marketed as black book +12) was launched shortly afterwards. This is a live, researched product with a dedicated editor and fills a gap in our previous forecast coverage.

Following feedback on our gold book iQ product, from September 2016 we have added more detail into the commentary for each model range reforecast in sector reviews.

In December 2017 we introduced a daily feed of forecasts for new models launched onto the market, so that customers do not have to wait until the next month to receive these forecasts.

Forecast Output

Individual forecasts are provided in pounds and percentage of list price for periods of twelve to sixty months with mileage calculations up to 200,000.

Each forecast is shown in grid format with specific time and mileage bands highlighted for ease of use.

All forecast values include VAT and relate to a cap hpi clean condition and in a desirable colour.

All new car prices in gold book include VAT and delivery.

Parallel Imports

Particular care must be taken when valuing parallel imports. Vehicles are often described as full UK specification when the reality is somewhat different. These vehicles should be inspected to ensure that the vehicle specification is correct for the UK. Parallel imports that are full UK specification and first registered in the UK can be valued the same as a UK-sourced vehicle.

Grey Imports

cap hpi gold book does not include valuations for any grey import vehicles, (i.e. those not available on an official UK price list).

6. Reforecast Calendar 2019-2020:

Monthly Product	Sector 1	Sector 2	Sector 3	Sector 4
Jul-19	Lower Medium	Sports	Supercar	
Aug-19	City Car	Supermini		
Sep-19	SUV	Electric		
Oct-19	Upper Medium	Executive	Large Executive	Luxury Executive
Nov-19	MPV	Convertible	Coupe Cabriolet	
Dec-19	Lower Medium	Sports	Supercar	
Jan-20	City Car	Supermini		
Feb-20	SUV	Electric		
Mar-20	Upper Medium	Executive	Large Executive	Luxury Executive
Apr-20	MPV	Convertible	Coupe Cabriolet	
May-20	Lower Medium	Sports	Supercar	
Jun-20	City Car	Supermini		