



Technical note on fuel regression:

The predictions used by the RAC Foundation of unleaded and diesel pump prices in a fortnight's time are estimated based on historical fuel data. Linear regression modelling was used to estimate UK average fuel prices for unleaded and diesel.

The following data was used for modelling:

- Platts unleaded and diesel prices – the Platts price is a benchmark wholesale fuel price for Northern Europe.
- Experian Catalist average daily unleaded and diesel pump prices – the average price paid for by the consumer in the UK.

Data from all trading days between 25th May 2012 and 18th December 2014 – a total of 638 trading days – were used for modelling.

The Experian Catalist average pump prices were estimated by the regression models using the trading week average Platts price (in pence per litre) from a fortnight ago and the trading week average difference in pre-tax pump price and wholesale price a fortnight ago.

These linear regression models have been able to explain 95% and 98% of the variance in the Experian Catalist average pump unleaded and diesel prices respectively.

Figures 1 and 2 present the Experian Catalist average pump unleaded and diesel prices as well as the predicted unleaded and diesel pump prices between 25th May 2012 and 18th of December 2014.

Using the resulting models the average pump price of unleaded and diesel is then predicted in 2 weeks' time, with a 95% confidence interval.

Note: These models and the predicted fuel prices are presented solely as a guide to movement in unleaded and diesel pump prices in the UK and should not be relied on to make financial or commercial decisions.

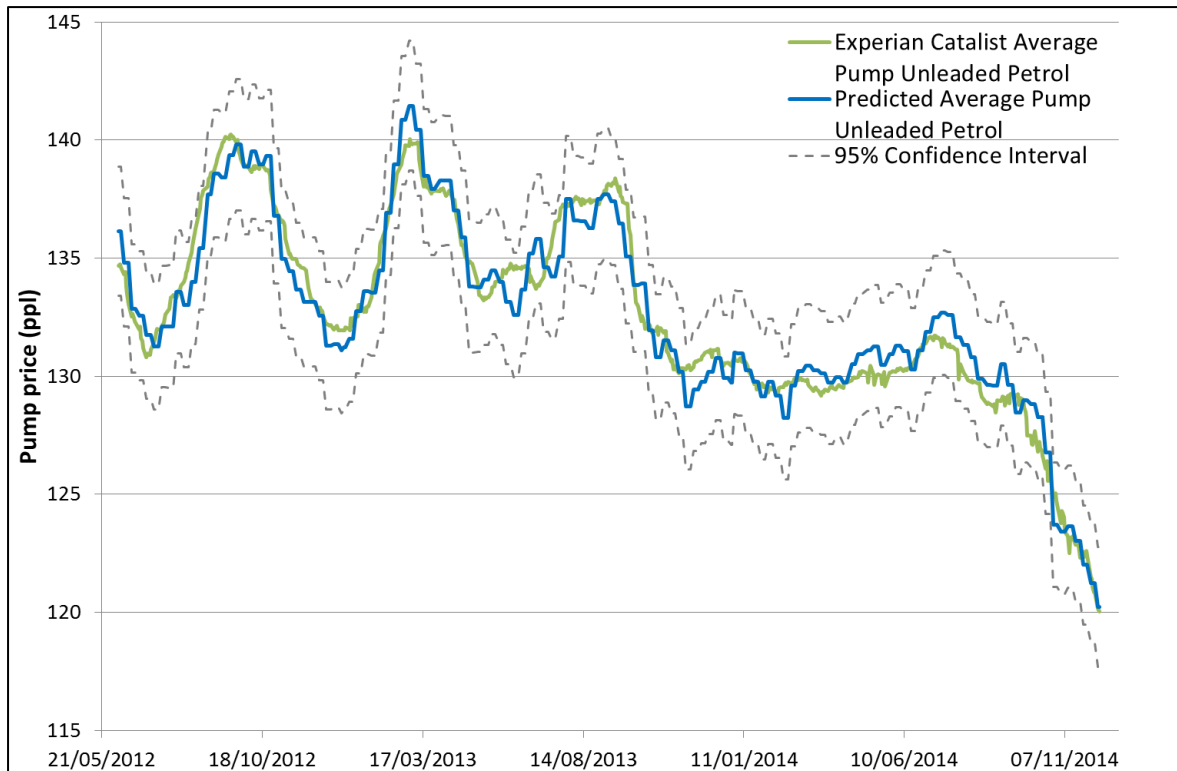


Figure 1 Experian Catalyst Average Pump Unleaded and Predicted Average Pump Unleaded

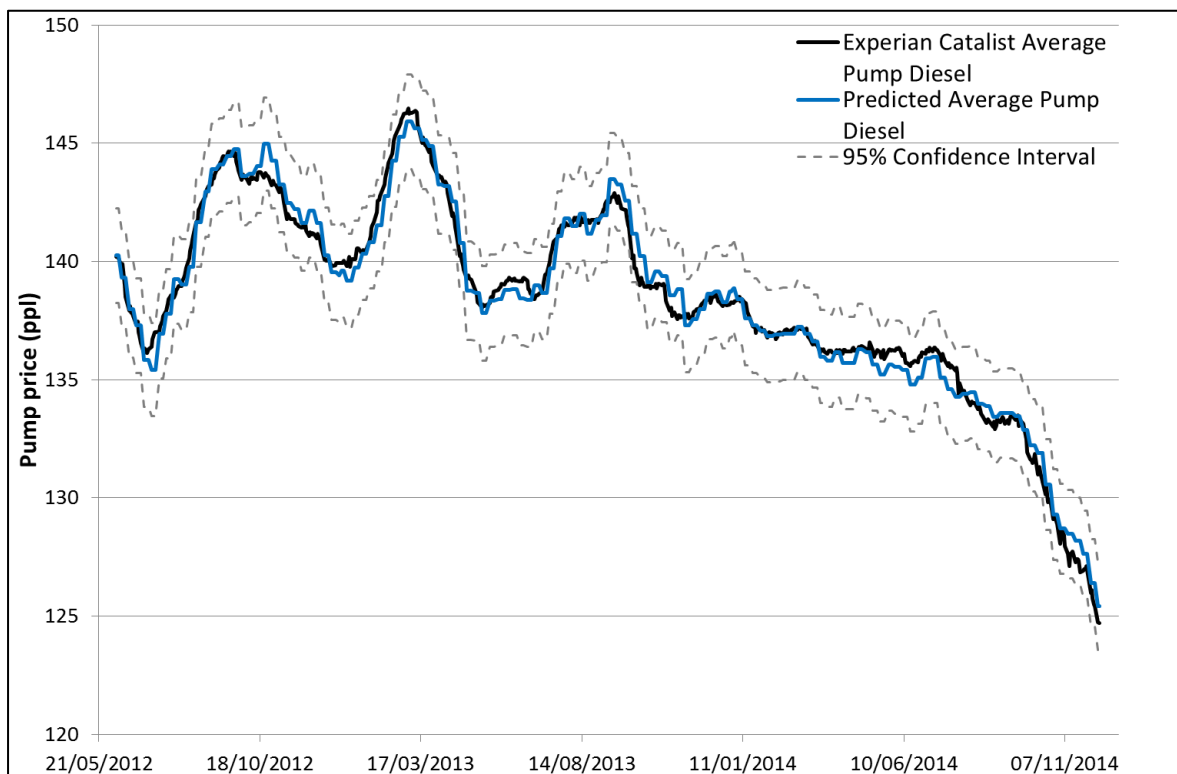


Figure 2 Experian Catalyst Average Pump Diesel and Predicted Average Pump Diesel

Table 1 Regression Statistics and ANOVA for Unleaded regression model.

Regression Statistics					
Multiple R	0.973834				
R Square	0.948352				
Adjusted R Square	0.948189				
Standard Error	0.777814				
Observations	638				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	7054.045	3527.022	5829.847	0
Residual	635	384.1712	0.604994		
Total	637	7438.216			

Table 2 Regression Statistics and ANOVA for Diesel regression model.

Regression Statistics					
Multiple R	0.990127				
R Square	0.980351				
Adjusted R Square	0.980289				
Standard Error	0.49113				
Observations	638				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	7641.913	3820.956529	15840.85	0
Residual	635	153.1678	0.241209116		
Total	637	7795.081			