

2010 Residual Value Symposium - Outlook

October 7, 2010





STEVEN SPIELBERG Presents

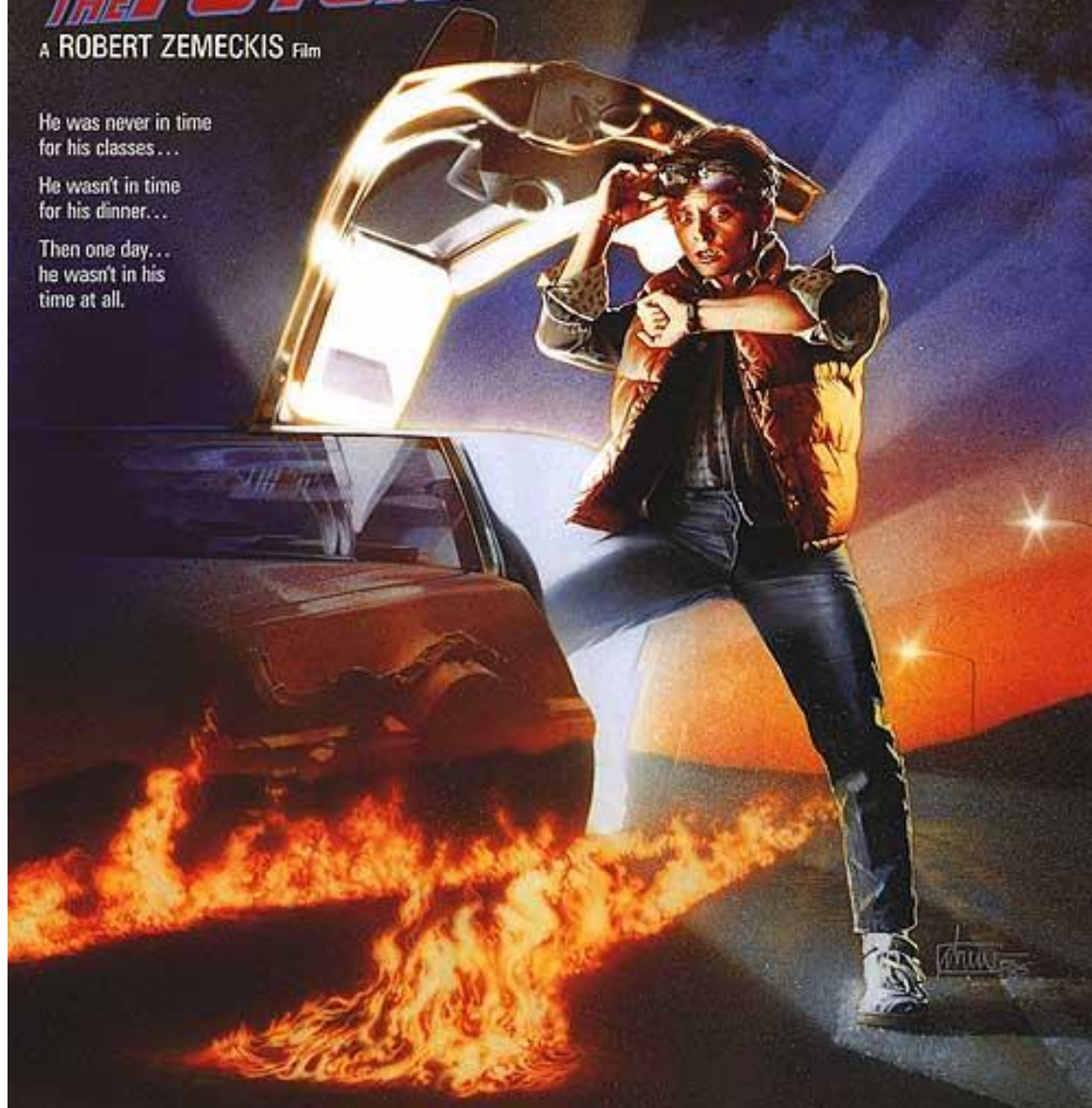
BACK TO THE FUTURE

A ROBERT ZEMECKIS Film

He was never in time
for his classes...

He wasn't in time
for his dinner...

Then one day...
he wasn't in his
time at all.





KBB Residual Value Methodology Overview

- Collect auction transactions
- Normalize data for use in regression models
- Configure vehicle by trim, equipment, and prices
- Collect economic forecast data
- Run statistical models
- Industry experts validate model output



Data is Obtained From Many Sources

Collection Method - Electronic

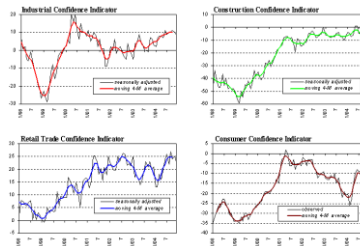
- ▶ Over 80% of Partner Data is Received Electronically
- ▶ Electronic Data Transfer Achieves Mutual Goals
 - ✓ Timely
 - ✓ Accurate
 - ✓ Efficient
- ▶ OEM Participation Increasing



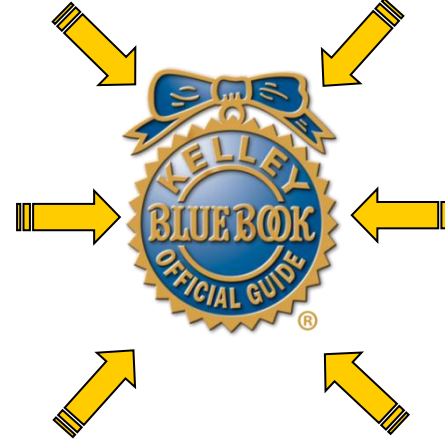
Dealers



Auctions



Economic Forecasters



Data Aggregators



Consumers



Manufacturers



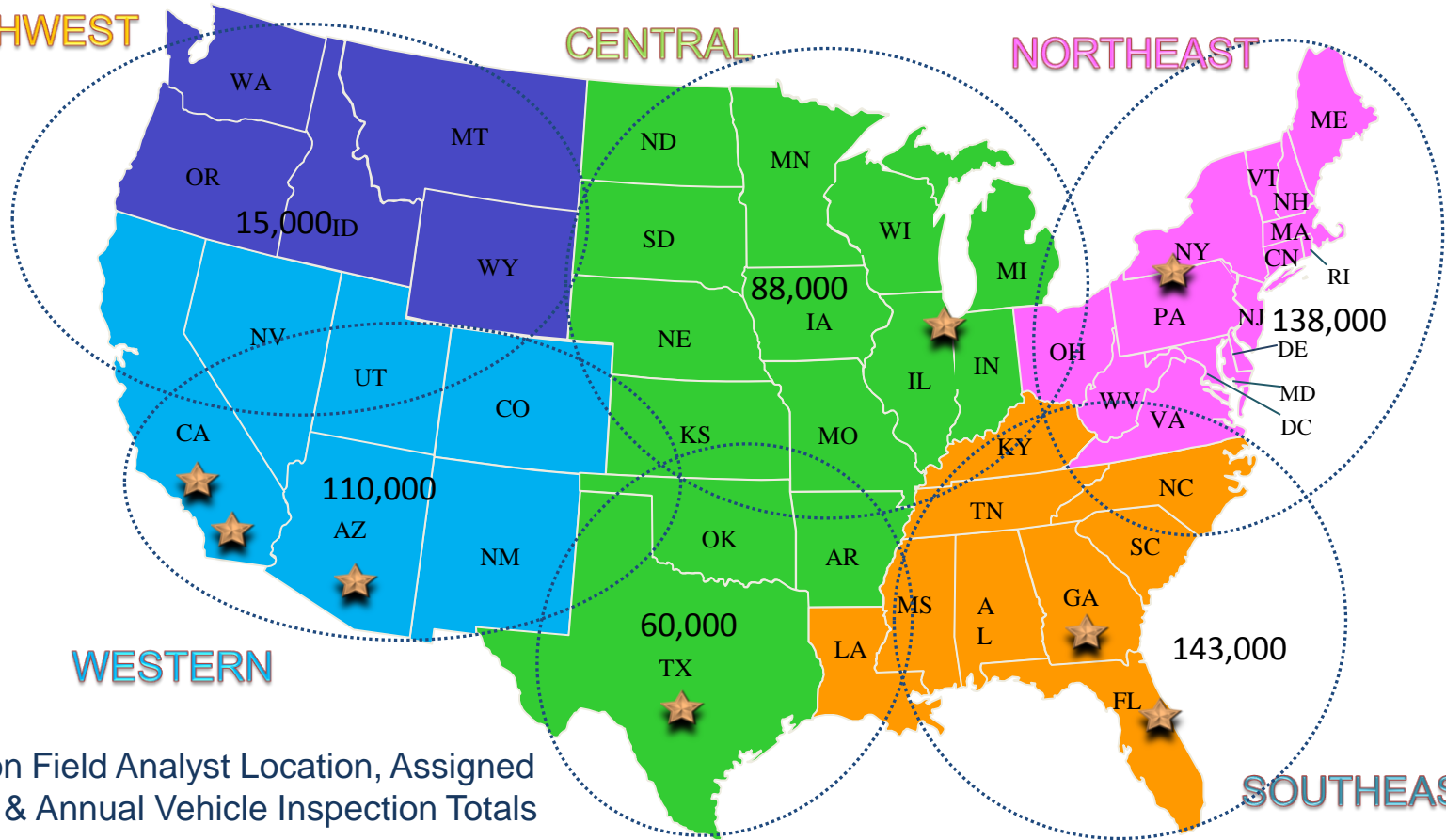
Field Analysts Supplement Auction Data

Collection Method – Manual

NORTHWEST

CENTRAL

NORTHEAST

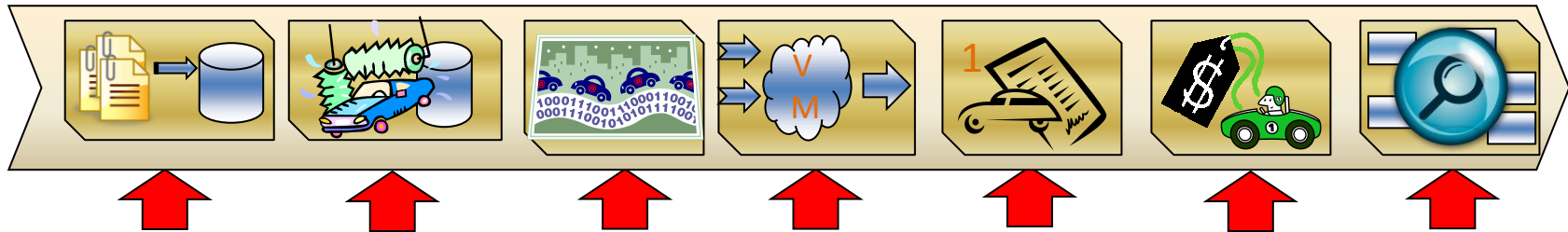


★ Auction Field Analyst Location, Assigned Zone, & Annual Vehicle Inspection Totals



Resolving Vehicle Configurations and Pricing Historically

High Level Data Process Flow:



1. Bring in external auction transaction and retail sales data.
2. Cleanse data and hold errors for review.
3. Use VIN to determine vehicle and any equipment information.
4. Use scoring algorithms to compare various vehicle configurations from source and KBB data to determine a match.
5. Pick the correct matched vehicle configuration.
6. Calculate KBB Value for matched vehicle configuration and date of sale.
 - Sales transactions are historically priced according what the KBB Value was.
7. Make data available for KBB Analytical Tools.



Configuration Data is Entered Into VIMS

VIMS - Create Vehicles

File View Reports Preview Valuation Help

2011 BMW 3 Series Approve

Year View Model-Year View

Model Year Notes

Effective Date 4/5/2010 Revised?

Embargo Until ___/___/___ Do Not Publish

Model Year Freight \$875.00 Fleet Commercial

Vehicles Add...

328i	Compact		
1134	RWD Coupe 2D	\$33,305.00	\$36,200.00
1138	AWD xDrive Coupe 2D	\$35,050.00	\$38,100.00
1144	RWD Sedan 4D	\$30,500.00	\$33,150.00
1147	AWD xDrive Sedan 4D	\$32,340.00	\$35,150.00
1141	RWD Convertible 2D	\$41,400.00	\$45,000.00
1135	RWD Sport Wagon 4D	\$32,845.00	\$35,700.00
1136	AWD xDrive Sport Wagon 4D	\$34,685.00	\$37,700.00
335i			
335d			
335is			

Show Details...

Enable Zoom

Options Available (326)

Options Search Results

- Body Style (4)
- Body Sub-Style (0)
- Color (39)
- Emissions (0)
- Features (242)
- Incentive (23)
- Mandatory Tax (0)
- Packages (8)
- Powertrain (10)
- Roll-Up Options (0)
- Special Fee (0)

Option Name Clear

Category Clear

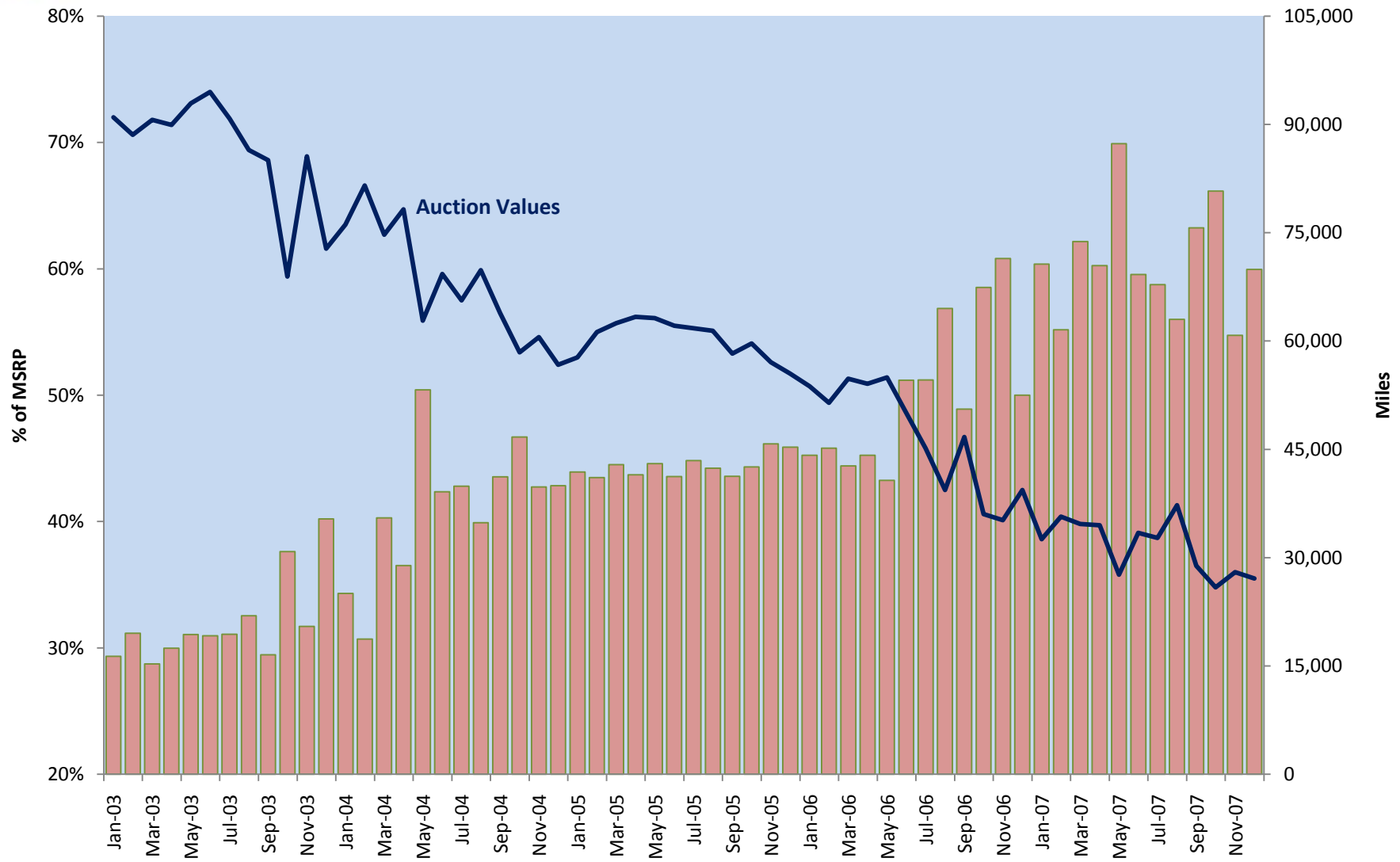
Categories

- Body Style
- Body Style Configuration
- Body Sub-Style

Ready

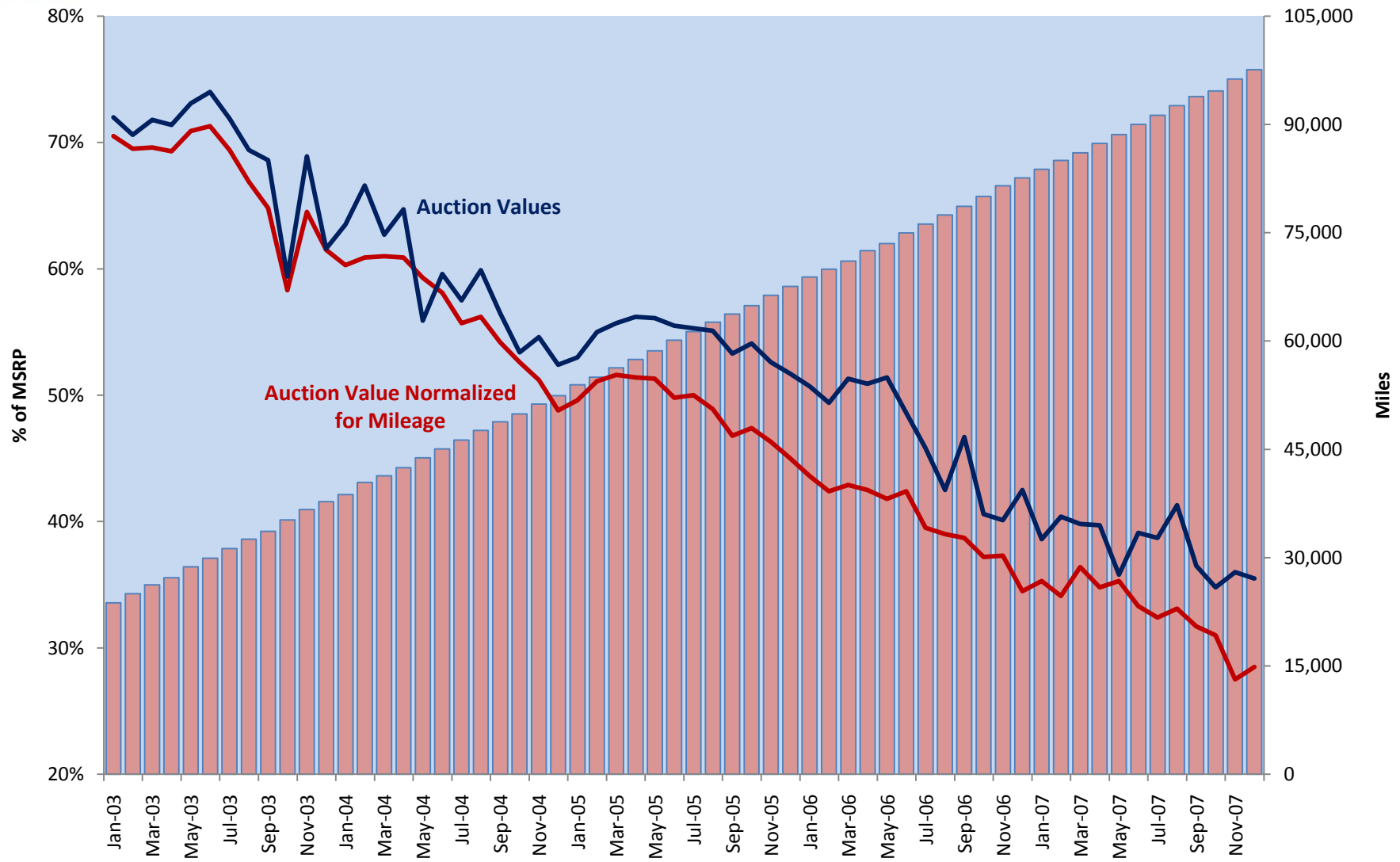


Depreciation is Accompanied by Rising Mileage



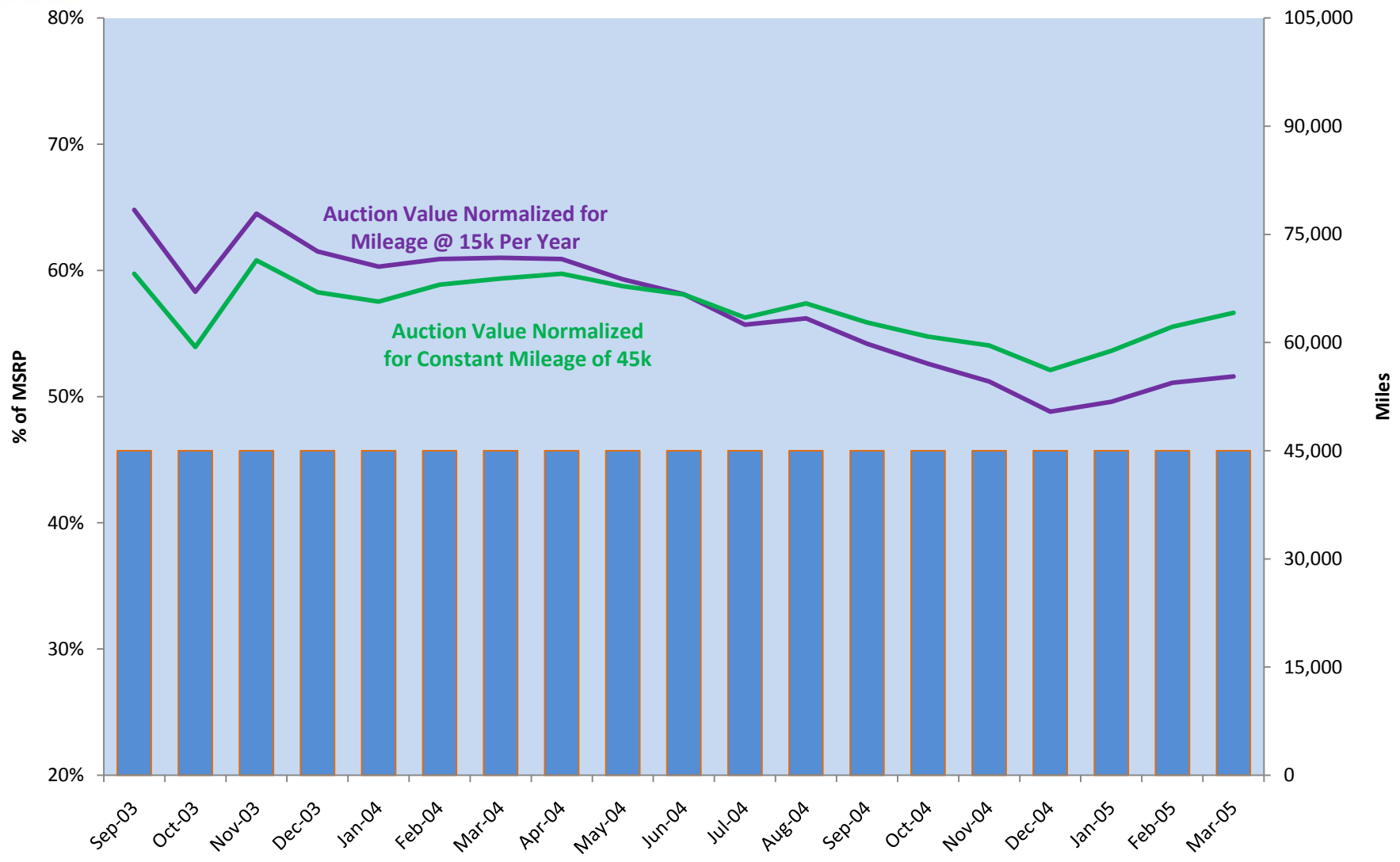


Vehicle With 15k Miles/Year Has Different Slope



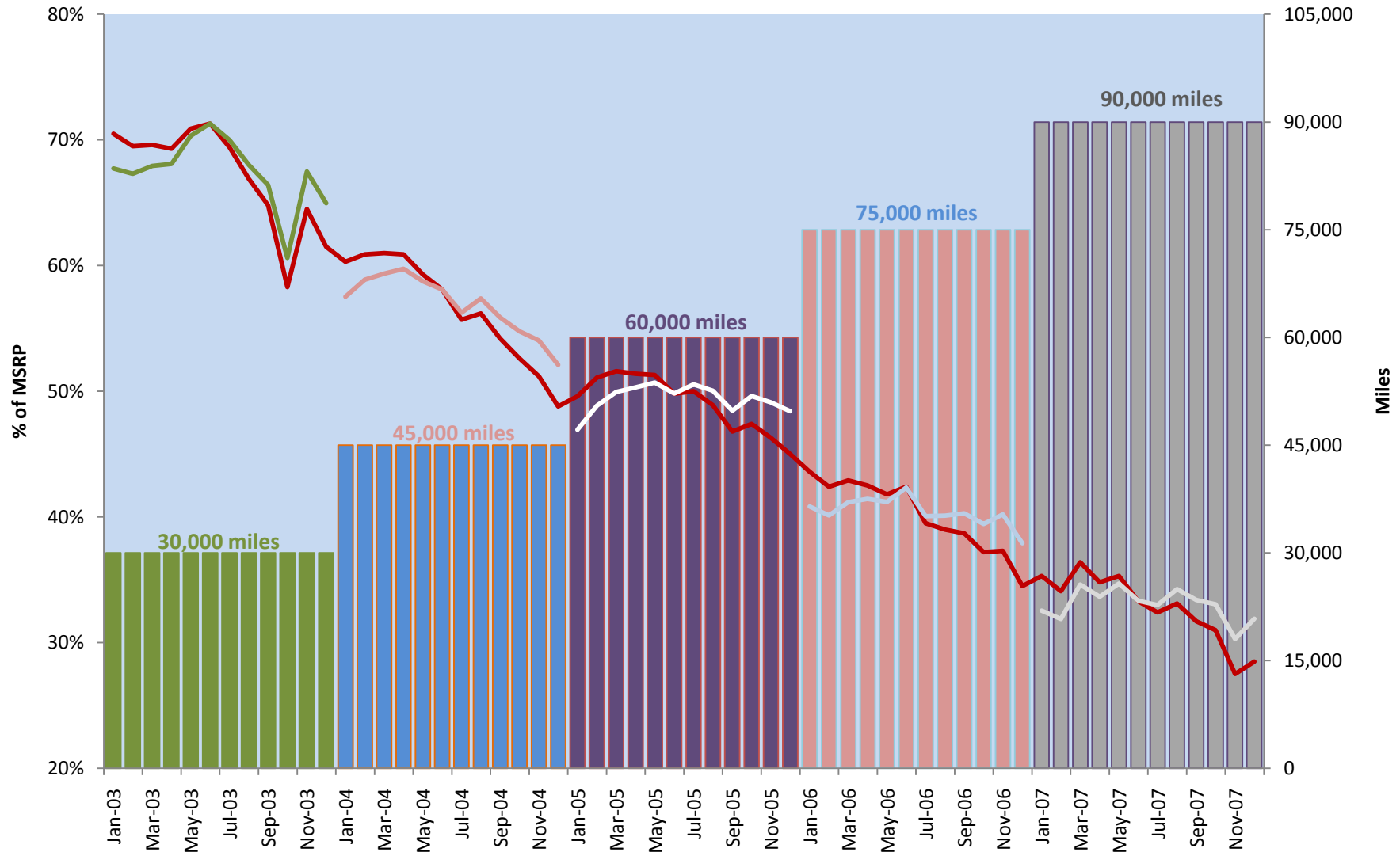


Residual Values Assume Constant Mileage





Mileage Adjustment Occurs For Each Term





Forecast Model vs. Business Model



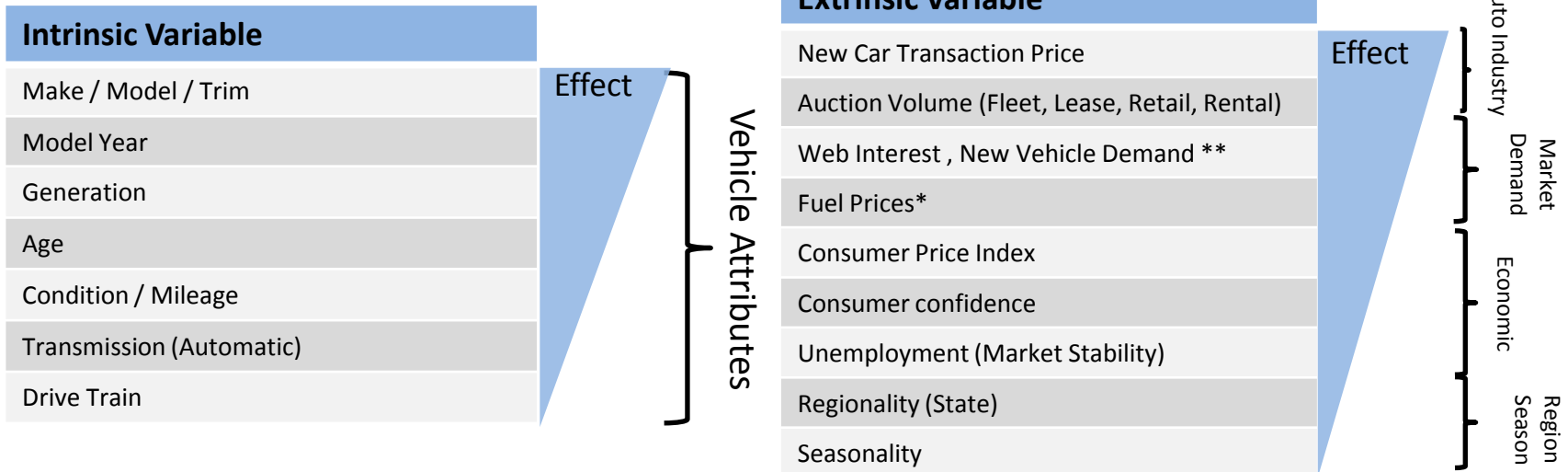
- Forecast model projects residual values into the future

- More detailed business model uses historical data to examine what happened and draw relationships between model factors (significance and magnitude)



Forecast Model – Forecasts Residual Values in the Future Using the Fewest Number of Variables to Obtain the Highest Amount of Correlation

Predictive Model	Value
Model R-Squared	90%
Model Average % Error	5.2%



** to be implemented

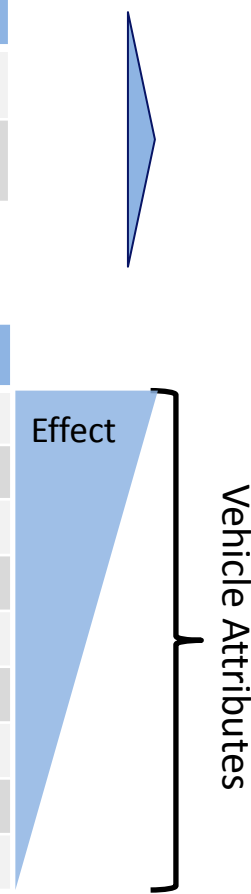
*Variables Transformed - Highly Correlated (Collinear)



Business Model – Utilizes Additional Variables to Enhance Understanding of Causal Relationships (Significance and Severity) From Historical Data

Predictive Model	Value
Model R-Squared	92%
Model Average % Error	4.9%

Intrinsic Variables
Make / Model / Trim
Model Year
Generation
Age
Condition / Mileage
Engine
MPG
Transmission (Automatic)
Drive Train

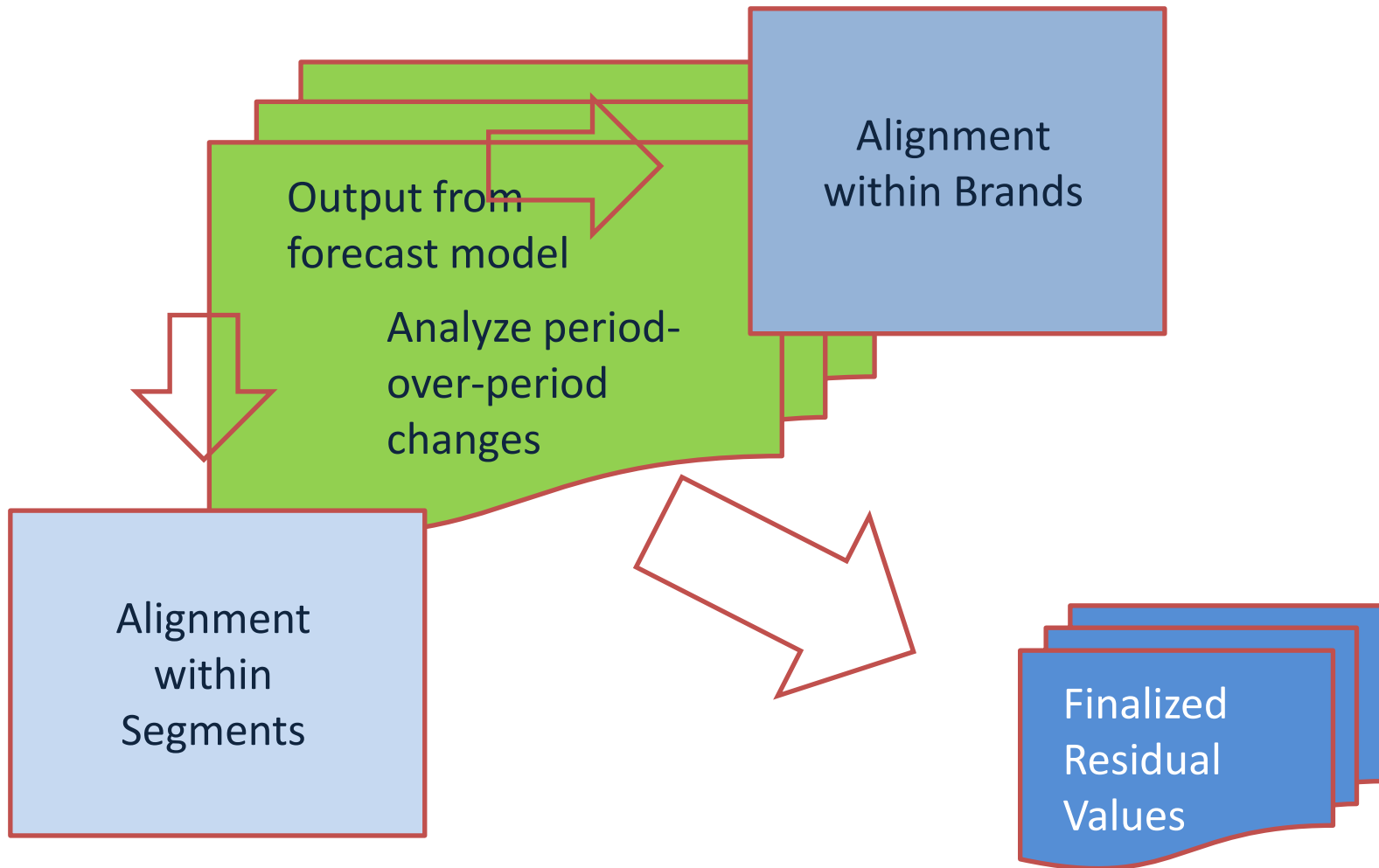


Extrinsic Variables	Effect	Category
New Car Transaction Price		Auto Industry
Auction Volume (Fleet, Lease, Retail, Rental)		
Major recalls		Market Demand
Web Interest , New Vehicle Demand		
Fuel Prices* / Media Effect on Fuel Prices		
Incentives		Economic
Competitive effects		
Consumer Price Index		
Consumer confidence		Region Season
Unemployment (Market Stability)		
Extraordinary Economy effects		
Regionality (State)		
Seasonality		

*Variables Transformed - Highly Correlated (Collinear)



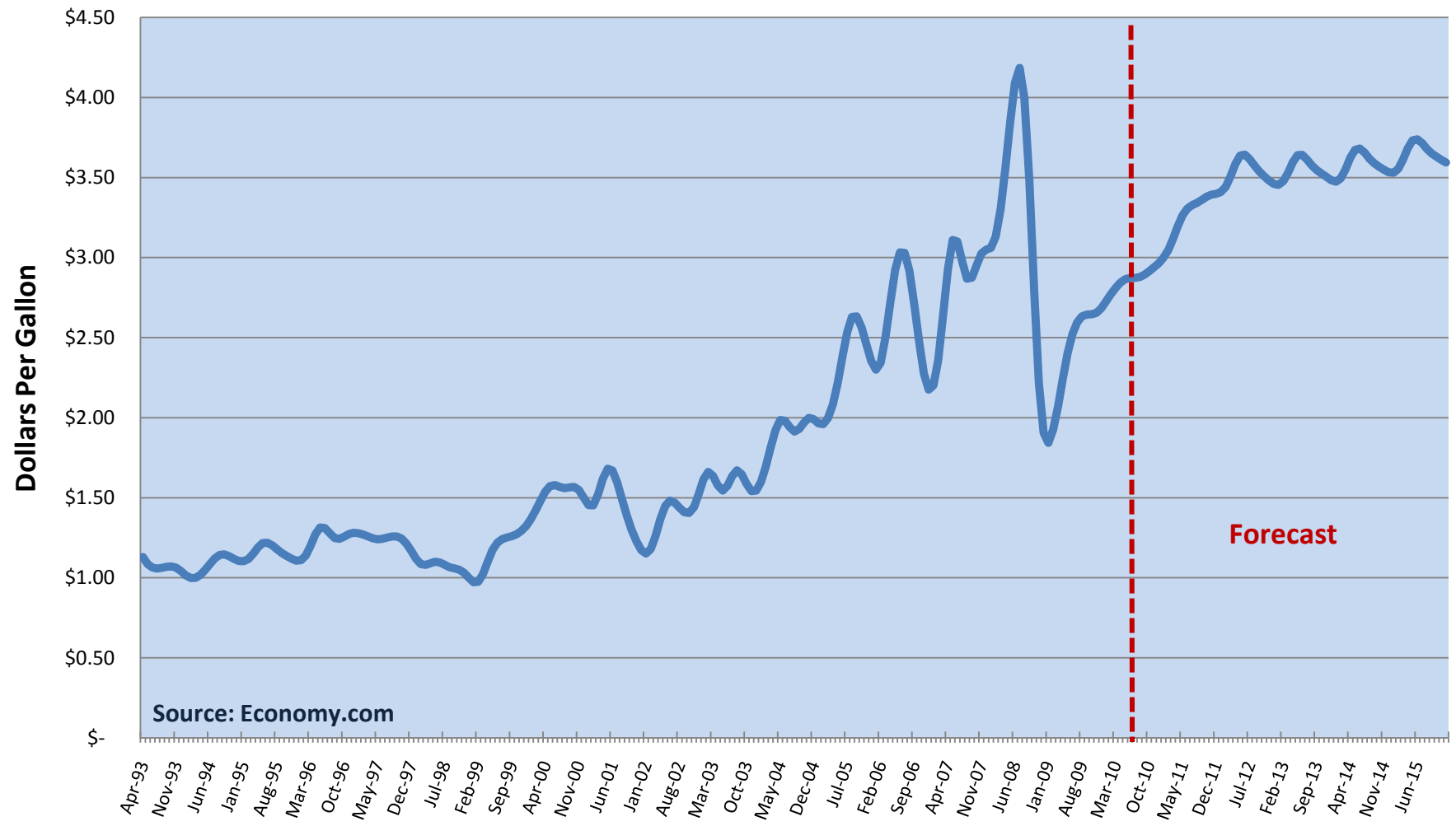
Model Output Validation by Industry Experts





2011 Residual Value Outlook

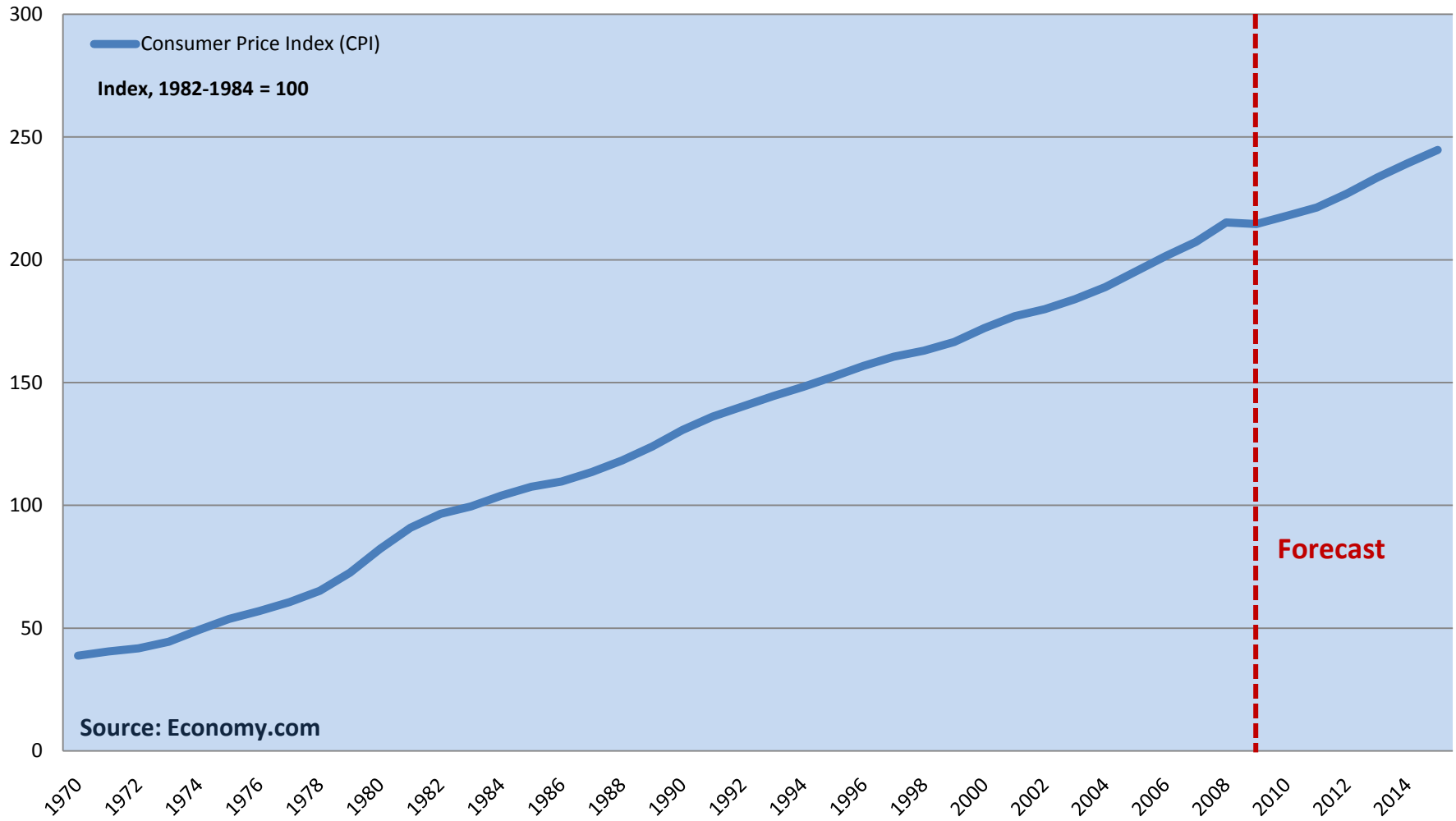
Gasoline Prices Average (All Grades)





2011 Residual Value Outlook

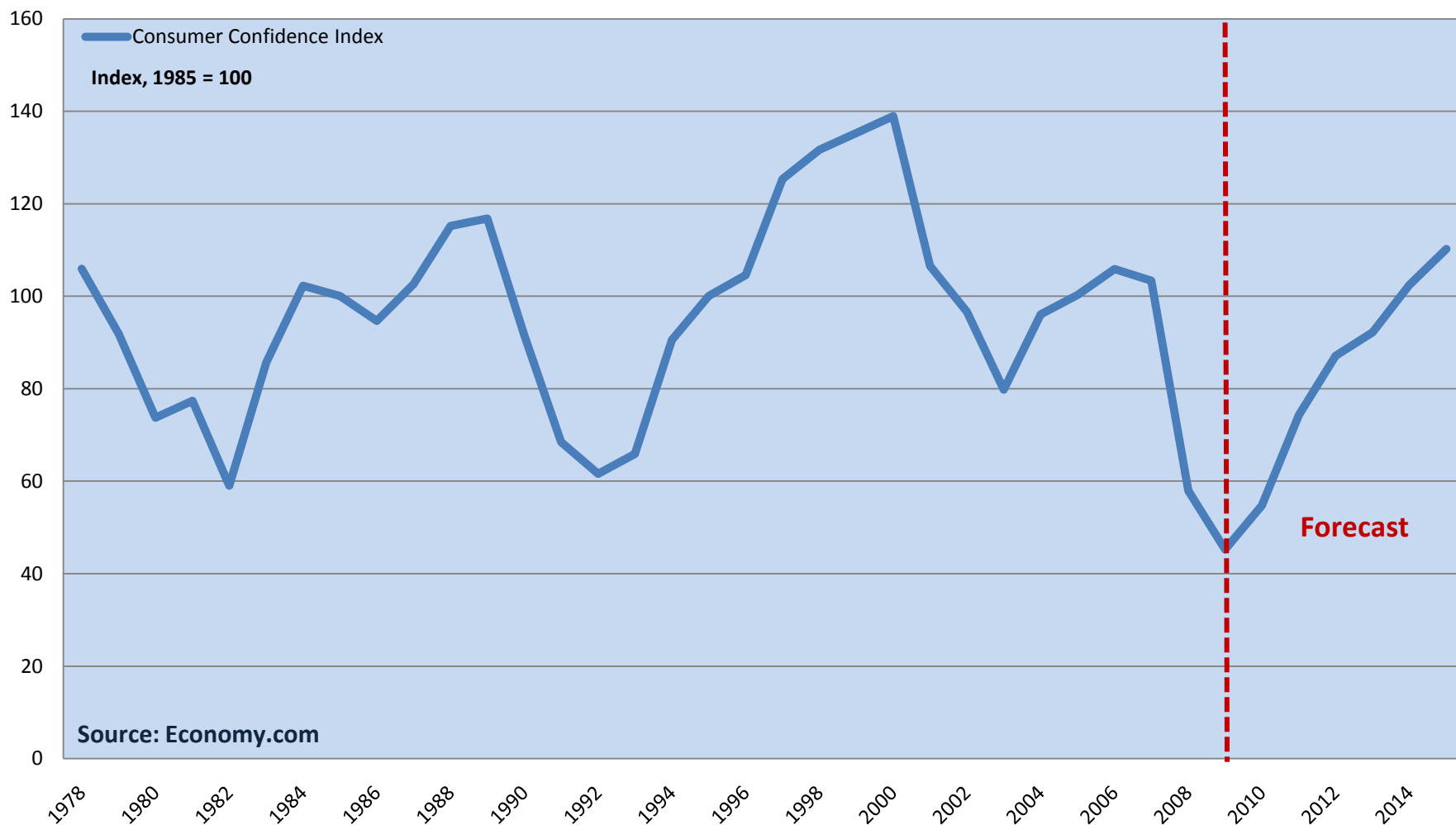
Consumer Price Index (CPI)





2011 Residual Value Outlook

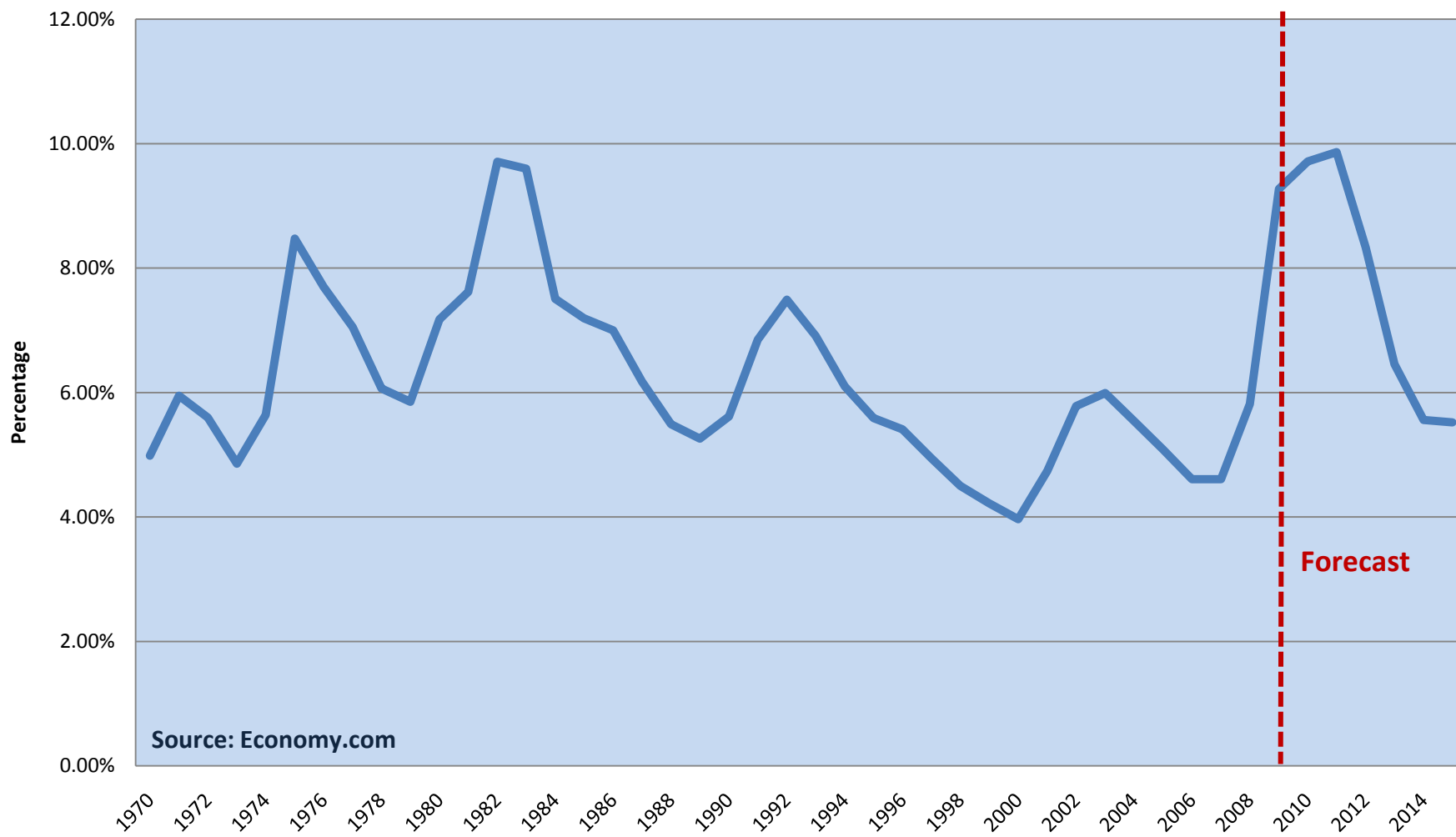
Consumer Confidence Index





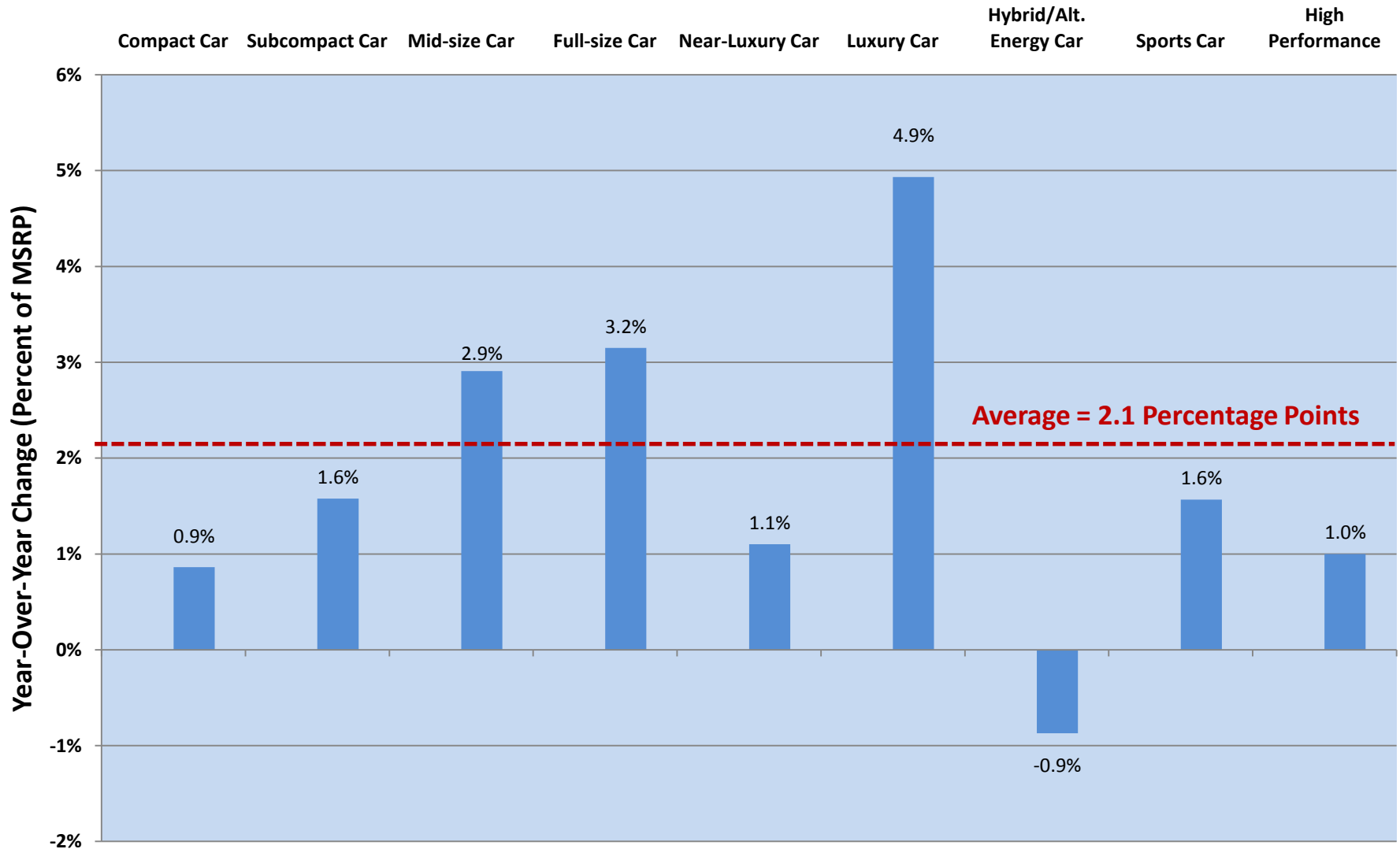
2011 Residual Value Outlook

Unemployment Rate





Yr-Over-Yr Change in 36-Month Car Residuals





2011 Residual Value Outlook

Luxury Car Segment Up 4.9 Percentage Points

Mid-level luxury is holding value well (\$45k - \$70k)

- SLK up 6.0 percentage points
- E-Class up 4.9 percentage points
- A6 up 4.5 percentage points



2011 Residual Value Outlook

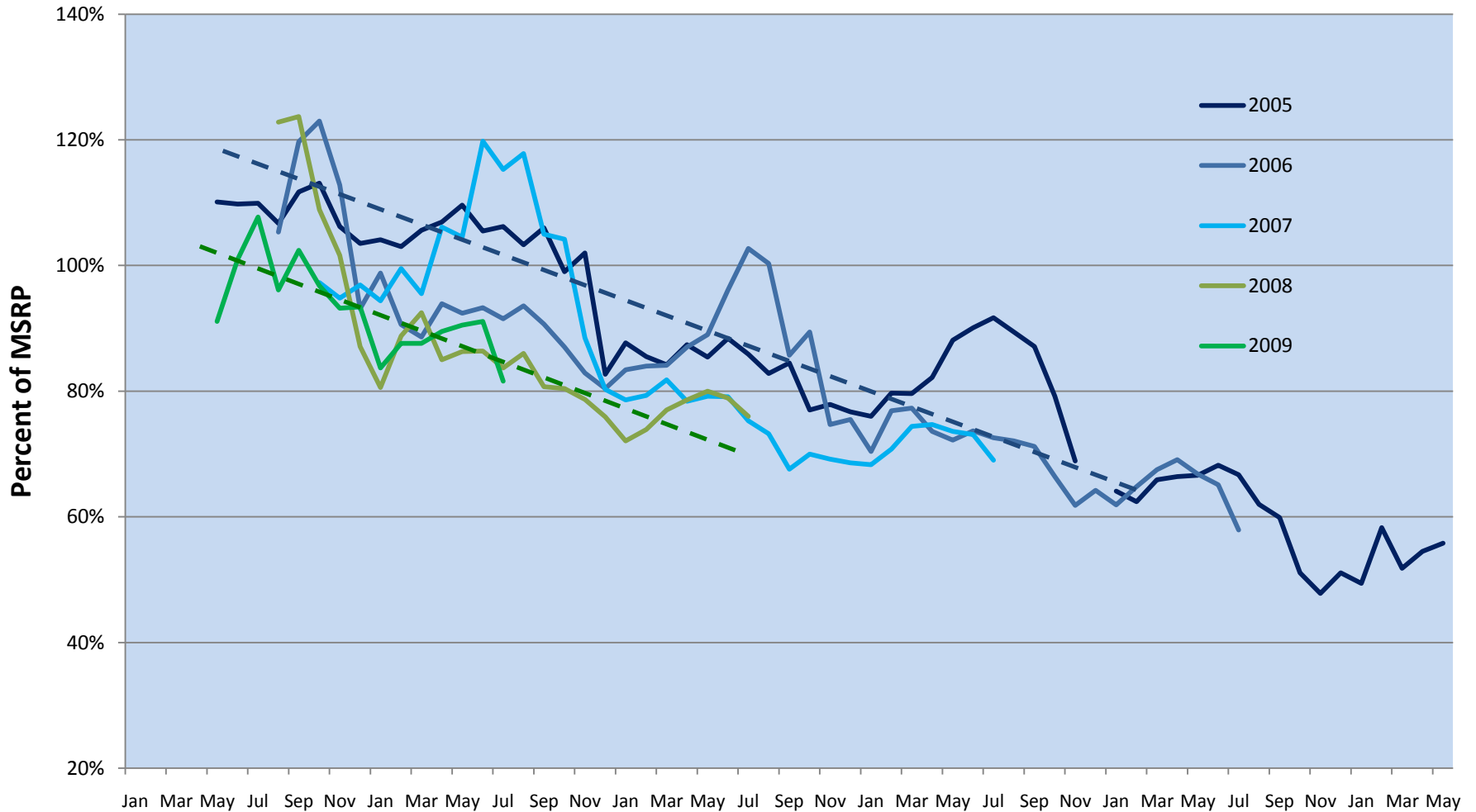
Compact Car Segment Up 0.9 Percentage Points

- Older designs and tepid redesigns contribute to lower outlook
 - Cooper -4.9
 - Lancer -4.0
 - Soul -3.8
 - Mazda3 -3.7



2011 Residual Value Outlook

MINI Cooper Hatchback 2D





2011 Residual Value Outlook

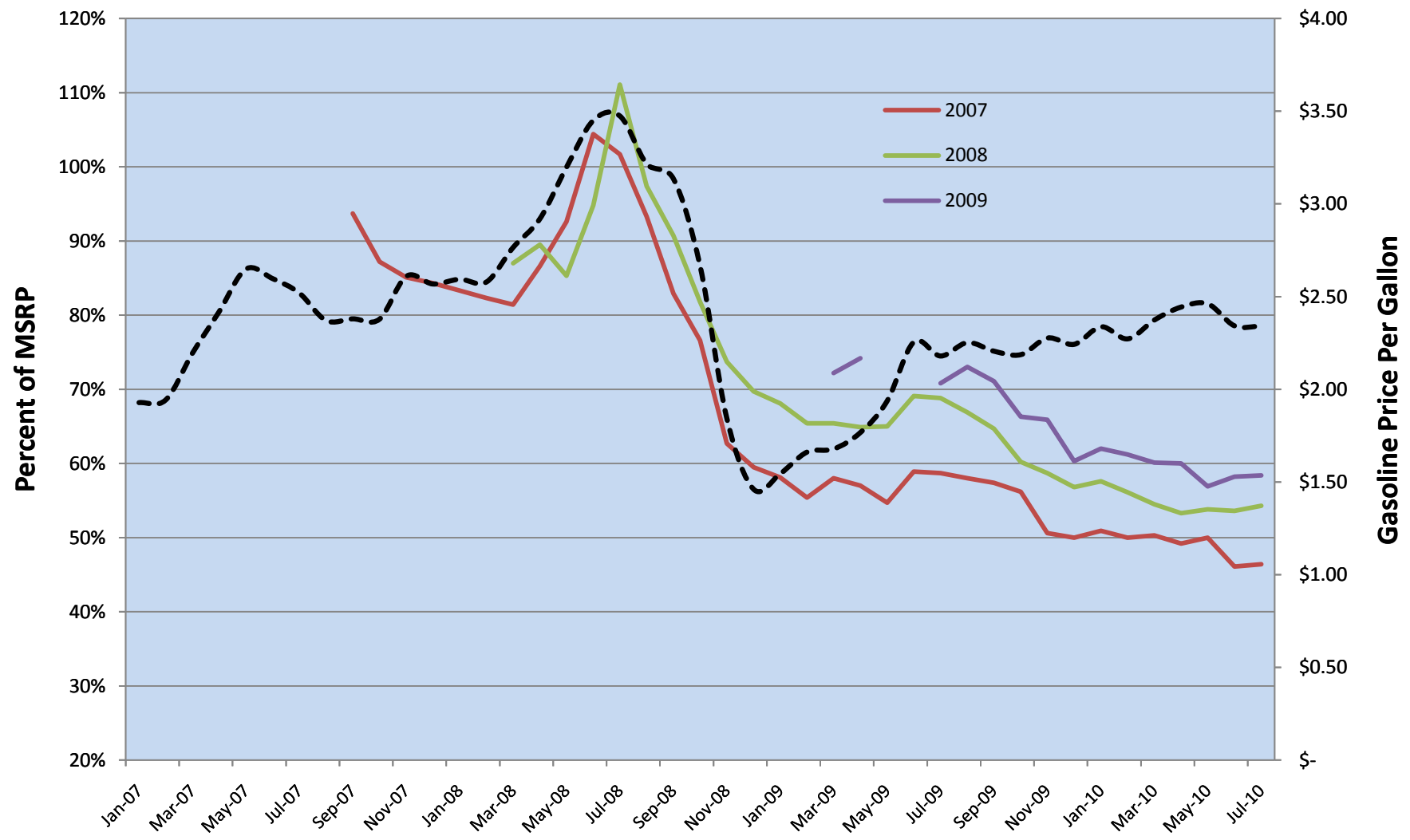
Hybrid Segment Down 0.9 Percentage Points

- All vehicles in the Hybrid / Alternate Energy segment are down except for the diesels
- HS 250h is down 6.0 points and Prius is down 3.0 points
- Altima Hybrid is down 5.0 points
- Moderate fuel prices contribute to lower demand



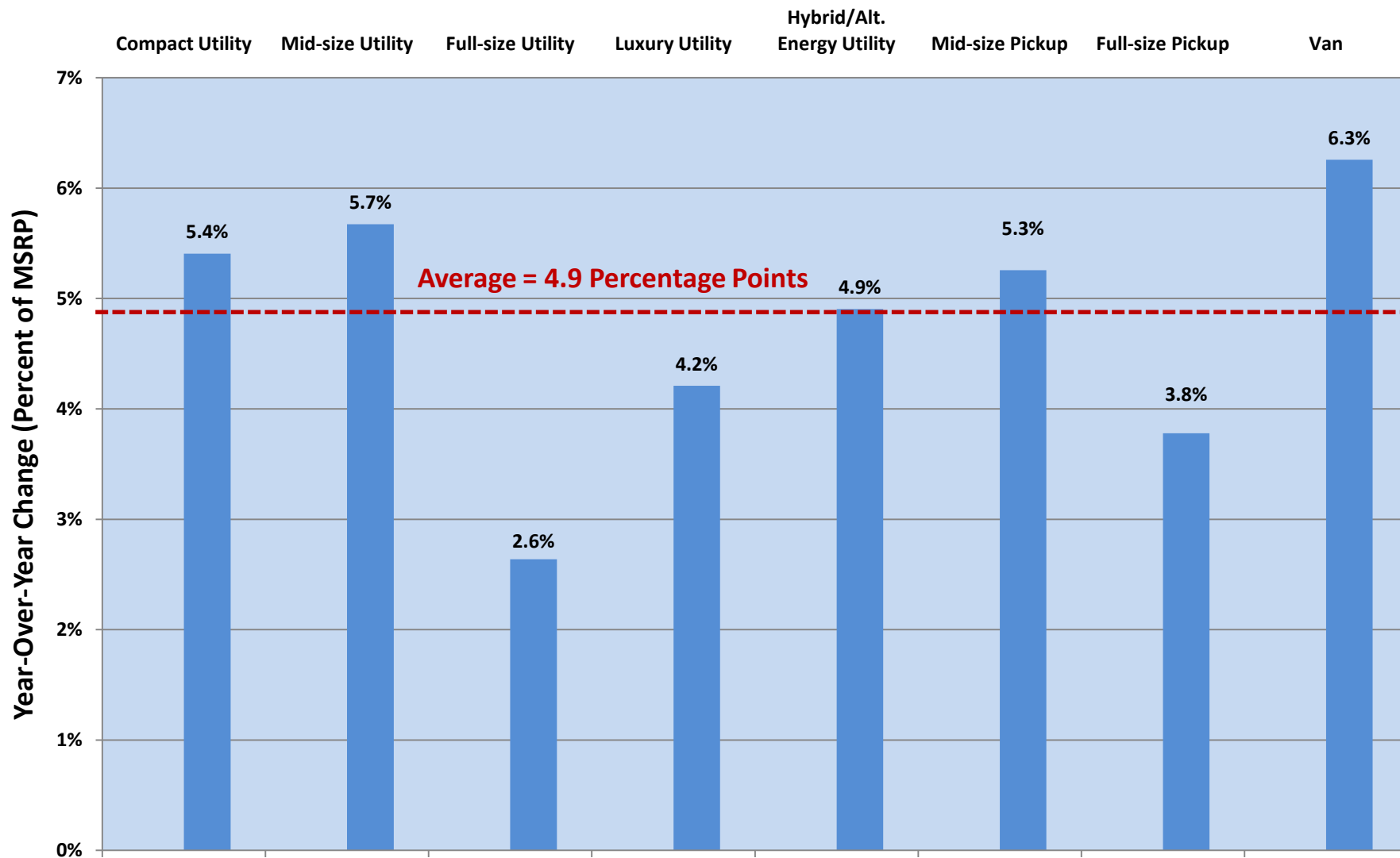
Hybrid Sedans Are Sensitive to Movements in Gas Price

Toyota Prius Touring Hatchback 4D





Yr-Over-Yr Change in 36-Month Truck Residuals





2011 Residual Value Outlook

Full-Size Utility Segment Up 2.6 Points

- Lambda-based vehicles get a flatter depreciation curve; down at 36 months but up at 60
 - Acadia -0.8
 - Traverse -0.3
- Other models are holding their value well
 - Armada +6.3
 - Suburban 2500 +6.0



2011 Residual Value Outlook

Van Segment Up 6.3 Points

- Odyssey up 8.5 points based on its redesign



- Sienna up 6.3 points



2011 Residual Value Outlook

- Summary By Manufacturer Origin

	<u>November-December 2010</u>		<u>Year-Over-Year Change</u>	
	<u>36 Months</u>	<u>60 Months</u>	<u>36 Months</u>	<u>60 Months</u>
Japanese	53.3%	35.6%	2.2	0.7
European	53.2%	33.8%	2.6	0.1
American	50.4%	33.2%	4.0	1.9
Korean	48.0%	29.5%	7.9	4.5
Total Average	51.9%	33.9%	3.5	1.3



2011 Residual Value Outlook





2011 Residual Value Outlook

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- BMW
- Bl
- M
- Volv
- Mer
- Pors
- Saak
- Tata
- La
- Jaguar
- Volkswagen
- Audi
- Volkswagen
- Total Average

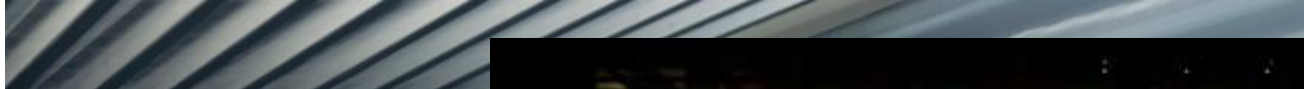


<u>Year-Over-Year Change</u>	
<u>12 Months</u>	<u>60 Months</u>
0.9	-1.4

53.2%	33.8%	2.6	0.1
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2011 Residual Value Outlook



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2011 Residual Value Outlook





2011 Residual Value Outlook

- Summary of Luxury Brands

	<u>November-December 2010</u>		<u>Year-Over-Year Change</u>	
	<u>36 Months</u>	<u>60 Months</u>	<u>36 Months</u>	<u>60 Months</u>
BMW	57.7%	37.1%	2.5	-0.1
Lexus	56.7%	37.4%	-0.2	-2.0
Mercedes-Benz	53.4%	32.6%	5.7	1.4
Infiniti	52.5%	33.5%	0.2	-1.0
Cadillac	48.4%	29.5%	0.9	0.1
Lincoln	47.3%	30.1%	5.3	3.0
Jaguar	43.2%	25.4%	-0.9	-2.2
Total Average	53.6%	33.8%	2.7	0.1



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