

# TechnoMetrica Auto Demand Index

April 2012 (Full Report)



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# About Us

- TechnoMetrica, founded in 1992, is a full-service Market Research consultancy that helps businesses identify, develop and capitalize on growth opportunities. Spotting trends and synthesizing insights that are well-defined, accurate, and forward-thinking is our passion. Research is the foundation for all our endeavors.
- TechnoMetrica is a thinkery. We harness the power of creative thinking in everything we do: to develop study designs that best answer research objectives; to communicate research findings with impact; to develop effective marketing strategies and new product development. Our creations are the true testimonies that reflect our depth of thinking. Our clients are our ambassadors of our reputation.
- In 1996, TechnoMetrica founded TIPP – the TechnoMetrica Institute of Policy and Politics. Shortly thereafter, TIPP joined forces with Investor’s Business Daily (1996 to present) – the nation’s fastest-growing financial publication – to produce their highly respected IBD/TIPP Economic Optimism Index. TIPP also has a similar polling partnership with the Pulitzer Prize-winning Christian Science Monitor (1998 to present).

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# **I. Methodology**

# Methodology

- TechnoMetrica's Auto Demand Index is a forward looking early (monthly) indicator of consumers' intent to purchase or lease a new vehicle within the next 6 months. The index has been set to an initial value of 100 based on demand levels between February 2007 and April 2007, the strongest selling season in the past decade.
- The Auto Demand Index is based on the responses Americans give to the question:
  - *How likely is it that you will buy or lease a new vehicle within the next 6 months? Would you say very likely, somewhat likely, not very likely or not at all likely?*
- We express purchase intent as an index score that varies as a linear function of the percentage of consumers who are either "very" or "somewhat" likely to purchase or lease a new vehicle within the next 6 months.
- Higher index readings correspond to greater demand or intent to purchase/lease new automobiles.
- The index and its movement is projectable to the national market for new automobiles, which consists of over 100 million U.S. households with drivers.
- Each month, TechnoMetrica uses a monthly Random Digit Dial (RDD) telephone survey to collect the survey data, with a sample size of 900+ respondents. The margin of error is +/- 3.3 percentage points

## **II. Auto Demand Index, Purchase Outlook**

**A. Auto Demand Index (Overall)**

**B. By Region**

**C. By Area Type**

**D. By Age**

**E. By Gender and Marital Status**

**F. By Parental Status and Race/Ethnicity**

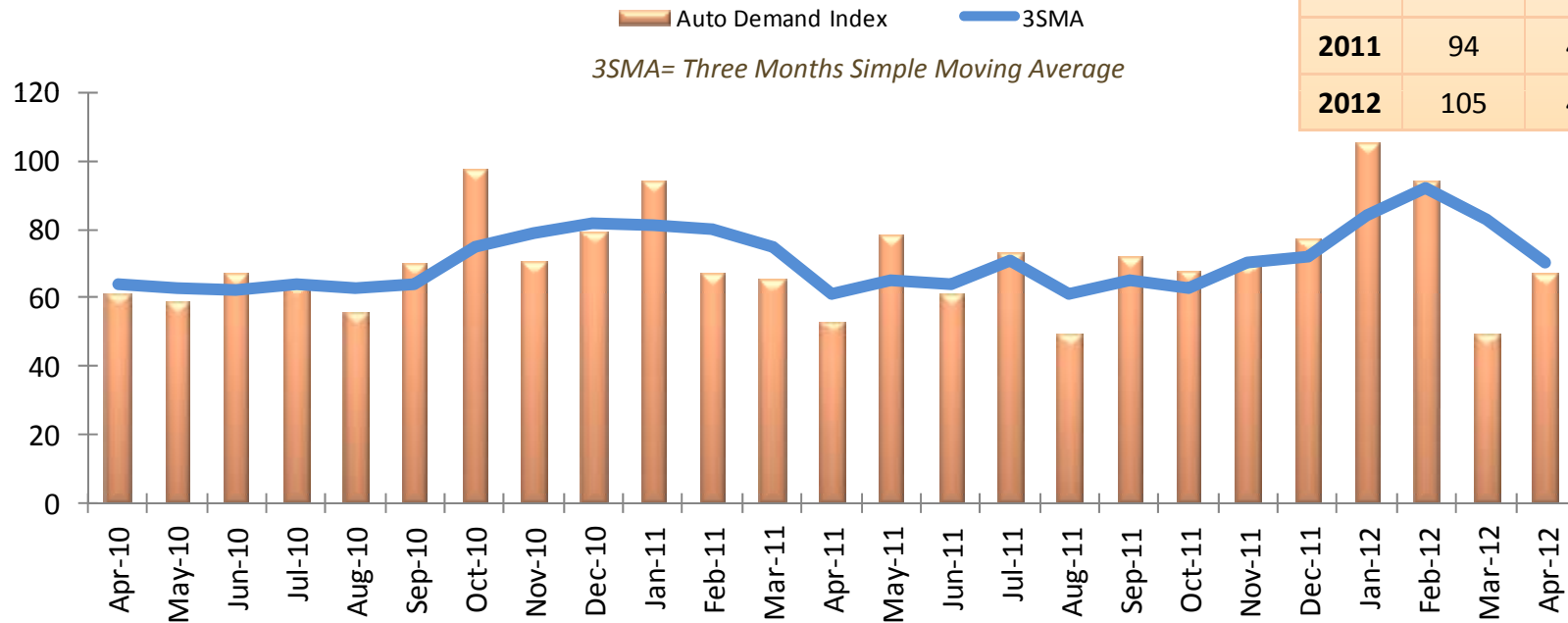
**G. By Household Income**

# Auto Demand Index (Overall)

While the Auto Demand Index recovered from its all time low in March of 49 to 67 this month, it is still down significantly from January's level of 105.

Base = All Respondents

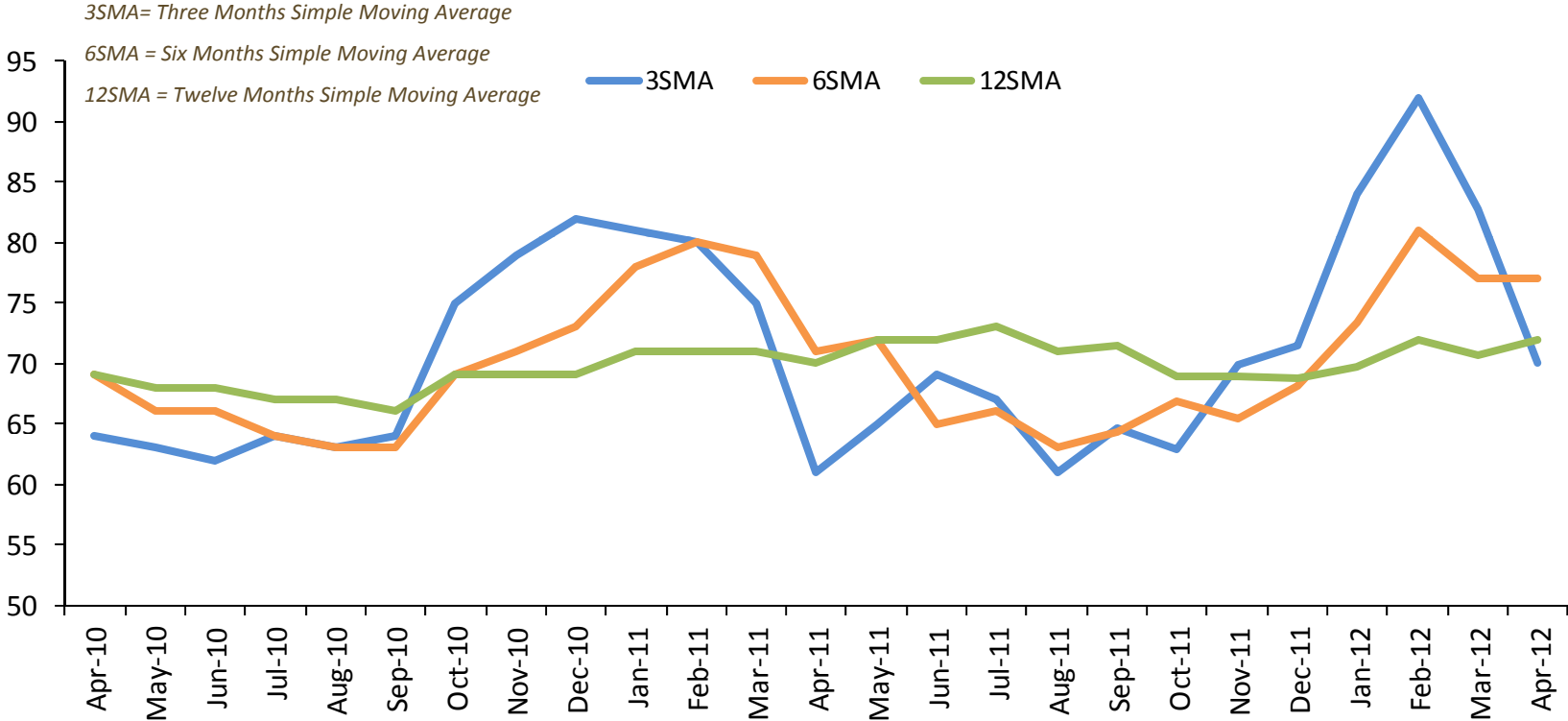
	High	Low
<b>2007</b>	129	79
<b>2008</b>	92	66
<b>2009</b>	95	55
<b>2010</b>	97	56
<b>2011</b>	94	49
<b>2012</b>	105	49



# Auto Demand Index Moving Averages

Base = All Respondents

The 3 Month Simple Moving average shows the purchase intent has broken its momentum.



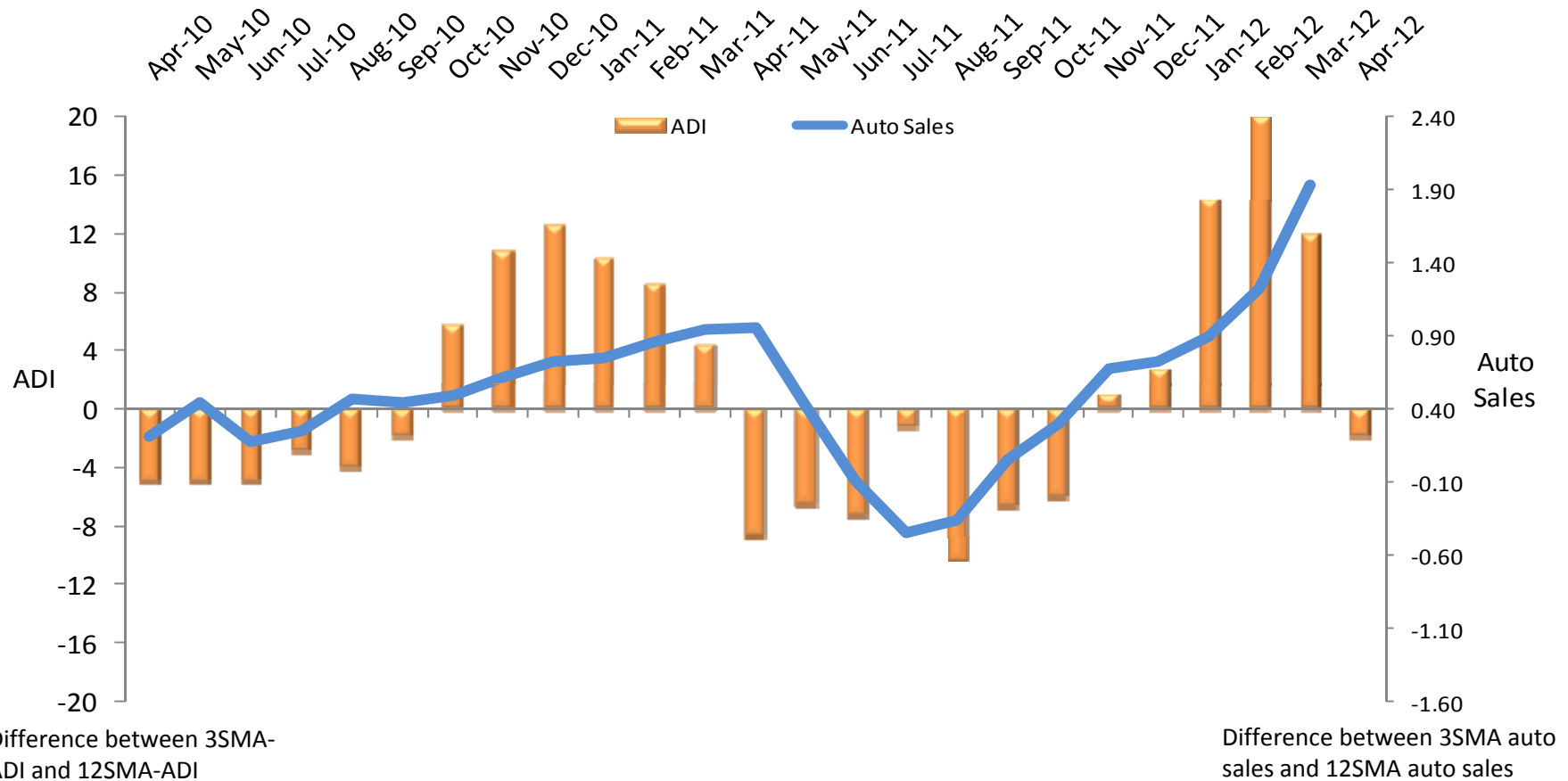


# Momentum

Momentum Measure = Fast Average (3-month) minus Slow Average (12-month)

Base = All Respondents

After reaching an all time high in February 2012, the momentum is declining.



# Correlation Between ADI and U.S. Auto Sales

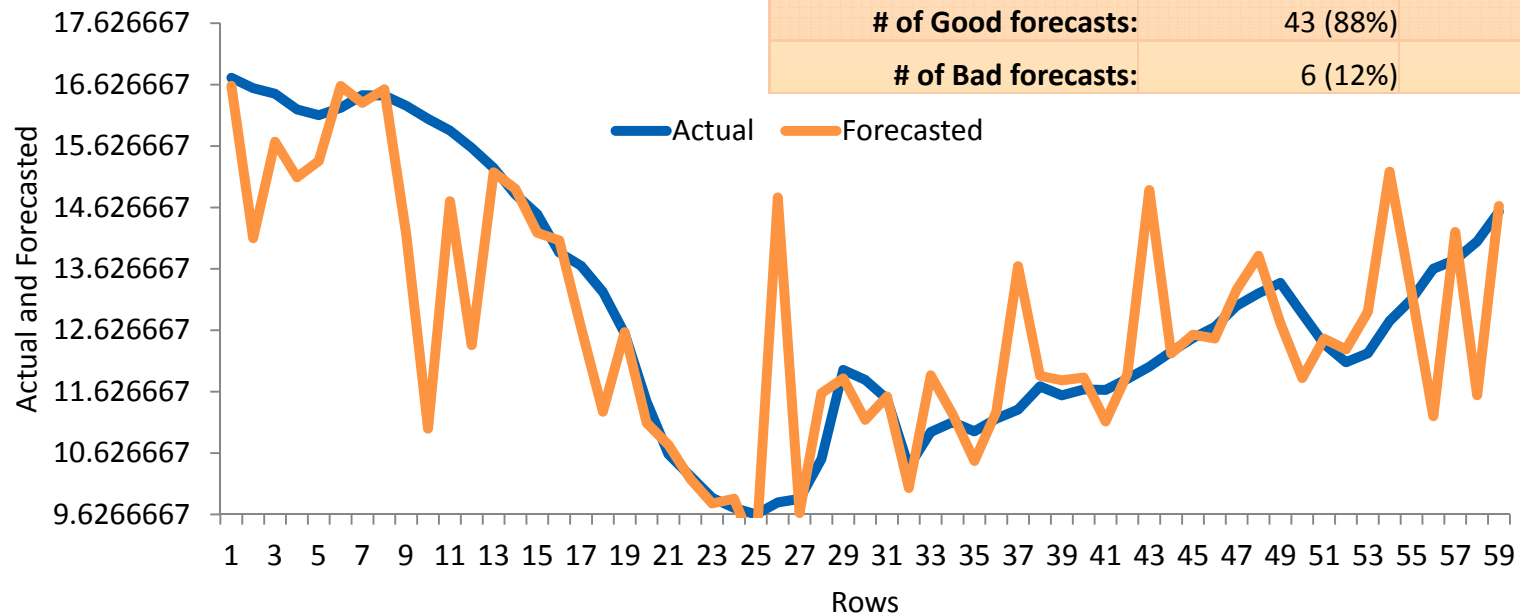
ADI and U.S. Car sales have strong correlation.

$R^2$ : 0.5472

Correlation: 0.7606

## Summary

	Training set	Test set
# of rows:	49	10
CCR:	n/a	n/a
Average AE:	0.65287	1.7668947
Average MSE:	1.4180596	4.8434803
Tolerance type:	Relative	Relative
Tolerance:	10%	30%
# of Good forecasts:	43 (88%)	9 (90%)
# of Bad forecasts:	6 (12%)	1 (10%)



Generated with Alyuda Forecaster XL

# Adding Gas Prices To ADI Provides Nearly Perfect Sales Correlation

3SMA Sales predicted using 3SMA-ADI & 3SMA Gas Prices

R<sup>2</sup>: 0.7678

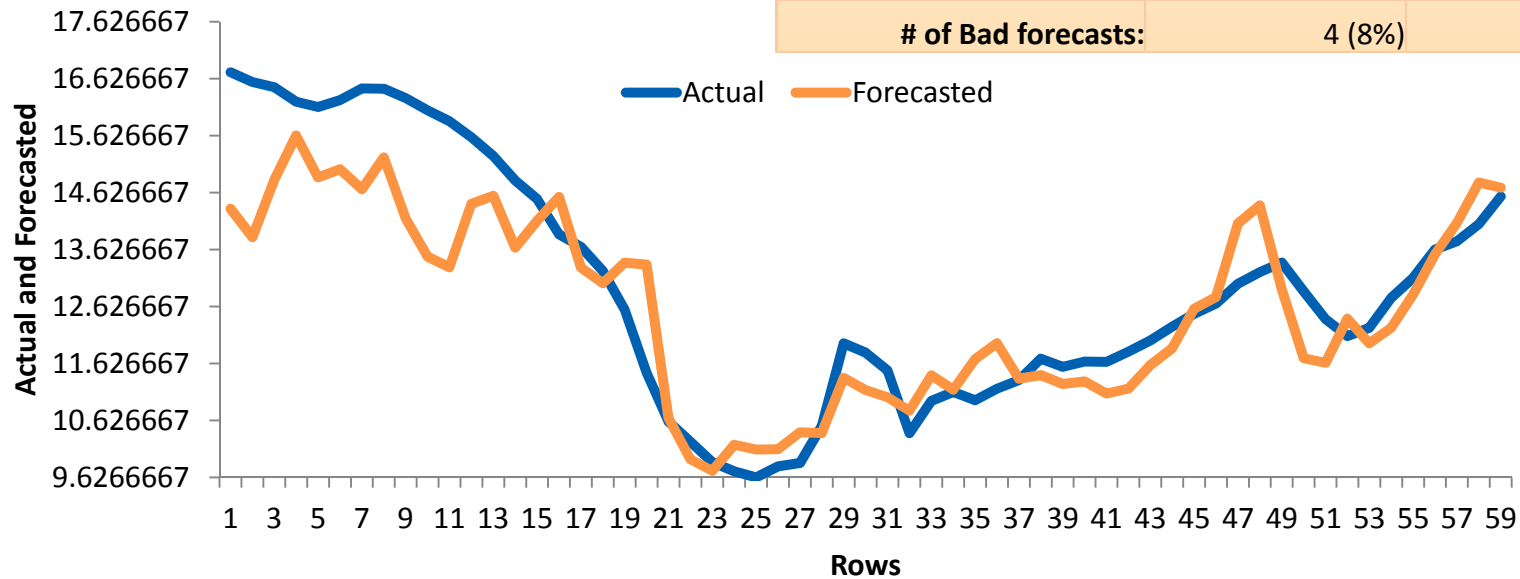
Correlation: 0.9027

## Summary

	Training set	Test set
# of rows:	49	10
CCR:	n/a	n/a
Average AE:	0.6794808	1.1211821
Average MSE:	0.8182215	2.0367258
Tolerance type:	Relative	Relative
Tolerance:	10%	30%
# of Good forecasts:	45 (92%)	10 (100%)
# of Bad forecasts:	4 (8%)	0 (0%)

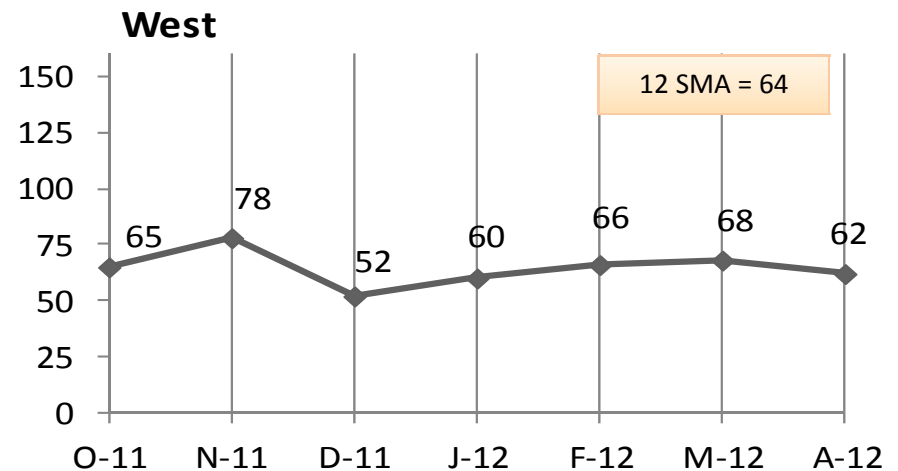
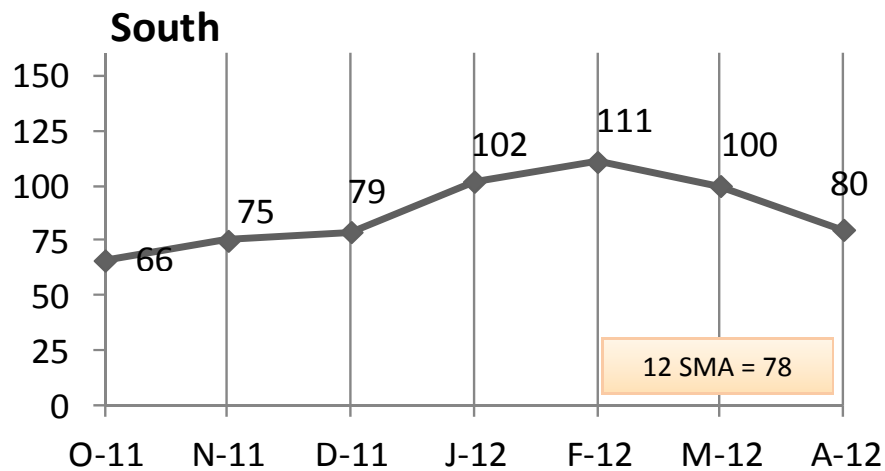
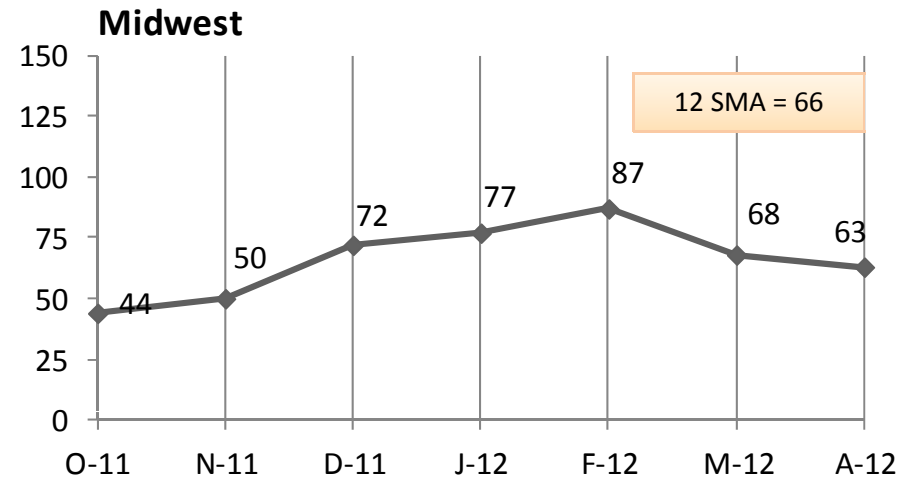
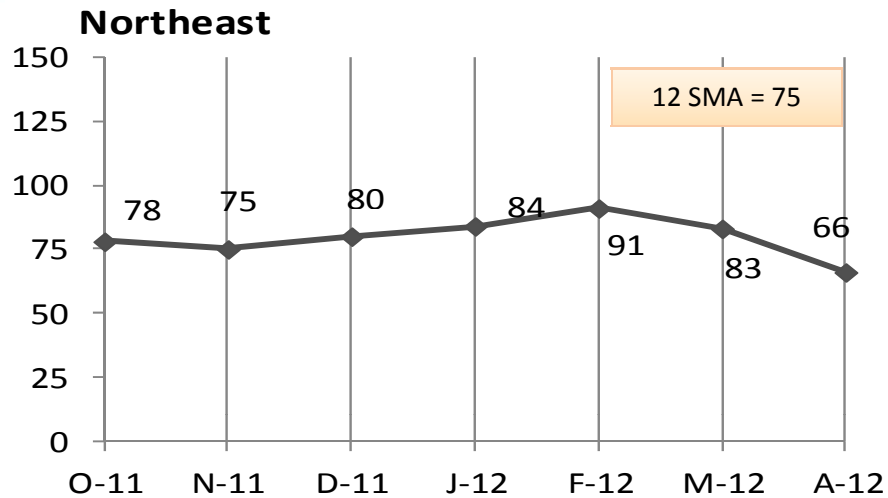
## Input Importance Table

Input	Value, %
3SMA -ADI	63.5%
3SMA Gas Prices	36.5%



Gas Prices from Bureau of Economic Analysis  
Regression using Alyuda Forecaster XL

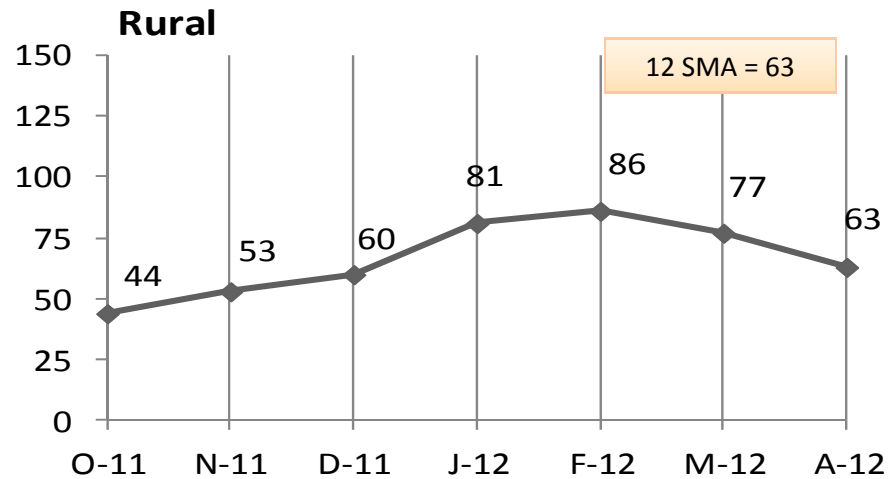
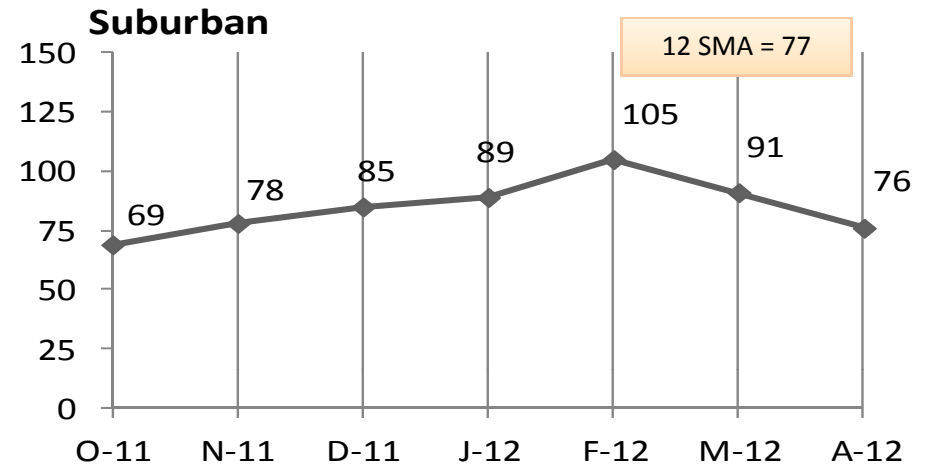
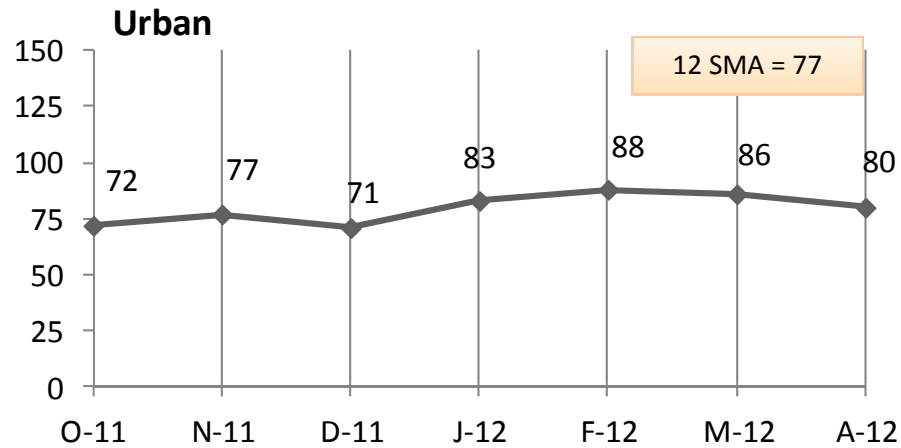
# By Region 3 SMA



Q. How likely is it that you will buy or lease a new vehicle within the next 6 months?

# By Area Type 3 SMA

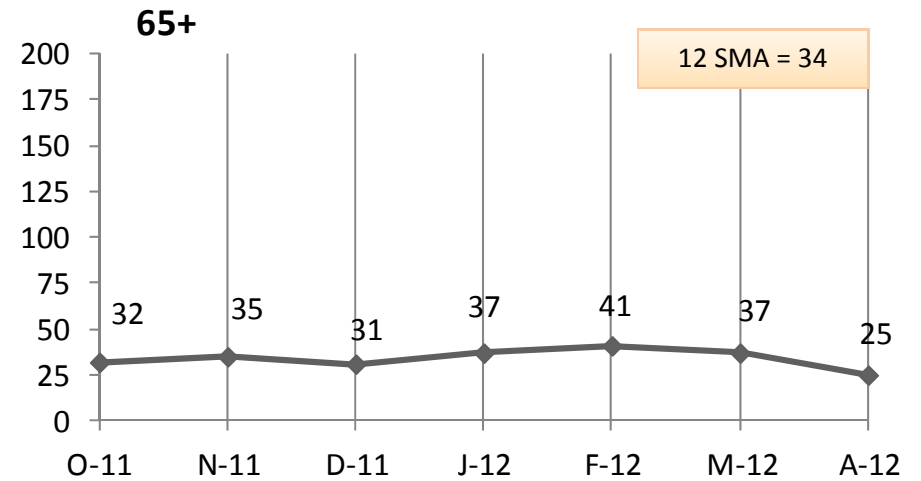
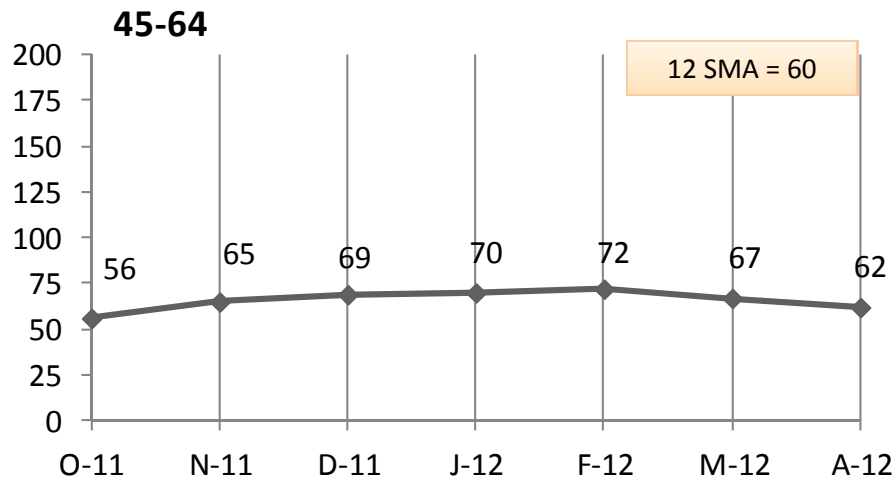
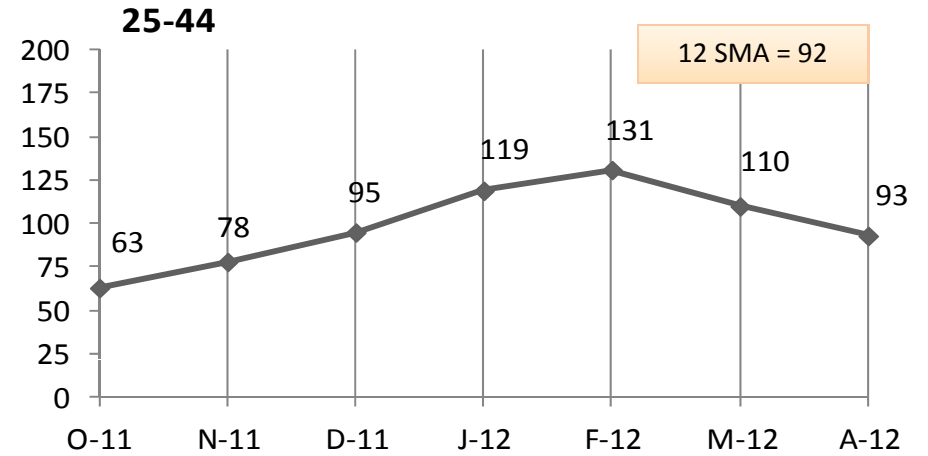
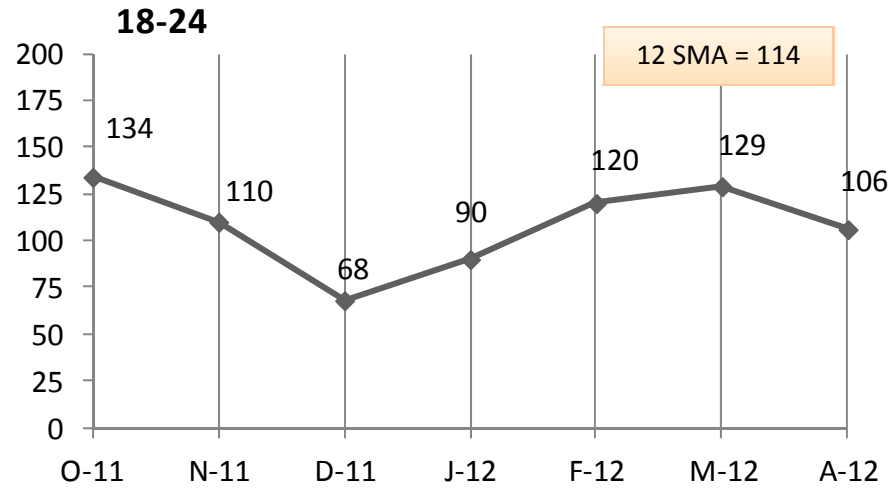
Base = All Respondents



Q. How likely is it that you will buy or lease a new vehicle within the next 6 months?

# By Age 3 SMA

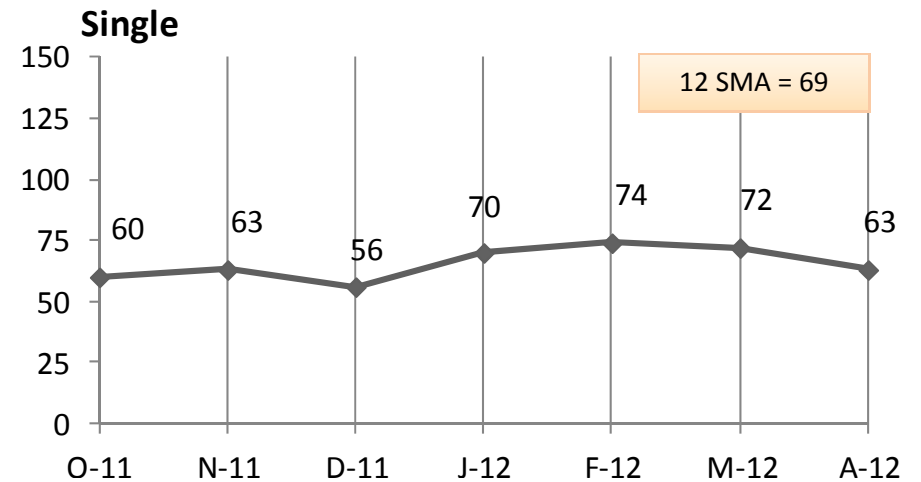
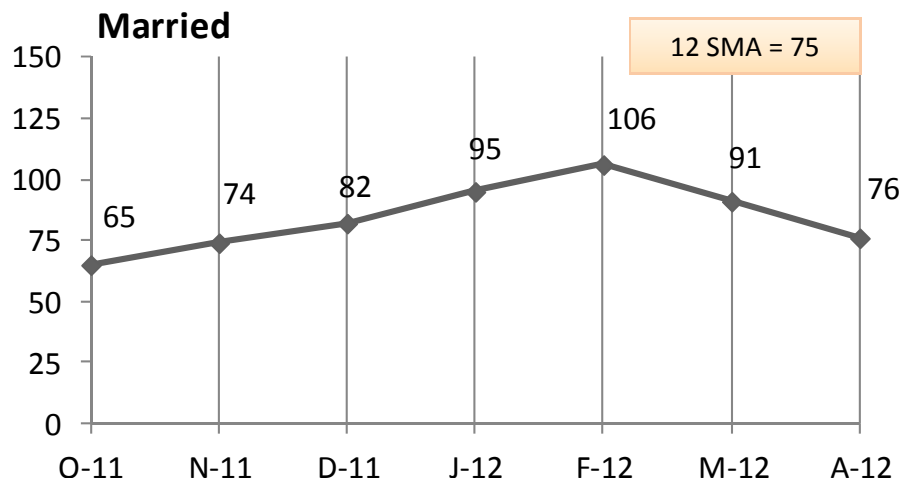
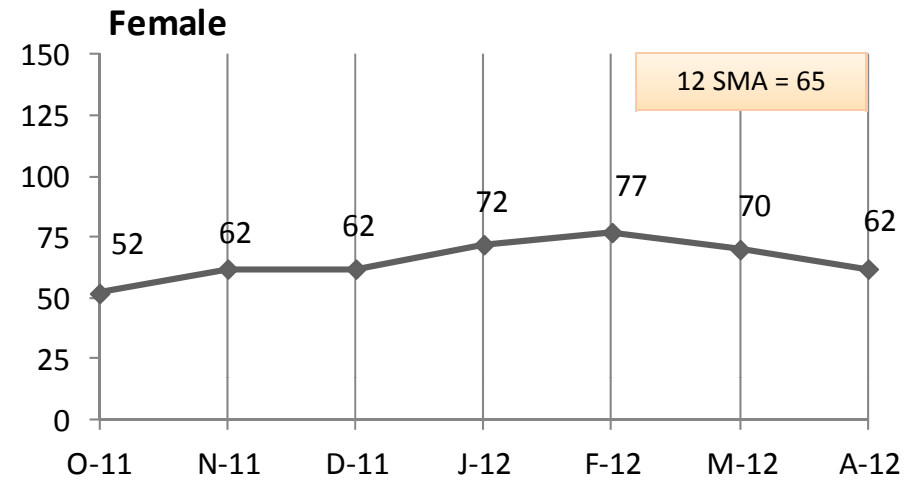
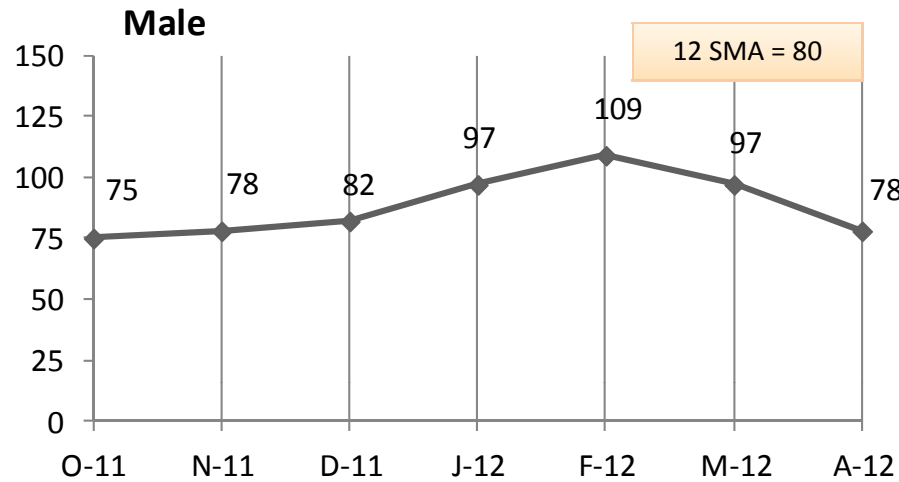
Base = All Respondents



Q. How likely is it that you will buy or lease a new vehicle within the next 6 months?

# By Gender and Marital Status 3 SMA

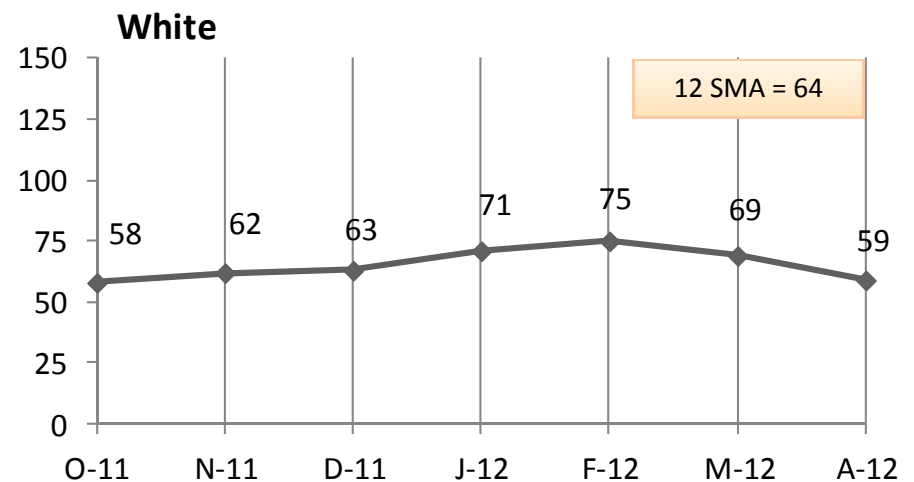
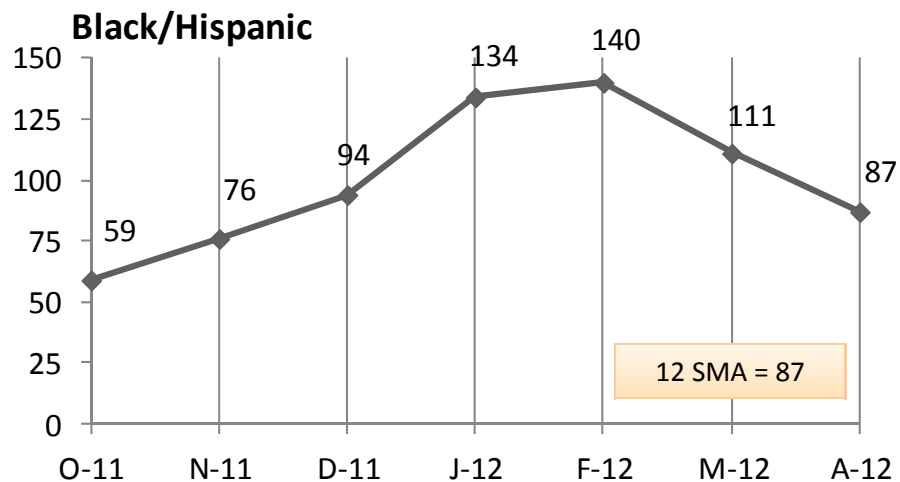
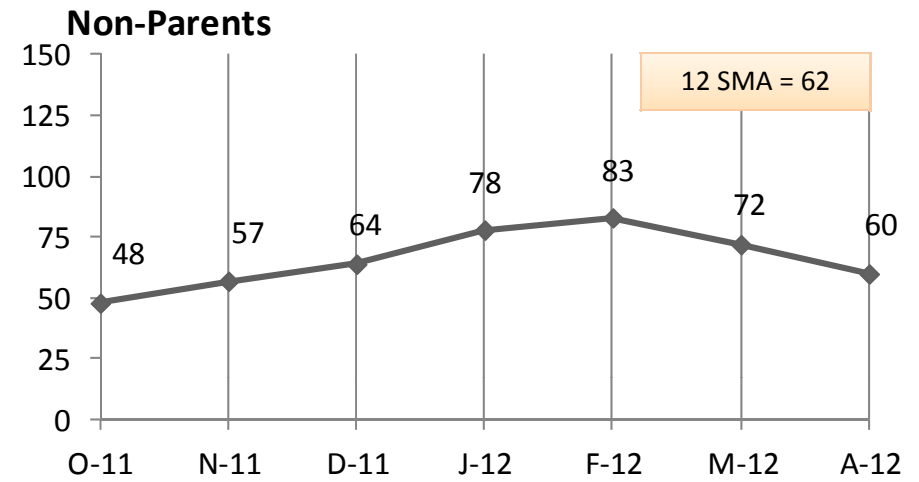
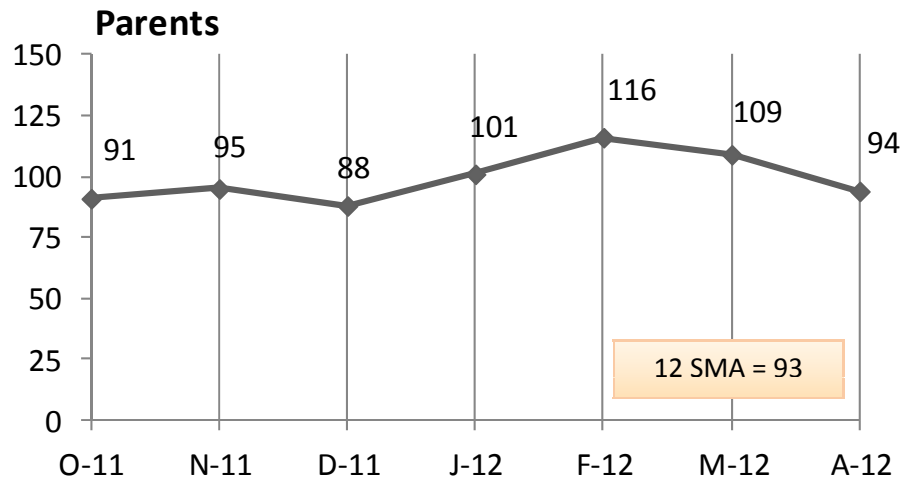
Base = All Respondents



Q. How likely is it that you will buy or lease a new vehicle within the next 6 months?

# By Parental Status and Race/Ethnicity 3 SMA

Base = All Respondents

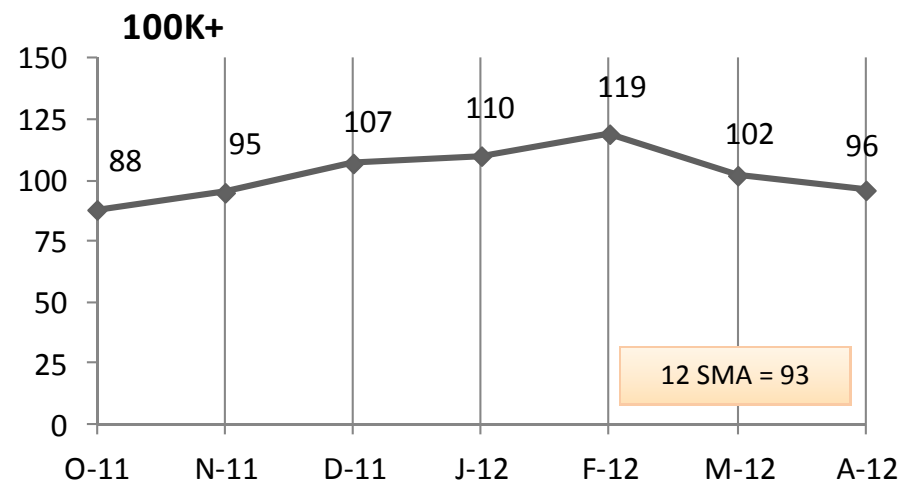
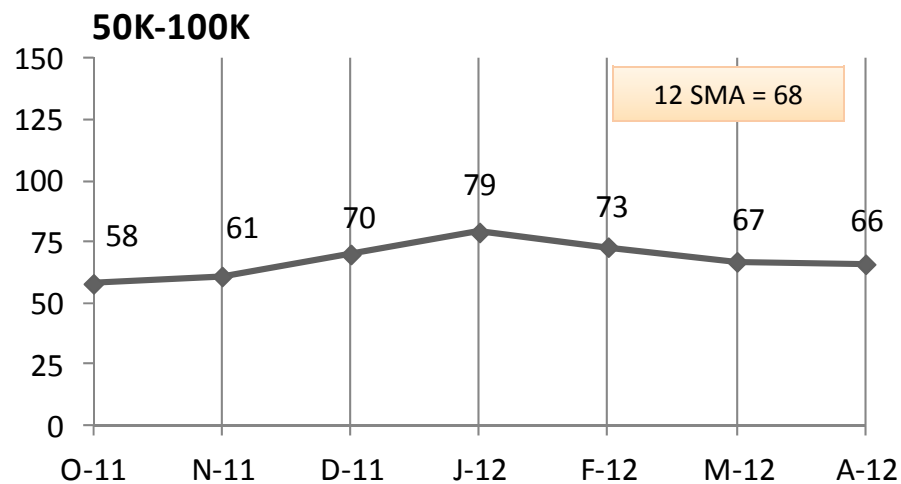
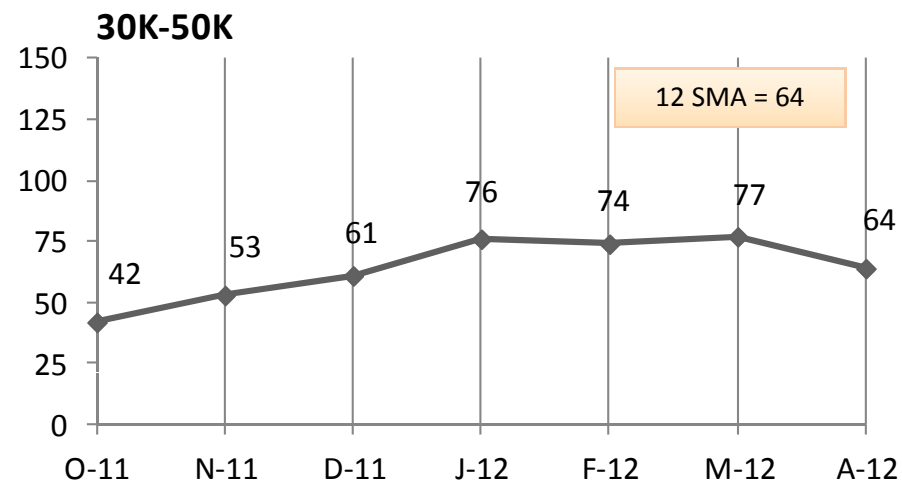
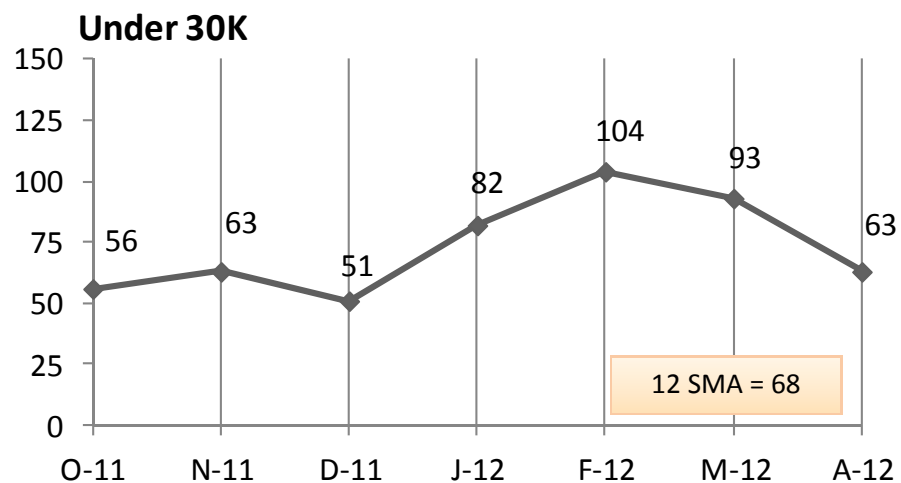


Q. How likely is it that you will buy or lease a new vehicle within the next 6 months?



# By Household Income 3 SMA

Base = All Respondents



Q. How likely is it that you will buy or lease a new vehicle within the next 6 months?

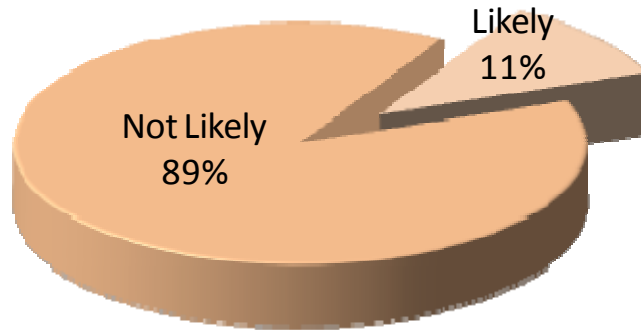
### **III. Demand For New Autos**

- A. Vehicle Purchase/Lease Plans: Overall**
- B. Vehicle Purchase Plans: Purchase Likelihood Over Time**
- C. New Vehicle Purchase/Lease Time Frame**
- D. Vehicle Types Momentum**
- E. Preferred Vehicle Types 3 SMA**

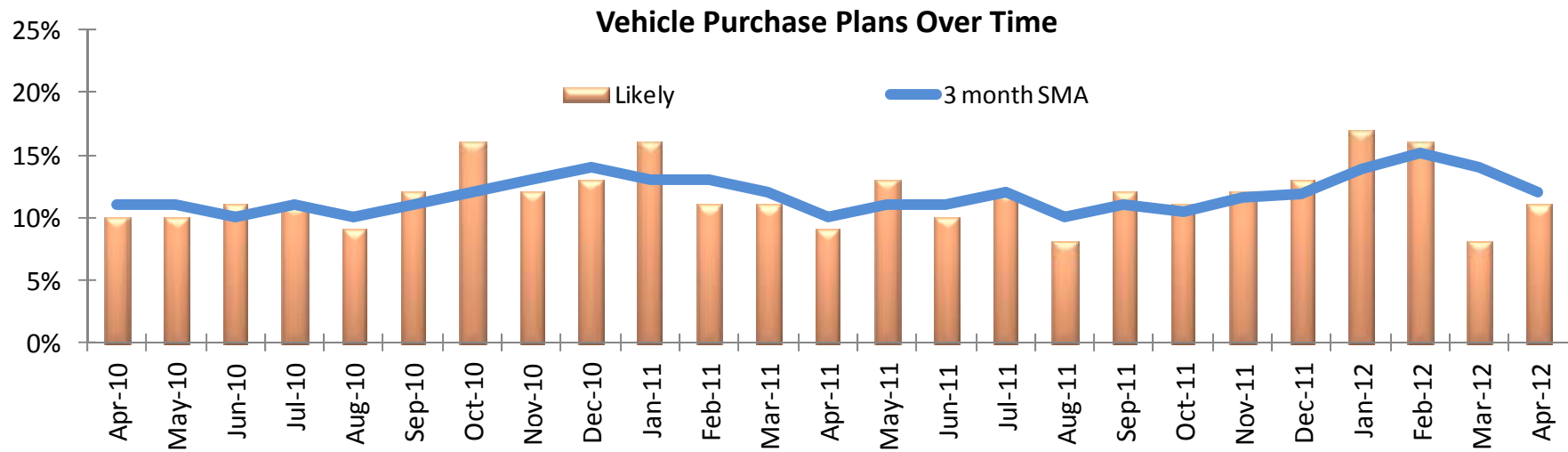
# Vehicle Purchase Plans

April 2012

Base = All Respondents



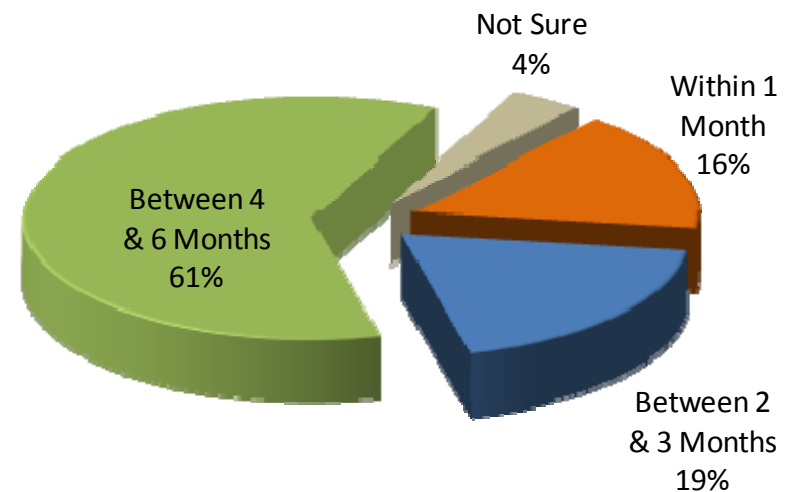
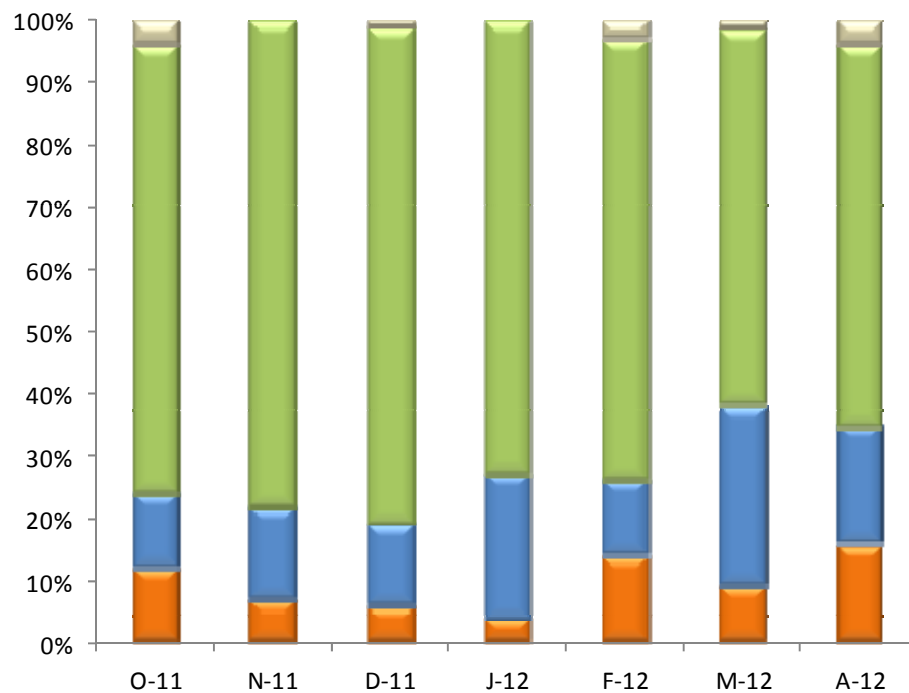
In April, the share of Americans who said they were likely to purchase or lease a new vehicle in the next six months is 11%, up from 8% in March.



# Vehicle Purchase/Lease Time Frame

April 2012

Base = Potential Customers



Of these likely to purchase or lease, 16% say will do so within one month, while 19% say they will do so within 2 to 3 months, while most (61%) are planning to do so further out (within 4 to 6 months).

■ Within 1 Month 
 ■ Between 2 and 3 Months 
 ■ Between 4 and 6 Months 
 ■ Not sure

In April, the percentage of likely vehicle buyers within one month increased to 16%.

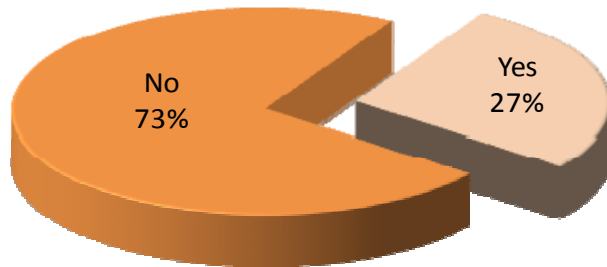
*Q. Will you make your purchase within the next month, 2 to 3 months, or in 4 to 6 months?*

# Gas Prices Delay Vehicle Purchase Timeframe

April 2012

Base = All Respondents

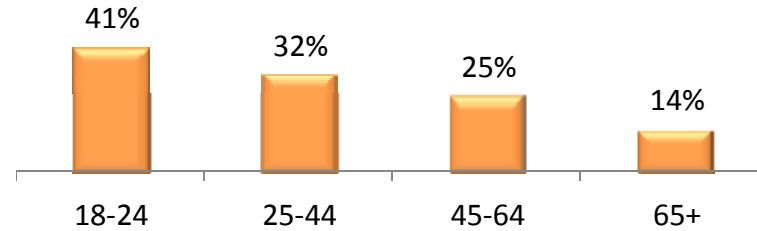
## Overall



In April, 27% of respondents said they have delayed the purchase of a new vehicle due to gas prices.

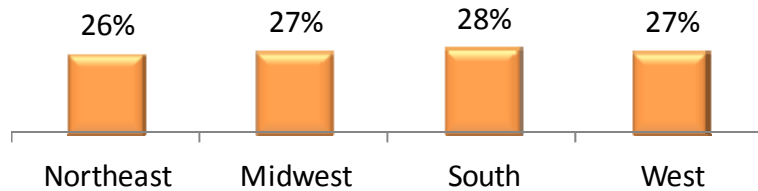
## By Age

Those who said yes



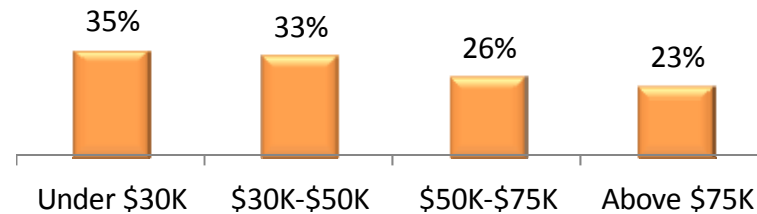
## By Region

Those who said yes



## By Household Income

Those who said yes

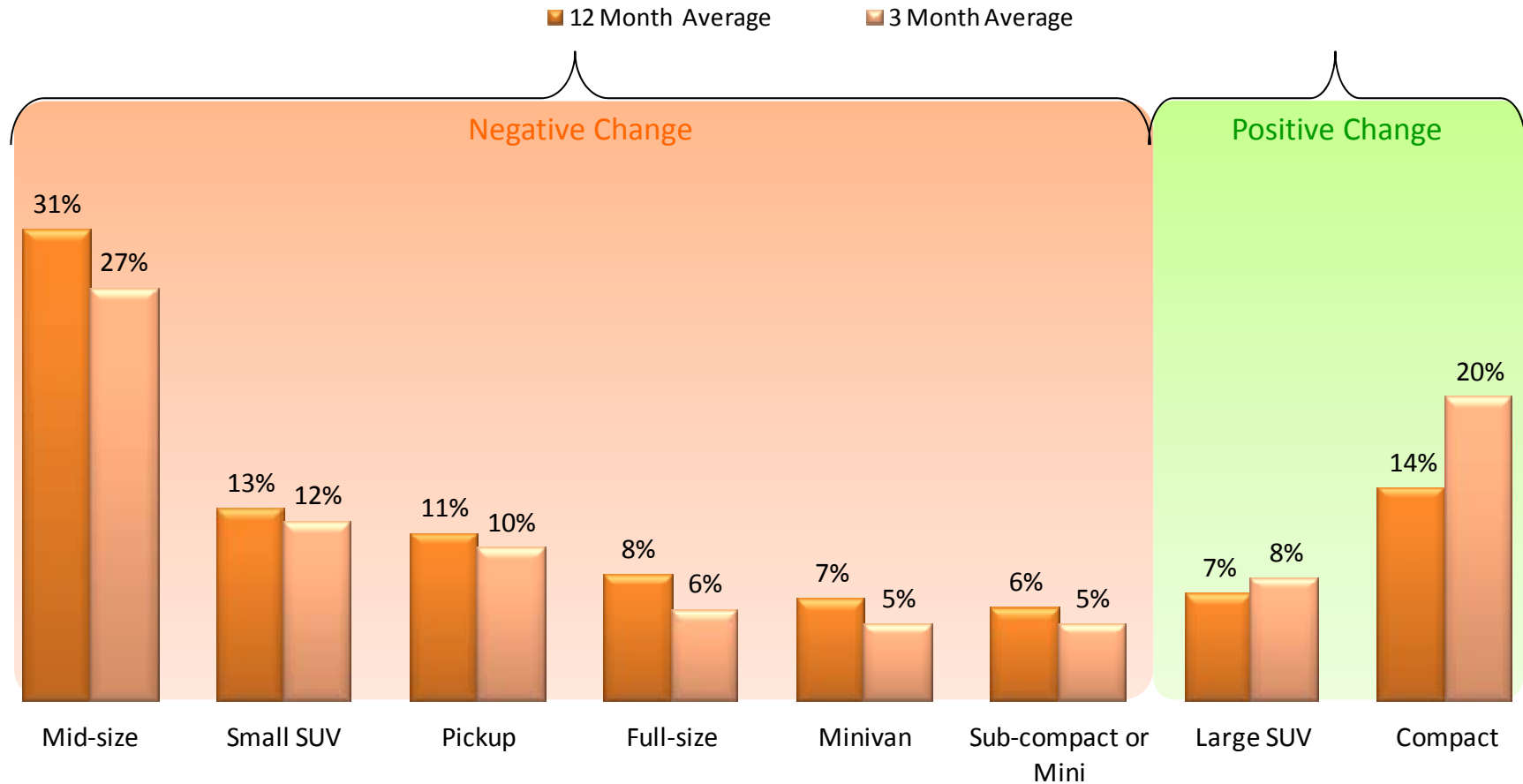


Q. What impact has today's gas prices had on your driving habits? Have you or are you delaying the purchase of a new car that you wanted to buy within the next six months?

# Vehicle Type Momentum

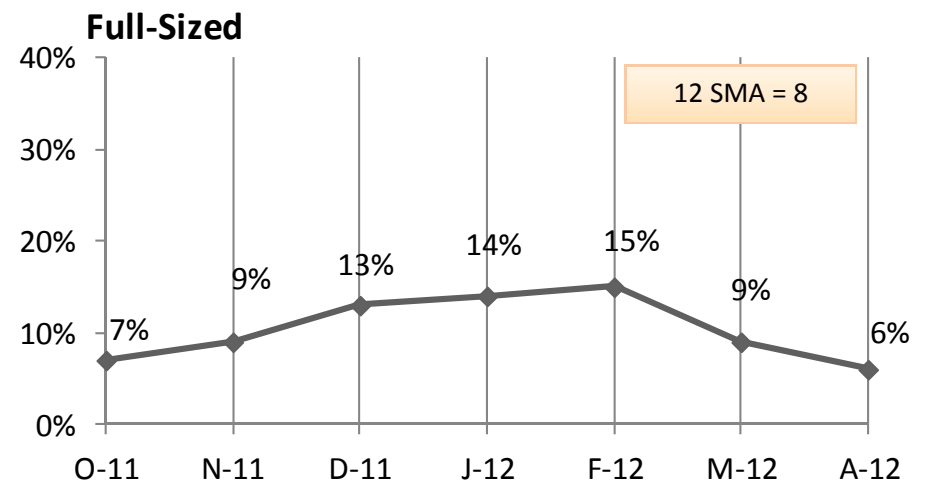
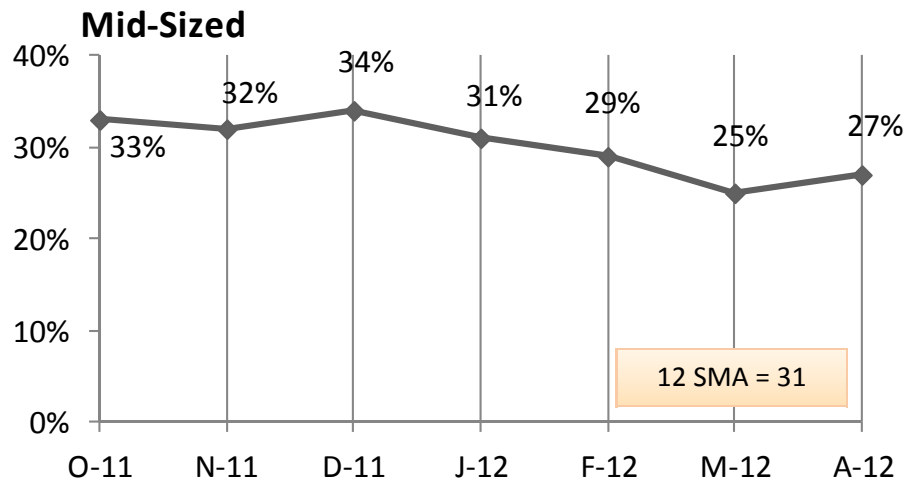
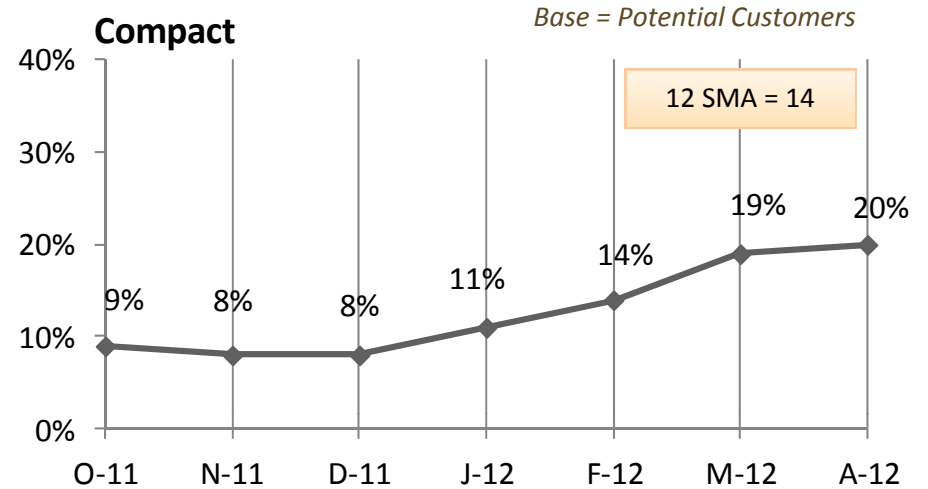
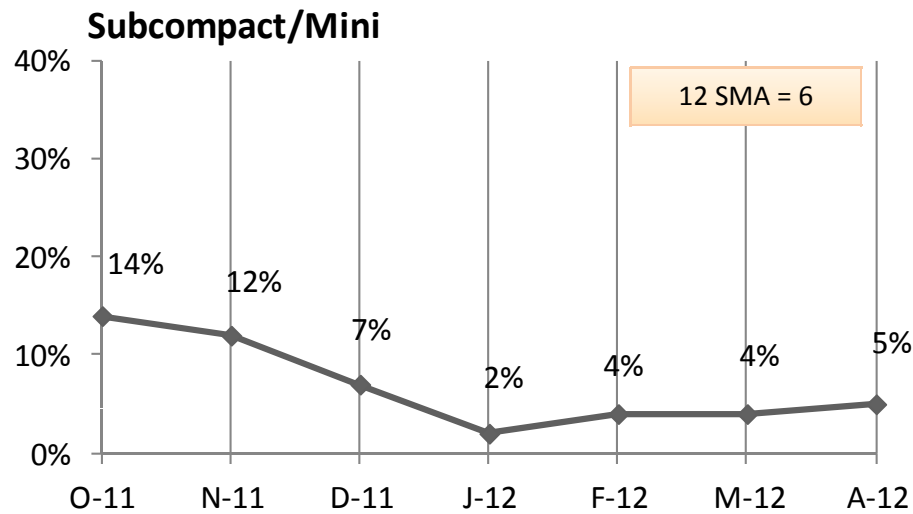
April 2012

Base = Potential Customers

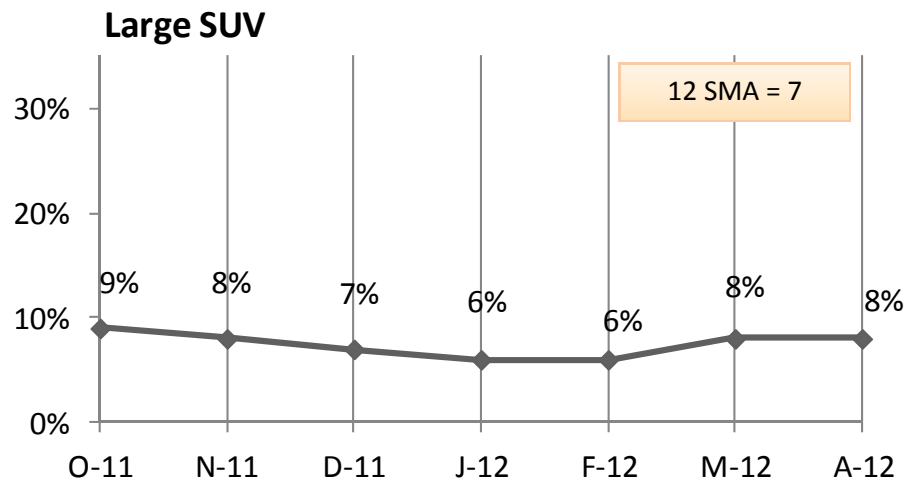
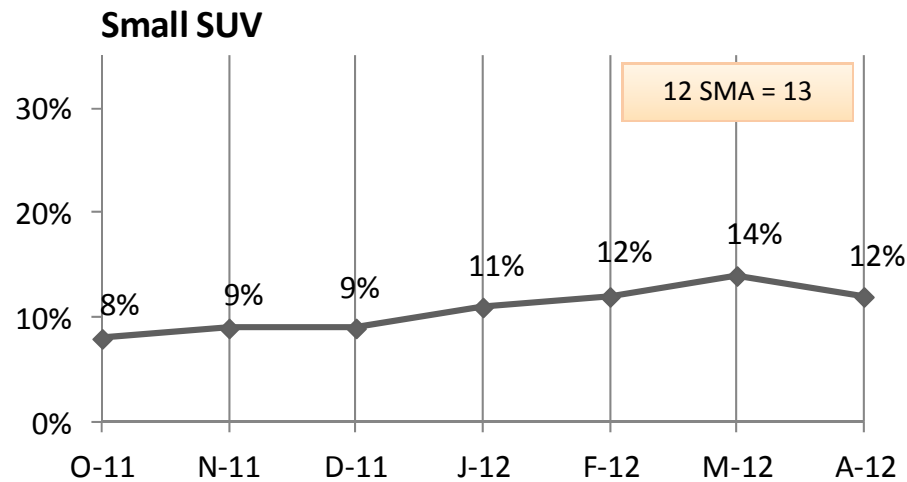
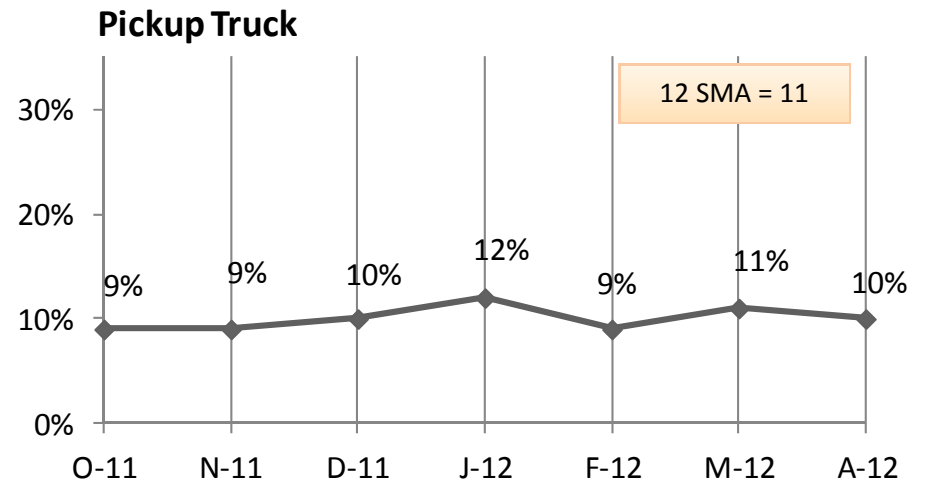
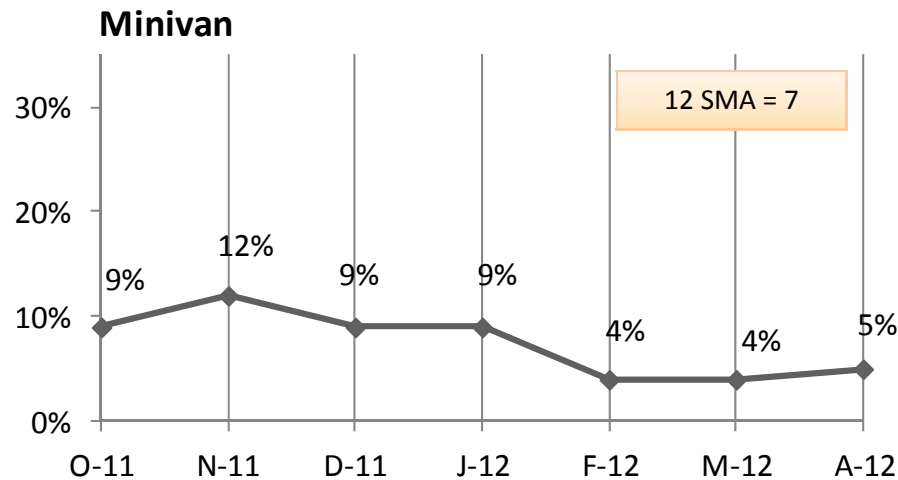


Q. What type of vehicle are you most likely to buy or lease?

# Preferred Vehicle Types Over Time - 3 SMA



# Preferred Vehicle Types Over Time 3 SMA





## **IV. Brand Preferences**

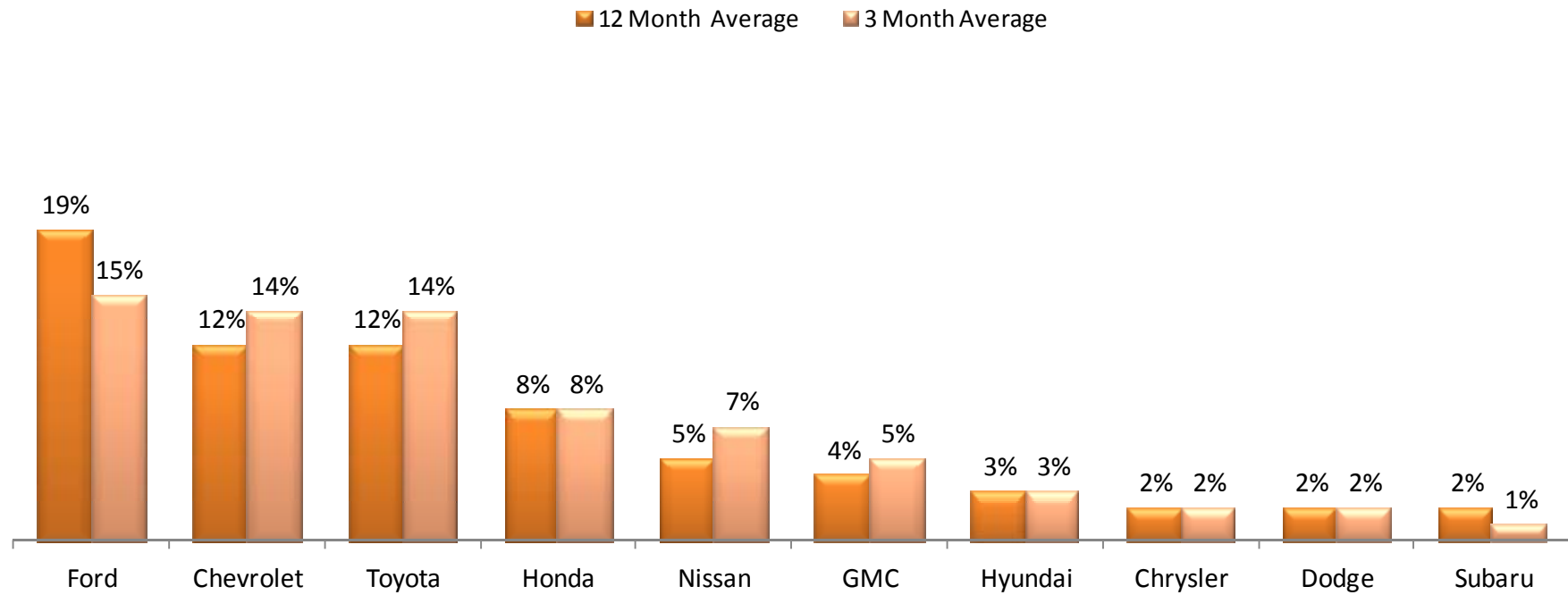
**A. Top Ten Brands Consumers Would Buy**

**B. Brand Preference Over Time 3 SMA (Top Ten Brands)**

# Top Ten Brands Consumers Would Buy Today

April 2012

Base = Potential Customers

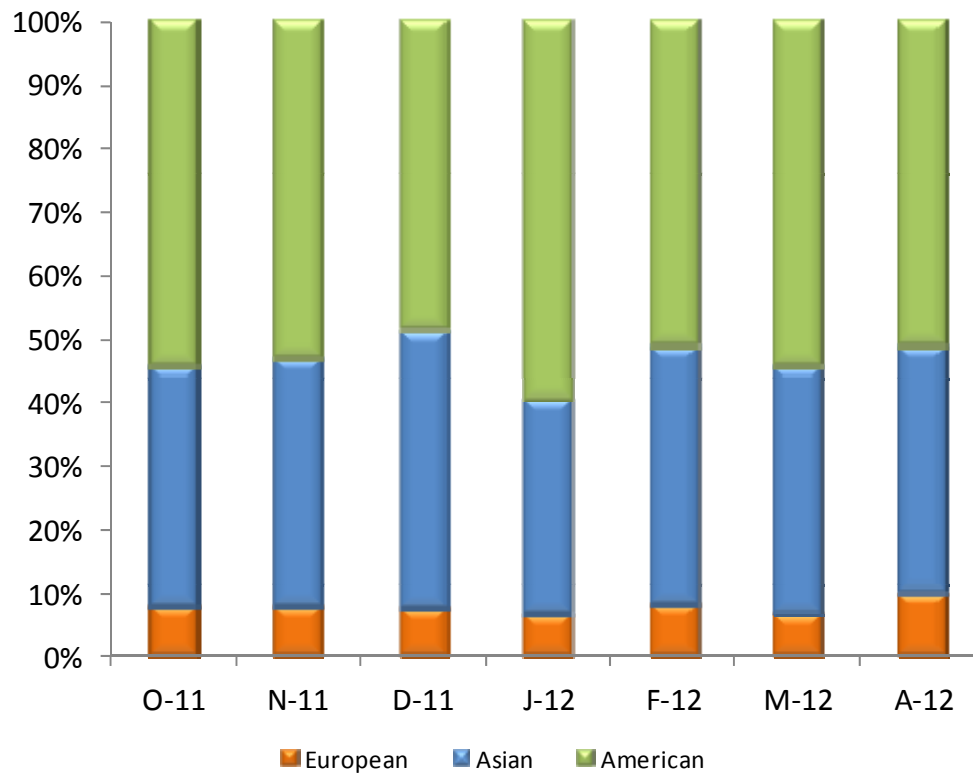


Sorted by 3SMA

# By Vehicle Origin

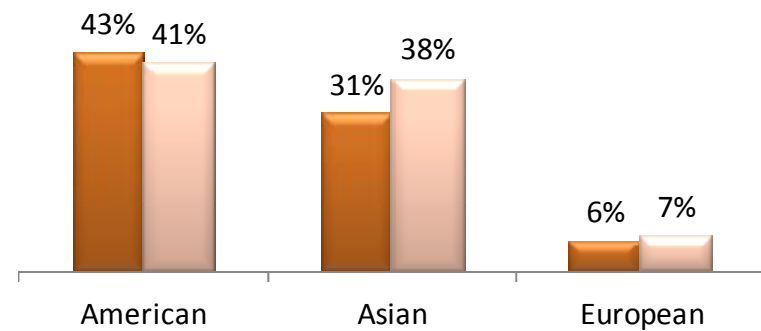
April 2012

Base = All Respondents



## Likely to Purchase by Origin

■ 12 Month Average ■ 3 Month Average

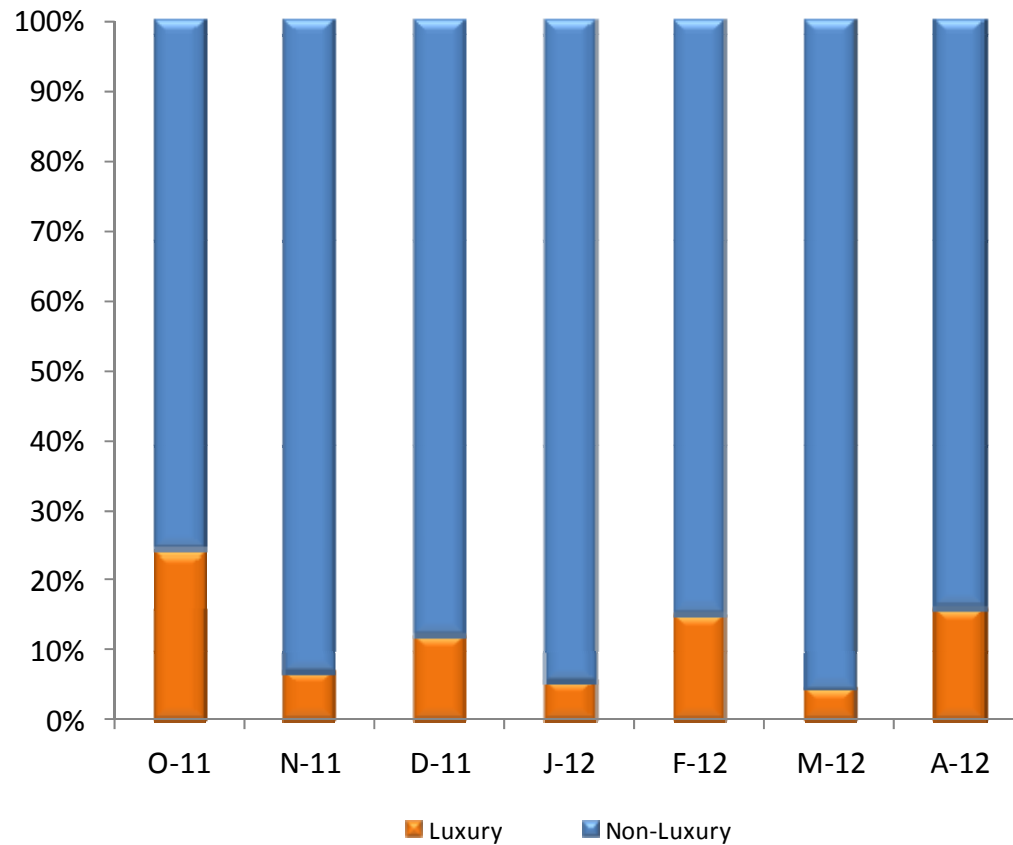


Q. If you were to buy a vehicle today, what brand would you buy?

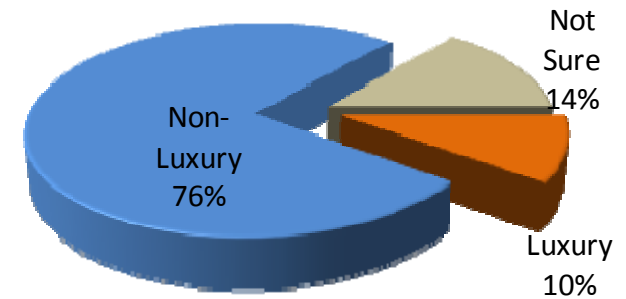
# Luxury vs. Non-Luxury

April 2012

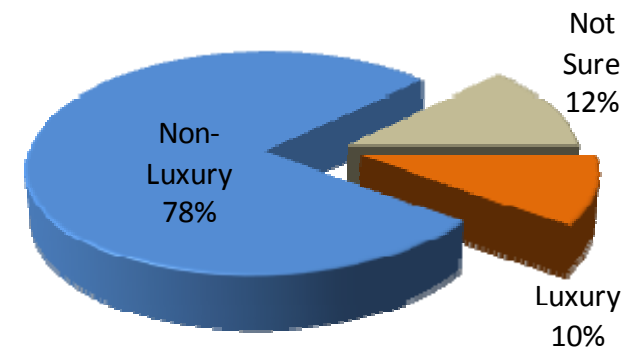
Base = All Respondents



3 Month Average



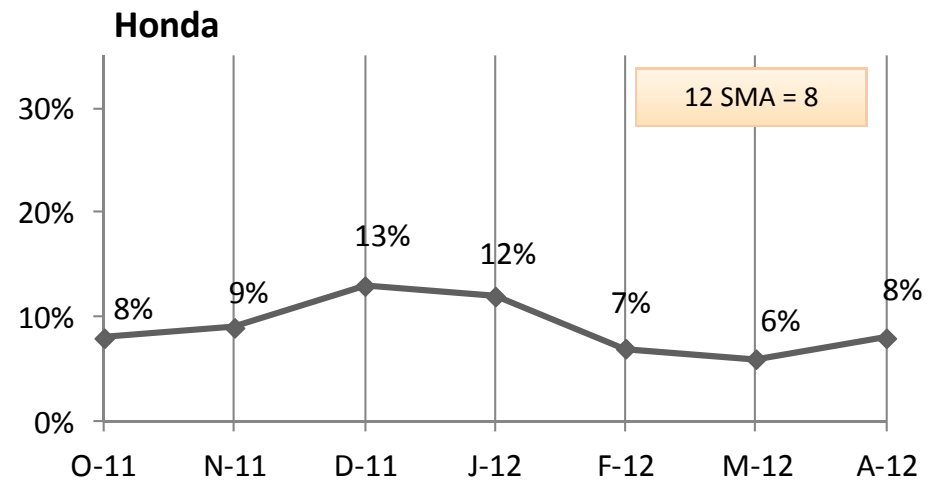
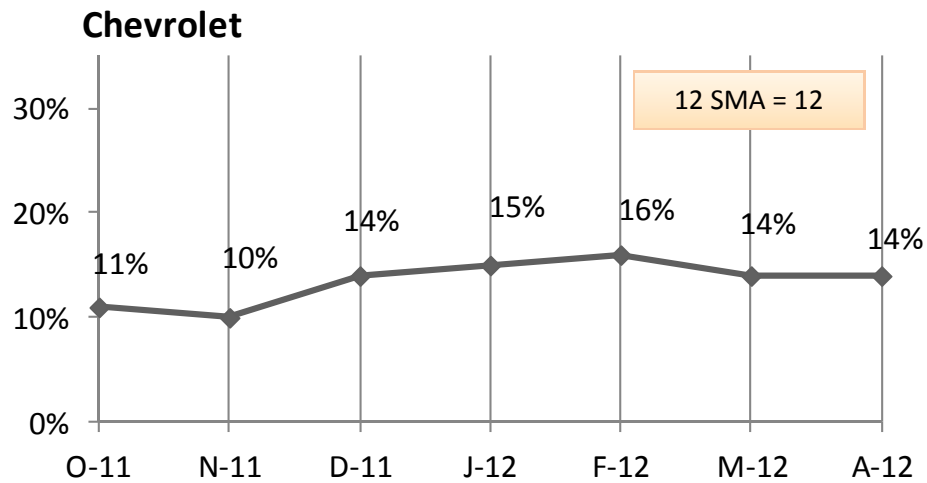
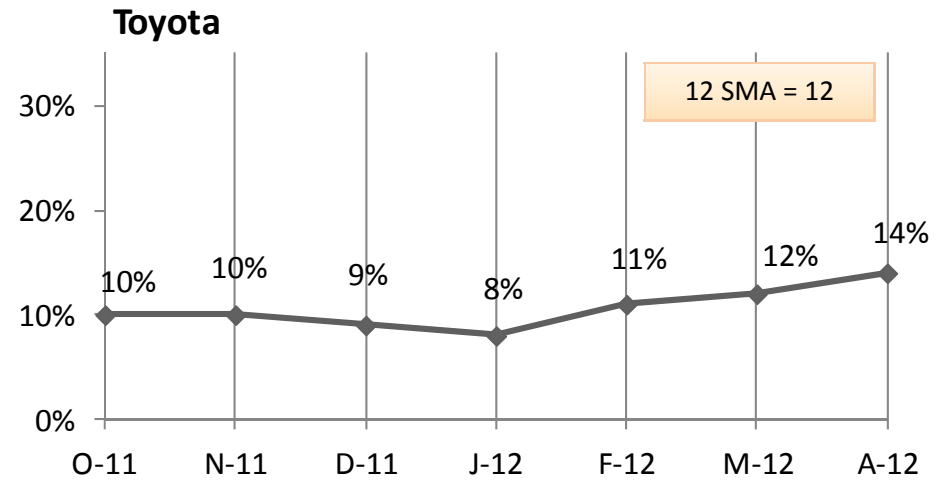
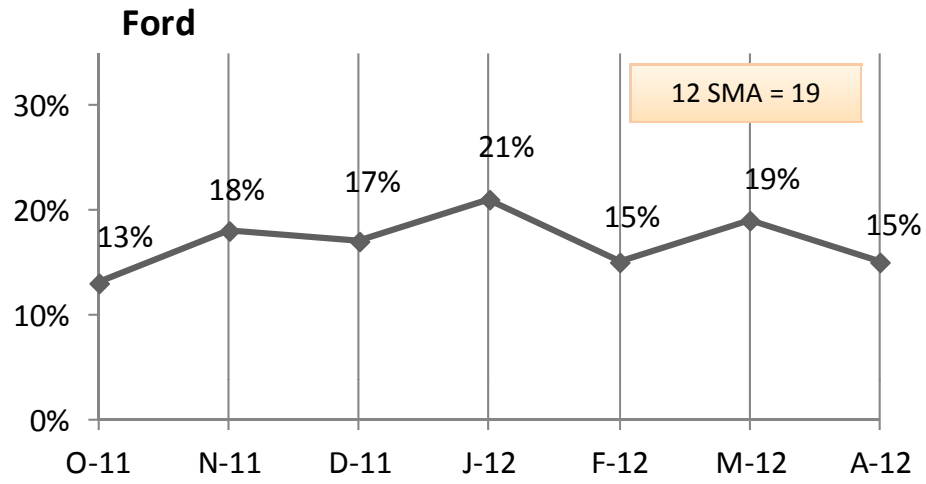
12 Month Average



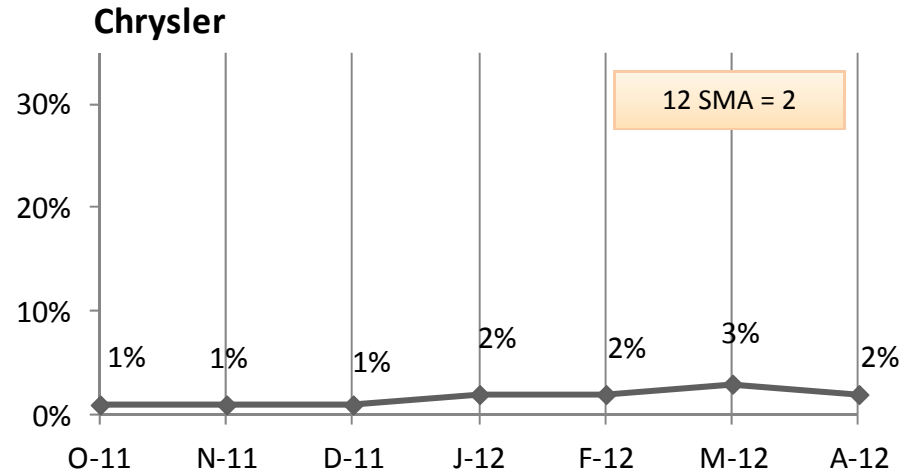
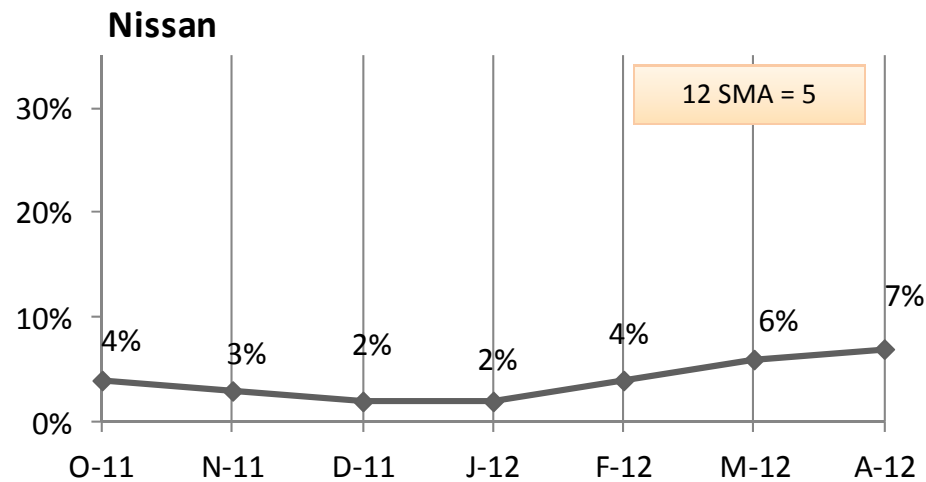
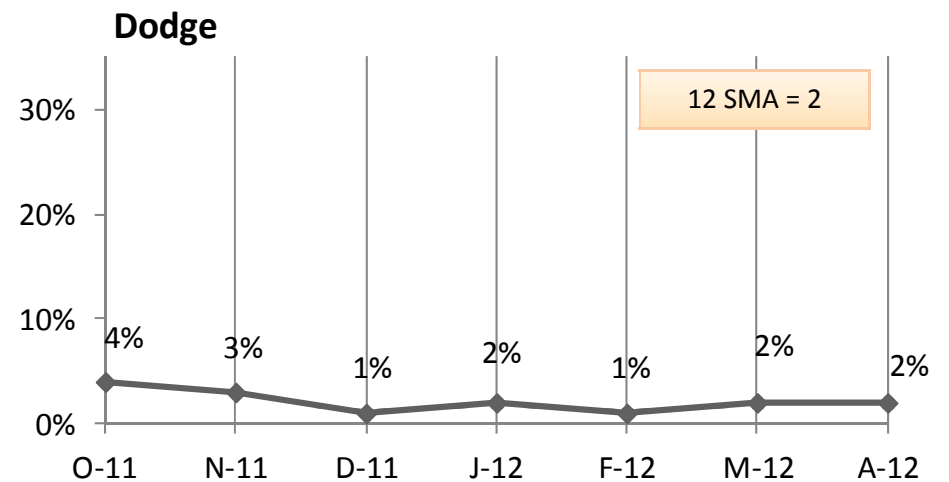
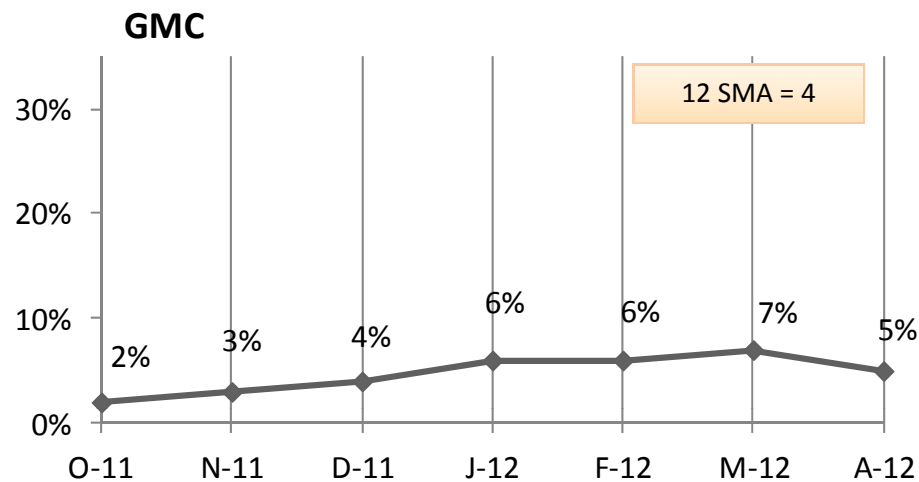
Q. If you were to buy a vehicle today, what brand would you buy?

# Brand Preference Over Time 3 SMA (Top 4 Brands)

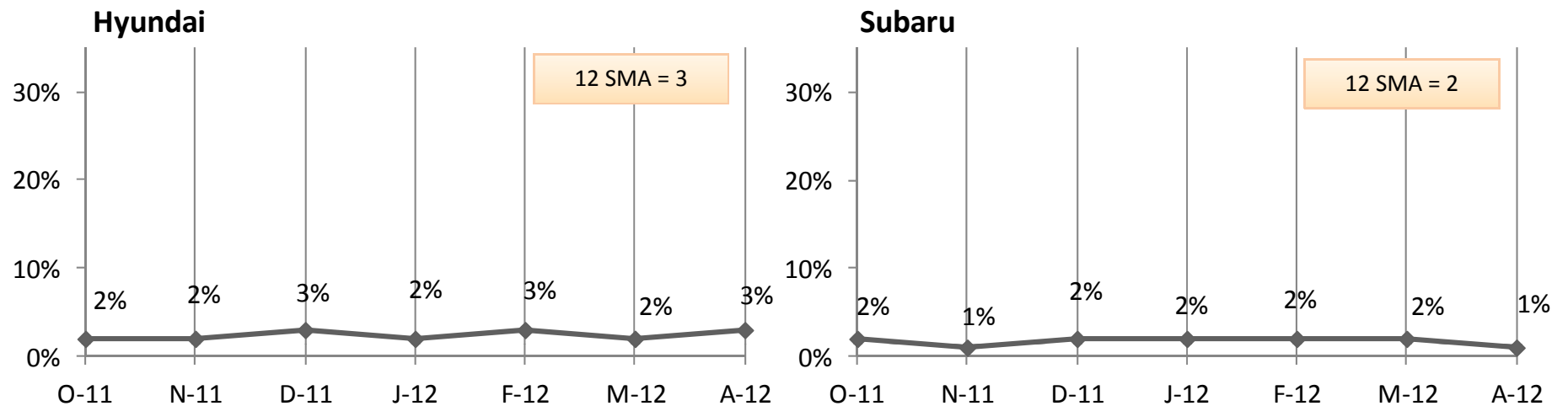
Base = Potential Customers



# Brand Preference Over Time 3 SMA (Brands 5-8)



# Brand Preference Over Time 3 SMA (Brands 9-10)



# Conclusions

- The Auto Demand Index tumbles as a casualty to high gasoline prices. TechnoMetrica's research has shown high gasoline prices is the biggest wildcard car manufacturers face today. This is highly likely to produce a drop in car sales during the second quarter.
- Only 11% of Americans are considering buying a new car within the next six months, up from 8% in March, but down significantly from the January high.
- Persisting high gasoline prices could drive down demand and add to the financial troubles of the already vulnerable auto industry. Further, a sharp slump in car sales has immense potential to significantly affect the economy and employment.
- Auto manufacturers and their dealers must proactively prepare for a sales slowdown. Auto factories take a long time to alter production rates and no manufacturer wants to have too many cars in inventory. The same holds true for car dealers, who must finance the unsold cars in their inventory.
- A rational energy policy, which acknowledges the realities of our resources, our preferences as consumers, and the realities of our environment, may be the best way to reduce America's gas pains disappear.



# Contact Information

To request a full data set or for any questions, please contact us.

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Email: [mayur@technometrica.com](mailto:mayur@technometrica.com)  
Web: [www.technometrica.com](http://www.technometrica.com)