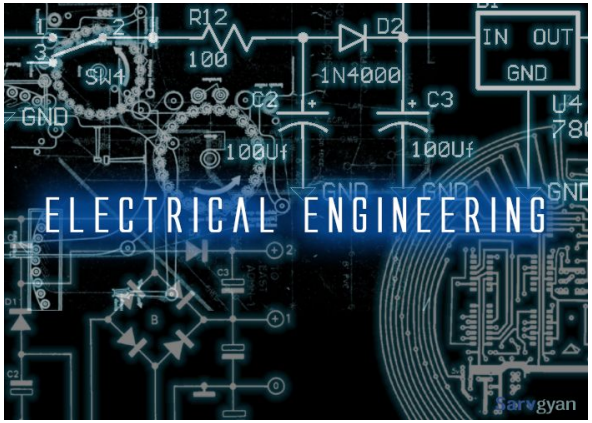
Hello!

I am Zhian Wang

I am here because I love data and analytics.

About me



BE ‘13,
Electrical Engineering,
SMU, China

HSBC

MS ‘18,
Business Analytics,
GWU, US

GWU MSBA

- R, Python, SQL, SAS, AMPL
- Data Mining, Data Management
- Statistics, Time Series, Probability Models
- Optimization, Decision and Risk Analytics

  …
- GPA: 3.92/4.0 (12 A and 4 A-)

- Teaching Assistant for 2 semesters

Projects and Internships

AUG 16

- Oscar Best Picture Nomination
- Austin Service Request Analysis
- 2016 US Presidential Election Swing States Analysis
- Customer Retention Analysis
- Top 100 Restaurants in DC

JAN 17

- World Bank - Data Viz Gallery
- Kaggle Competitions
- Norway New Car Sales Forecasting

AUG 17

WRI

Project Database Intern

SEP 17

CSIS

Analytics Intern

Analytics

- 2017 Oscar Best Picture Nomination
- Kaggle Competitions
- Norway New Car Sales Forecasting

Visualization

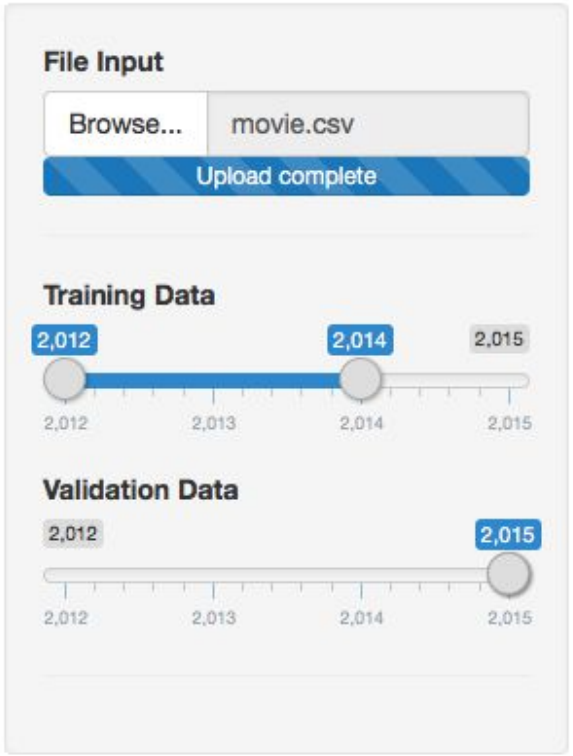
- Interactive Time Series Line Chart
- CSIS - Table App
- CSIS - Chart Maker

Analytics

2017 Oscar Best Picture Nomination

- Data Collection
  Web Scraping - IMDB, Rotten Tomatoes (2012-2016)
  Sentiment Analysis - Twitter
  A Kaggle Movie dataset
- Data Consolation - PostgreSQL
- Logistics Regression - R
- Demonstration - Shiny
  Data Exploration
  Regression Model Result

Prediction of 2017 Oscar Nomination



Summary

DataSummary | Stepwise Model Summary | Logistic Model Summary

Confusion Matrix | Misclassfication Rate | ROC Curve | Lift Curve

Nomination Movies for 2017 Oscar

data
Finding Dory
Zootopia
Doctor Strange
Manchester by the Sea
Moonlight
Aquarius
The Wailing
La La Land

Animated Feature Film

Sberbank Russian Housing Market - Top 12%

Predict realty prices based on housing data and macroeconomic patterns

Weighted Averaging

- 3 XGBoost models
- Data Processing
  Remove extreme values
  Handle unreasonable value
  Add new features
  Encode categorical variables
  Deflate the house price

Stacking (H2O)

- Data Processing
  Remove extreme values
  Handle unreasonable value
  Add new features
  Encode categorical variables
  Combine features
- Random Forest
- Extreme Random Tree
- GBM
- XGBoost

Norway New Car Sales Forecasting

- Monthly sales data from Jan 2007 to Jan 2017
- Two variables: Quantity and Import

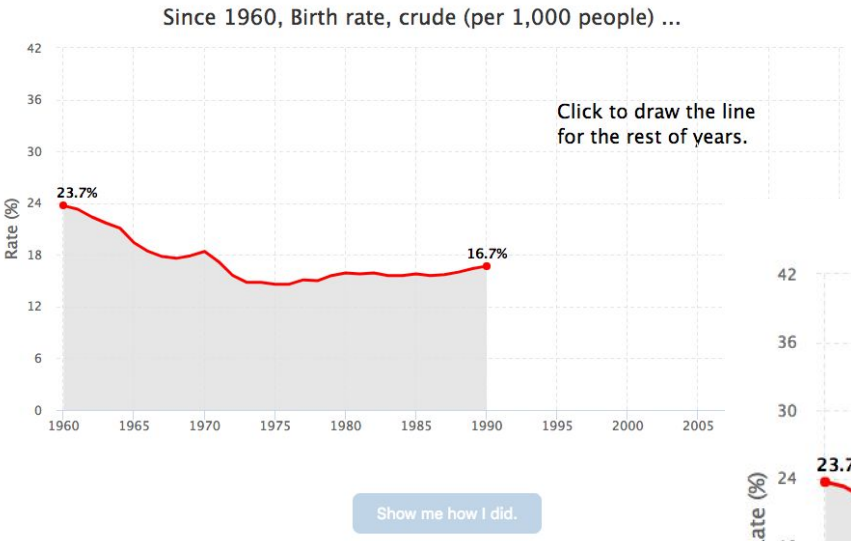
Model		RMSE	Variance
Univariate	IMA(1,1)	1,074.8	1,245,614
	Linear Trend + Seasonal Dummies +Drop + AR(3)	1,180.4	982,806
	Simple Exponential Smoothing	1,072.5	1,234,014
Bivariate	TF b=0 s=1 r=2 with noise model MA(1)(12)	NA	760,830
	TF b=0 s=1 r=1 with noise model MA(1)(12)	NA	814,682
	Intervention (b=0,s=2,r=1, MA(1)(6) error model)	NA	1,073,179

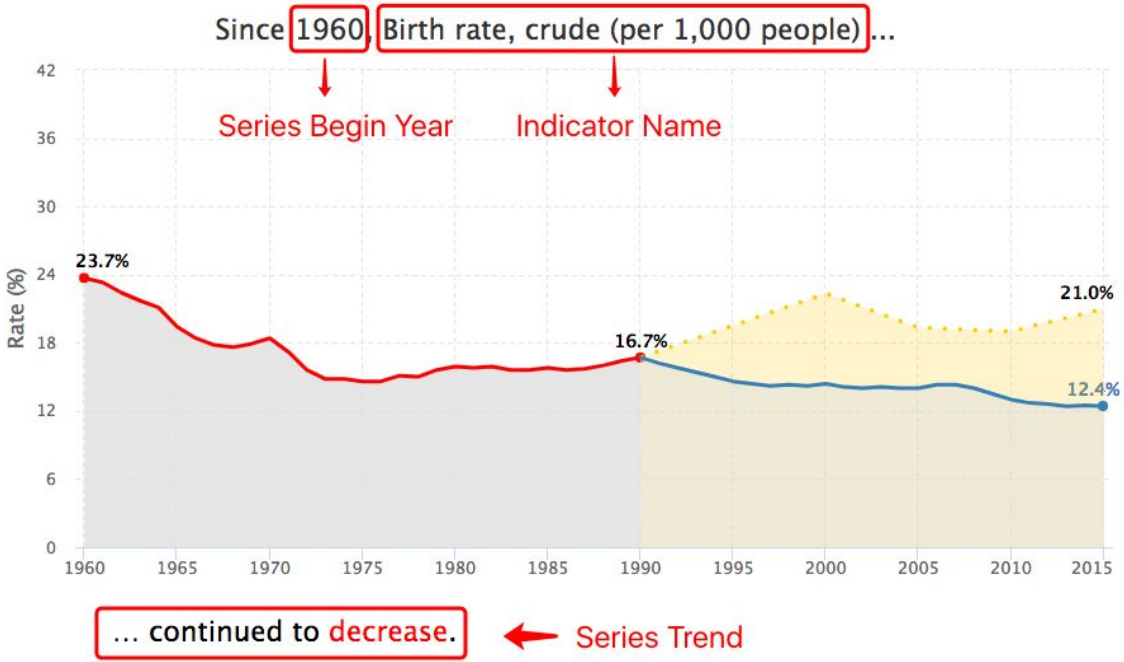
Model	Model Variance
TF b=0 s=1 r=2 with noise model MA(1)(12)	760,830
Linear Trend + Seasonal Dummies +Drop + AR(3)	1,012,732

Visualization

World Bank - Data Visualization Gallery

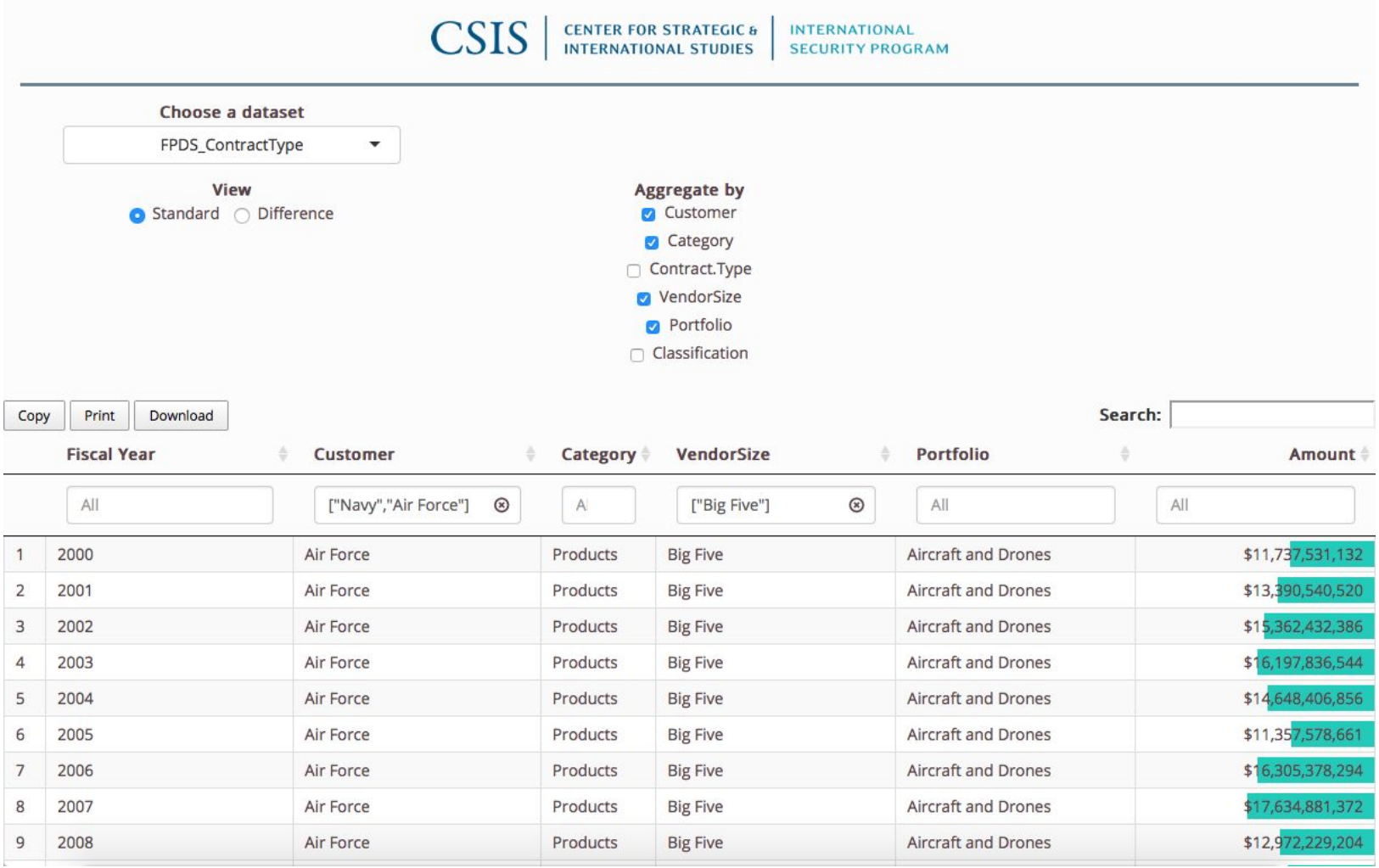
WDI Time Series Interactive Line Chart



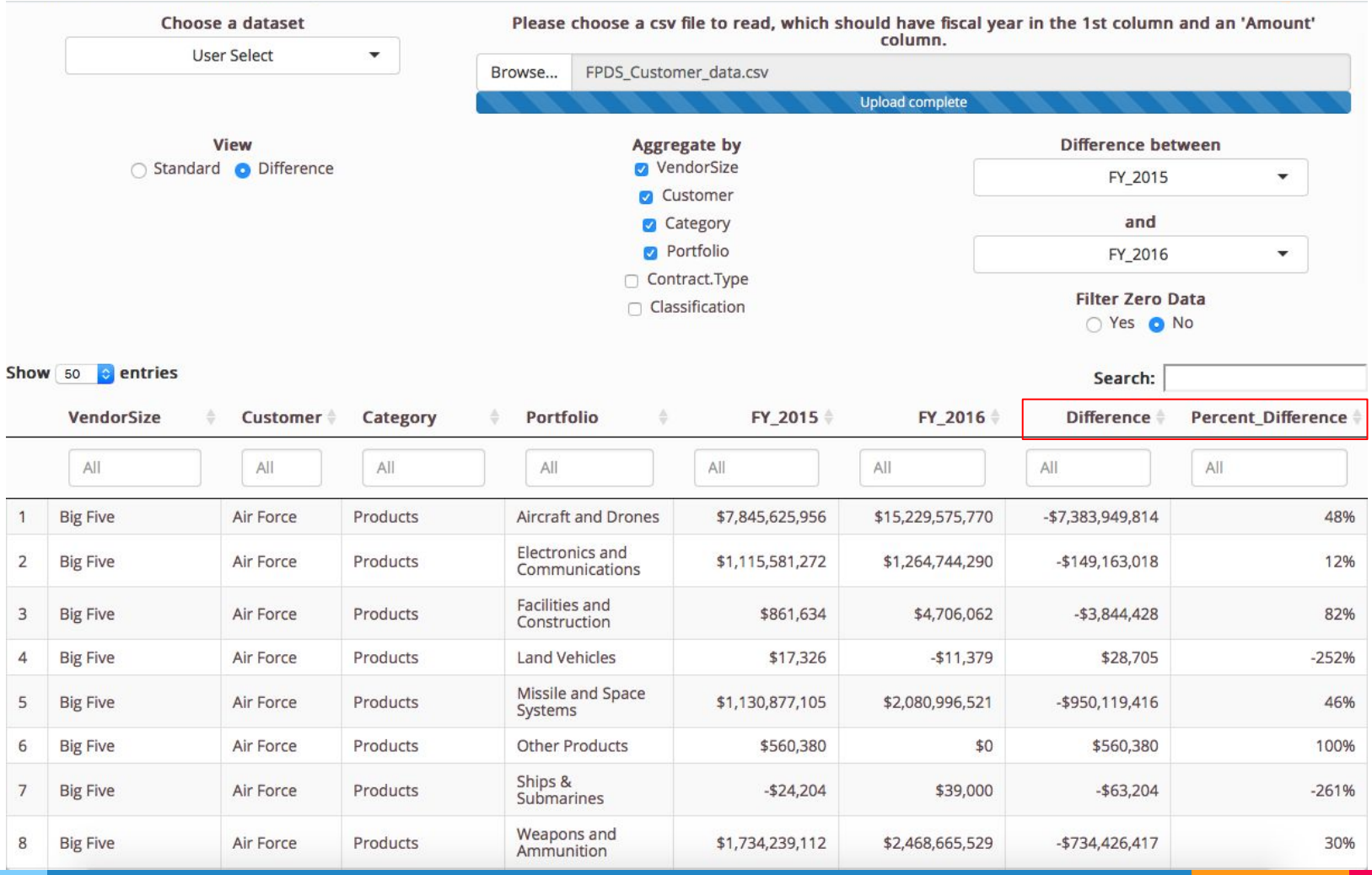


Apply the line chart to thousands of WDIs

CSIS - Table App



CSIS - Table App



	VendorSize	Customer	Category	Portfolio	FY_2015	FY_2016	Difference	Percent_Difference
	All	All	All	All	All	All	All	All
1	Big Five	Air Force	Products	Aircraft and Drones	$7,845,625,956	$15,229,575,770	-$7,383,949,814	48%
2	Big Five	Air Force	Products	Electronics and Communications	$1,115,581,272	$1,264,744,290	-$149,163,018	12%
3	Big Five	Air Force	Products	Facilities and Construction	$861,634	$4,706,062	-$3,844,428	82%
4	Big Five	Air Force	Products	Land Vehicles	$17,326	-$11,379	$28,705	-252%
5	Big Five	Air Force	Products	Missile and Space Systems	$1,130,877,105	$2,080,996,521	-$950,119,416	46%
6	Big Five	Air Force	Products	Other Products	$560,380	$0	$560,380	100%
7	Big Five	Air Force	Products	Ships & Submarines	-$24,204	$39,000	-$63,204	-261%
8	Big Five	Air Force	Products	Weapons and Ammunition	$1,734,239,112	$2,468,665,529	-$734,426,417	30%

CSIS - Chart Maker

FPDS Charts

Years

2000 — 2016

2000 2002 2004 2006 2008 2010 2012 2014 2016

- (•) Bar Chart
- ( ) Line Chart
- ( ) Double Stacked

Breakout

PlatformPortfolio

Facet

None

Y Variable

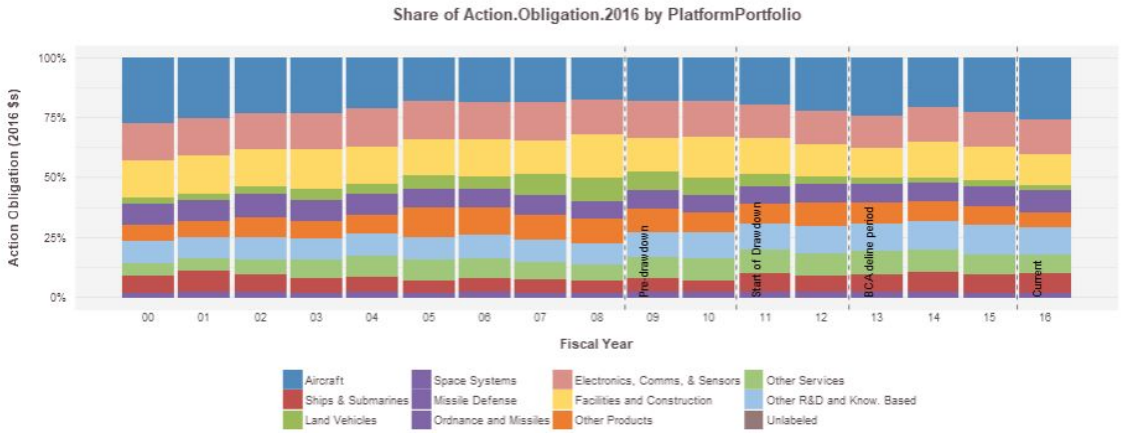
Action.Obligation.2016

- ( ) As Total
- (•) As Share

Show Drawdown Periods

- (•) Yes
- ( ) No

Charts | Edit Data



Save Plot as JPG (300 DPI)

Height (inches): 6

Width (inches): 6

Download Plotted Data

Plot title

Share of Action.Obligation.2016 by PlatformPortfolio

☑ Show title

Lock

CSIS - Chart Maker

FPDS Charts

Years

2000 2006 2016

2000 2002 2004 2006 2008 2010 2012 2014 2016

- Bar Chart
- Line Chart
- Double Stacked

Breakout

SubCustomer

Facet

Shiny.VendorSize

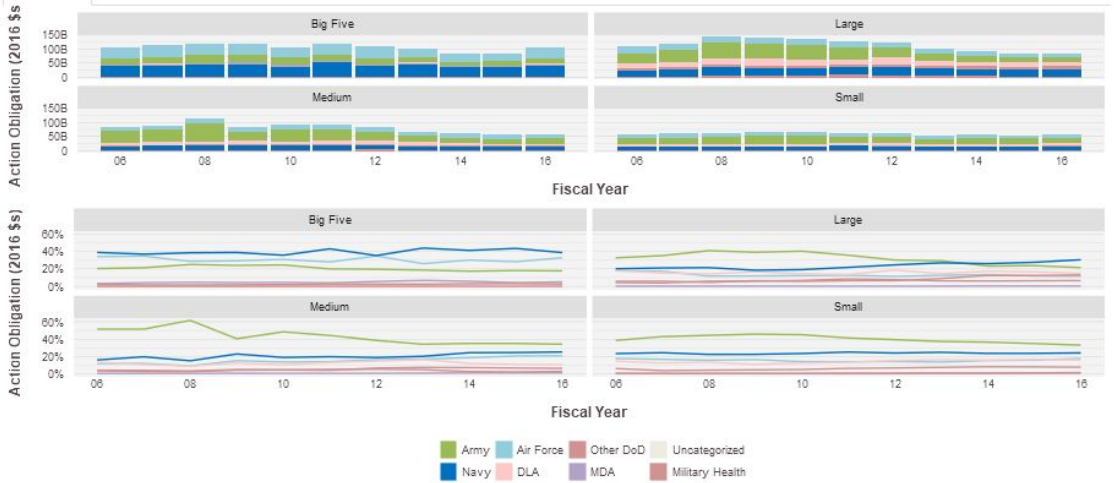
Y Variable

Action.Obligation.2016

Show Drawdown Periods

- Yes
- No

Charts | Edit Data



Save Plot as JPG (300 DPI)

Height (inches): 6

Width (inches): 6

Download Plotted Data

Plot title

Share of Action.Obligation.2016 by SubCustomer and Shiny.VendorSize

Show title

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Thanks!