

### DAILY REPORT

| Date            | 2016-04-19 |
|-----------------|------------|
| Time (Eastern)  | 03:50 PM   |
| Next Refit in   | 2 days     |
| Last Refit Date | 2016-03-23 |

# **MODEL INDICATORS**

| Variables in Order of Frequency of Inclusion | Value <sup>1</sup> |
|--|--------------------|
| Proprietary Variable X                       | -0.34              |
| Variance Risk Premium (VRP)                  | -0.5               |
| PCA of Price Indicators (PCA.price)          | -0.21              |
| Default Spread (DEF)                         | -0.12              |
| New Orders/Shipments (NOS)                   | 0.31               |
| Baltic Dry Index (BDI)                       | 2.45               |
| Implied Correlation (IC)                     | -0.13              |
| Proprietary Variable Y                       | -1.38              |
| Short Interest (SI)                          | -0.96              |
| Consumption vs Wealth and Income (CAY)       | -0.62              |
| Moving Average (MA)                          | 0                  |

# EQUITY RISK PREMIUM CALCULATION (ANNUALIZED)

|                            | Estimate | Historical <sup>2</sup> |
|----------------------------|----------|-------------------------|
| Total Return               | 2.03%    | 10.96%                  |
| 3-Month Treasury Bill Rate | 0.20%    | 4.64%                   |
| Equity Risk Premium        | 1.82%    | 6.32%                   |

# MODEL CONCLUSIONS

| Optimal Long Term Exposure:      | -4%  |
|----------------------------------|------|
| Short Term Adjustment:           | -11% |
| Current Optimal Equity Exposure: | -15% |

The long term model looks out at a 6 month time horizon for trend directionality. A short term adjustment has been introduced on 11 November 2015. This model will continue to evolve with additional short term and intermediate term models.

A glossary of terms used in this report appears on the following page.

<sup>&</sup>lt;sup>1</sup>Bullish indicators are denoted by positive signs and bearish indicators by negative signs. Variables marked with \* are currently not in the model. <sup>2</sup>Calculated using S&P 500 and 3-Month Treasury Bill Rate between 1954 and present.



#### GLOSSARY

(Terms listed in order of appearance in the Daily Report)

- **Refit** estimating the relationship between model indicators and future stock returns with the benefit of new data.
- Proprietary variable a model indicator developed internally that is not disclosed to the public.
- Variance Risk Premium the difference between volatility estimates observed in markets and recent realized volatility.
- PCA abbreviation for Principal Components Analysis. A statistical process that takes a large number of variables and produces a smaller number of variables that contain much or most of the information in the original large set of variables.
- Default Spread the difference between the low quality and high quality corporate bond yields.
- New Orders / Shipments new orders for and shipments of manufactured durable goods, as published by the U.S. Department of Commerce.
- Baltic Dry Index (BDI) an assessment of the price of moving raw materials by sea, published daily in London by the Baltic Exchange.
- Implied Correlation average pairwise correlation inferred from the relationship between the implied volatility of an index of stocks and the individual implied volatilities of the stocks that make up the index.
- Implied Volatility an estimate of the future volatility of a stock based on prices of options on the stock.
- Short Interest a measure of aggregate stock market short interest based on a weighted sum of short interest of individual stocks. A market participant sells a stock short by borrowing it from a broker and selling it, hoping to buy it back at a lower price.
- **Consumption versus Wealth and Income (CAY)** deviations from the equilibrium relationship among these three variables can predict future stock returns, according to a 2001 paper by Lettau and Ludvigson. Consumption and income are published by the U.S. Bureau of Economic Analysis; wealth is published by the Federal Reserve.
- Equity Risk Premium the excess return that investing in the stock market provides over the return on a riskfree asset like U.S. Treasury bills. We annualize this figure by doubling our six-month equity risk premium forecast.