

# *Matlab Code for* Investor Sentiment and Paradigm Shifts in Equity Return Forecasting

## 1. DATA

### 1.1. Return Variables.

- `SP500.m`: saves S&P 500 excess return data in `SP500_sentment_new.mat`  
Here the excess stock market return is measured as the difference between the log return on the S&P 500 (including dividends) and the log return on a risk-free bill. The monthly data over 1965:07–2010:12 is downloaded from the Center for Research in Security Prices (CRSP).
- `SP500_longer_horizons.m`: saves the data for S&P 500 excess return over long horizons in `SP500_longer.mat`
- `CRSP_discount_rate.m`: saves discount rate in `discount_rate_CRSP.mat`

### 1.2. Sentiment Regimes.

- `Sentiment_data.m`: saves sentiment data in `CRSP_SENT_value_weighted_new.mat` Here investor sentiment over 1965:07–2010:12 was downloaded from Jeffrey Wurgler’s homepage in 2014.
- `Paramters_Sentiment.m`: generates sentiment regime data using the regime-switching model and saves in `Para_sentiment.mat`
- `Paramters_Sentiment_medium.m`: generates sentiment regime data using median-cut and saves in `Para_sentiment_Medium.mat`
- `Paramters_Sent_20percent.m`: generates sentiment regime data using the 20%-cut and saves in `Para_sent_20percent.mat`
- `regime_CRDSPRD.m`: generates regimes determined by CRDSPRD and saves in `Para_CRDSPRD.mat`
- `regime_disagreement.m`: generates regimes determined by disagreement and saves in `Para_disagreement.mat`
- `regime_EQRIX.m`: generates regimes determined by EQRIX and saves in `Para_EQRIX.mat`

### 1.3. Fundamental Economic Predictors.

- `trans279.m`: generates PCA of the individual macro variables and saves in `PCA_ECON.mat` Here the macroeconomic series that are used to construct the fundamental economic predictors were downloaded from Sydney C. Ludvigson’s homepage.
- `ECON_variables.m`: generates individual ECON predictors and saves in `ECON_variable.mat`

- `ECON_variables_PLS.m`: generates the combined ECON variable using PLS and the regimes determined by the regime-switching model and saves in `ECON_variable_a.mat`
- `ECON_variable_medium.m`: generates ECON predictors for medium-cut regimes and saves in `ECON_variable_medium.mat`
- `ECON_variables_20perc.m`: generates ECON predictors for 20%-cut regimes and saves in `ECON_variable_20perc.mat`
- `ECON_variables_CRDSPRD.m`: generates ECON predictors with regimes determined by CRDSPRD and saves in `ECON_variable_CRDSPRD.mat`
- `ECON_variables_disag.m`: generates ECON predictors with regimes determined by disagreement and saves in `ECON_variable_disagreement.mat`
- `ECON_variables_EQRIX.m`: generates ECON predictors with regimes determined by EQRIX and saves in `ECON_variable_EQRIX.mat`

#### 1.4. Non-Fundamental Predictors.

- `technical_variables.m`: generates technical indicators and saves in `technical.mat`
- `anchoring.m`: generates anchoring variables and saves in `anchoring.mat`
- `NONFUND_variables.m`: generates individual NONFUND variables and saves in `NONFUND_variable.mat`
- `NONFUND_variables_PLS.m`: generates the combined NONFUND variable using PLS and regimes determined by the regime-switching model and saves in `NONFUND_variable_new.mat`
- `NONFUND_variable_medium.m`: generates NONFUND predictors for medium-cut regimes and saves in `NONFUND_variable_medium.mat`
- `NONFUND_variables_20perc.m`: generates NONFUND predictors for 20%-cut regimes and saves in `NONFUND_variable_20perc.mat`
- `PLS_Oil_shock.m`: generates ECON and NONFUND predictors for excluding the oil shock recession and saves in `PLS_NO_73_75_period.mat`
- `PLS_Expansion.m`: generates ECON and NONFUND predictors during economic expansion and saves in `PLS_ECON_NONFUND_EXP.mat`
- `NONFUND_variables_CRDSPRD.m`: generates NONFUND predictors with regimes determined by CRDSPRD and saves in `NONFUND_variable_CRDSPRD.mat`
- `NONFUND_variables_disag.m`: generates NONFUND predictors with regimes determined by disagreement and saves in `NONFUND_variable_disagreement.mat`
- `NONFUND_variables_EQRIX.m`: generates NONFUND predictors with regimes determined by EQRIX and saves in `NONFUND_variable_EQRIX.mat`

## 2. FIGURES AND TABLES

- Figures 1 and 5: `Paramters_Sentiment.m`. Estimate sentiment regimes using the regime-switching model and the median-cut model respectively.
- Figures 2, 3, 4: `Figure2.m`, `Figure3.m`, and `Figure4.m`. Plot the time series, correlations, and predicted returns, respectively, of combined predictors saved in `ECON_variable_a.mat` and `NONFUND_variable_new.mat`.
- Table 1: `Table1.m`. Summary statistics.
- Table 2: `Table2.m`
- Table 3 Panels A and B: `Table3A.m` and `Table3B.m`. Panel C: `Table3C_univariate.m` for univariate regressions and `Table3C_bivariate.m` for bivariate regressions.
- Table 4: `Table4.m`
- Table 5 Panel A: `Table5A_univariate.m` and `Table5A_bivariate.m`; Panel B: `Table5B_univariate.m` and `Table5B_bivariate.m`; Panel C: `Table5C_univariate.m` and `Table5C_bivariate.m`; Panel D: `Table5D_univariate.m` and `Table5D_bivariate.m`; Panel E: `Table5E_univariate.m` and `Table5E_bivariate.m`
- Table 6: `Table6.m`. `Table6Data.m`: generates variables in `dataANCH.mat`
- Table 7 Panel A: `Table7A_univariate.m` and `Table7A_bivariate.m`; Panel B: `Table7B_univariate.m` and `Table7B_bivariate.m`; Panel C: `Table7C_univariate.m` and `Table7C_bivariate.m`; Panel D: `Table7D_univariate.m` and `Table7D_bivariate.m`; Panel E: `Table7E_univariate.m` and `Table7E_bivariate.m`; Panel F: `Table7F_univariate.m` and `Table7F_bivariate.m`
- Table A1: `TableA1_univariate.m` and `TableA1_bivariate.m`, `ECON_variable_long_horizon.m`, `NONFUND_variable_long_horizon.m`, and `SP500_longer_horizons.m`
- Table A2: `TableA2.m`
- Table A3: `TableA3.m`