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Study Background
- A missing element in the top down stock selection approach used by the UD Flyer Fund is the relative valuation of industry groups i.e. those groupings of firms below the sector level. In this study I analyze the relationship between returns to S&P industry groups and five different measures of relative valuation.

Study Design
- Industry group selection criteria:
  - 12 month returns (price)
  - Year to date returns (price)
  - Sales to Price
  - Book to Price
  - Cash Flow to Price
  - Earnings to Price
  - Earnings (Forward) to Price

Sample Universe 18 Industry Groups across 10 S&P Sectors
- Industrial Electrical Equipment
- Residential Construction
- Auto Parts
- Beverages-Soft Drinks
- Appliances
- Chemicals- Major Diversified
- Medical Appliances and Equipment
- Synthetics
- Mortgage Investment
- Regional-Mid Atlantic Banks
- Personal Computers
- Application Software
- Telecom Services
- Sporting Goods Stores
- Home Improvement
- Biotechnology
- Electrical Utilities
- Diversified Utilities

Valuation Model Specification
- Model 1:
  \[ R_{12i} = f\left(\frac{1}{P/S}_i, \frac{1}{P/B}_i, \frac{1}{P/C}_i, \frac{1}{P/E}_i, \frac{1}{FP/E}_i\right) \]
- Model 2:
  \[ R_{ytdi} = f\left(\frac{1}{P/S}_i, \frac{1}{P/B}_i, \frac{1}{P/C}_i, \frac{1}{P/E}_i, \frac{1}{FP/E}_i\right) \]

Explanation of terms for Model 1 and Model 2:
- \( R_{12i} \): Return for the trailing twelve months for industry group \( i \)
- \( R_{ytdi} \): Return performance year to date for industry group \( i \)
- \( 1/P/S \): the inverse of Price to Sales
- \( 1/P/B \): the inverse of Price to Book
- \( 1/P/C \): the inverse of Price to Cash Flow
- \( 1/P/E \): the inverse of Price to Earnings
- \( 1/FP/E \): the inverse of Price to Forward Earnings

Model Adjustments
- Models 1 and 2 are adjusted to relative valuation models by dividing the valuation measures for industry groups by sectors
- The relative valuation models, in turn, are adjusted for market size

Cross Section Regression Results

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<th>RYTD</th>
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<th>RTTM</th>
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<td>b-coefficient</td>
<td>t-statistic</td>
<td>R squared</td>
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Analysis of Results
- All of the valuation measures had strong explanatory power relative to returns, year to date and trailing twelve months.
- R squares ranged from .79-.98 for RYTD and .79-.90 for RTTM.
- All valuation measures had positive b coefficients that were also statistically significant at the 95% confidence level.
- T statistics for the RYTD models ranged from 6.1-19.3 and 6.6-10.8 for the RTTM models.
- The highest b coefficients were sales to price (8.5), book to prices (7.8), and cash flow to price (8.9) for RYTD models.
- The highest b coefficients were sales to price (4.9), book to prices (4.8), and cash flow to price (2.3) for RTTM models.
- The RYTD models had significantly higher b coefficients, possibly indicating a major recent shift in the relationship between returns and valuation measures.

Conclusion
- Relative valuation models adjusted for market size appear to have strong predictive capabilities with respect to industry group returns.
- One caveat: more industry groups need to be tested.