Our Process: Standardized Data + Cash Flow Projection + CAPM + Yield Curve

CAPM Discounts Cash Flow Projection => NPV
Fama French +++ Yield Curve + Leverage
Revenue Projection and Terminal Cost Structure
Corporate Events and Volatility Dampening
Data Standardization and Scrubbing
A.I. in Corporate Finance

• Rational Investing applies Artificial Intelligence to Corporate Finance to process a large set of potential valuation drivers

• We extrapolate cash flow defensible through the business cycle, as well as the capital needed to generate incremental revenue

• Over a hundred decision trees form a neural network to estimate cash flow growth from a limited number of line items and macro data

• Corporate finance data is particularly well suited to iterative, parallel logic

• We run a ‘clean room’: No guidance, consensus estimates, or tea leaves

• We inject carefully defined human participation plus event processing.

• The result is an intuitive, standardized DCF valuation
US Equity Feed Market Neutral
8 Years Entire Universe of Coverage – 1,200 stocks
Point in time valuation history, simulated track record, gross returns

<table>
<thead>
<tr>
<th>Year Ending</th>
<th>Unlevered Return</th>
<th>Long / Short Positions</th>
<th>S&amp;P500 Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-13</td>
<td>7.3%</td>
<td>355 / 424</td>
<td>29.6%</td>
</tr>
<tr>
<td>Dec-14</td>
<td>6.3%</td>
<td>305 / 523</td>
<td>11.4%</td>
</tr>
<tr>
<td>Dec-15</td>
<td>11.4%</td>
<td>375 / 383</td>
<td>-0.7%</td>
</tr>
<tr>
<td>Dec-16</td>
<td>8.1%</td>
<td>296 / 446</td>
<td>9.5%</td>
</tr>
<tr>
<td>Dec-17</td>
<td>9.1%</td>
<td>299 / 308</td>
<td>19.4%</td>
</tr>
<tr>
<td>Dec-18</td>
<td>8.5%</td>
<td>342 / 302</td>
<td>-6.2%</td>
</tr>
<tr>
<td>Dec-19</td>
<td>8.5%</td>
<td>271 / 458</td>
<td>28.9%</td>
</tr>
<tr>
<td>Dec-20</td>
<td>10.8%</td>
<td>341 / 370</td>
<td>16.3%</td>
</tr>
<tr>
<td>Cumulative</td>
<td>95.5%</td>
<td></td>
<td>163.4%</td>
</tr>
</tbody>
</table>

Average Annual Return 8.74%
SD Annualized 3.30%
Sharpe Ratio 2.43
Recent Developments

- Valuation template upgraded to embed relationship between R&D, viral revenue growth, and discount rate
- Quantified impact of shift to subscriber revenue and scalable underlying cloud implementation for growth tech
- Improved relationship between yield curve shifts and impact on operating margins and inventory of cyclical firms
- Improved handling of external shocks and event processing i.e. social event (pandemic) impact vs. stress of credit cycle
- Improved handling of data across top 20 developed markets
US Simulation
8 Years, using current model, gross returns

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<tr>
<td>Dec-13</td>
<td>6.3%</td>
<td>577 / 618</td>
<td>29.6%</td>
</tr>
<tr>
<td>Dec-14</td>
<td>6.7%</td>
<td>524 / 659</td>
<td>11.4%</td>
</tr>
<tr>
<td>Dec-15</td>
<td>12.6%</td>
<td>543 / 611</td>
<td>-0.7%</td>
</tr>
<tr>
<td>Dec-16</td>
<td>8.8%</td>
<td>488 / 618</td>
<td>9.5%</td>
</tr>
<tr>
<td>Dec-17</td>
<td>12.6%</td>
<td>366 / 704</td>
<td>19.4%</td>
</tr>
<tr>
<td>Dec-18</td>
<td>14.4%</td>
<td>358 / 673</td>
<td>-6.2%</td>
</tr>
<tr>
<td>Dec-19</td>
<td>9.7%</td>
<td>495 / 460</td>
<td>28.9%</td>
</tr>
<tr>
<td>Dec-20</td>
<td>13.4%</td>
<td>544 / 354</td>
<td>16.3%</td>
</tr>
<tr>
<td>Cumulative</td>
<td>122.4%</td>
<td></td>
<td>163.4%</td>
</tr>
</tbody>
</table>

Average Annual Return 10.51%
SD Annualized 3.69%
Sharpe Ratio 2.65

Excluding financials and utilities. Exposure is aggregate of individual buy/sell decisions by Rational Investing model, 5% per sector net limit, 7.5% stop loss, monthly rebalancing, 25% mis-pricing threshold for investment, 10% for exit.
Global ETF Simulations 4 years

- We have modeled the top global ETF portfolios and filled out the valuation history of their holdings.
- This allows us to compare valuations across markets with relative ease.
- The valuation driven results are in line with broader sector and geography simulations.
- Understanding of capital efficiency allows us to reinforce these returns.
RI Global Equity Feed 150/75
Point in time valuation history, simulated track record, gross of divs, borrow and fees

<table>
<thead>
<tr>
<th>Year Ending</th>
<th>RI Global Feed</th>
<th>Long/Short Positions Avg</th>
<th>MSCI World Net</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec-17</td>
<td>28.1%</td>
<td>619 / 407</td>
<td>22.4%</td>
</tr>
<tr>
<td>Dec-18</td>
<td>8.4%</td>
<td>596 / 447</td>
<td>-8.7%</td>
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<tr>
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<td>35.5%</td>
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</tr>
<tr>
<td>Dec-20</td>
<td>30.6%</td>
<td>581 / 619</td>
<td>15.9%</td>
</tr>
<tr>
<td>Cumulative</td>
<td>145.7%</td>
<td></td>
<td>65.3%</td>
</tr>
</tbody>
</table>

Average Annual Return 25.2%
SD Annualized 13.9%
Sharpe Ratio 1.72
Beta 0.64

MSCI World Index Allocations
- 66.08% US
- 7.80% Japan
- 4.33% UK
- 3.42% France
- 3.23% Switzerland
- 3.11% Canada
- 2.90% Germany
- 2.11% Australia
- 1.35% Netherlands
- 5.67% Others
- 92.22% RI Coverage
The Perfect Blend of Man and Machine

- A.I. is an iterative industrial interaction between users and systems
- **We have spent two decades pushing the frontier of what machines do well in assembling valuations vs. human capability**
- Decision trees resolve complex, contingent, path dependent logic
- The greatest challenge, and source of alpha, proved to be normalization of financial statement trend lines of recurring revenues and costs
- Resulting standardized Risk Adjusted DCF works across sectors
- Human participation is highly formatted: the analyst supports the system
- Observation backed by intuition i.e. we are always able to answer ‘Why?’
Coverage and Redundancy

• We process 1,250 companies a month across global markets

• Parameters set by humans must work **consistently** across time and cross-sectionally, and results should be **replicable** across geography

• Even with intelligent interpolation, maybe 50% of material information in company filings can currently be absorbed in an automated fashion

• A team of 15 analysts supports DCF models for 2,500 stocks worldwide, limiting their participation to what is most relevant and hard to automate

• A second team of senior analysts and principals reviews the largest mis-pricings; the result represents a unique reduction in noise and uncertainty

• A high level of clarity on risk in the midst of post pandemic uncertainty
Why is Unassisted Machine Learning still a Challenge?
- The model is built around ex-ante expectations that are never visible and may not be what eventually drove historical returns, but do drive valuations at any given time

Every business cycle is different in drivers of growth on the way up and assets which become economically stranded on the way down

The system parses a large set of distributed decision trees, needs human tuning for
- Corporate events and structural change in business conditions
- A volatile industry masking the underlying strength of technology or brand

A.I.’s consistency generates alpha; setting parameters still requires human risk mapping as competitive conditions evolve
Positive feedback loop: The modeling process highlights issues in data; correcting relevant data offers insight into systematic improvement.

The result is highly consistent line item normalization across 2,750 global stocks.

Over twenty years, a massive, tuned, distributed decision tree combined with a trained team have built up a durable competitive advantage.

Our process for gathering global public data and cross-checking it, and reading nuances of management behavior from it, is without peer.

Market neutral returns have a Sharpe Ratio > 2 through the business cycle.

This result represents a disruptive level of capability.
Biography

Manish Aurora, Managing Principal - Methodology and Product Architecture

• Co-founded Rational Investing LLC and built its first valuations starting in 1998. The firm is now 20 professionals modeling the G7 and MSCI World markets

• Designed and developed the FX trading platform of FXCM [www.fxcm.com], at a time the world’s largest specialized FX dealer

• Converted Merrill’s European FX derivatives exposure at NYC, London, Singapore offices to the Euro

• Reprogrammed JP Morgan’s global swaps pricing and counterparty credit risk calculation using Massively Parallel Supercomputing technology

• Designed the Value at Risk calculator for the merger of Chase and Chemical, then the biggest bank merger ever, under a tight deadline from the Federal Reserve

• Designed and constructed the first CMBS and Corporate Bond credit risk models at BlackRock

• Sell-side analyst at Nomura Securities covering real estate equity, debt, CMBS

• Built the first commercial paper direct issuance and investment management and reporting system for GE Capital, ITT, Ford at Financial Sciences

• MBA from University of Chicago; BS in computer science, University of Scranton