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Professor of Finance, GFRI



Bringing Fintech to the
classroom...



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classroom...

ABILITY TO

- Analyze large quantities of data
- Replicate real life investment situations
- Use cutting edge methodology

MODULARITY IN TERMS OF

- Topics
- Financial literacy
- Knowledge in quantitative approaches

GFRI SOLUTION

- **Web-based** platform: no need for local infrastructure
- Powerful cloud computing: **real-time** operations
- Modular structure: coherent framework

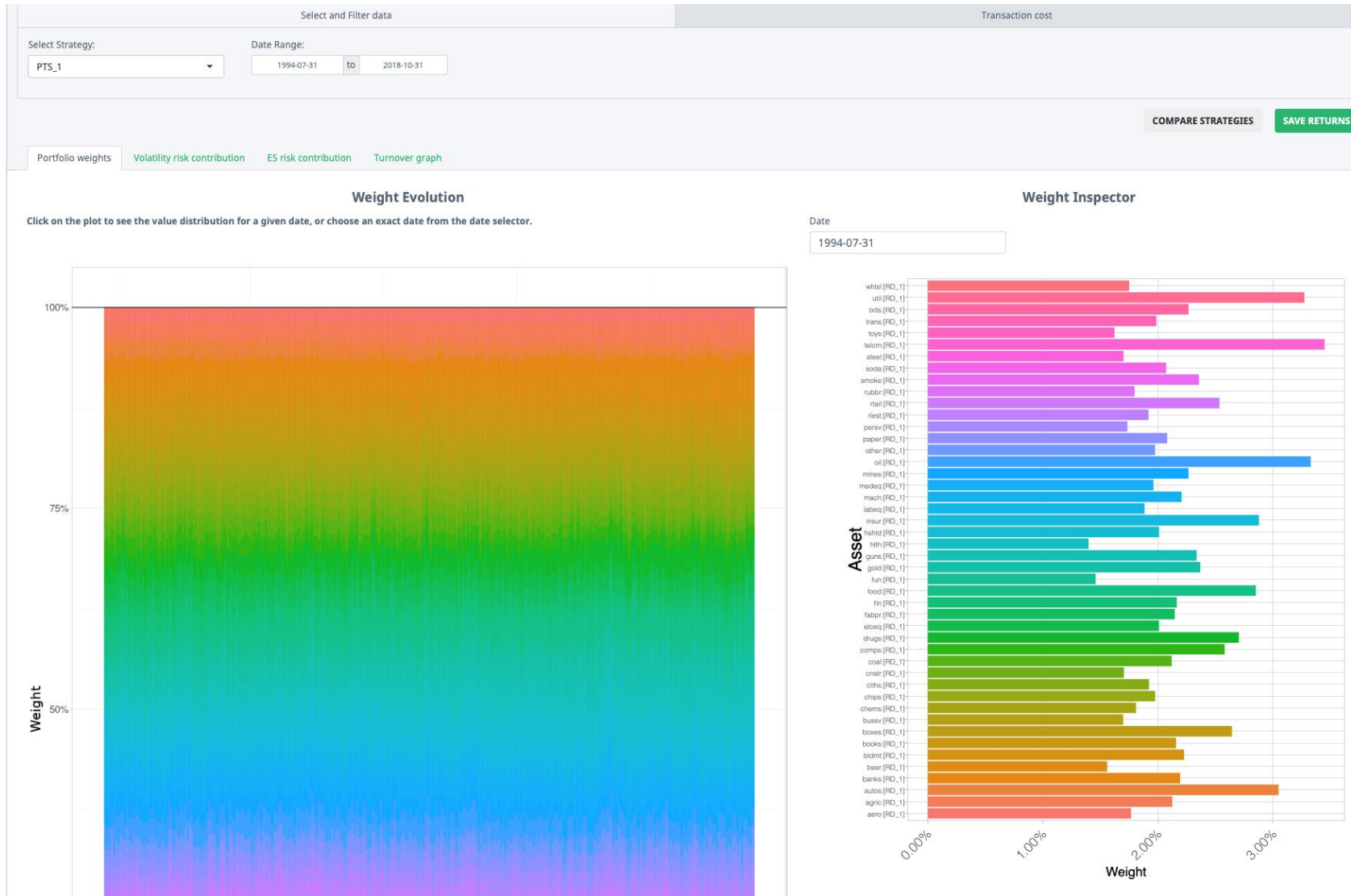
<p>Dataset Selection</p> <p>Select the datasets used in the analysis.</p> <p>EDIT →</p>	RD_1	<p>Time-series Visualizations</p> <p>Perform visual analysis of the joint properties of the time-series.</p> <p>EDIT →</p>	RD_1 RR_1
<p>RD_1 RR_1</p> <p>Moment Estimation</p> <p>Perform 1st and 2nd moment estimation for multivariate time-series.</p> <p>EDIT →</p>	M_1	<p>Frontiers</p> <p>Analyze mean-variance and expected shortfall frontiers.</p> <p>EDIT →</p>	RD_1 M_1 RR_1 No Outputs
<p>M_1</p> <p>Black-Litterman analysis</p> <p>Perform Black-Litterman type analysis.</p> <p>EDIT →</p>	No Outputs	<p>Carry-Trade strategies</p> <p>Create carry-trade strategies.</p> <p>EDIT →</p>	No Inputs No Outputs
<p>RD_1 RR_1</p> <p>Dynamic strategy</p> <p>Create portfolio strategies for out of sample analysis.</p> <p>EDIT →</p>	PTS_1 RR_1	<p>Portfolio analysis</p> <p>Analyze the portfolio strategies created in the Dynamic strategy tab.</p> <p>EDIT →</p>	PTS_1 No Outputs
<p>RD_1 RR_1</p> <p>Performance Analysis</p> <p>Analyse and decompose returns based on factors.</p> <p>EDIT →</p>	No Outputs		

INITIALLY DEVELOPED FOR OUR PROGRAM IN
COLLABORATION WITH TSINGHUA UNIVERSITY,
SO...



AN EXAMPLE

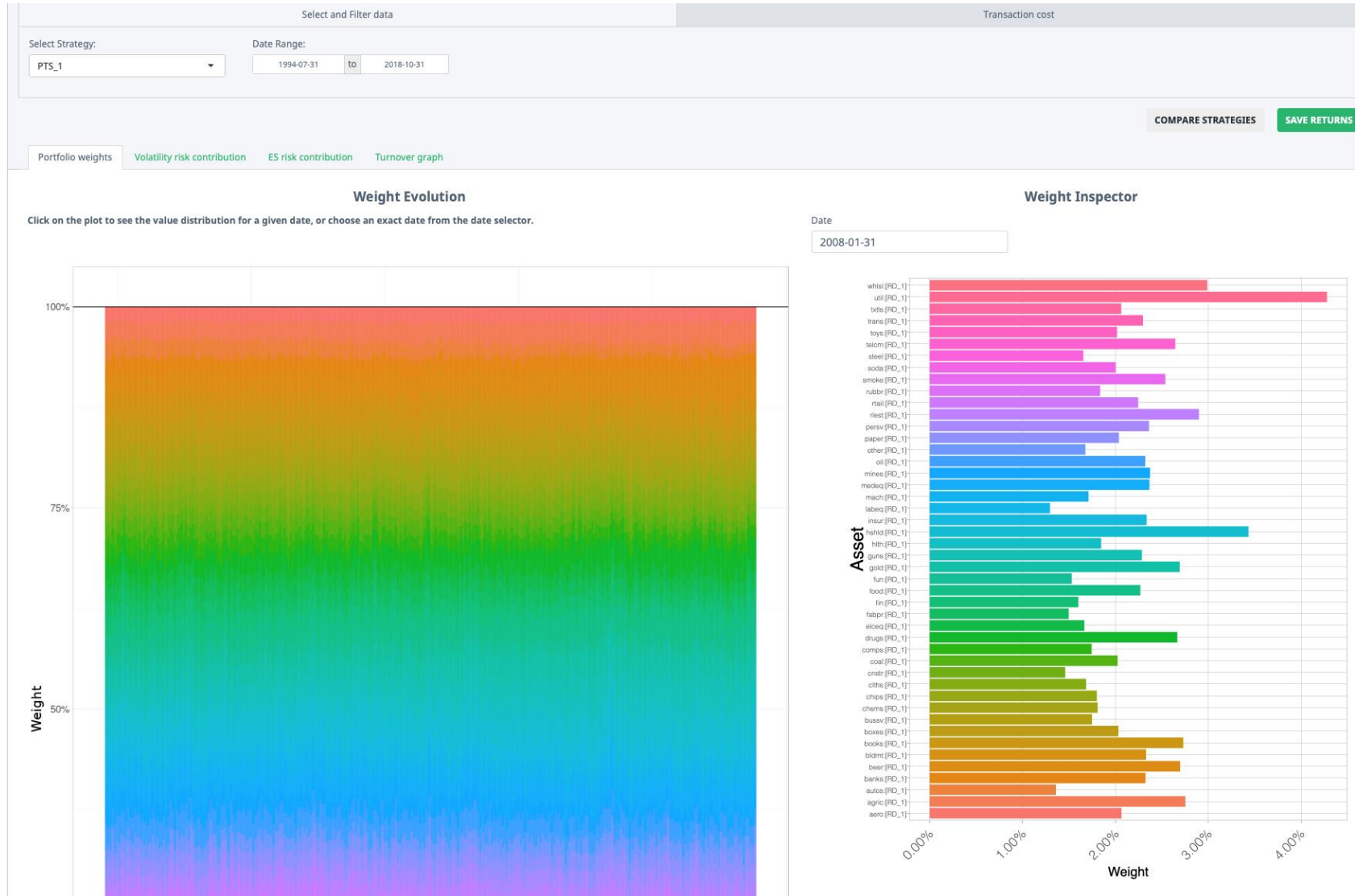
- Let's build a long only risk parity portfolio (US industry data)
- Analyze its risk profile
- Measure its performance



A couple of clicks...

Portfolio weights

1994-07-31



Portfolio weights

2008-01-31

Select and Filter data Transaction cost

Select Strategy: Date Range: to

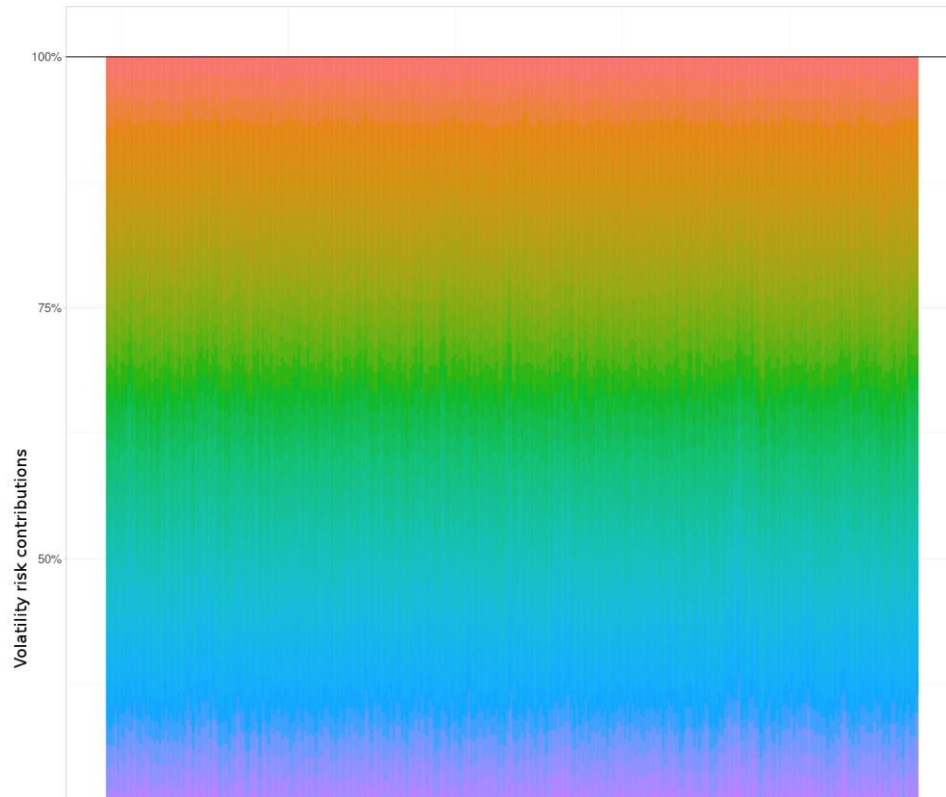
[COMPARE STRATEGIES](#) [SAVE RETURNS](#)

Portfolio weights **Volatility risk contribution** ES risk contribution Turnover graph

CALCULATE VOLATILITY RISK CONTRIBUTION

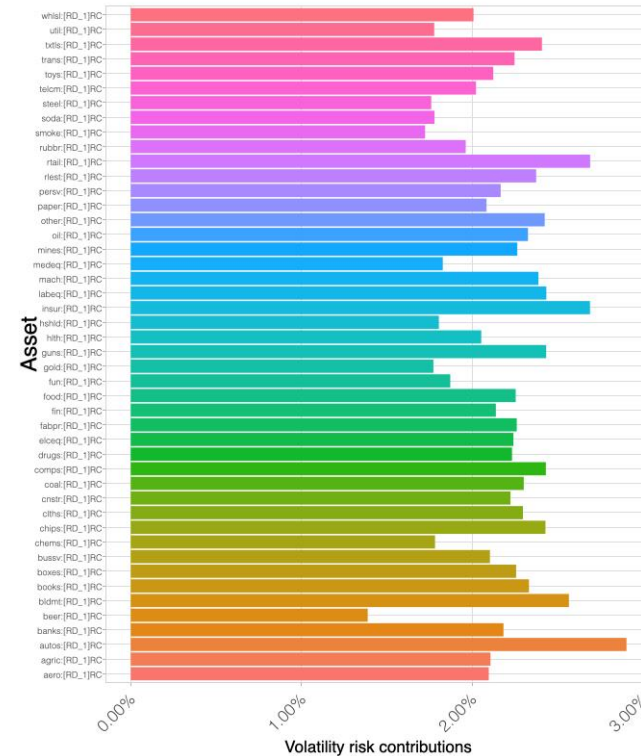
Weight Evolution

Click on the plot to see the value distribution for a given date, or choose an exact date from the date selector.



Weight Inspector

Date



Volatility
contributions

1994-07-31

Select and Filter data Transaction cost

Select Strategy: Date Range: to

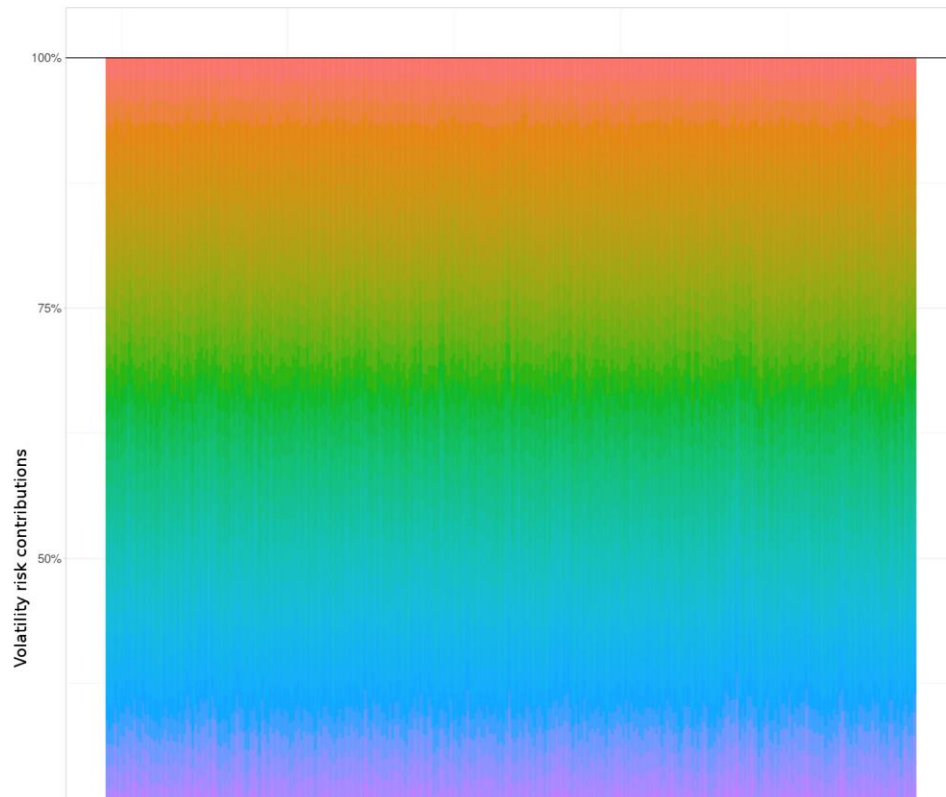
[COMPARE STRATEGIES](#) [SAVE RETURNS](#)

[Portfolio weights](#) **Volatility risk contribution** [ES risk contribution](#) [Turnover graph](#)

CALCULATE VOLATILITY RISK CONTRIBUTION

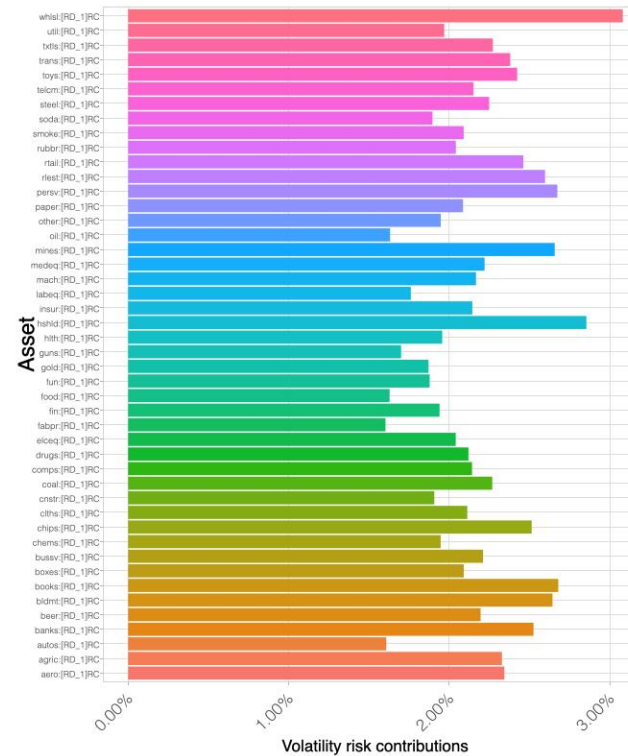
Weight Evolution

Click on the plot to see the value distribution for a given date, or choose an exact date from the date selector.



Weight Inspector

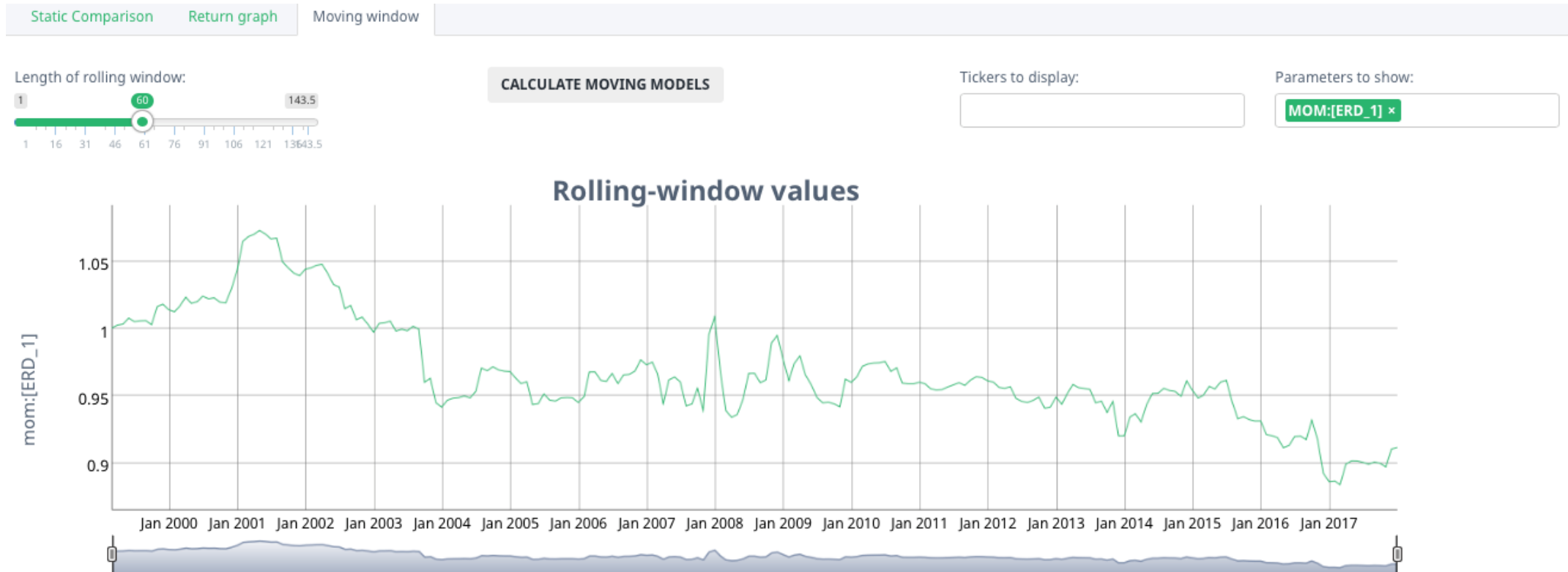
Date



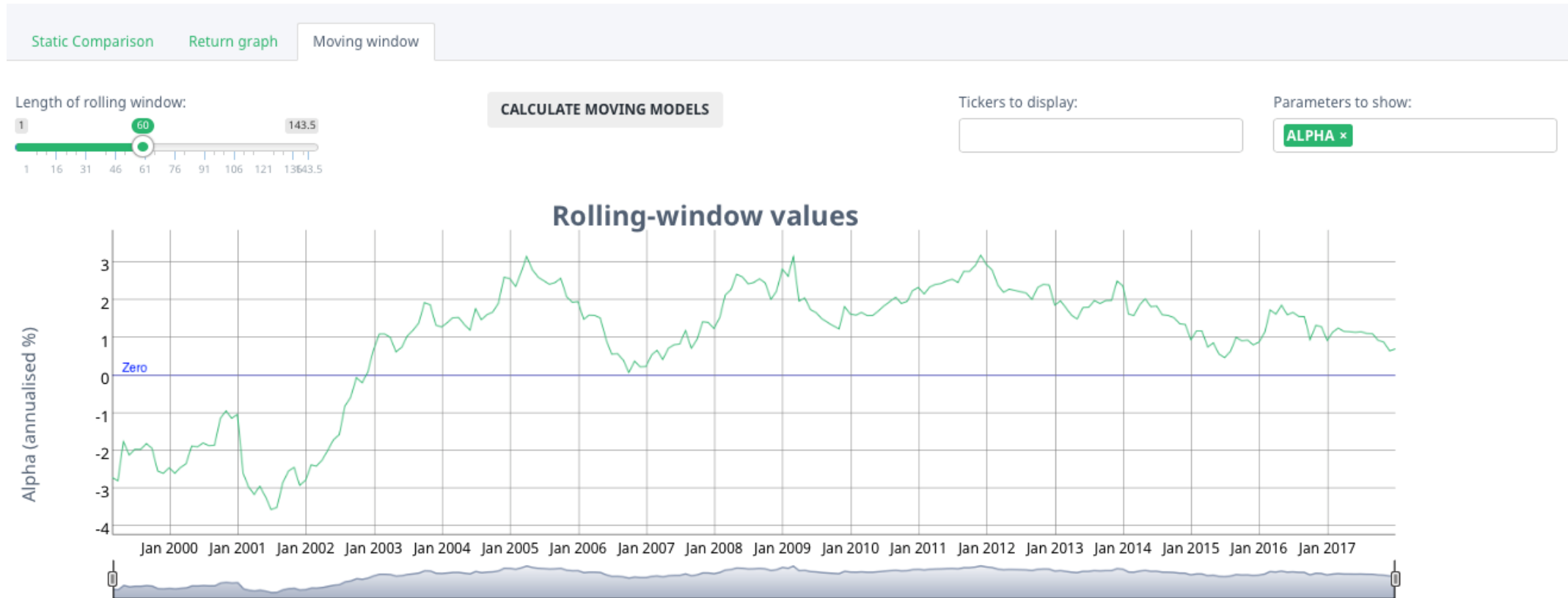
**Volatility
contributions**

2008-01-31

A few more clicks: factor exposure...



One more click: performance...



Learning outcomes

- Students actually believe what they see ...and do !

not *just* what we tell them....

- These new approaches are used at

ALL LEVELS: PhD, Msc, BA, Exec, ...