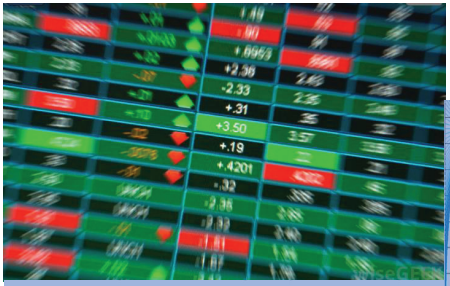
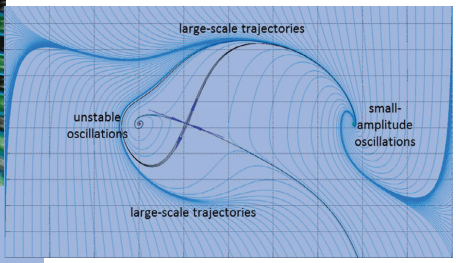
Research (What is it about?)	**Stock market returns**
UNN authors	*Sharov S.V.*
We find (The result)	On the basis of the agent-based multiple timescales stock market model with empirical observations we suggest that stock market returns are predictable to the extent that successful trading strategies can be constructed to harness this predictability.
Abstract	We seek to demonstrate the predictability of stock market returns and explain the nature of this return predictability. To this end, we introduce investors with ***different investment horizons*** into the news-driven, analytic, agent-based market model. This heterogeneous framework enables us to capture dynamics at multiple timescales, expanding the model's applications and improving precision. We study the heterogeneous model theoretically and empirically to highlight essential mechanisms underlying certain market behaviours, such as transitions between bull and bear markets and the self-similar behaviour of price changes. We apply this model to show that the stock market is nearly efficient on intraday timescales, adjusting quickly to incoming news, but becomes inefficient on longer timescales, where news may have a long-lasting nonlinear impact on dynamics, attributable to a feedback mechanism acting over these horizons. Then, using the model, we design algorithmic strategies that utilize news flow, quantified and measured, as their only input to trade on market return forecasts over multiple horizons, from days to months. The backtested results suggest that the return is predictable to the extent that successful trading strategies can be constructed to harness this predictability.

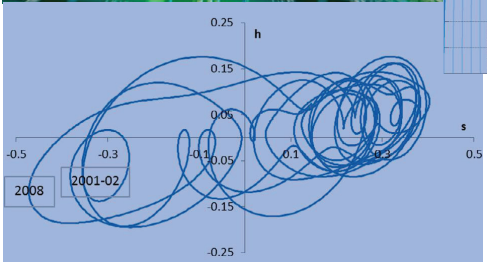
Representative articles 2016-2017, quartiles	1. *Kroujiline, D., Gusev, M., Ushanov, D., Sharov, S.V., Govorkov, B.* Forecasting stock market returns over multiple time horizons. Quantitative Finance. **16**(11), 1695–1712 (2016).	Q3,Q3,Q3, Q2
	Q-index (Qi) of the result	**2.25**

In collaboration	LGT Capital Partners, Pfaffikon, Switzerland IBC Quantitat Strategies, Tarnaby, Sweden Moscow MV Lomonosov State Univ, Moscow, Russia

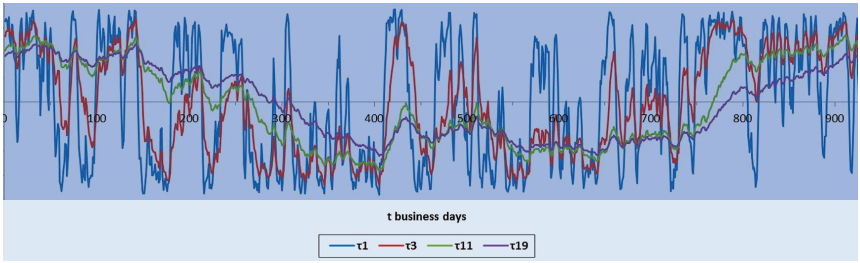


Theoretical market trajectories for the homogeneous model.

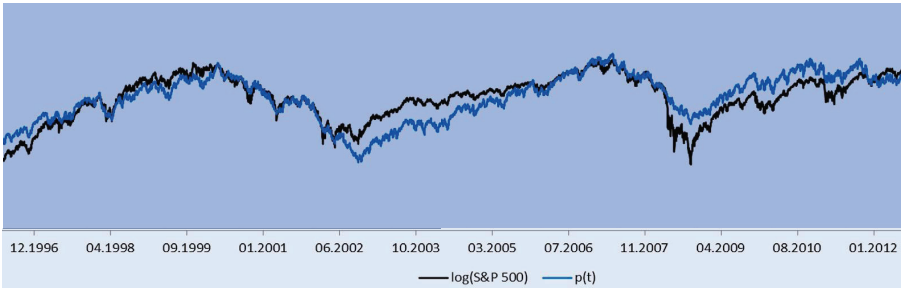




Empirical market trajectories 1995-2015 (S&P 500)



Sentinent evolution in 9-horizons ***heterogeneous*** model.



Daily time price *p(t)* according to 9-horizons heterogeneous model (blue) and S&P 500 dynamics (black).