

## Summary of INQUIRE Europe Research Proposal

### **“Momentum in Futures Markets: A Survey on Trading Signals and Volatility Estimators”**

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This project explores the mechanics and profitability of time-series momentum portfolios. According to Moskowitz, Ooi and Pedersen (2011)<sup>1</sup>, constructing a time-series momentum strategy involves the volatility-adjusted aggregation of univariate momentum strategies. A univariate strategy, in turn, is defined as the trading strategy that takes a long/short position on an asset based on a metric of the recent asset performance over a certain lookback period. Consequently, the construction of a time-series momentum strategy relies heavily on the efficiency of the chosen volatility estimator and on the quality of the momentum trading signal.

The aim of the project is to address the following research topics. First, we focus on the information content of traditional momentum trading signals and also devise new signals that capture a price trend, in an effort to maximize the out-of-sample performance and to minimize the transaction costs incurred by the portfolio rebalancing. Preliminary results for a dataset of 12 futures time-series (to be extended to a dataset of more than 50 time-series) show that signals generated by fitting a linear trend on the asset price path dominate the standard momentum signal in the literature, the sign of past return. Second and most importantly, we aim to investigate the existence of momentum patterns for a broad grid of lookback periods, holding horizons and frequencies of portfolio rebalancing. Preliminary results show the existence of strong momentum patterns at the monthly frequency, relatively strong at the weekly frequency and relatively weak at the daily frequency.

In fact, significant reversal effects seem to exist at the very short-term horizon. Lastly, we aim to investigate a family of volatility estimators and assess their efficiency from a momentum investing viewpoint. For that purpose, we examine various daily, range and high-frequency volatility estimators in order to reach the optimal choice for volatility estimation in terms of maximizing efficiency and minimizing the bias and the ex-post portfolio turnover.

Arguably, the results of this project could have important implications for the practical implementation of momentum strategies and are therefore of particular interest to market participants.

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<sup>1</sup> Moskowitz, T., Ooi, Y. and Pedersen, L.: 2011, *Time Series Momentum*, *Journal of Financial Economics* (forthcoming).