

## Statement of Purpose

In 2007, when I was working in my first job at JP Morgan - I had been trained only to work on rational problems. I had been simulating air pollution at a lab before and my task at the bank was to improve the methods to calculate credit risk exposures for the firm's OTC portfolio. I was thrilled - to say the least - at the sophistication involved in what was seemingly an accounting activity. I worked with the firm for three years - and joined a trading desk soon afterwards.

It would be wrong to say that I had quit the risk management division because I was tired of reading accounting rules as a trained scientist. On the contrary, I only wanted to learn more about financial economics - since my limited understanding of accounting had often led me to a void. Reading the Basel III accord, for example, it occurred to me for the first time that such rules are written not to invent a new theory - but only in response to the kind of incidents we had talked about in our daily meetings. Having been presented the issues of risk management always as a rational problem seemed to have hindered my understanding of the economics. Kant's claim that "properly mathematical propositions are never empirical" had never made more sense to me.

The curiosity drove me to work at trading desks on both sides of the Atlantic. During this time, the need to acquire skills that I hadn't been trained into were fulfilled by reading and researching online. Calibration of interest rate models and searching for arbitrage opportunities in markets had occupied most of my work life - but I still couldn't say that I had appreciated economics much. It was only during a class on investments taught by Dr Ralph Koijen at London Business School last year - that I came to realize the true scope of my work in quantitative research. Taking further courses in economics and reading Adam Smith, Irving Fisher or Lord Keynes on my way back from school, I came to understand that generating alpha was a problem far older than I had imagined and that the scope of academic research is immensely wider than what I had experienced in professional finance. Getting exposed to inputs for buy-side finance after having designed algorithms for trading volatility as an asset gave me an opportunity to be skeptical of the arms race adopted in low-latency trading and wonder how rare can an understanding of basic financial economics can become in the industry.

I view my decision to pursue research at the program as a culmination of this curiosity and a growing commitment towards academic output. Statistical forecasting and predictive trading indeed appeal to the mathematician in me, but the realization that at the heart of it all, financial transactions are simple and their goals fairly non-technical - is of great importance to me as a student of economics.

At London Business School, I have continued to focus on practical aspects of financial economics and corporate finance rather than mastering models for risk-arbitrage alone. While studying investments, I have researched the possibility of alpha-generation through a factor based on PPE ratios. In a course on Financial Engineering, I had explored market-value of risk in energy markets and commented on factors responsible for the decline of carbon trading markets. I have had brief exposure to issues in political economy through an study of investment opportunities in Burma.

My current goal for research in economics is driven by the need for inputs to investment and policy-making. With part-time studies I wish to address curiosities that haven't made to the public domain. My proposed research explores the the effect of liquidity on the relationship between equity prices and foreign-exchange dynamics. The preliminary work I have done in the area overlaps in scope with the study on drivers of foreign-exchange volatility by Dr. Erik Hjalmarsson. I wish to extend this work while acquiring any skills are needed for working as an economist.

As someone trained in mathematics and computer science, I do believe that rationality should not limit themselves to interest rates - but explore psychology and economics as well. Though somewhat later in life, economics has turned out to be the language that mathematics represents for me - and I wish to explore this intuition at the Queen Mary University of London.