

Fernando Duarte

CONTACT INFORMATION

Federal Reserve Bank of New York
Research and Statistics Group
33 Liberty Street
New York, NY 10045

Tel: (+1) 857-928-7344

duarte@alum.mit.edu

<http://nyfedeconomists.org/duarte>

EDUCATION

Massachusetts Institute of Technology, Cambridge MA
Ph.D. in Economics

2011

Massachusetts Institute of Technology, Cambridge MA
Bachelor of Science in Mathematics

2005

PROFESSIONAL EXPERIENCE

Federal Reserve Bank of New York, NY
Financial Economist (Capital Markets Function)

2011 – present

RESEARCH

“Fire-Sale Spillovers and Systemic Risk” (with Thomas Eisenbach)
Revise and resubmit Review of Financial Studies

Abstract: We construct a new systemic risk measure that quantifies vulnerability to fire-sale spillovers using detailed repo market data for broker-dealers and regulatory balance sheet data for U.S. bank holding companies. For broker-dealers, vulnerabilities in the repo market are driven by flight-to-quality episodes, when liquidity and leverage can change rapidly. We estimate that an exogenous 1 percent decline in the price of all assets financed with repos leads to losses due to fire sale spillovers of 8 percent of total broker-dealer equity on average and over 12 percent during the financial crisis. For bank holding companies, vulnerabilities to fire-sales are equally sizable but build up slowly over time. Our measure signals build-up of systemic risk starting in the early 2000s, ahead of many other measures. Our measure also predicts low quantiles of macroeconomic outcomes above and beyond other existing measures, especially at longer horizons.

“An Interest Rate Rule to Uniquely Implement the Optimal Equilibrium in a Liquidity Trap” (with Anna Zabai)

Submitted to The American Economic Review

Abstract: We propose a new interest rate rule that implements the optimal equilibrium and eliminates all indeterminacy in a canonical New Keynesian model in which the zero lower bound on nominal interest rates (ZLB) is binding. The rule commits to zero nominal interest rates for a length of time that is increasing in proportion to how much past inflation has deviated either upwards or downwards from its optimal level. Once outside the ZLB, interest rates follow a standard Taylor rule. Following the Taylor principle outside the ZLB is neither necessary nor sufficient to ensure uniqueness of equilibria. Instead, the key principle is to respond strongly enough to deviations of past inflation from optimal by sufficiently increasing the amount of time for which interest rates are promised to be kept at zero.

“Inflation Risk and the Cross-Section of Stock Returns”

Abstract: I establish that inflation risk is priced in the cross-section of stock returns: stocks that have low returns during inflationary times command a risk premium. I estimate a market price of inflation risk that is comparable in magnitude to the price of risk for the aggregate market. Inflation is therefore a key determinant of risk in the cross-section of stocks. The inflation premium cannot be explained either by the Fama-French factors or by industry effects. Instead, I argue the premium arises because high inflation lowers expectations of future real consumption growth. To formalize and test this hypothesis, I develop a consumption-based general equilibrium model. The model generates a price of inflation risk consistent with my empirical estimates, while simultaneously matching the joint dynamics of consumption and inflation, the aggregate equity premium, and the level and slope of the yield curve. My model suggests that the costs of inflation are significant: a representative agent would be willing to give up 1.5% of lifetime consumption to eliminate all inflation risk.

“Cross-sectional inflation risk in menu cost models with heterogeneous firms” (with Jonas Mishara-Blomberger)

Abstract: We show that firms in models with menu costs, when calibrated to have the empirically observed frequency and size of individual-goods price adjustments, have stock returns that are always positively correlated with inflation. The cross-sectional dispersion in this correlation is almost negligible, even though firms have very diverse micro-level pricing behavior. Because in this class of models positive nominal shocks are good states of nature and the correlation between stock returns and inflation is positive, agents are willing to pay a premium to hold assets whose returns covary negatively with inflation. In contrast, we empirically find that the dispersion in the correlation between stock returns and inflation is about 100 times larger than in the model, and that correlations are negative about half the time. Furthermore, and also at odds with sticky-price models, investors require a premium to hedge against states of high inflation. Because firms’ heterogeneity is the key mechanism that generates a high degree of monetary non-neutrality in the models, our results suggest that we do not yet have a full account of the monetary transmission mechanism, and that asset prices can provide important information about it.

“Investment and Stock Market Volatility” (with Leonid Kogan and Dimitry Livdan)

Abstract: We study the relation between returns on the aggregate stock market and aggregate real investment. While it is well known that, controlling for productivity, the aggregate investment rate is negatively related to subsequent excess stock market returns, we find that it is positively related to future stock market volatility. Thus, conditionally on past aggregate investment, the mean-variance tradeoff in aggregate stock returns is negative. We interpret this puzzling pattern within a general equilibrium production economy. In our model, investment is determined endogenously in response to two types of shocks: shocks to productivity, and shocks to aggregate risk aversion that affect the cost of capital. Investment is positively related to productivity and negatively related to the cost of capital. Controlling for productivity, high-investment periods tend to correspond to low cost of capital, giving rise to a negative relation between aggregate investment and expected excess stock market returns. When cost of capital is low, and thus close to the growth rates of cash flows, stock prices are relatively sensitive to changes in discount rates and stock returns become relatively volatile, giving rise to a positive relation between investment and future stock market volatility. Consequently, our results indicate that the time-varying price of aggregate risk is an important determinant of aggregate investment dynamics.

“The Equity Risk Premium: A Consensus of Models” (with Carlo Rosa)

Abstract: We estimate the equity risk premium by combining information from twenty models. Our main finding is that there is broad agreement across models that the equity premium reached historical heights in July 2013 even when the models are substantially different from each other and use more than one hundred different economic variables. Our preferred estimator places the one-year-ahead equity premium in July 2013 at 14.5 percent, the highest level in fifty years and well above the 10.5 percent that was reached during the financial crisis in 2009. The models also show broad agreement that the term structure of equity risk premia is high and flat: expected excess returns at all foreseeable horizons are just as high as at the one-year horizon. A high equity premium that is not expected to mean-revert in the near future is an unprecedented phenomenon. Because expected dividend growth has not been above average in 2013, we conclude the high equity premium is mostly due to unusually low discount rates at all horizons.

“Institutional Investors Intrinsic Trading Frequency and the Cross-Section of Stock Return” (with Sahar Parsa and Leonid Kogan)

Abstract: We show a novel relation between institutional investors intrinsic trading frequencya proxy investment horizon and the cross-section of stock returns. We show that the 20 percent of stocks with the lowest trading frequency earn predictable mean returns that are 6 percentage points per year higher than the 20 percent of stocks that have the highest trading frequency. The magnitude and predictability of these returns persist or even increase when risk-adjusted by common indicators of systematic risks such as the Fama-French, liquidity or momentum factors. Our results show that the characteristics of stock holders affect expected returns of the very stocks they hold, even after controlling for stock fundamentals and stock fixed effects.

“Investing in Capacity: Long-run Effects of Rational Inattention” (with Nina Boyarchenko)
In progress

Abstract: Many models posit that agents have a limited capacity to process information. The standard specification assumes that information processing capacity is constant, precluding agents from investing in capacity to relax their informational constraints. We compare the long-run behavior of three different specifications of learning processes that of a Bayesian agent, an agent with fixed capacity to process information and an agent with a fixed cost of observing additional information and find that the steady-states for the economy-wide levels of uncertainty, signal precision and information transmission rate are different across specifications. Further, the agents with an endogenously chosen capacity to process information learn less in the long-run, so that the distance between the modes of the posterior and prior distributions is smaller.

“A large-scale GMM analysis of long-run risk” (with Jonas Mishara-Blomberger)
In progress

Abstract: We build a large-scale long-run risk model that incorporates all the variations and multiple ingredients found in the literature. We then estimate the parameters of nested models, going from the canonical model of Bansal and Yaron (2004) to the full-fledged large-scale model. We use more than one hundred moments in our parameter estimation, including moments about the persistence of consumption, inflation and their lead-lag relations, predictability of asset prices with macroeconomic variables and stochastic volatility. We find that allowing for real effects of inflation plays a vital role in the pricing of stocks and bonds. The real effects of inflation displace about half of the effect otherwise attributed to long-run risk when the model assumes inflation has no real effects.

PRESS COVERAGE
AND MEDIA

“Are Stocks Cheap? A Review of the Evidence”, in Liberty Street Economics blog (with Carlo Rosa). Coverage: The Economist, NY Times, Wall St. Journal

“A Way With Words: The Economics of the Feds Press Conference” in Liberty Street Economics blog (with Carlo Rosa)

“What Can We Learn from Prior Periods of Low Volatility?” in Liberty Street Economics blog (with Juan Navarro-Staicos and Carlo Rosa)

“On Fire-Sale Externalities, TARP Was Close to Optimal” in Liberty Street Economics blog (with Thomas Eisenbach)

TEACHING

Massachusetts Institute of Technology

Lecturer, International Economics
 (undergraduate, course 14.54)

2008

Teaching assistant, Advanced Financial Economics
 (Prof. Leonid Kogan, graduate course 15.440J)

2009 – 2010

Head teaching assistant, Principles of Macroeconomics
 (Profs. P. Willen, F. Giavazzi and V. Guerrieri, undergraduate course 14.02)

2008 – 2009

Teaching assistant, Differential Equations with Theory
 (Prof. Mihalis Dafermos, undergraduate course 18.034)

2003

FELLOWSHIPS,
GRANTS,
AWARDS

MIT Hennessy Scholar

2004-2007

MIT Graduate Fellowship

2006-2007

Second Place, MIT Undergraduate Journal of Economics

2005

3rd place, MERCOSUR Mathematical Olympiad

1998

Top 1% in Argentinean Mathematical Olympiad

1995-1997