

Essays on Household Financial and Labor Decisions

Daniel Barth

A household's investment, savings and labor decisions play an integral role in household welfare. My dissertation explores the underlying idiosyncratic factors which motivate household choices about investment and career choice.

1 Wealth, Direct Stock Ownership, and Household Beliefs about the Predictability of Individual Stock Returns (Job Market Paper)

A well documented feature of household investment portfolios is the often sizable allocation to individual stocks. This paper is the first to estimate a structural model of the beliefs required to rationalize this direct stock ownership. In the model, households believe they can learn about individual stock returns through costly research. I show that the model generates investment choices consistent with many of the observed features of household portfolios. Further, the model identifies both the distribution of research costs and the distribution of household beliefs about the predictability of individual stock returns. Estimation results indicate that most households have only modestly optimistic beliefs about the benefits of individual stock research, although a minority must expect research to yield exceptionally high return premiums.

2 Identifying Idiosyncratic Career Taste and Skill with Income Risk (with Stephen H. Shore and Shane T. Jensen)

How important to well-being is choosing a career with the right fit? This question is difficult to answer because we observe individuals only in their chosen careers, but not in the other (presumably inferior) options they did not choose. To overcome this problem, we estimate a model in which individuals vary in risk tolerance, ability and idiosyncratic skill in and taste for various careers. Individuals choose from a set of careers that differ in income risk, typical pay, and other attributes. Given the model, the importance of idiosyncratic taste and skill is identified from the shift in the distribution of income risk with risk aversion. We estimate the model using individual-specific measures of income volatility to proxy for income risk and survey questions about hypothetical income gambles to proxy for risk preference, both from the PSID. We separate idiosyncratic career taste from skill using the pay gap between high- and low-income risk people with high and low risk-aversion.

3 Estimating Effort Shirking with Endogenous Contract Lengths: A Case Study of the NBA

Previous research in sports economics has documented a negative correlation between player performance and the time until contract expiration. This correlation is usually attributed to optimal effort shirking. An alternative explanation is that contract lengths are chosen endogenously. Athletes may negotiate for contracts which expire in the year they expect their ability to peak. Such choices would also produce a negative correlation between player performance and the time until contract expiration. Using panel data from the NBA, this paper develops an estimation strategy which tests for the presence of effort shirking while controlling for endogenously chosen contract lengths. Estimation results indicate that no effort shirking is present in the data once endogenous contract lengths are accounted for.

Essays in International Trade Agreements

James Lake

Preferential Trade Agreements as Dynamic Farsighted Networks

(job market paper, revise and resubmit, *Journal of International Economics*)

In the presence of multilateral negotiations, are preferential trade agreements (PTAs) necessary for, or will they necessarily lead away from, global free trade? This question is explored using a novel dynamic network theoretic model in which countries are farsighted and asymmetric in terms of market size. I develop a new equilibrium concept that endogenizes the order of negotiations. When two countries have a PTA, one member's formation of an additional PTA may create incentives for its original partner to form a PTA with its new partner. When considering forming an additional PTA, the current member therefore recognizes the potential for erosion of its preferential access in both partner markets. This fear of preference erosion undermines its willingness to form the additional PTA. Global free trade is attained when countries fear of preference erosion is sufficiently small. Even when countries are symmetric in terms of market size, the discount factor determines the importance of preference erosion. Since greater asymmetry increases rents protected by members, preference erosion becomes more costly and the scope for global free trade falls. However, under high enough asymmetry, some future PTAs do not form. This eliminates the fear of preference erosion for certain countries and dramatically increases the extent to which PTAs are necessary for global free trade. The model provides insights into the dynamics of recent trade negotiations involving the US. It also suggests that the ambiguities inherent in GATT Article XXIV may actually promote global free trade.

Preferential Trade Agreements: an Empirical Network Approach (in progress)

Competitive liberalization is a consistent theme in domestic policy discussions surrounding preferential trade agreements (PTAs). This view posits that countries compete to gain a foothold in desirable export markets. Put simply, the value of preferential market access gained in any particular market varies inversely with the number of other countries who already have preferential access. This provides a strong foundation for the proposition that the structure of the global trade network is an important determinant of the ever increasing pace of PTA formation. The empirical model used extends the empirical model of Christakis, Fowler, Imbens and Kalyanaraman (2010) to a setting of repeated network observations. Because the network structure makes direct use of the likelihood function computationally impractical, a Bayesian Markov chain Monte Carlo procedure is used to draw from the posterior distribution of the parameter vector. Estimation of parameters governing how the network structure affects the attractiveness of PTAs enables predictions regarding the future state of the global trade network. Consideration of counterfactual states of the global trade network, such as the absence of NAFTA, are also possible.

Tariff Transitions and Binding Overhang (with Maia Linask, U of Richmond)

Little theoretical work explains why governments routinely set tariffs below their WTO commitments, a practice known as binding overhang. In a dynamic lobbying model, we view government as being captured by importers or exporters. Initially, importers control tariff policy. To pre-emptively avoid exporter lobbying, importers are content with a lower tariff when the time varying opportunity cost of lobbying is low. Thus, the average tariff falls as lobbying becomes easier, which increases binding overhang. However, eventually importers cannot prevent exporter lobbying, and exporters gain control of tariff setting. Then, binding overhang falls as lobbying becomes easier because exporters accept a higher average tariff to maintain control. The size of the economy also affects binding overhang. In particular, a larger economy increases the opportunity cost of lobbying, which lowers the variance of binding overhang. Hence, the model offers empirically testable predications relating the first and second moments of binding overhang to the ease of lobbying and the size of the economy.

Essays on the Cost of Worker Displacement

Brian Phelan

1 Task Mismatch & the Reemployment of Displaced Workers (*Job Market Paper*)

A common empirical finding in the displacement literature is that displaced workers that switch industries following displacement experience larger relative earnings losses than those that remain in their pre-displacement industry. While the standard explanation for this stylized fact is that “switchers” lose accumulated industry-specific human capital that “stayers” retain, this explanation ignores the endogeneity of reemployment and does not explain why switchers would ever choose to switch. I develop a match-based model of wages and endogenous mobility where a worker’s ability to find another good firm-level match depends upon his match with the overall labor market. If industries are sufficiently distinct from each other in terms of the types of jobs they offer, the model implies that mismatched workers will be both more likely to switch industries and more likely to experience high displacement costs. Using data on displaced workers from the NLSY79 and task data from the DOT, I develop task-based measures of match and instrument for the industrial mobility decision using a worker’s relative industry-level match. Contrary to previous results, I find that the differences in outcomes across stayers and switchers do not reflect the loss of industry-specific human capital but, rather, are better explained by a mismatch between the inherent skills of switchers and the demands of new employers. These results suggest that mismatch and the resulting inability of some workers to re-match their task-specific skills is an important determinant of the observed costs of worker displacement.

2 Partially Endogenous Displacement: Theory and Evidence (*In Progress*)

Since at least Gibbons and Katz (1991), there have been concerns that the displacement literature is estimating the costs of involuntary job losses on a non-random sample. I extend the model in the first chapter of my dissertation to show how changes in the distribution of jobs over time, as characterized by the job polarization literature, will lead mismatched workers to face elevated displacement probabilities. The model implies that displacement is partially endogenous because the displaced are overly represented by workers with outdated vintage human capital – not because the displaced are shirkers or “lemons.” Thus, common estimates of the cost of worker displacement may overstate the true cost of exogenous displacement. I find preliminary empirical support for the model’s main implications: (a) the routine task intensity of pre-displacement jobs has increased over time and (b) the average displacement costs among those in comparably routine task-intensive jobs has also increased over time.

3 The Distribution of Displacement Costs (*In Progress*)

The displacement literature has largely focused on estimating the mean earnings losses associated with displacement. However, a fuller understanding of the distribution of displacement costs is warranted. In this paper, I use data on displaced workers from the NLSY79 to estimate the distribution of displacement costs using quantile methods. This simple approach highlights a great deal of heterogeneity in the costs of worker displacement. I then use decomposition techniques to explore the extent to which commonly observed patterns in the costs of worker displacement can explain this distribution of displacement costs. Preliminary results suggest that both the unemployment duration and the industrial mobility of displaced workers capture a great deal of this heterogeneity across individual displacement experiences.

Essays on Technology and Forecasting

Jon D. Samuels

1 The Production Frontier and Macro Dynamics (job market paper)

In this paper, I consider a frictionless DSGE model that is standard in most respects, but which uses a production possibility frontier (PPF) that accommodates both sector- and factor-specific productivity effects. I show that this extension helps the model of production fit U.S. productivity and relative price data. The model predicts that the impact of a productivity shock depends on how technology interacts with outputs and inputs in the economy. Specifically, the model predicts that hours worked may either increase or decrease in response to an expansionary productivity shock, depending on how productivity affects outputs. Furthermore, I find that the confidence bands for the impact effect of a productivity shock include both New Keynesian and RBC-type responses. Thus, it is difficult to distinguish between these classes of models based solely on the impact effect of a productivity shock.

2 Macro Forecasting with Large Datasets: Trimming Predictors and Forecast Combination (with Rodrigo Sekkel)

A longstanding finding in the forecasting literature is that averaging forecasts from different models improves upon forecasts based on a single model, with equal weight averaging working particularly well. We show that the simple average approach can be improved by trimming the set of potential models prior to forecast combination. We compare different trimming schemes and propose a new version based on the Model Confidence Set (MCS) (Hansen et al. (2011)). Applying our analysis to U.S. macroeconomic aggregates, we find significant gains in out-of-sample forecast accuracy from our proposed trimming method. We argue that parameter estimation error in small samples provides an explanation for these gains. Finally, we show that once the worst models are trimmed, there are minimal gains from using approaches like BMA that assign different weights to the remaining forecasts.

3 Semiconductors and U.S. Economic Growth

Semiconductor technology is widely credited with driving the evolution of information technology, yet the device's use as an intermediate input by many sectors of the economy makes its economic impact difficult to quantify. I use the prototype NAICS-based industry production account data of Jorgenson et al. (2011) and the weighting scheme of Domar (1961) to measure the direct impact of semiconductor production on aggregate growth and productivity, and the contribution of semiconductors via industries that use these devices as intermediate input. I find that over the 1960-2007 period innovation in the Semiconductor industry grew close to 9% per year, twenty five times the innovation growth rate for the economy as a whole, and accounted for close to 30% of aggregate economic innovation. By sector, semiconductor use accounted for 37% of the growth in labor productivity in the Communications Equipment industry, 25% of the growth of the Other Electronic Products industry, 14% of Educational Services, and 9% of labor productivity growth in the Computer and Peripheral Equipment industry for the period. More recent data on prices through 2009 suggests that innovation in semiconductors remained strong in 2008, but slipped a bit in 2009 amidst the financial crisis.

Essays on Forecasting in Economics and Finance

Rodrigo M Sekkel

Chapter 1: Forecasting with Large Datasets: Trimming Predictors and Forecast Combinations (Job Market Paper), with Jon Samuels.

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Chapter 2: Financial Intermediaries Fluctuations: Do they Forecast Economic Activity?

The current financial crisis has renewed the interest of researchers about the interrelations between the macroeconomy and the financial sector. It has also brought the fluctuations of financial intermediaries to the forefront of the discussions about the transmission of financial crisis to the real economy. This paper conducts a real-time, out-of-sample analysis of the forecasting power of financial intermediaries balance sheets to a wide range of economic activity measures. Using a Bayesian Model Averaging approach, I then evaluate to what extent the informational content of financial intermediaries balance sheet fluctuations is not captured by more traditional measures of macroeconomic activity and financial distress. I find little evidence that balance sheet of most financial intermediaries provide information beyond the one contained in traditional macro and financial series. I do find however evidence of non-linearities, where balance sheet information seem to gain in relevance during times of crisis.

Chapter 3: International Evidence on Bond Risk Premia

This paper revisits the study of time-varying excess bond returns in international bond markets. Using newly available yield curve data from 10 different countries with independent monetary policy, I test the robustness of Cochrane and Piazzesi (2005). For most countries in my sample, I find more modest predictive power for forward rates than originally found by Cochrane and Piazzesi (2005) for the US. Their single-factor model captures well the predictability in international data, and this factor also tends to have a tent-shape in most countries of my sample. CP factors are more idiosyncratic across countries than yields or forward rates. Finally, I show that the recent financial crisis has significantly affected the predictability of excess bond returns.

Essays on Household Saving Behavior and Habit Formation

Weifeng Wu

1 High and Rising Chinese Saving: It's Still A Puzzle

Job market paper

A wide range of contemporaneous evidence reveals that as China's economy grew rapidly over the past 30 years, expectations of its long-run growth potential improved. Standard forward-looking consumption theory predicts that a higher expected future income growth should lead to a lower saving rate. Several recent studies attribute the increase in Chinese saving to factors like a rise in labor income risk, a flattening age-earning profile and less generous pension benefits. However, this paper shows that all these explanations fail when we incorporate the observed rising optimism about growth. Therefore the high and rising Chinese saving rate remains a puzzle. The paper then suggests that a multiplicative internal habit formation model might help.

2 Theoretical Foundations of a Perfect Foresight Habit Formation Model

Habit formation consumption models have been proposed to explain various facts that are puzzling in the traditional time-separable utility framework. This paper provides a general theoretical analysis of a microeconomic multiplicative internal habit formation model, and derives several properties of the optimal consumption function. In particular, I show that even in the absence of labor income uncertainty, the consumption function is concave, and there exists a steady-state wealth-to-habit ratio, to which the economy will converge. Furthermore, this paper demonstrates that with the incorporation of the above theoretical results and the endogenous gridpoint method as in Carroll (2006), we can save a tremendous amount of computational time in numerically solving such a model.

3 The 'Method of Moderation' for Solving Dynamic Stochastic Optimization Problems (with Christopher Carroll)

In models with idiosyncratic income risk, optimal consumption is always 'moderate' - between that of two extreme consumers who are either optimistic or pessimistic with respect to income uncertainty. And precautionary saving (a) is always positive, (b) declines in the amount of cash-on-hand and (c) converges to zero in the limit as wealth approaches infinity. An approximation to precautionary saving that incorporates these properties greatly improves the accuracy and efficiency of the numerical solution. This 'method of moderation' is applicable to many microeconomic and macroeconomic problems, whether with or without habit formation preference, and whether in finite or infinite horizons.