

Grant proposal: “Do People Understand Monetary Policy?”

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Abstract

“Improving the public’s understanding of the central bank’s policy strategy reduces economic and financial uncertainty and helps households and firms make more-informed decisions. Moreover, clarity about goals and strategies can help anchor the public’s longer-term inflation expectations more firmly and thereby bolsters the central bank’s ability to respond forcefully to adverse shocks.” (Bernanke, 2010).

1 Summary

Central bankers often emphasize the need to communicate with the public in order to improve its understanding of monetary policy. As the argument goes, this should allow for better-informed price- and wage-setting decisions on the part of households, and firms and improve policy effectiveness. More generally, agents’ understanding of how policies that affect their decisions are conducted is an important issue for household finances. For example, an understanding of long-term determinants of fiscal – in particular, tax – policy can lead households to forecast their future net-of-tax income better, to make better plans for retirement, etc. As for monetary policy, an understanding of how it is conducted should help households understand the likely evolution of interest rates, the cost of credit etc, and thus help them in important decisions, such as whether or not to buy durable goods at a particular point in time, whether to refinance a mortgage etc.

Whereas most of the monetary policy literature focuses on central bank communication, in this project we take a step back and investigate the more basic question of whether economic agents – households in particular – understand how monetary policy is conducted in the U.S. This is an issue which, to the best of our knowledge, has not been studied at all. Our central goal is to assess whether households are aware of some basic principles underlying the conduct of monetary policy in the U.S.: that the policy interest rate tends to increase with inflation and to decrease with slack in economic activity and/or in labor markets.

To address this issue, we have been working on a paper (Carvalho and Nechio 2012) that uses the Survey of Consumers, conducted by Thompson Reuters and the University of Michigan (“Michigan Survey”), combining its questions about the future path of prices, interest rates, and unemployment to try to answer our research question of interest. We adopt a simple empirical approach that, at an intuitive level, is based on the idea of separating survey answers about the paths of interest rates, inflation, and unemployment that are consistent with the basic features of monetary policy described previously, from those that are not. To fix ideas, suppose that the Fed’s target for the federal funds rate depends positively on contemporaneous inflation and negatively on

contemporaneous unemployment and changes only with these two variables. Then, to be consistent with how the Fed conducts monetary policy, survey answers that indicate unemployment will go down and inflation will go up in one year would necessarily have to be accompanied by an answer that the Fed will tighten monetary policy in the same period. Likewise, answers that inflation will drop and unemployment will go up must be associated with a call that the Fed will ease policy.¹

We have presented our ongoing work at various venues, and are working on revisions to incorporate the feedback we received into a new draft. While working with the Michigan Survey data, we realized that we would have to make a set of assumptions to make progress, some of which are somewhat testable, and some which are not – and which simply become maintained assumptions without which we would not be able to progress (these issues are discussed in detail in our working paper).

Besides continuing our investigation with the Michigan Survey of Consumers, we are also looking for alternative ways to address our research question. Two possibilities that we are currently entertaining involve:

1) Collecting data from an online game about monetary policymaking maintained by the Federal Reserve Bank of San Francisco, which might be suitable to the question of interest, and might allow us to test some of those maintained assumptions.

2) Designing laboratory experiments using simple macroeconomic models of the economy, in which we can both observe participants' decisions as monetary policymakers, and inquire them about their knowledge of how monetary policy is conducted.

Our application to this grant aims to help us continue our research project, completing our first working paper on the topic, and starting to work with new data sources – obtained from either of the alternatives listed above. At this stage, our funding needs involve travel between Brazil and the U.S. for us to complete our ongoing work and advance our plan to collect data from the SF Fed's online game, and for research assistance. In the future, if we are to explore the route of laboratory experiments, we might need resources for incentivizing participation in the experiments (but at this stage we do not have a good idea of what that would entail).

¹While this is not exactly what we test for, it provides intuition that helps motivate our empirical approach (for details, please see Carvalho and Nechio 2012).

2 Itemized budget

1) Travel: our travel needs involve tickets and accommodation expenses for two to four stays in San Francisco, U.S. Each trip should cover a period of approximately one week to 10 days (longer periods are not feasible due to teaching commitments). We expect to devote one or two visits to our ongoing project, and the other two to the endeavour of collecting new data, and starting to analyze it.

Estimates costs:

-Economy fare between Rio de Janeiro and San Francisco (x 4): approximately \$1500/round-trip, for a total of \$6000.

-Accommodation in San Francisco: Between 27 and 39 nights at a cost-effective hotel such as the Club Quarters (approximately \$175/day), for a total of between \$4725 and \$6825.

2) Research Assistance: ideally a graduate student (M.A. or Ph.D. level), who would help us with the collection and processing of the data from the new data sources, and associated paper(s). The estimated cost would be of approximately \$750-1000/month, for the duration of the grant or approximately 10 months, for a total of between \$7500 and \$10000.

Total estimated budget:

A) With all costs at lower end: \$18250

B) With all costs at upper end: \$22825.

References

- Bernanke, B. (2010), “Monetary Policy Objectives and Tools in a Low-Inflation Environment,” Speech at the Federal Reserve Bank of Boston (Revisiting Monetary Policy in a Low-Inflation Environment Conference).
- Carvalho, C. and F. Nechio (2012), “Do People Understand Monetary Policy?,” FRBSF Working Paper 2012-01.

CARLOS VIANA DE CARVALHO

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EDUCATION

- **Ph.D. in Economics**

Princeton University, 2008. Dissertation: “Heterogeneity in Price Setting”. Advisor: Christopher A. Sims

- **Master of Arts in Economics**

Princeton University, 2005

PUC-Rio, 1997

- **Bachelor of Arts in Economics**

PUC-Rio, 1993

PROFESSIONAL EXPERIENCE

- Associate Professor of Economics at PUC-Rio, June/11 – present
- Partner at Kyros Investimentos, June/11 – present
- Federal Reserve Bank of New York, Senior Economist, Oct/10 – May 2011
- Federal Reserve Bank of New York, Economist, Aug/07 – Sep/10
- BBA Icatu Investimentos, Co-Head of Fixed Income Investments and Trading, and Chief Economist, Apr/98 – Dec/01
- Radix Asset Management, Director and Partner, Oct/96 - Mar/98
- Opportunity Asset Management, Chief Economist, Jun/95 - Sep/96

PUBLICATIONS

- “Policy Initiatives in the Global Recession: What Did Forecasters Expect?,” *Current Issues in Economics and Finance* 18 (2), February 2012 (with Stefano Eusepi and Christian Grisse)
- “Aggregation and the PPP Puzzle in a Sticky-Price Model,” *American Economic Review* 101 (6), October 2011 (with Fernanda Nechio)
- “The Persistent Effects of a False News Shock,” *Journal of Empirical Finance* 18 (4), September 2011 (with Nicholas Klagge and Emanuel Moench)
- “Loss Aversion, Asymmetric Market Comovements, and the Home Bias,” *Journal of International Money and Finance*, 29 (7), November 2010 (with Kevin Amonlirdviman)
- “Imperfectly Credible Disinflation under Endogenous Time-Dependent Pricing,” *Journal of Money, Credit and Banking*, 42 (5), August 2010 (with Marco Bonomo)
- “Heterogeneity in Price Stickiness and the Real Effects of Monetary Shocks,” *The B.E. Journal of Macroeconomics*: Vol. 2 : Iss. 1 (*Frontiers*), 2006. Recipient of the Arrow Prize in Macroeconomics

- “Endogenous Time-Dependent Rules and Inflation Inertia,” *Journal of Money, Credit and Banking*, 36 (6), December 2004 (with Marco Bonomo)
- “Firmas Heterogêneas, Sobreposição de Contratos e Desinflação,” *Pesquisa e Planejamento Econômico*, 25 (3), December 1995 (in portuguese)

WORKING PAPERS

- “Real Exchange Rate Dynamics in Sticky-Price Models with Capital”, July 2012 (with Fernanda Nechio)
- “Do People Understand Monetary Policy?,” May 2012 (with Fernanda Nechio). Earlier version: “Are People Aware of the Taylor Rule?”
- “Selection and Monetary Non-Neutrality in Time-Dependent Pricing Models,” December 2012 (with Felipe Schwartzman)
- “Time- and State-Dependent Pricing: A Unified Framework,” September 2011 (with Marco Bonomo and René Garcia). Earlier version: “State-Dependent Pricing under Infrequent Information: A Unified Framework,” Federal Reserve Bank of New York Staff Reports #455
- “Sectoral Price Facts in a Sticky-Price Model,” September 2010 (with Jae Won Lee). *Revise and resubmit at the American Economic Review*
- “The Cross-sectional Distribution of Price Stickiness Implied by Aggregate Data,” July 2010 (with Niels A. Dam). Previous title: “Estimating the Cross-sectional Distribution of Price Stickiness from Aggregate Data” *Revise and resubmit at the Journal of Monetary Economics*
- “Heterogeneous Price Setting Behavior and Aggregate Dynamics: Some General Results,” March 2008 (with Felipe Schwartzman)

RESEARCH PAPERS IN PROGRESS

- “Investment Collapses: Microeconomic Evidence from the Great Recession,” (with Felipe Schwartzman)
- “Monetary Policy and the Demographic Transition,” (with Andrea Ferrero)
- “Price Distribution and Monetary Non-neutrality in Sticky Price Models,” (with Oleksiy Kryvtsov)
- “Taylor Rule Estimation by OLS,” (with Fernanda Nechio)
- “Price Setting under Menu Costs and Rational Inattention,” (with Antonella Tutino)
- “Price Setting in a Variable Macroeconomic Environment: Evidence from Brazilian CPI,” (with Rebecca Barros, Marco Bonomo, and Silvia Matos)
- “Sales and the Macroeconomy,” (with João Ayres, Rebecca Barros, and Marco Bonomo)
- “Interest-Rate Differentials under Tightly-Managed Exchange-Rate Regimes,” (with Alfredo Binnie, Marcio Garcia, and Fernanda Nechio)
- “Buy-or-Sell Auctions and Speculative Attacks”

ACADEMIC EXPERIENCE

•TEACHING

- Monetary Economics - PUC-Rio, undergraduate level (since 2012)
- Macroeconomics III - PUC-Rio, graduate level (since 2011)
- Intermediate Calculus, Woodrow Wilson School “Math Camp” - Princeton University (Summer 2006)
- Microeconomic Theory II - PUC-Rio, undergraduate level (1995, 2 terms; 2002, 1 term)
- Teaching Assistant: Macroeconomic Analysis - Princeton University (Spring 2007), Quantitative Analysis and Public Policy - Princeton University (Fall 2006), Financial Investments - Princeton University (Fall 2004), Microeconomic Theory II - PUC-Rio (1992-93, 2 terms), Introduction to Economics II - PUC-Rio (1991, 2 terms), Introduction to Economics I - PUC-Rio (1991, 1 term)

•RESEARCH ASSISTANCE

- Professor Christopher Sims - Princeton University (Summer 2005), Professor Marco Bonomo - PUC-Rio (Jan/93 - Jun/95), Professor Edmar Bacha - PUC-Rio (Jun/92 - Aug/92), Professors Edward Amadeo and José Márcio Camargo - PUC-Rio (Sep/91 - Aug/92)

•OTHER

- Refereeing: Quarterly Journal of Economics, American Economic Review, Journal of Monetary Economics, Journal of the European Economic Association, American Economic Journal – Macroeconomics, Journal of Economic Theory, Journal of International Economics, Journal of Money, Credit and Banking, Review of Economic Dynamics, Review of Economics and Statistics, International Economic Review, Economic Journal, Journal of Applied Econometrics, B.E. Journals of Macroeconomics, Brazilian Review of Econometrics, Revista Brasileira de Economia, Scandinavian Journal of Economics, European Economic Review, Journal of Applied Economics, Empirical Economics, Economics Letters, Journal of Business Ethics, Economia Aplicada

SCHOLARSHIPS, FELLOWSHIPS, GRANTS AND AWARDS

- Brazilian Research Council Productivity Grant, 2012-2014 (CNPq #311019/2011-0)
- Charlotte Elizabeth Procter Honorary Fellowship, Princeton University, Sep/05 - Jun/06
- Princeton University Graduate School Fellowship, Sep/02 - Aug/05
- Princeton University Graduate School Summer Fellowship, 2003-06
- 2005 Institute on Computational Economics, Jul/05
- European Economic Association Student Travel Grant, 2004
- APGA Summer Travel Grant for presentation at conferences, 2003, 2004, 2005, 2006
- Mellon Grant through Princeton University for presentation at conferences, Summer 2003, Summer 2004
- Harold Willis Dodds Merit Fellowship in Economics, Princeton University, Sep/02 - Jun/04
- 21 Prizes awarded to BBA ICATU INVESTIMENTOS’ mutual funds managed under my supervision (Brazilian equivalent to Morningstar’s 5 star rating), 1998 – 2001
- CAPES (Brazilian Government agency) Fellowship for M.A. in Economics, Jan/94 - Sep/95
- Unibanco Prize for Academic Performance. Awarded by Unibanco, Brazil’s 3rd largest private bank, 1992
- CAPES “Special Training Program” Fellowship, Sep/91 - Aug/92

CONFERENCES AND SEMINARS (BY PAPER)

- Do People Understand Monetary Policy?: Bank of Canada*, INSPER, IPEA, UCSC, SBE 2011, EESP-FGV/SP, Brazilian Central Bank, PUC-Rio, Santa Clara University*, Federal Reserve Macro System Meetings*, NBER Summer Institute EFWW 2011, Advances in Macroeconomics Workshop 2011
- Monetary Policy and the Demographic Transition: 2012 BOJ-IMES Conference*

- Investment Collapses: Microeconomic Evidence from the Great Recession: LuBraMacro 2012*, ESEM 2012*, Midwest Macro Meetings 2012*
- The Dynamics of Consumer Price Distribution and Monetary Non-Neutrality: EPGE-FGV*, CREI*, ESEM 2011*
- Selection and Monetary Non-Neutrality in Time-Dependent Pricing Models: EEA 2012*, SED 2012*, ESWM 2012*, ESEM 2011*
- Sectoral Price Facts in a Sticky-Price Model: ESEM 2011*, Economics Conference in SNU 2011*, Reserve Bank of Australia, 16th Australasian Macroeconomics Workshop, University of Rochester, AEA 2011*, UMD – College Park, FRB of Philadelphia, Bank of Spain, CFS-ECB-Bundesbank joint seminar, FRB of Dallas, NBER Summer Institute EFSV 2010, SED 2010, CREI, Norges Bank, Riksbank, FRB of San Francisco, UC Berkeley, and Stanford University
- Time- and State-Dependent Pricing: A Unified Framework: EEA 2012*, ESEM 2011*, ESWM 2011, EPGE-FGV*, INSPER*, PUC-Rio*, LAMES 2004*, LACEA 2002* (some presentations with previous title: State-Dependent Pricing under Infrequent Information: A Unified Framework)
- The Cross-sectional Distribution of Price Stickiness Implied by Aggregate Data: ESWC 2010*, AEA 2010, Banque de France conference "Understanding price dynamics: recent advances", ESEM 2009, SED 2009, NAMES 2009, Bank of Canada, ECB - WDN Workshop, Rutgers University, LAMES 2008, Danmarks Nationalbank*, University of Copenhagen*, Riksbank*, and FRB of New York (some presentations with previous title: "Estimating the Cross-sectional Distribution of Price Stickiness from Aggregate Data")
- Heterogeneous Price Setting Behavior and Aggregate Dynamics: Some General Results: ESEM 2008, SED 2008, NAMES 2008, Midwest Macro Meetings 2008*, SBE 2007
- Price Setting in a Variable Macroeconomic Environment: Evidence from Brazilian CPI: ESEM 2012, AEA 2010*, NBER Summer Institute ME 2009
- The Persistent Effects of a False News Shock: EEA 2011, EFA 2010*
- Aggregation and the PPP Puzzle in a Sticky-Price Model: UC Berkeley*, Harvard University, SCIEE 2009 Conference*, ESEM 2009*, XI Annual Inflation Targeting Seminar of the Central Bank of Brazil, PUC-Rio*, IMF*, FRB of San Francisco*, Geneva Graduate Institute*, AEA 2009, NBER Summer Institute IFM 2008, SOEGW 2008 Conference, NY Area Workshop on Monetary Economics*, Dallas Fed System Macro Conference, Johns Hopkins University
- Loss Aversion, Asymmetric Market Comovements, and the Home Bias: ESEM 2004*, LAMES 2004, IV Meeting of the Brazilian Finance Society, Rio de Janeiro, Brazil 2004 (some presentations with previous title: "Myopic Loss Aversion, Asymmetric Correlations, and the Home Bias")
- Imperfectly Credible Disinflation under Endogenous Time-Dependent Pricing: Riksbank*, Bank of Japan, UC Santa Cruz, "Microeconomic Pricing and the Macroeconomy" workshop at CEU*, EPGE-FGV, PUC-Rio, Queen Mary - University of London*, UIUC*, Universidade Nova de Lisboa*, Université de Montreal*, ESEM 2007*, LACEA 2005*, LAMES 2003 (some presentations with previous title: "Endogenous Time-Dependent Rules and the Costs of Disinflation with Imperfect Credibility")
- Heterogeneity in Price Stickiness and the Real Effects of Monetary Shocks: Federal Reserve Board, FRB of Richmond, Duke University, FRB of New York, FRB of Boston, Chicago GSB, Cornell University, Columbia SIPA, Columbia Business School, FRB of San Francisco, Yale University, Princeton University, NBER Summer Institute ME 2006, NAMES 2006, EPRU Seminar (University of Copenhagen), ESWC London 2005, EEA 2004, LAMES 2004 (some presentations with previous titles: "Heterogeneity in Price Stickiness and the New Keynesian Phillips Curve"; "Heterogeneity in Price Setting and the Real Effects of Monetary Shocks"; "Heterogeneity in Price Setting and its Effects on Price and Inflation Inertia")
- Endogenous Time-Dependent Rules and Inflation Inertia: CEPREMAP*, IBMEC-Rio*, EEA 2002*, LAMES 2002*, LACEA 1998*
- Nominal Rigidity, Staggering and the Costs of Disinflation: SBE 1993 (original title: "Rigidez Nominal, Staggering e Custos de Desinflação")

*Paper presented by co-author

DISCUSSIONS

- “Trend Inflation and the Unemployment Volatility Puzzle”, by S. Alves, LuBraMacro 2012
- “Inflation Dynamics and Time-Varying Uncertainty: New Evidence and an Ss Interpretation”, by J. Vavra, Workshop on the “Macroeconomics of Risk and Uncertainty”, Central Bank of Chile 2012
- “From Many Series, One Cycle: Improved Estimates of the Business Cycle from a Multivariate Unobserved Components Model”, by C. Fleischman and J. Roberts, Conference on “Structural and Cyclical Elements in Macroeconomics”, Federal Reserve Bank of San Francisco 2012
- “Price Setting with Menu Cost for Multi-Product Firms”, by F. Alvarez and F. Lippi, NBER - ME Meeting 2012
- “Linkages Between Exchange Rate Policy and Macroeconomic Performance”, by V. Sokolov, B. Lee, and N. Mark, AEA Meetings 2009
- “Reset Price Inflation and the Impact of Monetary Policy Shocks”, by M. Bils, P. Klenow, and B. Malin, Federal Reserve Macro System Meetings 2008
- Papers in FGV-IBRE Sponsored Session “Price Micro Data in Macroeconomics”: “Understanding Movements in Aggregate and Product-Level Real-Exchange Rates”, by A. Burstein and N. Jaimovich, “State-Dependent or Time-Dependent Pricing: Does it Matter for Recent U.S. Inflation”, by P. Klenow and O. Kryvtsov, and “The Evolution of Price Setting in a Variable Macroeconomic Environment: Evidence from Brazilian CPI”, by R. Barros, M. Bonomo, and S. Matos, LACEA Meetings 2008
- “Robust Monetary Policy in a Forward-Looking Model with Wealth Effects”, by E. Araújo, XXVII Encontro Brasileiro de Econometria 2005

ACADEMIC ADVISING

- Victor Duarte Garcia Pires. “Monetary Policy and the Cross-Section of Stock Returns: A Favar Approach,” 2012. Master Thesis, EPGE – FGV*
- Marcos Ribeiro de Castro. “Ensaio sobre o Canal de Crédito da Política Monetária,” 2011. Doctoral Thesis, PUC – Rio*
- Silvia Maria Matos Pessoa. “Micro Evidence on Brazilian Price Stickiness and its Consequences for Sectoral Real Exchange Rate and Inflation Persistence,” 2010. Doctoral Thesis, EPGE – FGV*
- João Luiz Ayres Queiroz da Silva. “The Behavior of Temporary Sales in a Macroeconomic Context,” 2009. Master Thesis, EPGE – FGV*
- Rebecca Wellington dos Santos Barros. “Price Setting and Macroeconomic Variables: Evidence from Brazilian CPI,” 2009. Doctoral Thesis, EPGE – FGV*
- Marinho Bertanha. “Simple Calvo Economies with Heterogeneous Pricing,” 2009. Master Thesis, EPGE – FGV*
- Alfredo Binnie. “Uncovered Interest Parity under Managed Exchange Rate Regimes,” 2008. Master Thesis, Department of Economics, PUC-Rio (original title in Portuguese: “Retornos na paridade descoberta das taxas de juros em regimes de câmbio controlado”)*
- Roberto Jaques Cohen. “Speculative Attacks and Strategies to Bet Against the *Real* during the Managed Exchange Rate Regime,” 2002. Senior Thesis, Department of Economics, PUC-Rio (original title in Portuguese: “Ataques Especulativos e Estratégias de Apostas Contra o Real durante o Regime de Câmbio Administrado”)

- Rodrigo Motta Pereira. “Hedge Funds – A Study about Characteristics and Performance,” 2002. Senior Thesis, Department of Economics, PUC-Rio (original title in Portuguese: “Hedge Funds - Um Estudo sobre Suas Características e Performance”)
- Andrea de Paula Pinhel. “The Recent Evolution of the Investment Fund Industry,” 1997. Senior Thesis, Department of Economics, PUC-Rio (original title in Portuguese: “A Evolução Recente da Indústria de Fundos de Investimento”)
- Allan Hadid. “The Profile of Investment Funds After the *Real* Plan (From Jul/1994 To Dec/1996),” 1997. Senior Thesis, Department of Economics, PUC-Rio (original title in Portuguese: “O Perfil dos Fundos de Investimento do Brasil no Período Pós-Real (de Julho/94 a Dezembro/96)”)
- Paulo Guilherme Félix. “The Brazilian Process of Accumulation of International Reserves: Causes and Effects,” 1996. Senior Thesis, Department of Economics, PUC-Rio (original title in Portuguese: “O Processo Brasileiro de Acumulação de Reservas Internacionais, Suas Causas e Seus Efeitos”)

*Co-advisor

ARTICLES FOR BBA ICATU INVESTIMENTOS’ MONTHLY INVESTMENT NEWSLETTER*

- “Energy Crisis, Economic Activity and Presidential Popularity,” Jul/2001
- “Why Have Brazilian Imports Been Underestimated?,” (with Nuno Almeida and Thais Ortega) Apr/2001
- “Economic Cycles and the Deceleration of the American Economy,” Jan/2001
- “Game Theory and the Price of Crude Oil,” Oct/2000
- “Central Bank Independence and Credibility,” Jul/2000
- “Uncertainty, Investment and Economic Growth,” May/2000
- “Foreign Direct Investment with no Ideological Content,” Feb/2000
- “Signs of Excesses with the Internet,” Jan/2000
- “Risk, Return and the Horizon for Investments in Stocks,” Dec/1999
- “Monetary Policy Bias and Expectations,” Nov/1999
- “Lags in Monetary Policy and the FED’s Recent Actions,” Oct/1999
- “Fiscal Effort and the Full Employment Budget,” Sep/1999
- “Consumption, Wealth Effect and the Stock Market,” Aug/1999
- “Emerging Markets and Economic Growth Theory,” Jul/1999
- “Political Cycles and Exchange Rate Regimes ,” Jun/1999
- “Devaluation and the Trade Balance,” May/1999
- “Inflation and Recession,” Apr/1999
- “Inflation Targets and the Exchange Rate,” Mar/1999
- “Exchange Rate Overshooting and Inflation,” Feb/1999
- “Currency Crisis and the Brazilian Case,” Jan/1999
- “The Distribution of the Fiscal Effort among Generations,” Nov/1998
- “Credibility, Expectations and the Fiscal Adjustment,” Oct/1998

*Titles translated to English

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EMPLOYMENT

Economist, Federal Reserve Bank of San Francisco, San Francisco, CA, July 2009 – Present
Lecturer, University of California, Berkeley, August 2011 – December 2011
Lecturer, Pontifical Catholic University-Rio de Janeiro, Brazil, February 2004 - July 2004
Economist Trainee, Icatu Bank, Rio de Janeiro, Brazil, July 2000 – January 2001

EDUCATION

Princeton University, Ph.D. in Economics, 2010
Princeton University, M.A. in Economics, 2009
Pontifical Catholic University of Rio de Janeiro, Brazil, M.A. in Economics, 2004
Pontifical Catholic University of Rio de Janeiro, Brazil, B.A. in Economics, 2001

FIELDS OF INTEREST

International Macroeconomics and Finance
Macroeconomics
Monetary Economics

PUBLICATIONS

“Aggregation and the PPP Puzzle in a Sticky-Price Model” (joint work with Carlos Carvalho),
American Economic Review 101(6), October 2010, 2391-2424.

Abstract: We study the purchasing power parity (PPP) puzzle in a multisector, two-country, sticky-price model. Across sectors, firms differ in the extent of price stickiness, in accordance with recent microeconomic evidence on price setting in various countries. Combined with local currency pricing, this leads sectoral real exchange rates to have heterogeneous dynamics. We show analytically that in this economy, deviations of the real exchange rate from PPP are more volatile and persistent than in a counterfactual one-sector world economy that features the same average frequency of price changes, and is otherwise identical to the multisector world economy. When simulated with a sectoral distribution of price stickiness that matches the microeconomic evidence for the U.S. economy, the model produces a half-life of deviations from PPP of 39 months. In contrast, the half-life of such deviations in the counterfactual one-sector economy is only slightly above one year. As a by-product, our model provides a decomposition of this difference in persistence that allows a structural interpretation of the different approaches found in the empirical literature on aggregation and the real exchange rate. In particular, we reconcile the apparently conflicting findings that gave rise to the "PPP Strikes Back debate" (Imbs et al. 2005a,b and Chen and Engel 2005).

WORKING PAPERS

“Foreign Stock Holdings: The Role of Information”, San Francisco Fed Working Paper 2010-06.

Abstract: Foreign stock ownership is known to be very limited among households. Using the Survey of Consumer Finances, I show that information acquisition plays a major role in agents' decisions to invest in foreign stocks. In particular, households that participate in foreign stock markets are better informed about their financial investment choices: they shop more for investment opportunities, update their investment portfolios more frequently, and use the Internet more often as a source of information. Households that invest in foreign stocks are also substantially wealthier and more educated. The paper considers a model that shows how information acquisition costs and fixed costs of entering a new market can affect investors' decisions to buy foreign stocks. The model predictions match the two main features of the data -- that foreign stock owners are scarce but better informed. Calibrating the model to match returns and volatility for the U.S. and foreign stocks, I show that even a small cost of entering a new market can explain the large degree of nonparticipation among households.

“Do people understand monetary policy?” (joint work with Carlos Carvalho), San Francisco Fed Working Paper 2012-01.

Abstract: We combine questions from the Michigan Survey about the future path of prices, interest rates, and unemployment to investigate whether U.S. households are aware of the so-called Taylor (1993) rule. For comparison, we perform the same analysis using questions from the Survey of Professional Forecasters. Our findings support the view that some households form their expectations about the future path of interest rates, inflation, and unemployment in a way that is consistent with Taylor-type rules. The extent to which this happens, however, does not appear to be uniform across income and education levels. In particular, we find evidence that the relationship between unemployment and interest rates is not properly understood by households in the lowest income quartile, and by those with no high school diploma. We also find evidence that the perceived effect of unemployment on interest rates is asymmetric, being relevant only for interest-rate decreases. Finally, we argue that the relationships we uncover can be given a causal interpretation.

“Aggregation and the PPP Puzzle in a Sticky-Price Model with Capital” (joint work with Carlos Carvalho), San Francisco Fed Working Paper 2012-08.

Abstract: The standard argument for abstracting from capital accumulation in sticky-price macro models is based on their short-run focus: over this horizon, capital does not move much. This argument is more problematic in the context of real exchange rate (RER) dynamics, which are very persistent. In this paper we study RER dynamics in sticky-price models with capital accumulation. We analyze both a model with an economy-wide rental market for homogeneous capital, and an economy in which capital is sector-specific. We find that, in response to monetary shocks, capital increases the persistence and reduces the volatility of RERs relative to GDP. Nevertheless, versions of the multi-sector sticky-price model of Carvalho and Nechio (2011) augmented with capital accumulation can match the persistence and volatility of RERs seen in the data, irrespective of the type of capital. When comparing the implications of capital specificity, we find that, perhaps surprisingly, switching from economy-wide capital markets to sector-specific capital decreases the persistence of RERs in response to monetary shocks. Finally, we study how RER dynamics are

affected by monetary policy, and find that the source of interest-rate persistence -- policy inertia or persistent policy shocks -- is key.

WORK IN PROGRESS

“Taylor rule estimation by OLS” – working title (with Carlos Carvalho), in progress.

“Rational inattention, uncertainty and forecast dispersion” – working title (with Sylvain Leduc and Keith Sill)

OTHERS

“Are U.S. Corporate Bonds Exposed to Europe?”, FRBSF Economic Letter 2012-17, June 4, 2012. (with Galina Hale and Elliot Marks)

“U.S. and Euro-Area Monetary Policy by Regions”, FRBSF Economic Letter 2012-06, February 27, 2012. (with Israel Malkin)

“Monetary Policy When One Size Does Not Fit All”, FRBSF Economic Letter 2011-18, June 13, 2011.

“Long-Run Impact of the Crisis in Europe: Reforms and Austerity Measures”, FRBSF Economic Letter 2011-07, March 7, 2011

“The Greek Crisis: Argentina Revisited?”, FRBSF Economic Letter 2010-33, November 1, 2010

“The role of foreign currency linked debt in Brazilian public debt,” (in Portuguese), April 2006, master thesis.

“Public Debt and Currency Crises – A Comparative Approach,” (in Portuguese), March 2003, summer paper.

“Brazilian Public Debt – Decomposition of its recent growth and simulation of its future path,” (in Portuguese), December 2001, senior thesis.

TEACHING EXPERIENCE

Lecturer, International Finance and Open Macroeconomics, UC Berkeley, August 2011 - December 2011

Lecturer, Algebra, Woodrow Wilson School, Princeton University, August 2008

Lecturer, Open Macroeconomic Theory, Pontifical Catholic University-Rio de Janeiro, February 2004-July 2004

SCHOLARSHIPS AND AWARDS

Princeton University Graduate School Fellowship, 2004-2008.

Princeton University Exchange Program Fellowship, September 2007 to December 2007 – Exchange to University of California – Berkeley.

Princeton University Graduate School Summer Research Fellowship, 2004-2008.

Pontifical Catholic University M.Sc. Fellowship (sponsored by CAPES, Brazilian Government Agency), February 2002 to February 2004.

Scholarship for Greatest Academic Development – PUC-Rio – Brazil, 2001.

National Council for Scientific and Technological Development (CNPq – Brazilian Government Agency) fellowship, January 2001 to December 2001 and February 1999 to July 2000.

SELECTED CONFERENCE AND PRESENTATIONS

SED – Limassol, Cyprus, June 2012

AEA – Chicago, January 2012

NBER – EFWW Summer Institute, Cambridge, MA, July 2011

AEA – Denver, CO, January 2011

SCIIE – UC Santa Cruz, Santa Cruz, CA, October 2009

NBER – IFM Summer Institute, Cambridge, MA, July 2008

Monetary Policy Workshop, Federal Reserve Bank of New York, NY, May 2008