

Research Proposal

Risk Sharing, Altruism and Family Networks: Evidence from Household Finance in Japan's Island Economies

Yosuke TAKEDA*, Ichihiko UCHIDA†, Hitoe UEYAMA‡, Hiroyuki SHIBUSAWA§

1. Motivation and Objective

Informal finance is a scheme for risk sharing between households with relationship-based insurance contracts associated with in-kind transfers. Typically, the informal insurance plays a risk-sharing role in underdeveloped economy. Instead of limited legal enforcement of contracts, the mutual insurance is probably based on altruistic motivation for risk sharing via family networks (Fafchamps, 2008).

We examine empirically risk sharing of the informal insurance contracts using small area estimates on household finance in the today's island economies Okinawa, Japan. Within the depopulating Japan, Okinawa is a demographically exceptional region with moderate fertility and ageing rates, socially characterized by strong family ties, late home-leaving and low gender equity. History of Okinawa indicates developments of rotating savings and credit associations for financial mutual aid. Some mutual loan companies have formally evolved into the mutual banks doing business today. There also still remains a custom called 'Moai' of informal mutual credit associations for sharing risks in financial stringency for private or commercial use (Najita, 2009).

Public data on household finance does not contain accounts of the informal finance via the family networks, so that there have no quantitative analyses on a risk-sharing role of the social capital in Okinawa. As proxies for strength of family networks, this research exploits both patronymic information on distributions of surnames within each small area and geographical distances between regions on each island. In Okinawa, there are some vernacular surnames with which it is possible to identify clannish classes or toponyms. Two small areas with a similar share of residents with those surnames may be akin to each other in terms of family networks. Close proximity between two regions on an island may also mean how active personal exchanges are ordinarily based on the kinships.

Our empirical analysis thus shows spatial specifications of informal insurance motivated on altruism via family networks, using household finance data in the Japan's island economies, Okinawa.

*Corresponding: Department of Economics, Sophia University; 7-1 Kioi-cho, Chiyoda-ku, Tokyo 102-0094, Japan; y-takeda@sophia.ac.jp; <https://ideas.repec.org/f/pta207.html>

†Department of Economics, Aichi University

‡Department of Economics, Nagoya Gakuin University

§Department of Architecture and Civil Engineering, Toyohashi University of Technology

2. Analysis and Preparation

We start the analysis with constructing a data set of the family network strength. In order to specify the extent of altruistic kinships spatially, we set a dummy variable $L_{ij} = 1$ in case either patronymic or geographic proxy for family networks between regions i, j is farther than any specified threshold value. The patronymic information is collected from lists in a telephone directory White Pages, Nippon Telegraph and Telephone Corporation (NTT).

Following Fafchamps (1999) and Foster and Rosenzweig (2001), we estimate a reduced-form equation for household consumption c_t^i in a region i at a time t

$$c_t^i = \sum_j \alpha_1^j c_t^j + \sum_j \alpha_2^j y_t^j + v^i + e_t^i$$

where v^i denotes region-specific effects and e_t^i does idiosyncratic errors. The household consumption in a region i depends on contemporary consumption and income in another region identified as having altruistic kinships with the region. First-differencing the equation to eliminate the time-invariant region-specific effects, we have a regression equation

$$c_{t+1}^i - c_t^i = \sum_j \alpha_1^j (c_{t+1}^j - c_t^j) + \sum_j \alpha_2^j (y_{t+1}^j - y_t^j) + \Delta e_t^i.$$

Our hypothesis to test is that altruistic households can fully share risks via kinships and smooth consumption $\sum_j \alpha_1^j = 1$, $\sum_j \alpha_2^j = 0$. We may have to control the idiosyncratic errors using some variables as education background, residence, or family types. Our analysis would make evident a hypothesis for altruistic risk-sharing via family networks, which contributes to literature on household finance in development economics.

We have already purchased from Nippon Statistics Center and estimated expenditures and incomes of households in 1210 small areas and the NTT White Page phone lists in a single year 2013 and consolidated them into a cross-regional data set ready for estimation. But we don't afford to buy the data in another year than 2013.

Reference

- Fafchamps, M. 1999. Risk sharing and quasi-credit. *Journal of International Trade and Economic Development* 8 (3), 257-278.
- Fafchamps, M. 2008. Risk sharing between households. Chapter 24, *Handbook of Social Economics*, vol. 1B, edited by J. Benhabib, A. Bisin and M. O. Jackson, North-Holland.
- Fafchamps, M. and F. Gubert. 2007. The formation of risk sharing networks. *Journal of Development Economics* 83, 326-350.
- Foster, A. and M. Rosenzweig. 2001. Imperfect commitment, altruism, and the family: evidence from transfer behavior in low-income rural areas. *The Review of Economics and Statistics* 83 (3), 389-407.
- Najita, T. 2009. *Ordinary Economies in Japan: A Historical Perspective, 1750-1950*. The University of California Press.

Budget Sheet

Risk Sharing, Altruism and Family Networks: Evidence from Household Finance in Japan's Island Economies

Yosuke TAKEDA¹, Ichihiro UCHIDA², Hitoe UEYAMA³, Hiroyuki SHIBUSAWA⁴

1. Data acquisition of small area estimates in Okinawa Prefecture

Data Source		Japanese yen(¥)	US dollar(\$)
FY 2005 Census		75,000	664
FY 2008 Family Income and Expenditure Survey	consumption	65,000	575
	employment income	162,000	1,434
	savings	162,000	1,434
	Sub-total	464,000	4,106

2. Travel for exploration or presentation

Destination	Purpose	Transportation from Tokyo(¥)	Accommodation (¥)	# of visitors	US dollar(\$)
Okinawa	Data exploration	63,000	3 nights × 15,000=45,000	4	3,823
US	Paper presentation at NBER, Cambridge	400,000	3 nights × 20,000=60,000	2	8,142
	Sub-total				11,965

3. Total

Item	Japanese yen(¥)	US dollar(\$)
Data acquisition	464,000	4,106
Travel	1,352,000	11,965
Total	1,816,000	16,071

As of February 29, 2016, 1 US dollar=113.160575 Japanese yen, the exchange rate used.

¹Corresponding: Department of Economics, Sophia University; 7-1 Kioi-cho, Chiyoda-ku, Tokyo 102-0094, Japan; y-takeda@sophia.ac.jp; <https://ideas.repec.org/f/pta207.html>

²Department of Economics, Aichi University

³Department of Economics, Nagoya Gakuin University

⁴Department of Architecture and Civil Engineering, Toyohashi University of Technology

Curriculum Vitae

Name:

Yosuke TAKEDA

Sex:

Male

Date of Birth:

June 30th, 1964

Place of Birth:

Tokyo, Japan

Family:

Married, one child

Citizenship:

Japan

Office:

Department of Economics, Sophia University.

7-1, Kioi-cho, Chiyoda-ku, Tokyo, 102, Japan.

Phone: (81)-3-3238-3209, Fax: (81)-3-3238-3086, Email: y-takeda@sophia.ac.jp

Home:

5-3-5 Inamuragasaki, Kamakura, Kanagawa 248-0024, Japan.

Phone: (81)-467-39-3686

URL:

<https://ideas.repec.org/f/pta207.html>

Current Positions:

Professor, Sophia University

Research Field:

Macroeconomics, Monetary Theory, Industrial Organization

Lectures:

Macroeconomics, Monetary Economics, International Finance

Education

1. Bachelor of Arts, Economics, the University of Tokyo, 1989.
2. Master of Arts, Economics, the University of Tokyo, 1992.
3. Doctor of Philosophy, Economics, the University of Tokyo, Dissertation "The Effectiveness of Monetary and Fiscal Policies," in prospect.

Academic Appointments

1. 1994-2005, Associate Professor, Department of Economics, Sophia University.
2. 1995-1996, Lecturer, the Institute of Economic Research, Hitotsubashi University.
3. 1994-1995, Lecturer, Department of Economics, Gakushuin University.
4. 1997-1998, Visiting Associate Professor, Department of Economics, Rutgers University, USA.
5. 1998-1999, Visiting Research Fellow, Economic Growth Center, Yale University, USA.
6. 2000-2001, Lecturer, Institute of Economic Research, Kyoto University.
7. 2001-present, visiting Research Fellow, Nissay Research Institute, Japan.
8. 2001-present, Lecturer, Summer Seminar on Advanced Macroeconomics, Bank of Japan.
9. 2005-present, Professor, Department of Economics, Sophia University.
10. 2007-2008, visiting Research Fellow, Economic Growth Center, Yale University USA.

Award and Honors

54th Mainichi-Shimbun Economist Award in 2014 for a book *Economic Analysis of Unconventional Monetary Policy*, co-authored with Yasuhide Yajima, Nihon Keizai Shimbun-Sha, 2013.

Academic Associations

1. The American Economic Association
2. The Japanese Economic Association
3. The Japan Society of Monetary Economics

Presentations (selected)

1. "Capital Investment and Stock Market," presented at *the Annual Meeting of the Japan Association of Economics and Econometrics*, 1992(in Japanese).
2. "Financial Liberalization and Internationalization, and Effects of Monetary Policy," presented at *the Annual Meeting of the Japan Association of Economics and Econometrics*, 1993(in Japanese).
3. "Investment and Persistence of Japanese Trade Surplus," with Tsutomu Miyagawa, presented at *the Annual Meeting of the Japan Association of Economics and Econometrics*, 1994(in Japanese).
4. "Beveridge Curve of Housing Market in Japan," presented at *the Western Meeting of the Japan Association of Economics and Econometrics*, 1996(in Japanese).
5. "Land Collateral and Bank Lending: An Empirical Analysis in Japan," with Fukujyu Yamazaki, presented at *the Annual Meeting of the Japan Association of Economics*

- and Econometrics*, 1996(in Japanese).
6. "Interest Rate Smoothing and Time-Varying Term Premium: Another Look at Debt Management in Japan," presented at Money, Finance and History workshop organized by Michael Bordo, Rutgers University, 1998.
 7. Comment on "Thinking about the Liquidity Trap" by Paul Krugman, NBER-CEPR-TCER Conference *Monetary Policy in a Low Inflation Environment*, organized by Takeo Hoshi and Sadao Nagaoka, December 1999.
 8. "A Flexible Exchange Rate, Capital Control or the Currency Board? -Evidences from Asian and Latin American Experiences-," with Koichi Hamada, presented at *the International Conference of Asian Crisis II*, University of Washington, Jan. 2000.
 9. "Interest Rate Smoothing and Time-Varying Term Premium: Another Look at Debt Management in Japan," presented at *the Annual Meeting of American Economic Association*, Boston, January 2000.
 10. "Some International Evidences on Independence of Central Bank and Correlation between Inflation and Taxation," presented at *Economics 2000, 29th Annual Conference of Economists*, July 2000, Australia.
 11. "Inflation-Taxation (IT) Correlation Reconsidered in View of Central Bank Independence and Fiscal Discipline: The International Evidence," presented at *the Far Eastern Meeting of the Econometric Society*, July, 2001.
 12. Comment on "Economic Takeoff and Capital Flight" by Hiroshi Shibuya, presented at the Workshop on *the Asian Financial Crises*, at the Economic Social Research Institute, Cabinet Office, Government of Japan, June 2001.
 13. "The Phillips Curve in the 1990s in Japan," with Yasuyuki Komaki and Yasuhide Yajima, presented at *the Annual Meeting of the Japanese Economics Association*, 2001(in Japanese).
 14. "Perils of Real-Time Data: Application to Fiscal Policy Rule in Japan," with Yasuyuki Komaki and Hiroe Tsubaki, presented at *the Annual Meeting of the Japanese Economics Association*, 2002(in Japanese).
 15. "How the JGB Market Has Responded to the Zero-Interest-Rate-Policy," with Yasuhide Yajima, presented at *the Annual Meeting of the Japan Society of Monetary Economics*, 2002(in Japanese).
 16. "Estimating Consumption Functions in Japan," with Yasuyuki Komaki and Yasuhide Yajima, presented at *the Annual Meeting of the Japanese Economics Association*, 2003(in Japanese).
 17. "Welfare Cost of Inflation and Income Risks in an Incomplete Market Model: Application to Japanese Economy," with Atsuko Ueda, presented at the conference

- Financial System and Monetary Policy*, Kansai Institute for Social and Economic Research, 2003(in Japanese).
18. "A Revisionist View of the Public Debt Management in Japan," with Yasuhide Yajima, presented at *the Annual Meeting of the Japan Society of Monetary Economics*, 2003(in Japanese).
 19. Comment on "Destabilizations of the Financial System and the Propagation of the Japan's Ailing Economy" by Masaru Inaba and Keiichiro Kobayashi, the 5th CIRJE/TCER Macroeconomics Conference, 2003, organized by Fumio Hayashi.
 20. "Non-Neutrality of Indexed Government Bond Issue: Lessons from the UK and US Experiences," with Yasuhide Yajima, presented at *the Annual Meeting of the Japan Society of Monetary Economics*, 2003(in Japanese).
 21. "On an Interaction between Monetary Environment and Incentive Compatibility Constraints: A Case of Dynamic Insurance Contracts" with Makoto Saito, presented at the Kansai Macroeconomics Workshop, 2003(in Japanese).
 22. "The Macroeconomic Policy under the Balance-Sheet Adjustments in Japan," with Toshiki Jinushi and Yasuhide Yajima, presented at *Macroeconomic Management under Debt Workouts in the Pacific Region*, PEO/Structure Specialist Meeting in Osaka, March 2004, coordinated by Akira Kohsaka.
 23. "Comparing Inflation Forecasts of Indexed Bonds to Central Banks and Private Forecasters in UK and US," with Yasuhide Yajima, presented at *the Kanto Meeting of the Japan Society of Monetary Economics*, 2004(in Japanese).
 24. "Determinants of Japanese Households' Demand for Education: Effects of Parents' Educational Background and the Budget Constraint" with Takahisa Dejima and Atsuko Ueda, presented at an invited session of *the Annual Meeting of the Japanese Economics Association*, 2005(in Japanese).
 25. "Uncovering the Goodhart's Law: Theory and Evidence" with Atsuko Ueda, presented at the conference *Optimal Monetary Policy*, the Kansai Institute for Social and Economic Research(in Japanese), and at *the Annual Meeting of Society for Economic Dynamics*, 2006 and *the Asia-Pacific Economic Association*, 2006.
 26. "On the Role of the Rate of Time Preference in Macroeconomics: A Survey," with Koichi Hamada, presented at Conference on *Globalization, International Trade and Economic Dynamics in Memory of Koji Shimomura*, Research Institute for Economics and Business Administration, Kobe University, November 22-24 2007, organized by Takashi Kamihigashi and Lex Zha.
 27. "Do Professional Forecasters Make Use of the Phillips Curve? An Econometric Analysis of the Japanese Data," presented at International Workshop on

- Expectation Formation*, co-sponsored by the Economic and Social Research Institute of the Japanese Cabinet Office, and Research Department, Federal Reserve Bank of Philadelphia, at Federal Reserve Bank of Philadelphia, February 26-27 2009.
28. "Agglomeration or Congestion? Productivity and Economic Distance of the Japanese Automobile Suppliers" with Ichihiro Uchida, presented at *2009 Far East and South Asia Meeting of the Econometric Society* at Tokyo, and *Comparative Analysis of Enterprise Data 2009 Conference*.
 29. "Searching for the Effects of Unconventional Monetary Policy: The Case of the Bank of Japan," with Yasuhide Yajima, presented at *the Asia-Pacific Economic Association*, 2011.
 30. "Technology and Capital Adjustment Costs: Micro Evidence of Automobile Electronics in the Auto-Parts Suppliers," with Ichihiro Uchida, presented at *Comparative Analysis of Enterprise Data 2012 Conference*, and *the Annual Meeting of the Japanese Economics Association*, 2012(in Japanese).
 31. "Quantifying the Beauty Contest: Density Inflation-Forecasts of Professional Japanese Forecasters," presented at the ESRI-JCER International Conference, Tokyo, 2012.
 32. "Make or Buy, and/or Cooperate? The Property Rights Approach to Auto Parts Procurement in Japan," presented at *62nd Meeting AFSE* at Aix-en-Provence, France, 2013.
 33. "Economic Policy Uncertainty and Stock Price: Evidence from the Tokyo Stock Exchange, 2009-2014," presented at a conference held by Center for Advanced Research in Finance, University of Tokyo and Research Institute of Capital Formation, Development Bank of Japan, 2014.

Bibliography

1. *Monetary Policy and the Japanese Economy* (Hiroshi Yoshikawa, ed. (co-author), in Japanese), Nihon Keizai Shimbun-Sha, 1996.
2. *Heterogeneous Expectations and Macroeconomic Policies: Bounded Rationality in Economic Agents* (with Yasuyuki Komaki and Yasuhide Yajima, in Japanese), Toyo Keizai Shimpou-Sha, 2005.
3. *Core Text on Monetary Economics* (in Japanese), Shinsei-Sha, 2005.
4. *Essentials of Macroeconomics* (in Japanese), Yuhikaku, 2006.
5. *Economic Analysis of Unconventional Monetary Policy* (with Yasuhide Yajima, in Japanese), Nihon Keizai Shimbun-Sha, 2013.

Articles (selected)

1. "Full Employment Current Account in the Japanese 1980's," with Makoto Chigira

- (in Japanese), Discussion Paper, the Japan Development Bank, 1992.
2. "Capital Investment and Stock Market," (in Japanese), *Japan Center for Economic Research (JCER) Economic Journal*, No.24, pp.116-141, 1993.
 3. "Monetary Policy and the Japanese Economy," with Hiroshi Yoshikawa, et al. (in Japanese), *The Economic Analysis*, 128, pp.1-254, 1993.
 4. "How Arbitrarily Do Macroeconomists Identify the VAR Models? A Prospective Survey," *Sophia Economic Review*, 40, 1, pp.21-34, 1994.
 5. "Real Exchange Rate Movements and Structural Adjustment in Japan: A Comment," (in Japanese), *Japan Center for Economic Research (JCER) Economic Journal*, No.29, pp.124-5, 1995.
 6. "Land Collateral and Bank Lending: An Empirical Analysis in Japan," with Fukujyu Yamazaki (in Japanese), in *Macroeconomic Dynamics*, Asako, Kazumi, and Masayuki Ohtaki eds., The University of Tokyo Press, pp. 351-375, 1997.
 7. "Beveridge Curve of Housing Market in Japan," (in Japanese), *The Quarterly Journal of Housing and Land Economics*, No. 24, pp.27-35, 1997.
 8. "Endogenous Money Supply Reconsidered-A Case of the Bank of Japan-," Discussion Paper Series No.96-2, Economic Research Society of Sophia University, 1996.
 9. "Market Operation and Term Structure of Interest Rates in Japan: Interest Rate Smoothing and Debt Management Policy," (in Japanese), *the Economic Review (Keizai Kenkyu)*, No. 4, Vol. 48, pp. 319-328, 1997.
 10. "Interest Rate Smoothing and Time-Varying Term Premium: Another Look at Debt Management in Japan," Center Discussion Paper No.800, Economic Growth Center, Yale University, 1999.
 11. "The Choice between the Flexible Exchange Rate, Capital Control and the Currency Board in Asian Countries: A Perspective from 'the Impossible Trinity'," with Koichi Hamada, *the Japanese Economic Review*, Vol. 52, No. 4, pp. 429-451, December, 2001.
 12. "Precautionary Savings in Japan: Theory and Evidence," with Toshiyuki Okoshi (in Japanese), *the Quarterly Journal of Household Economics*, July, pp. 69-79, 2002.
 13. "Searching for Fiscal Policy Rule under Deflation," (in Japanese) *Financial Review*, No. 64, August, pp. 140-179, 2002.
 14. "Structural Change in the Postwar Japanese Industries: Whether Due to Demand or Supply Shocks?" with Masayuki Keida and Ichiro Oshima (in Japanese), *Sophia Economic Review*, 48, 1-2, 2003.
 15. "How the JGB Market Has Responded to the Zero-Interest-Rate-Policy," with Yasuhide Yajima, revised for *Japan and the World Economy*.

16. "A Note on the Robustness of the Tobin Effect in Incomplete Market," with Makoto Saito, *Macroeconomic Dynamics*, pp.131-143, October 2006.
17. "An Empirical Analysis on Information Aggregation of Inflation-Indexed Bonds," with Yasuhide Yajima, ESRI International Collaboration Project 2005, Chapter 2, pp.1-15, February 2006.
18. "Macroeconomic Management under Debt Workouts in the Pacific Region" with Toshiki Jinushi and Yasuhide Yajima, *Pacific Economic Outlook Structure Task Force*, pp.133-176, March 2006.
19. "Welfare Cost of Inflation and Income Risks in an Incomplete Market Model: Application to Japanese Economy," with Atsuko Ueda, submitted to *Journal of Money, Credit and Banking*.
20. "Comparative Statistical Analyses of the Foreign Exchange Rate Survey Data—JCIF and WEIS—," (in Japanese) with Kazumi Asako, Yasuyuki Komaki, Toshiki Jinushi and Yasushi Hayashi, *The Economic Review (Keizai Kenkyu)*, No. 2, Vol. 58, pp. 163-186, 2007.
21. "On the Role of the Rate of Time Preference in Macroeconomics: A Survey," with Koichi Hamada, in *International Trade and Economic Dynamics, Essays in Memory of Koji Shimomura* eds. by Takashi Kamihigashi and Laixun Zhao, pp. 393-420, Springer: Berlin Heidelberg, 2008.
22. "Technological Externalities and Economic Distance: A Case of the Japanese Automobile Suppliers," with Ichihiro Uchida, Discussion Paper 09051, Research Institute of Economy, Trade and Industry (RIETI), 2009.
23. "Technology and Capital Adjustment Costs: Micro Evidence of Automobile Electronics in the Auto-Parts Suppliers," with Ichihiro Uchida and Daichi Shirai, Discussion Paper 12001, Research Institute of Economy, Trade and Industry (RIETI), 2012.
24. "Make or Buy, and/or Cooperate? The Property Rights Approach to Auto Parts Procurement in Japan," with Ichihiro Uchida, Discussion papers 13066, Research Institute of Economy, Trade and Industry (RIETI), 2013.
25. "Quantifying the Beauty Contest: Density Inflation-Forecasts of Professional Japanese Forecasters," ESRI Discussion paper series 309, Economic and Social Research Institute (ESRI), 2014.
26. "Searching for the Effects of Unconventional Monetary Policy: The Case of the Bank of Japan," with Yasuhide Yajima, *Japanese Journal of Monetary and Financial Economics* Vol. 2, No. 1, pp. 1-58, 2014.
27. "Asset Substitution in Response to Liquidity Demand and Monetary Policy:

Evidence from the Flow of Funds Data in Japan,” with Toshiki Jinushi and Yasuhide Yajima, *Kobe University Economic Review* 60, pp. 1-31, 2014.

28. “Innovation and Legal Enforcement for Competition Policy: Theory and International Evidence from Overseas Subsidiaries of the Japanese Auto-Parts Suppliers,” with Ichihiro Uchida, Discussion paper, Research Institute of Economy, Trade and Industry (RIETI), forthcoming.

Updated on March, 30, 2015