

伊藤隆敏先生の研究紹介

# 高頻度データを用いた 為替変動の研究

渡辺 努

ナウキャスト 創業者・取締役  
東京大学・一橋大学名誉教授

<https://sites.google.com/site/twatanabelab/>

2026年3月7日



長年の奉職、お疲れさまでした。  
渡辺努先生は、私のハーバード大学院の後輩ですが、日銀時代は資料室にこもってばかりで怒られたとか。そこで一橋大学経済研究所にお誘いしました。その後、私が東京大学に移ると、東大に行きたいというので、来ていたただきました。そこから先は独自の洞察力と新しいデータを手に入れてメキメキと業績を積み重ね、会社まで作ってしまいました。東大退職後も実業家、フィランソロピストとして、ますますご活躍されることを期待しております。

伊藤隆敏  
コロンビア大学教授

- Ito, T. (1986) "Capital Controls and Covered Interest Parity between the Yen and the Dollar", *Economic Studies Quarterly*, Vol. 37 pp. 223–241.
- (1987) "The Intra-Daily Exchange Rate Dynamics and Monetary Policies after the Group of Five Agreement", *Journal of the Japanese and International Economies*, Vol. 1, pp. 275–298.
- (1988) "Use of (Time-Domain) Vector Autoregressions to Test Uncovered Interest Parity", *Review of Economics and Statistics*, Vol. 70, pp. 296–305.
- (1990) "Foreign Exchange Rate Expectations: Micro Survey Data", *American Economic Review*, Vol. 80, pp. 434–449.
- (1994a) "Short-Run and Long-Run Expectations of the Yen–Dollar Exchange Rate", *Journal of the Japanese and International Economies*, Vol. 8, pp. 119–143.
- (1994b) "On the Possibility of the Yen Bloc", in R. Glick and M. Hutchison (eds), *Exchange Rate Policy and Interdependence: Perspectives from the Pacific Basin*, San Francisco: Federal Reserve Bank of San Francisco/Cambridge University Press, pp. 317–343.
- (1997) "The Long-run Purchasing Power Parity for the Yen: Historical Overview", *Journal of the Japanese and International Economies*, Vol. 11, pp. 502–521.
- (1999a) "Asian Currency Crisis: Its Origin and Background", *Journal of Development Assistance*, Vol. 5, pp. 108–141.
- (1999b) "Capital Flows in East and Southeast Asia", in M. Feldstein (ed.), *International Capital Flows*, Chicago: NBER/University of Chicago Press, pp. 111–132.
- (2000) "Capital Flows in Asia", Chicago: NBER/University of Chicago Press.
- (2003) "Is Foreign Exchange Intervention Effective?", in P. Mizen (ed.), *Monetary History, Goodhart*, Vol. 2, Cheltenham, UK: Edward Elgar.
- (2004a) "Exchange Rate Regime and the Japanese Economy", *The Japanese Economic Review*, Vol. 35, pp. 1–14.
- (2004b) "The Yen and the Japanese Dollar Adjustment: How Far? Again?", in M. Hashimoto and Y. Hashimoto (2004) *Microscopic Day Activity Revealed in the Electronic Broking System*, NBER Working Paper no. 10818, October.
- and D. Quah (1989) "Hypothesis Testing with Restricted Spectral Density Matrices, with an Application to Uncovered Interest Parity", *International Economic Review*, Vol. 30, pp. 203–215.
- and V. V. Roley (1987) "News from the US and Japan: Which Moves the Yen/Dollar Exchange Rate?" *Journal of Monetary Economics*, Vol. 19, pp. 255–277.
- and V. V. Roley (1990) "Intraday Yen/Dollar Exchange Rate Movements: News or Noise?", *Journal of International Financial Markets, Institutions and Money*, Vol. 1, pp. 1–31.
- and T. Yabu (2004) *What Prompts Japan to Intervene in the Forex Market? A New Approach to a Reaction Function*, NBER Working Paper no. 10456, May.
- , R. F. Engle and W.-L. Lin (1992) "Where Does the Meteor Shower Come From? The Role of Stochastic Policy Coordination", *Journal of International Economies*, Vol. 32, pp. 221–241.
- , K. Okina and J. Teranishi, with K. Okina and J. Teranishi (1993) "News and the Dollar/Yen Exchange Rate, 1931–33: The End of the Gold Standard, Imperialism, and the Great Depression", *Journal of the Japanese and International Economies*, Vol. 7, pp. 107–131.
- , P. Isard, S. Symansky and T. Bayoumi (1996) *Exchange Rate Movements and their Impact on Trade and Investment in the APEC Region*, IMF Occasional Paper no. 145, December.
- , R. K. Lyons and M. T. Melvin (1998) "Is There Private Information in the FX Market? The Tokyo Experiment", *Journal of Finance*, Vol. 53, pp. 1111–1130.
- , E. Ogawa and Y. N. Sasaki (1998) "How Did the Dollar Peg Fail in Asia?" *Journal of the Japanese and International Economies*, Vol. 12, pp. 256–304.
- , P. Isard and S. Symansky (1999) "Economic Growth and Real Exchange Rate: An Overview of the Balassa–Samuelson Hypothesis in Asia", in T. Ito and A. O. Krueger (eds), *Changes in Exchange Rates in Rapidly Developing Countries*, Chicago: Chicago University Press, pp. 109–128.

# 「時間スケール」

Ito, Takatoshi. "The exchange rate in the Japanese economy: The past, puzzles, and prospects." *The Japanese Economic Review* 56.1 (2005): 1-38.

# 市場間の伝播(1)

Journal of Monetary Economics 19 (1987) 255–277. North-Holland

## NEWS FROM THE U.S. AND JAPAN

### Which Moves The Yen / Dollar Exchange Rate?\*

Takatoshi ITO

*University of Minnesota, Minneapolis, MN 55455, USA  
National Bureau of Economic Research, Cambridge, MA 02138, USA*

V. Vance ROLEY\*

*University of Washington, Seattle, WA 98195, USA  
National Bureau of Economic Research, Cambridge, MA 02138, USA*

TKO = 9 a.m. quote in the Tokyo foreign exchange market,  
TKC = 3:30 p.m. quote in the Tokyo foreign exchange market,  
NYO = 9 a.m. quote in the New York foreign exchange market,  
NYN = 12 noon quote in the New York foreign exchange market,  
NYC = 4:30 p.m. quote in the New York foreign exchange market (on money  
announcement days, the quote is taken after 4:30 p.m. to capture any  
effects from money announcements).

# 市場間の伝播(2)

*Econometrica*, Vol. 58, No. 3 (May, 1990), 525–542

## METEOR SHOWERS OR HEAT WAVES? HETEROSKEDASTIC INTRA-DAILY VOLATILITY IN THE FOREIGN EXCHANGE MARKET

BY ROBERT F. ENGLE, TAKATOSHI ITO, AND WEN-LING LIN<sup>1</sup>

The data used in the paper are defined as follows:

$TKO(t)$ : the opening (9 AM) yen/dollar in Tokyo on date  $t$ .

$TKC(t)$ : the closing (3:30 PM) yen/dollar in Tokyo on date  $t$ .

$NYO(t)$ : the opening (9 AM) yen/dollar in New York on date  $t$ .

$NYC(t)$ : the closing (4:30 PM, or later if market is active) yen/dollar in New York on date  $t$ .

The data in Tokyo are collected daily from *Nihon Keizai Shinbun*, which are the transaction rates. The New York rates are the simple average of bid and ask rates given by the Federal Reserve Bank of New York.

# 市場間の伝播(3)

## **Do Bulls and Bears Move across Borders? International Transmission of Stock Returns and Volatility**

**Wen-Ling Lin**

University of Wisconsin–Madison

**Robert F. Engle**

University of California–San Diego and NBER

**Takatoshi Ito**

Hitotsubashi University, Harvard University,  
and NBER

*The Review of Financial Studies* Fall 1994 Vol. 7, No. 3, pp. 507–538

© 1994 The Review of Financial Studies 0893-9454/94/\$1.50

# 經濟物理

J Econ Interac Coord (2008) 3:99–106  
DOI 10.1007/s11403-008-0033-7

---

REGULAR ARTICLE

## **Dynamics of quote and deal prices in the foreign exchange market**

**Takaaki Ohnishi · Hideki Takayasu ·  
Takatoshi Ito · Yuko Hashimoto ·  
Tsutomu Watanabe · Misako Takayasu**

Published online: 27 March 2008  
© Springer-Verlag 2008

# 為替介入の効果



Available online at [www.sciencedirect.com](http://www.sciencedirect.com)



Journal of International Money and Finance 26 (2007) 193–212

Journal of  
International  
Money  
and Finance

[www.elsevier.com/locate/jimf](http://www.elsevier.com/locate/jimf)

## What prompts Japan to intervene in the Forex market? A new approach to a reaction function

Takatoshi Ito <sup>a,b,\*</sup>, Tomoyoshi Yabu <sup>c</sup>

<sup>a</sup> *Graduate School of Economics, The University of Tokyo, 7-3-1 Hongo,  
Bunkyo-ku, Tokyo 113-0033, Japan*

<sup>b</sup> *National Bureau of Economic Research, USA*

<sup>c</sup> *Institute for Monetary and Economic Studies, Bank of Japan,  
2-1-1 Nihonbashi-Hongokucho,  
Chuo-ku, Tokyo 103-8660, Japan*

---

### Abstract

This paper estimates and analyzes the reaction function of Japanese intervention in the foreign exchange (Forex) markets, using daily Japanese intervention data from April 1, 1991 to December 31, 2002. A theoretical friction model is adopted to describe the intervention as cost-minimizing behavior. An ordered probit model, consistent with the theoretical model, is employed to estimate authorities' reaction function. A noise-to-signal ratio is applied in selecting the optimal cutoff point in estimated ordered probit function. Major findings are as follows: (1) A regime change in June 1995 from small-scale frequent interventions to large-scale infrequent interventions is detected; (2) the optimum cutoff is higher in the first half than the second half.

© 2006 Elsevier Ltd. All rights reserved.

*JEL classification:* F31; E58; G15

*Keywords:* Central bank intervention; Foreign exchange rates; Ordered probit; Political cost

---

# 為替市場の制度・慣行

Journal of International Economics 109 (2017) 214–234



Contents lists available at [ScienceDirect](#)

Journal of International Economics

journal homepage: [www.elsevier.com/locate/jie](http://www.elsevier.com/locate/jie)



## Puzzles in the Tokyo fixing in the forex market: Order imbalances and Bank pricing



Takatoshi Ito <sup>a,\*</sup>, Masahiro Yamada <sup>b</sup>

<sup>a</sup> School of International and Public Affairs, Columbia University, USA, and National Graduate Institute for Policy Studies, Japan

<sup>b</sup> Faculty of Economics, Hitotsubashi University, Japan

### ARTICLE INFO

#### Article history:

Received 17 May 2016

Received in revised form 27 September 2017

Accepted 27 September 2017

Available online 10 October 2017

#### JEL classification:

D43

D47

F30

F31

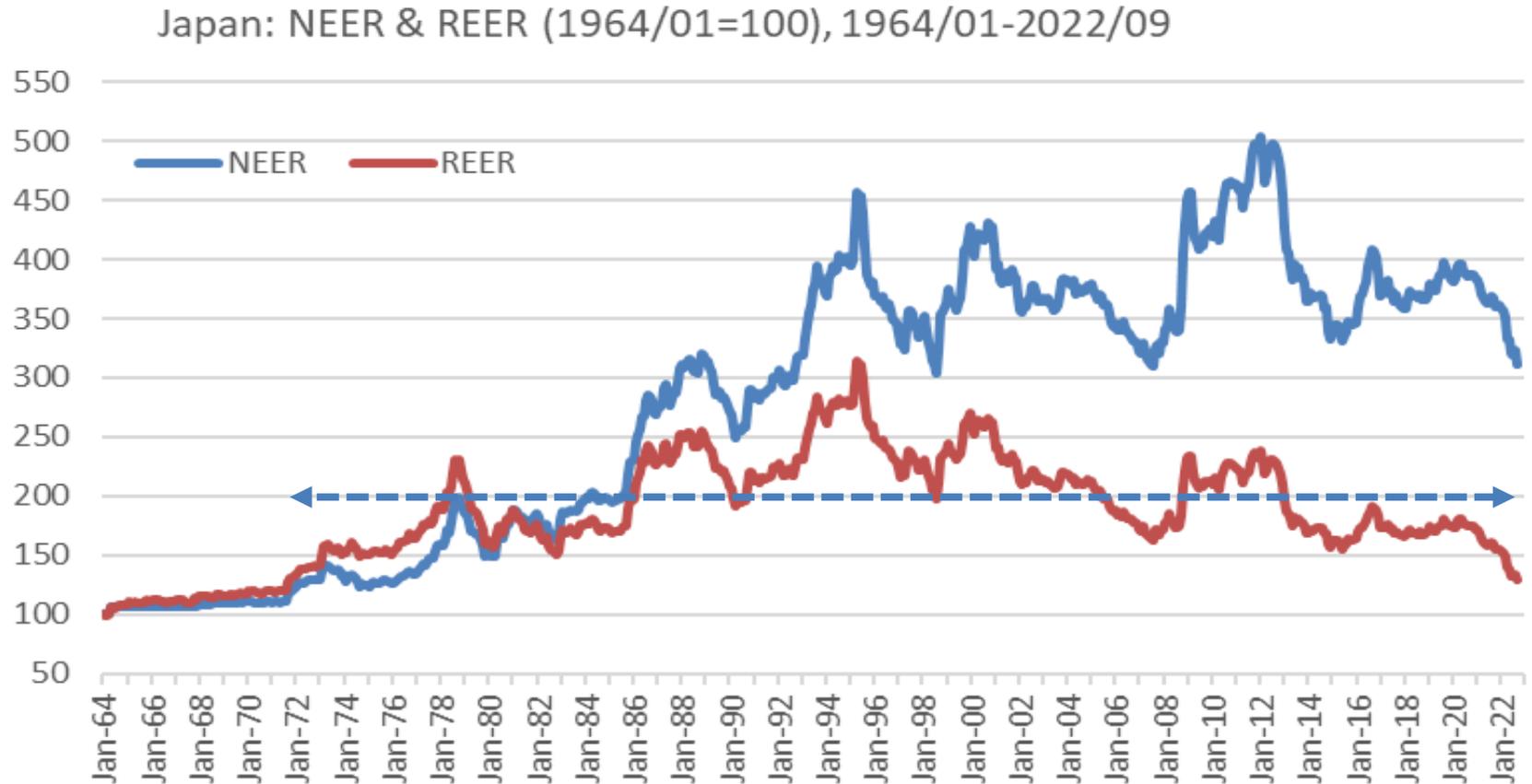
F33

### ABSTRACT

“Fixing” in the foreign exchange market determines the mid-point exchange rate that is applied to spot foreign exchange transactions between banks and bank customers. The paper analyzed the Tokyo fixing practices, which allow each bank to announce the fixing rate based on the interbank exchange rate transactions at 9:55 a.m. Based on volumes of customer orders, submitted for transaction at the fixing price, banks submit orders to the interbank market at the fixing time window. Three puzzles regarding the Tokyo fixing are: (1) the spikes in prices at the fixing time occur despite a high level of liquidity in the market; (2) the order flows before the fixing are biased toward the dollar, which generates a predictable price pattern; and (3) the bank-announced fixing rates are biased toward dollar appreciation. These puzzles can be explained as a consequence of unique institutional features of the Tokyo fixing and of banks’ real-side customers in Japan.

© 2017 Elsevier B.V. All rights reserved.

# バラッサ＝サムエルソン効果



---

# 4 Economic Growth and Real Exchange Rate: An Overview of the Balassa-Samuelson Hypothesis in Asia

Takatoshi Ito, Peter Isard, and Steven Symansky

Ito, Takatoshi, Peter Isard, and Steven Symansky. "Economic growth and real exchange rate: an overview of the Balassa-Samuelson hypothesis in Asia." *Changes in exchange rates in rapidly developing countries: theory, practice, and policy issues* (1999): 109-132.

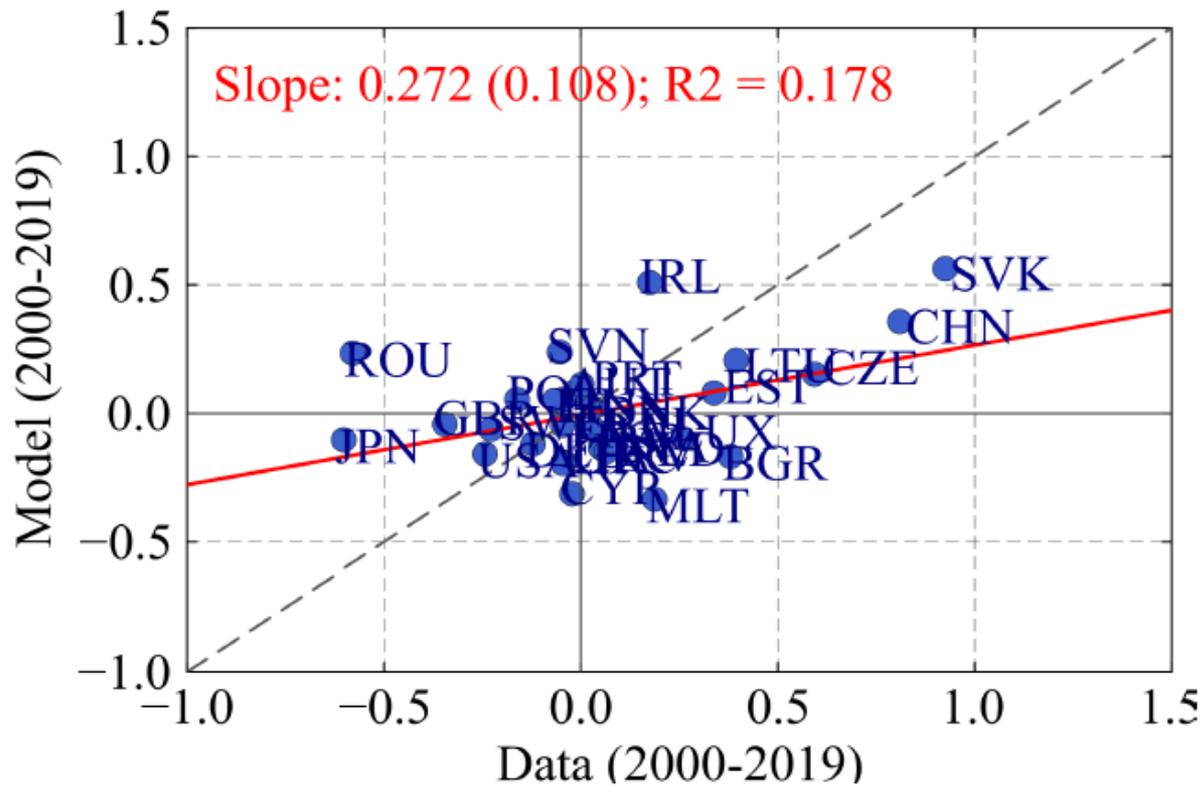
# Project Syndicate

## Why Is Japan So Cheap?

*Mar 3, 2022* | TAKATOSHI ITO

TOKYO – Every month, the Bank for International Settlements calculates and publishes the real and nominal effective exchange rates for major currencies. The most recent data, released in mid-February, contained a shock for Japan. They show that the yen's real effective exchange rate (REER, representing roughly the purchasing power of the currency) is now as low as it was in the early 1970s, when the yen was first floated following the collapse of the Bretton Woods and Smithsonian systems of fixed exchange rates.

As the yen's purchasing power has weakened, the Japanese have noticed that imported goods are now more expensive, and the media are full of stories about



Kikuchi, Shinnosuke. “Balassa–Samuelson in the Long Run: Qualitative Success, Quantitative Limits.” January 19, 2026.

## Why Has Japan Become So Cheap? Part 2: 伊藤隆敏教授（コロンビア大学）、渡辺努教授（東京大学）

A dialogue between: Takatoshi Ito, Professor, School of International and Public Affairs, Columbia University; Director, Program on Public Pension and Sovereign Funds, Center on Japanese Economy and Business, Columbia Business School

Published  
January 12, 2023

Publication  
CJEB



## Why Has Japan Become So Cheap? Part 2

Thursday, November 17, 2022

# Understanding the Normalization of the Japanese Economy

Takatoshi Ito<sup>1</sup>  
Columbia University

To appear in Asian Economic Policy Review, vol. 20, no. 2, July 2025

## Abstract

This paper focuses on three aspects of the Japanese economy that deviated from “normalcy”—unconventional monetary policy, unsustainable fiscal policy, and declining growth and productivity. Non-normality in Japan has developed over the past few decades, but has become more prominent during the Abenomics years starting in 2013. Regaining normalcy in monetary policy requires a gradual increase in the policy interest rate to the neutral interest rate, achieving a 2% inflation rate, and reducing the Bank of Japan’s balance sheet by quantitative tightening. Regaining normalcy in fiscal policy requires reducing government fiscal deficits, which tend to ratchet up as the country experiences a crisis. This fiscal tightening has to be done in an environment where monetary normalization proceeds. Japan’s per capita GDP relative to other countries has declined over the last three decades. Japan’s per capita GDP relative to that of the US in 2025 is about that of 1980. Similarly, the yen’s purchasing power in 2025 is similar to what it was in the early 1970s. Japan has become poorer since the mid-1990s. To prevent Japan from further sliding back into the emerging market group, the government has to promote research and development in high-value-added technologies.

**JEL Codes:** E52, E53, E62, O4

**Keywords:** Fiscal deficit, Fiscal Policy, Inflation, Japan, Monetary Policy, Productivity

**Accepted** 13 May 2025

VOXEU / COLUMNS

Search All Columns

Trump and Tariffs

VoxTalks

VoxEU Videos

About VoxEU



VOXEU COLUMN FRONTIERS OF ECONOMIC RESEARCH

SHARE



## Takatoshi Ito, scholarship on Japan's economy transformed

Kosuke Aoki, Alan Auerbach, Charles Yuji Horioka, Anil K Kashyap, Tsutomu Watanabe, David Weinstein / 7 Nov 2025

Takatoshi Ito, who passed away in September 2025, was a leading scholar of macroeconomics and international finance. This column, written by a group of friends and colleagues, outlines his many contributions in a lifetime of research.

<https://cepr.org/voxeu/columns/takatoshi-ito-scholarship-japans-economy-transformed>