

THE FOREIGN EXCHANGE ORIGINS OF JAPAN'S LIQUIDITY TRAP

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Among industrial countries with floating exchange rate regimes, national monetary policies are usually presumed to be independently determined while exchange rates “adjust.”¹ Because asset prices adjust faster than goods prices (Dornbusch 1976), such adjustment may lead to surprisingly great short-run volatility in, and medium-term misalignments of, exchange rates. Indeed, Jacob Frenkel and Michael Mussa (1980) modeled the exchange rate as a forward-looking asset price where relatively small changes in expected future monetary policies (which can be impacted by fiscal and trade variables) shift portfolio preferences so as to move today's exchange rate substantially. So accepted theory suggests that the direction of causation is from national monetary policies, present and future, to the floating exchange rate. And for most pairs of industrial countries with floating exchange rates, this prevailing view is surely right.

In this paper, however, I shall argue that the bilateral foreign exchange relationship between Japan and the United States is singularly different. True, American monetary policy is independently determined as conventional theory would have it. But Japanese monetary policy, relative to the American, has been “caused” by the persistent upward drift in the dollar value of the yen arising out of the trade relationship between the two countries. This upward drift reflects mercantile pressure from the United States since 1971, and financial pressure from the cumulative Japanese current-account surpluses of the past two decades. Actual appreciation, and expected appreciation, of the yen has been the forcing variable for a (relatively)

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¹This analysis is derived from joint work with Kenichi Ohno of the ADB Institute in Tokyo. See McKinnon and Ohno (1997) and (forthcoming).

deflationary monetary policy by Japan since the late 1970s—and, in the late 1990s into 2000, for the externally imposed liquidity trap within which the Bank of Japan can do little or nothing to revive the slumping economy.

The inability to identify the foreign exchange origins of Japan's unremitting economic slump, where private investment and consumption languish despite massive government fiscal stimuli, has become the great failure of modern macroeconomics. Because there is no consensus on what to do, Japanese political leaders, and senior officials in the Ministry of Finance, Bank of Japan, and elsewhere, can hardly be faulted for their failure to take "resolute action" to end the slump. Indeed, they cannot agree among themselves on what monetary and foreign exchange policy is appropriate.

For example, in 1999 when the Bank of Japan intervened several times without success to slow the yen's rise from 120 yen per dollar in June to 105 by mid-September, it sterilized the impact on the monetary base. Yet, to make the intervention more effective and to stimulate the flagging economy, the Ministry of Finance wanted the intervention to be unsterilized—i.e., for the monetary base to expand by the domestic value of the large increase in foreign reserves. But this debate is beside the main point. Short-term interest rates are already trapped at zero with the monetary base "overexpanded." In the liquidity trap, whether the Bank of Japan's interventions are sterilized or unsterilized does not matter.

Resolving Japan's Dilemma

Is there an alternative way to quash the deflationary expectations now gripping the economy? The trick is to credibly stabilize the *future* price level (in people's minds) *without* further massive increases in the current monetary base—increases which would have to be sharply reversed if the deflationary psychology was successfully broken and nominal interest rates rose to normal levels. The appropriate way to anchor the future Japanese price level for tradable goods and services (as approximated by the wholesale price index) is by a joint commitment of the American and Japanese governments to stabilize the dollar value of the yen in the long-run—i.e., 10, 20, or 30 years hence.

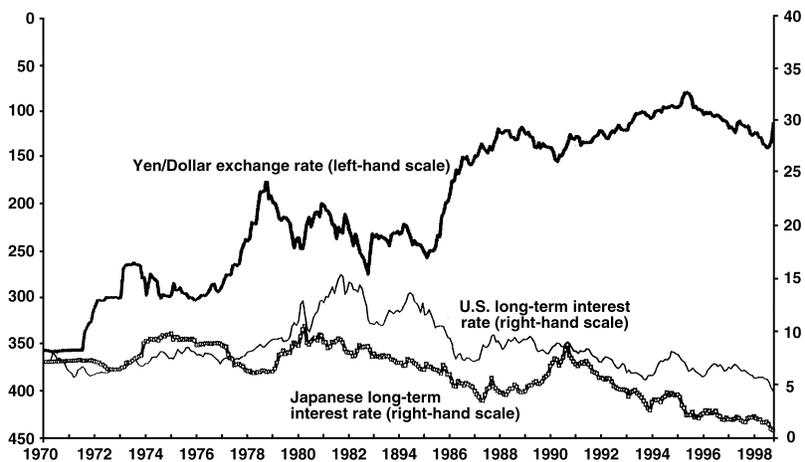
Why is establishing a long-term benchmark for the nominal yen-dollar exchange rate by the *two* governments necessary for anchoring Japan's price level in the future? Because pressure from the United States to appreciate the yen from 360 to the dollar in 1971 to just 80 in 1995 is the historical origin of Japan's deflationary psychology today

(see McKinnon and Ohno 1997). And this pressure has been seen by both sides as a way of mitigating the threat of trade sanctions from the United States. For example, the great run up of the yen from 100 at the end of 1994 to just 80 to the dollar in April 1995 was associated with fierce trade dispute over the entry of American automobiles and automotive components into the Japanese market.

In mid 1995, American policy changed. The Treasury announced a “strong dollar” policy and, since then, the yen has come down from its peak. Nevertheless, the unbalanced political economic interaction between the two countries instills the fear that this relief is only temporary. Indeed, the great burgeoning of the American trade deficit (and Japanese trade surplus) in 1999 and 2000 reinforces the expectation that American mercantile pressure will return; it also increases the currency risks for Japanese financial institutions—banks, insurance companies, trust funds, and so on—in adding to their already huge stocks of dollar claims, which is the financial counterpart of Japan’s past surpluses. And without such financial cover, today’s current-account surplus will itself drive the yen upward—apart from any direct mercantile pressure from the United States.

Not until 1978, however, was the expectation of an ever-higher yen sufficiently strong to drive Japanese nominal (but not real) interest rates persistently below those in the United States (Figure 1). This was not a problem for the Japanese as long as American nominal

FIGURE 1
THE YEN/DOLLAR EXCHANGE RATE AND LONG-TERM
INTEREST RATES



interest rates remained high because of inflationary expectations. But when the U.S. Federal Reserve Bank convincingly stabilized the American price level by the mid-1990s and American interest rates came down, Japanese interest rates were driven toward zero. Thus has the liquidity trap in Japan been *externally imposed*—as an incidental, rather than deliberate, outcome of American policies.

The Liquidity Trap and the Domestic Bond Market

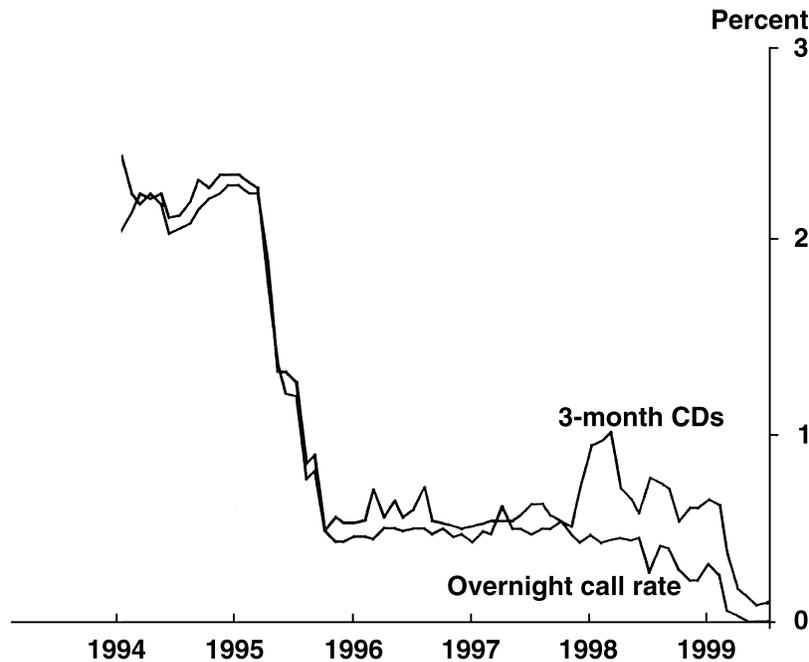
In its most general sense, a liquidity trap is a situation where the central bank can expand the monetary base *indefinitely* without affecting any important price in the economy, or relaxing some significant liquidity constraint, that would increase aggregate demand. From the perspective of the domestic financial markets, John Maynard Keynes (1936) identified a low-interest-rate trap where nominal interest rates are bounded from below by zero. As long as individuals may hold non-interest bearing cash balances, and commercial banks may hold excess reserves at zero interest with the central bank, then open-market interest rates cannot be forced below zero.

After 1995 the interbank overnight call rate among Japanese commercial banks was about 0.5 percent, and Figure 2 shows that this had fallen to effectively zero in 1999. Figure 2 also shows that the more volatile 3-month CD rate has fallen to 0.1 percent in 1999 into 2000. Household purchases of safe deposit boxes for surplus cash are booming, and excess reserves of commercial banks are building up. Corresponding to the fall in nominal interest rates over the longer term, the velocity of base money in Japan has fallen from a little over 5 in the late 1980s to a little over 3 in the late 1990s.

How does this affect Japan's seemingly unending banking crisis? When nominal interest rates are compressed toward zero, lending margins for private commercial banks to good credit risks become unprofitable. The prime loan rate in Tokyo and Osaka has been forced down to just 1.4 percent. The reluctance of commercial banks to lend at low interest spreads further dampens aggregate demand, and the banks' low profits on new lending makes them unable to recapitalize themselves. Indeed, low profitability in commercial lending has led a desperate government to nationalize much of the flow of financial intermediation: public trust funds based on the huge postal saving system and the central bank itself are now lending directly to private trade and industry.

Even so, because the deflationary psychology gripping the economy anticipates ongoing declines in wholesale prices and land values, "real" rates of interest remain too high to stimulate aggregate

FIGURE 2
JAPANESE SHORT RATES



demand. Indeed, real interest rates—suitably risk adjusted—in Japan cannot be very different from those prevailing in the much more buoyant American economy without provoking massive capital flight.

In the Great Depression, Keynes (1936) was more obsessed with why *long-term* nominal interest rates might be stuck significantly above zero—even though short rates were nearly zero, and there appeared to be excess liquidity. In June 2000, the volatile interest rate on benchmark 10-year yen bonds rate in Japan (JGBs) was just 1.7 percent—while longer term rates remained about 2 percent.

But properly risk adjusted, Japanese long rates are still close to “zero.” As nominal interest rates on long-term bonds become low, their market prices become extremely sensitive to tiny changes in open market interest rates. Because of this price volatility, the perceived riskiness of holding them rises. In addition, Keynes also believed that, at very low interest rates bounded from below by zero, people expect that bond prices are more likely to fall than rise, i.e., that interest rates will rise in the future. (In Japan, this open-market

risk premium on JGBs has sometimes been suppressed when the huge government trust funds have been the dominant buyers of new issues.)

The upshot of reluctance by the private sector to hold long-term bonds is twofold: a substantial risk premium gets built into long-term interest rates *and* what Keynes dubbed the “speculative demand for money” becomes indefinitely high. New injections of base money by the central bank are simply absorbed by this speculative demand with little or no effect on short or long-term interest rates: the so-called liquidity trap.

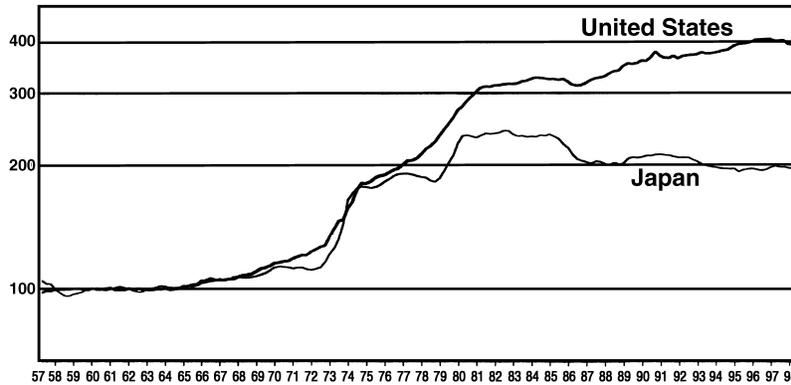
The Liquidity Trap with International Financial Arbitrage

In 1936, when Keynes wrote his *General Theory*, he modeled the economy as if it were financially closed to the rest of the world—not a bad simplification in view of the breakdown of world trade and the proliferation of exchange controls in the 1930s. Today, however, Japan is an open economy in an industrial world without exchange controls. If Japanese households, some business firms, and banks are “swimming in excess liquidity” with little or no nominal yield, why not pile into high-yield assets denominated in foreign exchange? For example, a Japanese saver could get more than 6.5 percent on short-term dollar deposits in New York or San Francisco, and about 5.8 percent on 10-year U.S. Treasury bonds, which show less price risk in dollars than the price risk in yen of holding 10-year JGBs at 1.9 percent.

True, holding assets denominated in foreign currency incurs exchange risk. But unless Japanese savers felt strongly that the yen was likely to be higher in the future than it is today, they could not be persuaded to *accept persistently* much lower nominal yields on yen assets in comparison to dollar assets. Figure 1 shows that, for more than 20 years, they have felt this way. Since 1978, the nominal yields on 10-year JGBs have averaged about 4 percentage points less than the counterpart yields on 10-year U.S. Treasuries. And, the great rise in the yen since 1971 from 360 to the dollar to 105 or so in 2000 has, coincidentally, averaged about 4 percent per year—albeit with great volatility around that trend (Figure 1). Correspondingly, Figure 3 shows that, since the early 1970s, Japan’s wholesale price index (WPI) has fallen (is falling) relative to the American—although rather more smoothly.

However, to understand more fully why a liquidity trap is sustainable in an open economy, the meaning of the *speculative demand for*

FIGURE 3
PRICE LEVEL OF TRADABLE GOODS (WPI)
(1960: Q1 = 100)



NOTE: In 1985, the U.S. wholesale price index (WPI) was merged into a series on the U.S. producer price index (PPI).

SOURCE: International Monetary Fund, *International Financial Statistics*, CD-ROM, March 1999, line 63.

money can be expanded. Beyond the ordinary transactions and pre-cautionary demands for money, people hold speculative cash balances in anticipation of two events whose precise timing is uncertain:

1. Domestic bond prices suddenly fall (domestic interest rates rise) and so present a better buying opportunity, i.e., the Keynesian case.
2. The domestic currency ratchets up in the foreign exchanges and presents a better opportunity for buying bonds in foreign currency.

Even when the current dollar value of the yen is not appreciating, the possibility of upward ratchets in the dollar value of the yen further induces Japanese households and firms to hold large speculative domestic cash balances. In effect, Keynes's speculative demand for money is augmented. Figure 1 shows the yen's upward ratchets in 1971–73, 1977–78, 1985–87, and 1992–95. But sudden upward movements can also occur more quickly. On October 6, 1998, the yen ratcheted up from 135 to 115 to the dollar in the space of a few hours. Thus, when the Bank of Japan vigorously increases the monetary base, people just hold the excess cash rather than investing in foreign or domestic bonds.

The Constraint on Yen Depreciation

I have argued that the spot yen need not naturally depreciate in the face of “excess” domestic liquidity as long as the future yen is expected to be (erratically) higher. However, there exists an additional political-economic constraint on how much the spot value of the yen could possibly be manipulated by the government to depreciate in real terms. Suppose, to stimulate the slumping but very large Japanese economy, unrestrained monetary expansionists—see Meltzer 1998 and Krugman 1998a and 1999b—aimed for a sharp yen depreciation below its current PPP rate. This would fail on several counts:

- *The domino effect*: Other Asian currencies would be forced to depreciate (further). In particular, the finely balanced position of China, where the yuan/dollar rate has been stable for more than five years, would be undermined.
- *Protectionist responses from other industrial countries*: Already in 1999, a major trade dispute was brewing over a surge in Japanese steel exports into the American market.
- *The expectations effect*: The fear of future yen appreciation could still remain and even be strengthened if expectations about the long-term value of the yen are little changed in the face of current yen depreciation.

Particularly in view of Japan’s large trade surplus, almost all protagonists in the current debate recognize the potential calamity if the yen were to depreciate sharply to well below its current purchasing power parity (PPP) rate of about 115 to the dollar. So Japanese monetary policy is trapped in two important respects: nominal interest rates cannot be reduced further and neither can the spot value of the yen be significantly devalued in the foreign exchanges.

However, in proper long-term perspective, it is the yen’s forward value, and not the spot value, which is too high. (Although the run up of the yen to 105, above its PPP rate of about 115, suggests that yet another bout of near-term overvaluation is in prospect.) Once the problem is properly diagnosed, the solution for ridding the Japanese economy of its deflationary psychology is straightforward—but not something the Japanese can do on their own.

Ending the Expectation of an Ever-Higher Yen

In McKinnon and Ohno (1997), chapters 10 and 11 discuss policies that would unravel the syndrome of the ever-higher yen by rational-

izing the mercantile-monetary interaction between Japan and the United States. At the risk of oversimplifying the many institutional aspects covered in the book, our proposed economic pact between the two countries boils down to two complementary sets of policies:

1. A *commercial agreement* limiting bilateral sanctions in trade disputes and ending (future) pressure from the United States to get the yen up.
2. A *monetary accord* to stabilize the yen/dollar rate over the long term: the principle of virtual exchange rate stability.

The markets need a formal pact to provide long-term assurance that American policy truly has changed permanently so that the future dollar value of the yen is likely to be no higher, and the Japanese (wholesale) price level no lower, than they are today. As per (1) and (2) above, the two governments would jointly announce a formal benchmark target, close to today's PPP rate (the exact number is not too important) of say 115 yen to the dollar. Then when the yen/dollar rate moves sharply away from 115, the Fed and Bank of Japan would enter jointly to nudge it back toward 115. Without trying any hard short-term fix, the authorities would always be ready to nudge the rate toward its long-term benchmark. Such a policy can work as long as it is "concerted" (Catte, Galli, and Rebecchini 1992; Dominguez and Frankel 1993). In people's minds, the yen's long-term upward drift would cease.

National monetary policy must eventually support any such long-run exchange rate target. But, once the expectation of an ever-higher yen was successfully quashed, almost all the monetary adjustment would be in Japan. Little or no change in the Federal Reserve's policy of stabilizing the American price level, the independent anchor, would be necessary or desirable. Because the purpose of long-term stabilization of the exchange rate is to end deflationary pressure and spring the liquidity trap in Japan, that is where the main monetary adjustment would take place. What would the transition look like?

After the Trap Is Sprung: The Transition

An international pact to stabilize the yen/dollar exchange rate over the long term is politically difficult but technically straightforward. In contrast, once expectations begin to shift away from ongoing yen appreciation and deflation, successfully managing domestic Japanese monetary policy in the transition will be technically intricate. For analytical purposes, let us suppose deflationary expectations end sud-

denly—as with the exchange rate pact we propose. Then, without going into detail, what would happen?

- Nominal Japanese interest rates rise, and real interest rates fall, to world levels as the wholesale price level stabilizes. Holders of long-term yen bonds take a beating.
- New bank lending becomes profitable even though bank balance sheets remain a mess. But now a clean up makes more sense. The banks can be “denationalized.”
- Private investment increases as fear of a sudden yen appreciation and overvaluation is eliminated.
- Private demand for new housing surges as the fear of ongoing decline in land values ends as the price level stabilizes.
- The Bank of Japan may actually have to contract the monetary base to allow nominal interest rates to rise while keeping the exchange rate steady.

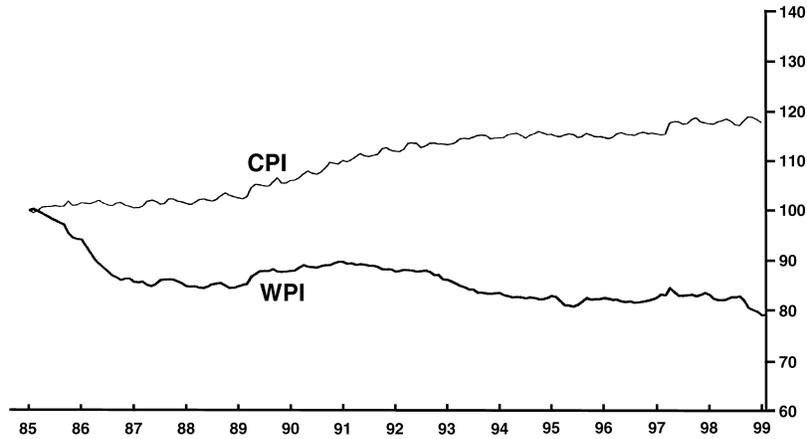
When the liquidity trap is sprung, nominal interest rates must increase even though “real” rates come down toward American levels as risk premia in Japanese bond markets decline (McKinnon and Ohno, forthcoming). Private investment should be further stimulated when the fear of future upward ratchets in the yen declines, and the constraint on new bank lending diminishes as bank profit margins widen. House purchases should become more attractive for these reasons, and because potential homebuyers see an end to the slide in property values.

Once the foreign exchange value of the yen and future Japanese price level are securely anchored, whether the Bank of Japan should “tighten” or “ease” domestic monetary policy is, paradoxically, not clear. The possibly sharp increase in nominal interest rates would tend to reduce the demand for base money. If this effect dominates, the Bank of Japan would need to reduce the monetary base quickly in order to prevent capital outflows and a sharp depreciation of the yen below its agreed-on dollar benchmark.

On the other hand, if the economy recovers sufficiently fast and the banking system is quickly recommercialized, the demand for base money would increase on net balance. Reprivatization of bank lending should proceed naturally as commercial banks offer positive nominal interest rates and bid funds away from the postal saving system. So, in the transition, the Bank of Japan must stand ready to either withdraw or inject base money into the system—always being guided by pressure in the foreign exchanges.

With this exchange rate anchor, and after a successful transition, the economy should achieve approximate price level stability as mea-

FIGURE 4
 JAPANESE CONSUMERS AND WHOLESALE PRICES INDICES
 (JANUARY 1985 = 100)



SOURCE: International Monetary Fund.

sured by Japan's WPI—but *not* by the CPI. Figure 4 shows the fall in Japan's WPI relative to its CPI. Reflecting the so-called Balassa-Samuelson effect, for a long time the price of services in Japan have been rising relative to goods prices. Thus, in the last decade, the Bank of Japan has been deceived by the relative stability in its CPI—while the WPI has fallen substantially and better reflects deflationary pressure (along with falling land prices) in the economy overall.

Consequently, the WPI is a better (although not perfect) deflator for converting nominal into “real” interest rates (McKinnon 1979). It is also more directly affected by the exchange rate. With exchange stability and economic recovery, the system would settle down to higher growth in Japan's CPI—say 2 or 3 percent per year—while the WPI remained approximately stable in the American mode.

References

- Carte, D.; Galli, G.; and Rebechini, S. (1992) “Exchange Rates Can be Managed!” *International Economic Insights* (September/October): 17–21.
- Dominguez, K.M., and Frankel, J.A. (1993) *Does Foreign Exchange Intervention Work?* Washington, D.C.: Institute for International Economics.
- Dornbusch, R. (1976) “Expectations and Exchange Rate Dynamics.” *Journal of Political Economy* 84: 1161–76.
- Frenkel, J., and Mussa, M. (1980) “The Efficiency of Foreign Exchange

- Markets and Measures of Turbulence.” *American Economic Review* 70(2): 374–81.
- Keynes, J.M. (1936) *The General Theory of Employment, Interest and Money*. New York: Macmillan.
- Krugman, P. (1998a) “Japan’s Trap.” <http://web.mit.edu/krugman/www/japtrap.html> (May).
- Krugman, P. (1998b) “Japan Still Trapped.” <http://web.mit.edu/krugman/www/japtrap2.html> (November).
- McKinnon, R.I. (1979) *Money in International Exchange: The Convertible Currency System*. New York: Oxford University Press.
- McKinnon, R.I., and Ohno, K. (1997) *Resolving Economic Conflict between the United States and Japan*. Cambridge, Mass.: MIT Press (Japanese translation, Nihon Keizai Shimbun 1998).
- McKinnon, R.I., and Ohno, K. (forthcoming) “The Foreign Exchange Origins of Japan’s Economic Slump and Low Interest Liquidity Trap.” *The World Economy*.
- Meltzer, A.H. (1998) “Time to Print Money.” *Financial Times*, 17 July.