

## **Comments on Kazumasa Iwata and Shinji Takenaka's paper "Central bank balance sheets expansion: Japan's experience"**

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The paper considers the impact of aggressive monetary easing by one country upon the welfare (as opposed to production or employment) of its trading partners. Its central message is that in order to assess the international transmission of monetary policy one must consider the impact on terms of trade, which together with the impact on production and employment determines the overall impact on welfare. The working assumption, based on casual empiricism, is that monetary easing causes the exchange rate to depreciate (no distinction needs to be made between nominal and real rates in the short run, when prices are not fully flexible). But how currency depreciation alters the terms of trade depends on the price setting behavior of exporting firms, which in turn is related to the choice of invoice currency. The paper notes that the predominant use of local currency pricing by Japanese exporters has led to a negative relationship between exchange rate and terms of trade (eg depreciation accompanied by worsening) and concludes by implying that, in view of the worsening of the country's terms of trade (and given the favorable impact on the level of global interest rates), recent aggressive monetary easing by the Bank of Japan did not have a beggar-thy-neighbor effect on the welfare of foreign countries.

The theme of the paper is by no means specific to Japan. But given the first author's background (as former Deputy Governor of the Bank of Japan), it is natural that the paper should focus on the experience of Japan while also touching on the experiences of other countries in the recent past. Following the Lehman shock of September 2008, the central banks of several advanced economies, including the Bank of Japan (BOJ), resorted to what is now commonly called "unconventional" monetary policy measures. Two broad types of unconventional policies are identified: quantitative easing, which consists of policies that aim to increase free reserves in the banking system, and credit easing (or qualitative easing), which consists of policies aimed at affecting the composition of central bank balance sheets (though instruments used for this purpose, such as direct lending to market participants, typically involve an increase in the size of the balance sheet). Both types of unconventional measures were adopted during the current crisis.

Before the onset of the global financial crisis, however, the BOJ was almost alone in having accumulated significant experience with unconventional monetary policy. From this standpoint as well, the authors' focus on the Japanese experience is appropriate. After a prolonged period of economic stagnation, in February 1999 the BOJ reduced the overnight call rate to virtually zero. In March 2001, it went beyond the zero interest rate policy to adopt a policy of quantitative easing consisting of: (i) supplying ample liquidity by using the deposits of commercial banks held at the central bank (current account balances, or CAB) as the main operating target; (ii) publicly committing itself to maintaining ample liquidity until core CPI inflation became zero or higher on a sustained basis; and (iii) increasing the purchases of Japanese government bonds (JGBs).

Over the period of quantitative easing (which was to last until March 2006), there was a rapid growth in base money. The BOJ steadily increased the CAB target, from about 5 trillion yen to

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30–35 trillion yen. The CAB was increased through the purchases of both private sector assets and JGBs. The BOJ began to announce the amount of monthly JGB purchases, which it raised in several steps, from 400 billion yen initially to 1.2 trillion yen in October 2002. In the meantime, the Japanese Ministry of Finance made a massive foreign exchange market intervention to purchase dollars, amounting to 35 trillion yen from January 2003 to March 2004, during which period base money increased by 15 trillion yen. This amounted to a non-sterilized intervention of 15 trillion yen. Iwata and Takenaka observe that a steady depreciation of the yen accompanied this “first round” of unconventional monetary policy.

The “second round” of unconventional monetary policy began after the Lehman shock. In December 2008, the BOJ established a scheme to provide credit to enterprises; in June 2010, it began to supply fixed-interest funds to support commercial bank lending to productivity-enhancing and demand-creating activities; and in October 2010 (in what was called “comprehensive easing policy”) it widened the scope of eligible assets in the asset purchase program, increased the amount of JGB purchases by abolishing the ceiling (previously set equal to the amount of BOJ notes outstanding), and strengthened the policy duration commitment (until about 1% inflation was achieved). Despite the acceleration of monetary easing, however, the BOJ balance sheet did not expand as much as it had during the first round, as the focus of the second round has been more on the credit easing aspect. This explains why the yen has appreciated against major currencies despite monetary easing, given the much more aggressive easing policies pursued by the central banks of other advanced countries.

Iwata and Takenaka, summarizing the broad conclusions of the empirical literature on the two rounds of unconventional monetary policy in Japan, state that the impact on aggregate demand or deflationary expectations was limited, possibly because the policies are perceived by the markets to be temporary. Instead, the effectiveness of unconventional monetary policy in Japan appears to be indirect, reducing liquidity and credit premiums, spreads on private sector instruments, and long-term interest rates, while pushing up equity prices. BOJ balance sheet expansion, however, appears to have caused the yen to depreciate, as attested to by the experience of Japan in the first round of monetary easing (a similar exchange rate impact of central bank balance sheet expansion is indicated by the more recent experience of the United States, the euro zone, and the United Kingdom). But whether or not central bank balance sheet expansion has a beggar-thy-neighbor effect depends on how currency depreciation affects the terms of trade and the responsiveness of aggregate demand and output to the lower global interest rates in the rest of the world.

In illuminating the terms of trade channel of international monetary policy transmission, the paper gives considerable space to reviewing the historical relationship between the (nominal/real) exchange rate and the terms of trade (Section 3), to a theoretical exposition of how a change in the exchange rate is related to a change in the terms of trade (Section 4) and to the critical role the choice of invoice currency plays in the determination of the short-term impact of exchange rate changes on the terms of trade (Section 4). The upshot of this rather long and involved discussion is that the relationship depends on the choice of invoice currency, the degree of home bias with respect to domestically produced tradable goods, and cross-country differences in the relative price of tradable and non-tradable goods. Of these, Iwata and Takenaka argue that the invoice-currency-linked price setting behavior of Japanese exporting firms is the most critical element in explaining the worsening terms of trade as the exchange rate appreciated over time.<sup>2</sup> This largely reflects the fact that

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<sup>2</sup> Iwata and Takenaka show, under the assumption that consumer prices move with wage costs and that the law of one price holds for tradable goods, that a real effective appreciation not accompanied by a corresponding improvement in the terms of trade represents a loss of international competitiveness.

Japanese exporters tend to use local currency pricing (which causes appreciation to worsen the terms of trade).<sup>3</sup>

Monetary easing in one country is transmitted differently depending on whether local currency pricing or producer's currency pricing is used by domestic and foreign exporters. Iwata and Takenaka's review of the literature on new open economy macroeconomics suggests the following transmission mechanisms under the assumption of nominal rigidity:

1. Under producer's currency pricing (PCP), depreciation worsens the home country's terms of trade, expands domestic production, reduces foreign production and causes the current account balance to improve in the home country and to deteriorate in the foreign country. Foreign welfare is likely to improve as the improvement in the terms of trade tends to more than offset the reduction in production. Thus, the beggar-thy-neighbor effect of monetary easing is unlikely to be present.
2. Under local currency pricing (LCP), depreciation improves the domestic terms of trade, but involves no expenditure switching effect; depreciation, however, reduces (increases) the markup over marginal costs of foreign (domestic) exporters, thereby transferring income from the foreign to the home country. Welfare unambiguously improves in the home country, while welfare falls in the foreign country (a lower global interest rate and an increase in world consumption would cause production to rise, requiring workers to work more to maintain the same income level). There is a beggar-thy-neighbor effect in this case.

In practice, the real world involves a mixture of PCP and LCP, and in this case the scenario depends, among other things, on the relative shares of PCP and LCP, as well as on the relative size of each country. Unfortunately, this is where the paper stops. Iwata and Takenaka do not go further to explore the implications for the international transmission of Japanese monetary easing, except to note that during both rounds of unconventional policy Japan experienced a worsening of its terms of trade. The implication is that recent aggressive monetary easing by the BOJ did not involve a beggar-thy-neighbor effect (during the second round the yen appreciated, as the easing was less aggressive than in other advanced countries, so the beggar-thy-neighbor effect was absent in the first place).

As stated at the outset, the central message of the paper is to highlight the need to consider terms of trade changes when one assesses the international transmission of monetary policy. In articulating this transmission mechanism the authors stress the critical role played by the choice of invoice currency, along with the associated price setting behavior of exporters. This may well be valid in the short run when prices are less than fully flexible. But the authors make too much of this. We must believe that, in the medium to longer term, the terms of trade are determined largely by real forces, and not by monetary policy. Ultimately, the key to understanding the secular deterioration of Japan's terms of trade must be sought, not only in rising energy prices, but also in the fact that Japan exports higher-end manufactured products whose prices are under constant downward pressure due to innovation and global competition. The question of what the global impact of aggressive monetary easing by the Bank of Japan was remains unanswered.

The paper is full of insightful remarks, such as the authors' suggestion that the BOJ's JGB purchases should be made consistent with the government's debt management policy; their characterization of an element of the recent "comprehensive easing policy" as a type of "forecast inflation targeting"; and their suggestion that an entity separate from the BOJ

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<sup>3</sup> In contrast, producer's currency pricing would cause appreciation to improve the terms of trade. In the case of Japanese exports, the authors cite the existing literature to conjecture that the incidence of local currency pricing is relatively high (about 50%).

should be created to purchase various assets, including foreign bonds, in view of the fact that the Japanese government does not provide indemnification for central bank assets. I have also noted with interest their argument that the erosion of international competitiveness should be blamed for the persistent deflationary pressure and low level of investment the Japanese economy experienced from the late 1990s, as exporting firms cut wages and increased the share of non-regular workers in their workforce (Japan's export share in the world declined from 10% in 1993 to 5% in 2010, even as the GDP share remained relatively constant at 9%).

For what it delivers, however, the paper covers too much ground, often in excessive detail, much of which is little related to the central theme. A more focused presentation, stressing the importance of export pricing behavior in determining the impact effect of aggressive monetary easing, would have been friendlier to the reader. I would have wanted the paper to present a deeper analysis of the exchange-rate impact of monetary easing. The authors simply assume that monetary easing leads to exchange-rate depreciation. In this context, they do briefly discuss how the yen carry trade enforced the trend depreciation of the yen from 2006 to 2007; they also mention how recent Federal Reserve actions caused a "currency war". Because exchange rate impact is the critical element in the international transmission of monetary policy, it would have been useful to go further in exploring exactly how the mechanism has worked in practice, with central bank balance sheet expansion in one country leading to an adjustment of exchange rates through the actions of market participants.