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Taiwan's Trade Surpluses

In the 1980s, Taiwan's trade surplus in goods and services reached unprecedented levels, peaking at nearly 21 percent of GNP in 1986. By comparison, trade surpluses peaked at 1.1 to 1.2 percent of GNP in Japan and Germany and 7.7 percent in Korea in the 1980s.

Most explanations for Taiwan's trade surpluses have focused on the country's competitive advantages, in particular, on the role of Taiwan's nominal exchange rate policy in limiting the appreciation of the New Taiwan (NT) dollar. However, other factors that may be traced to Taiwan's exchange rate policy have received less attention, and may also have contributed to the country's remarkable trade surpluses. As discussed below, low inflation appears to have been an important contributor to Taiwan's competitiveness in the 1980s. Furthermore, Taiwan's trade surpluses in the 1980s reflect an increase in Taiwan's domestic saving and a sharp decline in investment as a proportion of GNP.

This *Letter* attempts to clarify how exchange rate and sterilization policies may have contributed to the persistence of trade surpluses in Taiwan through their effects on inflation, saving, and investment. The discussion will focus on three factors that may have influenced adjustment: (1) government efforts to limit the rate of appreciation of the New Taiwan (NT) dollar may have stimulated the speculative demand for money, thus attenuating inflationary pressures; (2) government exchange rate policy contributed to a boom in domestic asset prices, which may have encouraged higher saving while dampening investment spending; (3) by absorbing the saving of Taiwan residents, government sterilization policy may have "crowded out" domestic investment spending to some degree.

Exchange rate policy

Although Taiwan's trade surpluses began widening in 1981, strong upward pressure on the NT dollar became most apparent late in 1985. At that time, the major industrial countries voiced concerns about surpluses in Taiwan and other Asian economies which reinforced the perception that the NT dollar was undervalued and would have to adjust upward. The perception triggered a surge in speculative private capital inflows, for example, through foreign lending to Taiwan banks. The present discussion will focus on the economic impact of the government's exchange rate policy in the face of capital inflows. These occurred chiefly between 1985 and 1987, after which the government effectively restricted short-term capital inflows in Taiwan.

In an effort to offset the upward pressure on the NT dollar resulting from capital inflows the Central Bank of China (CBC) pursued a policy of purchasing foreign currency. Since such purchases involved the sale of NT dollars, they produced a substantial increase in the domestic money supply which tended to limit the rate of currency appreciation. (Specifically, the CBC's purchases or sales of foreign currency were designed to ensure that the daily adjustment of the spot exchange rate would not exceed 2.25 percent of the central rate on the previous business day.) As a result of this policy, the CBC's foreign asset holdings increased sharply, from NT$504 billion in 1983, to a peak of NT$2.26 trillion in 1987, about 30 times its level ten years earlier. (In foreign currency terms, Taiwan's foreign exchange reserves peaked at US$77 billion in 1987, third largest after Japan and Germany.)

In a second action, the government sought to offset—or sterilize—the expansionary impact of exchange market intervention on the domestic money supply by sharply reducing domestic credit. The CBC accomplished this by borrowing in the form of interest-bearing short-term central bank certificates of deposits and savings bonds. As financial institutions surrendered money in order to acquire interest-bearing CBC paper, the issuance of such paper absorbed a significant proportion of the liquidity that had been created by the CBC's purchases of foreign currency assets. The amount of interest-bearing paper outstanding issued by the CBC increased from NT$14 billion in 1983 to a peak of nearly NT$1.2 trillion in 1987, and was still NT$755 billion at the end of 1988. At their 1987 peak, these interest-bearing liabilities of the CBC amounted to 52 percent of the foreign assets held by the CBC, and 180 percent of the supply of base money.

These massive sterilization efforts, however, did not prevent acceleration in annual base money growth from around 12 percent in 1983–1985 to close to 30 percent in 1986–1988. (Base money corresponds to the monetary reserves held by the domestic banking system with the central bank.)

Lagging adjustment

Taiwan's efforts to limit the rate of appreciation of its currency are widely believed to have enhanced its external competitiveness and contributed to its large trade surpluses in the 1980s. However, theory suggests that efforts to maintain the exchange rate below its equilibrium value will lead to other adjustments that will reduce trade surpluses. In the case of Taiwan, the rapid expansion in liquidity should have created inflationary pressures, thus eroding Taiwan's external competitiveness. At the same time, the expansionary stimulus should lead to reduced saving and increased investment, which, by reducing Taiwan's available saving, would lead to reductions in Taiwan's trade surpluses. (A trade surplus means a country is selling more than it is purchasing abroad; or equivalently, that saving exceeds investment). However, these expansionary effects appear to have been muted.

First, Taiwan's inflation rate remained below inflation among its major trading partners, even following the sharp acceleration in money growth. This significantly enhanced Taiwan's external competitiveness. As illustrated in Chart 1, Taiwan's trade-weighted nominal exchange rate, on balance, appreciated in the 1980s. However, because of Taiwan's low inflation rate, Taiwan's real (inflation-adjusted) exchange rate appreciated by much less than the corresponding nominal index.

Second, Taiwan's saving continued to rise and investment continued to fall for some time after 1985 (Chart 2). In spite of a subsequent reversal of these trends, Taiwan's trade surpluses were still high in comparison to its own historical experience, or to that of other countries, by the end of the 1980s.

While the reasons for lagging adjustment are not entirely clear, exchange rate policy may have

Chart 1
Taiwan's Exchange Rates

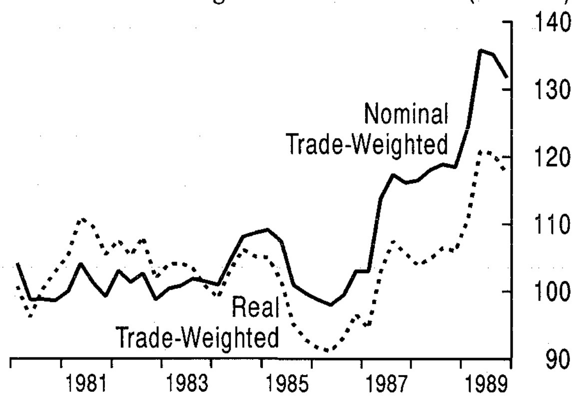
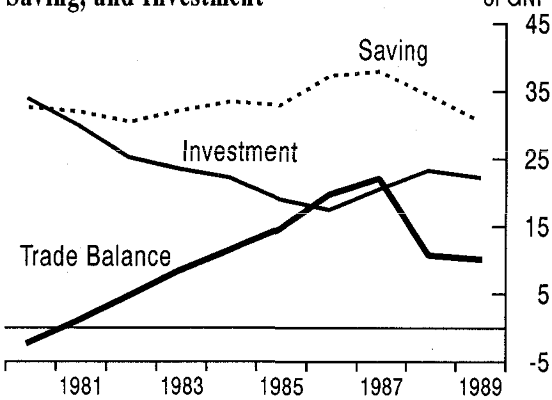


Chart 2
Taiwan's Trade Balance, Saving, and Investment



played a role, through its effects on the speculative demand for money and on the portfolio investment decisions of Taiwan residents. In retrospect, it appears that by limiting currency appreciation at a predictable rate (2.25 percent a day), government exchange rate policy maintained the perception that the exchange rate would continue to appreciate, and increased the speculative demand for NT dollars. The speculative increase in the demand for money in Taiwan appears to have significantly dampened any inflationary pressures from the rapid money growth produced by intervention in exchange markets, and slowed the adjustment in the trade account. (The increase in money demand is reflected in a sharp decline in the velocity of money (M1) in Taiwan from 1985 to 1988.)

Portfolio investment decisions

The reduction in Taiwan's trade surpluses may also have been slowed by two effects of exchange rate policy on portfolio investment decisions in Taiwan, which had possibly significant effects on saving and investment behavior.

First, Taiwan's exchange rate policy attracted speculators whose efforts to diversify their NT dollar asset holdings triggered a boom in asset prices (although not in the prices of goods). In some places, land prices reportedly rose as much as 250 percent between 1987 and 1989. Due to thinness in the stock market and a subsequent speculative frenzy, stock price increases were even steeper. The stock price index rose from 945 in 1986 to 8618 in 1989, raising price-earnings ratios of listed companies to over 55 by the end of 1989 (compared to 14 in the U.S., and 62 in Japan). However, the effect of the boom in stock prices in channeling more funds for investment purposes was limited by the reluctance of Taiwan enterprises to list in the stock market. Between 1986 and 1989 listed companies increased from 130 to only 181, while in comparison the number of brokers and dealers rose from 67 to 278.

The unprecedented run-up in domestic asset values may have encouraged domestic residents to postpone consumption in order to engage in speculation, thus increasing the rate of saving. At the same time, the speculative boom may have shifted the asset-demand of domestic residents to the stock and real estate markets, in comparison to investment projects. To the extent that the reluctance of firms to list in the stock market made the stock market less efficient as a channel for raising investment funds, the net effect may have been to reduce the relative resources available for domestic investment spending.

Second, the availability of a huge volume of central bank certificates of deposit or savings bonds issued to sterilize the impact of intervention in exchange markets created low-risk portfolio investment opportunities not previously available in Taiwan. These safe new investment vehicles may have been particularly attractive to domestic banks, because the lending environment in Taiwan is believed to be quite risky and because banks previously had very little access to safe assets. (Conservative fiscal policies in the past had limited the supply of domestic government securities, while access to safe foreign assets, such as U.S. Treasury bills, was limited by capital controls.)

The interest-bearing liabilities of the CBC had a significant impact on bank portfolios. Between 1980 and 1988, the annual growth of government securities held by banks averaged 41 percent, compared to the 17 percent annual growth in loans and discounts over the same period. Partly as a result, the share of government securities (mostly claims on the CBC) in bank assets rose from 1.2 percent in 1980 to 4.9 percent in 1988, while the share of loans and discounts in total assets declined from 70 percent to 60 percent over the same period.

Government sterilization policies in Taiwan in the 1980s may have "crowded out" domestic investment spending by absorbing a large proportion of the domestic saving of Taiwan residents. The saving of Taiwan residents instead financed deficits in foreign saving through net foreign asset acquisition by the banking system and the CBC. Given the magnitudes involved, government sterilization efforts may have played a large role in dampening growth in investment spending.

Conclusions

Taiwan's experience in the 1980s suggests how exchange rate policy may contribute to the persistence of current account surpluses when financial markets are underdeveloped and capital is mobile. By increasing the speculative demand for NT dollar assets, exchange rate policy limited inflationary pressures, the stimulus to domestic demand, and the trade adjustment that might otherwise have resulted from the rapid expansion in liquidity. Exchange rate policy may also have slowed external adjustment by affecting the portfolio investment decisions of Taiwan residents, in a manner that encouraged higher saving, while tending to channel domestic saving away from domestic fixed investment.

Taiwan's experience also highlights the potential effects of trying to limit exchange rate movements when there is a high degree of capital mobility. Government efforts to protect the competitiveness of the external sector by smoothing the exchange rate increased capital flows and domestic assets prices, because no effective curbs on short-term capital inflows were in place. These effects were exacerbated by thin and underdeveloped domestic financial markets.

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