

Research Department
Federal Reserve
Bank of
San Francisco

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No. 1 in Growth

Taiwan's growth record ranks first in the world, according to *Euromoney* (October 1981). This observer learned about the background of its success as well as remaining problems during a recent visit, which included discussions with government officials and on-site inspection of industrial and agricultural projects. With three-fourths of the world's population still struggling to modernize their economies and attain decent living standards, Taiwan provides a fascinating case study for students of economic development and of its attendant problems.

Record of growth

Taiwan has four-fifths as many people as California, although its area (14,000 square miles) is less than one-tenth California's size. Moreover, those 17 million people are concentrated around urban centers on narrow coastal plains on the northern and western sides of the mountainous island. The climate, being subtropical and rainy, supports a bountiful agriculture capable of yielding three crops of rice a year in the south. But the land has little else to offer. The soil is badly leached, containing few nutrients; the plentiful rainfall rushes down the steep mountain slopes into the sea, often bringing havoc to farmland and towns along the way; and there are virtually no mineral deposits besides some mined-out veins of low-grade coal.

On this unpromising land, some thirty years ago, a population of 8 million eked out a living mainly by intensive agriculture. Rice and sugar constituted nearly 80 percent of Taiwan's exports at that time, and these paid for its imports of consumer goods and capital goods essential for agricultural and industrial development. In the late 1940s, the economy was also wracked by a runaway inflation which nearly brought production to a standstill.

All that is changed now. First, through a drastic monetary reform, the authorities

brought inflation under control by the early 1950s. Second, a program of land reform and technology improvement spurred agricultural development, and this provided a sound base for industrial development by providing expanded supplies of industrial raw materials and a growing market for industrial output. In the 1950s, development took place primarily in labor-intensive, low-technology industries, such as textiles, food-processing, plastics, paper, and plywood. Later, as capital accumulated and technology improved, the focus shifted towards more capital-intensive and higher-technology industries, such as electronics, electrical appliances, and petrochemicals.

At the same time, the government's foreign-trade policy changed from an import-substitution orientation to one of export promotion. More and more, instead of competing with one another in the narrow, crowded domestic market, producers strove to win an increasing share of a rapidly expanding world economy. Under the unrelenting discipline of the world market, productivity increased rapidly. Exports rose about 20 percent per year, on average, from \$0.1 billion in 1952 to about US\$20 billion in 1980. Taiwan thus rose to become the 20th largest trading nation in the world in 1980 in terms of total value of trade (exports plus imports), and the eighth largest U.S. trading partner—second only to Japan in Asia. Industrial products—ranging from textiles, electronic products, shoes to machinery—accounted for more than 90 percent of its exports in 1980, compared to less than 10 percent in 1952.

The export-led growth has yielded considerable benefits. Total output increased at a 9-percent annual rate from 1952 to 1980, compared to 4 percent for industrial countries and 5 percent for other developing countries during the same period. With a ten-fold output growth and a doubling of population,

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per capita income in 1980 at US\$2,280 was about five times the 1952 level in real terms. This has made possible a doubling of per capita protein food-intake, a fivefold increase in per capita real expenditure on clothing, a doubling of housing space, and a 17-fold rise in per capita consumption of electricity. Ownership of a refrigerator, almost a necessity in the subtropical climate, rose from 61 per thousand households in 1966 to 888 in 1979.

However, the fruits are not all sweet. Along with prosperity have come problems of traffic, air pollution and crowding. Riding a taxi on Taipei streets is often a hair-raising experience; New York City taxi drivers appear sedate next to their Taipei counterparts. The city has yet to resolve its sewage problems: streets remain flooded hours after a heavy downpour. Air pollution continues to present a health hazard despite stringent measures for its abatement. The city is overcrowded, and residents complain about the lack of parks and playgrounds. In addition, real-estate speculation has driven housing prices out of reach for most first-time home buyers.

Stagflation, Taiwan style

Since 1979, Taiwan has also caught the disease common to many national economies—namely, high inflation coupled with low economic growth. For Taiwan, that means real output growth of roughly five percent a year—much higher than that of the major industrial countries, but only about half the growth that Taiwan had become accustomed to in recent decades. The more volatile industrial-production index rose 8 percent in 1980, compared to the 15-percent annual average increase of the preceding decade—and it actually fell by 4 percent during the first half of this year.

Yet, inflation, rather than growth, appears to be Taiwan's major problem, with consumer prices rising 22 percent in 1980 and at an even sharper pace this year. Taiwan's consumers were even less prepared for this than they were for the slowdown in growth. Con-

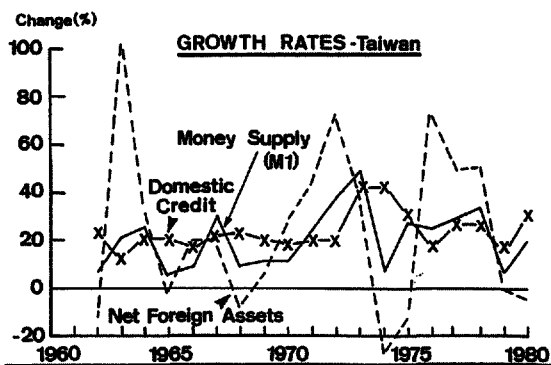
sumer prices rose at a 3-percent average annual rate between 1952 and 1972, compared to 3½ percent for the industrial countries and 13 percent for other developing countries. The first oil-price shock hit Taiwan hard, leading to a 47-percent general price increase in 1974 to adjust for the shock. But the inflation rate then slowed to 5 percent a year in 1975-78, compared to 9 percent in the industrial countries and 26 percent for other developing countries. The subsequent upsurge in inflation thus stands in sharp contrast to the remarkable success with which the authorities brought inflation under control in the mid-1970s.

Money and credit growth

Taiwan's inflation experience has reflected the past decade's monetary-growth record. The 1974 inflation was preceded by an explosive 43-percent annual monetary growth in 1972-73, compared to the 17-percent growth rate of the preceding five years. Likewise, the 1979-81 inflation was preceded by a 32-percent annual monetary growth in 1977-78, compared to an 18-percent growth rate of the preceding three years.

The sharp swings in the growth of net foreign assets were the dominant factor behind the instability in Taiwan's monetary growth during the past two decades (see chart). In particular, the peaks of monetary growth in 1963-64, 1967, 1972-73, and 1977-78 closely coincided with those in the growth rate of the banking system's net foreign assets. Moreover, the years of unusually low money growth—1962, 1965, 1968, 1974, and 1979—were also years of negative or zero growth in net foreign assets.

This does not mean that domestic credit extension played no role in affecting Taiwan's money growth. In fact, since 1973, it did, following the remarkably stable (around 20 percent a year) annual growth rate of most of the pre-1973 period. A sharp rise in domestic credit in 1973 coincided with rapid growth in net foreign assets, thus adding to the extraordinarily high money growth that year. Con-



Sources: Financial Statistics - Taiwan and Taiwan Statistical Data Book

tinued high domestic-credit growth in the following two years cushioned the impact of the sharp decline in net foreign assets on the money-growth rate. Then, in 1977-78, high domestic-credit growth again coincided with high growth of net foreign assets to account for another upsurge in monetary growth. In short, since 1973, unstable domestic-credit growth has exacerbated monetary-growth instability in some years and moderated it in other years.

The close parallelism between domestic money growth and growth of net foreign assets typifies open economies that attempt to peg their currencies to gold or to trading partners' currencies. Taiwan is a good example of such an economy, with 55 percent of its output exported and the exchange rate nominally floating and in fact pegged to the U.S. dollar. Money growth in these economies is largely determined by balance-of-payments considerations. When international demand strengthens for the country's goods, services and financial assets, its banking system tends to accumulate foreign assets and the money supply expands; when international demand slackens, foreign assets fall and the money supply contracts. Given the close relationship between domestic money supply and aggregate demand, the policy implies acquiescence to instability in the national economy—as is necessary for the proper functioning of the gold-standard mechanism (*Weekly Letter*, November 20, 1981).

Past and present choices

Under such circumstances, a nation has a choice of two ways to achieve economic stabilization. One is to let the exchange rate float, and the other is to adopt an active monetary policy, deliberately offsetting the fluctuations in the banking system's net holdings of foreign assets. Taiwan appreciated its currency in February 1973 and again in July 1978, each time by a little over five percent. Recently, in August 1981, it depreciated by slightly less than five percent, in an attempt to stimulate export growth. But by and large, the authorities have displayed a reluctance to adjust the exchange rate frequently in response

to fluctuations in the nation's balance of payments.

The authorities have faced two major obstacles in conducting a monetary policy designed to offset changes in net foreign assets. One obstacle, until recently, was the lack of adequate policy instruments—such as open-market operations, flexibility in the use of reserve requirements and discount policy—for adjusting the monetary base. In this connection, the recent rapid growth of money markets, including a Treasury-bill market, should provide more scope in the future for monetary control. The second obstacle, however, is essentially political, arising from political pressures for supplying liquidity for fueling business expansions. In this connection, those who are familiar with the U.S. monetary scene can be sympathetic with Taiwan's authorities, since the central bank in Taiwan apparently does not enjoy the same degree of independence as does the Federal Reserve.

Nevertheless, Taiwan's monetary authorities must make a choice. An undervalued national currency can no doubt stimulate export growth, which in turn can lead to output growth, technology enhancement and industrial diversification. However, the resultant accumulation of foreign assets in the banking system can threaten monetary stability. Currency appreciation in an economy as highly dependent on exports as Taiwan's is always a bitter medicine to take. One alternative in the short run would be to remove the import barriers that Taiwan still uses to protect "vital" domestic industries. Another would be to permit free international capital flows, so that domestic interest rates could adjust to money-market conditions. Yet a third alternative, which is needed in any case, is to strengthen the instruments of monetary policy, so that the authorities could obtain better control over the monetary base—at least in the short run. Eventually, however, there is no alternative to greater exchange-rate flexibility if the authorities hope to maintain domestic economic stability.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT
 (Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 11/25/81	Change from 11/18/81	Change from year ago	
			Dollar	Percent
Loans (gross, adjusted) and investments*	154,399	328	9,372	6.5
Loans (gross, adjusted) — total#	133,520	242	10,684	8.7
Commercial and industrial	40,197	199	3,479	9.5
Real estate	55,387	60	5,509	11.0
Loans to individuals	23,331	90	610	2.5
Securities loans	1,939	- 109	744	62.3
U.S. Treasury securities*	5,500	64	- 1,234	- 18.3
Other securities*	15,379	22	74	0.5
Demand deposits — total#	41,542	1,064	- 4,368	- 9.5
Demand deposits — adjusted	27,851	88	- 4,362	- 13.5
Savings deposits — total	29,580	- 84	426	1.5
Time deposits — total#	87,632	1,347	18,138	26.1
Individuals, part. & corp.	78,971	1,131	18,621	30.9
(Large negotiable CD's)	34,257	1,228	6,983	25.6
Weekly Averages of Daily Figures	Week ended 11/25/81	Week ended 11/18/81	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves (+)/Deficiency (-)	97	33		38
Borrowings	2	16		299
Net free reserves (+)/Net borrowed(-)	95	17		- 261

* Excludes trading account securities.

Includes items not shown separately.

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