



Currency Crises

In the last decades of the twentieth century, currency crises have plagued countries around the world. Major incidents include: the collapse of the Bretton Woods agreement in 1971; the Latin America crisis in 1982; the near collapse of the European Monetary System in 1992-93; the peso crisis in Mexico in 1994; and the Asian financial crisis in 1997-98. Currency crises are not a new phenomenon, but they do appear to have become more frequent in recent years. Paul Krugman, a leading international economist, estimates that a major currency crisis occurs, on average, once every 19 months.¹

The causes and consequences of currency crises are not well understood and are the subject of intense research and debate among economists, policymakers, and investors. While crises have proven extremely difficult to predict, a few general lessons have emerged. This case has two purposes. First, it provides a brief historical review of several currency crises. Second, the case provides a brief description of, and data on, five unidentified countries. The descriptions and data can be used to explore the factors associated with currency crises. This case is intended to be taught with the Harvard Business School case, *Note on Currency Crises* (# 799-089).

Currency Crises, A Brief Historical Review

Since 1970, the world financial system has been buffeted by a series of currency crises. This section briefly reviews the events leading up to six crises.

Bretton Woods Agreement In 1944, following the end of WWII, world leaders gathered in Bretton Woods, New Hampshire with the goal of redesigning the world financial system. These leaders, representing the western victors of World War II, established a system that fixed the value of participating countries' currencies to each other. The Bretton Woods Agreement provided that each of the forty-four signatory nations would fix the value of its currency to the U.S. dollar and would maintain this parity within a ± 1 percent band. The United States, in turn, committed itself to maintain the value of the dollar at \$35 per ounce. All countries agreed to intervene to defend the values of their currencies and the United States agreed to exchange dollars for gold at \$35 per ounce. The system allowed members to use the U.S. dollar as a reserve currency, while the United States held gold reserves for the entire system. The Bretton Woods Agreement also established the International Monetary Fund (IMF) and the World Bank. The IMF's role was to monitor the system and provide short-term loans to countries experiencing balance-of-payments difficulties.

The Bretton Woods system came under pressure in the late 1960s when the United States began to run persistent and large current account deficits, in effect, exchanging dollar bills for goods and services. This caused some central banks to exchange dollar holdings for U.S. gold reserves. By the end of the decade, the foreign dollar liabilities of the United States had become much larger than the

Research Associate Brian P. Irwin prepared this case under the supervision of Professor Robert E. Kennedy as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

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U.S. gold reserves and speculation grew that the dollar–gold parity would be changed. Faced with a loss of confidence in the system, U.S. President Richard Nixon suspended gold convertibility in August 1971, effectively ending the Bretton Woods era.

Smithsonian Agreement In December 1971, the IMF attempted to re-establish the gold standard. The dollar–to–gold exchange rate was increased to \$38 per ounce, an effective 8.6% devaluation. At the same time, the parities between the dollar and other currencies were realigned and the fluctuation bands were increased to 2.25%. However, speculative pressure against the dollar soon resumed and, in February 1973, the United States changed the parity to \$42.22 per ounce, an 11.2% devaluation. Speculation persisted and over the next month countries began to abandon the system. By March, the currencies of the all the major industrial nations were floating against each other. Following the breakdown of Bretton Woods and Smithsonian agreements, many countries in Latin America, Asia, and Africa re-established pegs to a single currency or a basket of currencies (see **exhibit 1**).

Mexico 1982 Mexico maintained a fixed nominal exchange rate from 1954 to 1975, a period when inflation was moderate. In the run-up to the 1976 presidential election, however, excessive monetary expansion led to inflation which, in turn, necessitated a realignment.²

Between 1976 and 1980, the Mexican government maintained a fixed nominal exchange rate. However, inflation during the period caused the real exchange rate to appreciate substantially.³ GDP growth was strong until 1980, but then began to slow. In addition, both the current account deficit (as a percentage of GDP) and the government deficit increased considerably. (see **exhibit 2**).

These trends made foreign investors nervous and from 1980 to 1982, capital flight was estimated at US \$17.3 to US \$23.4 billion.⁴ The government devalued the peso by 68 percent in February 1982 in an effort to stem the outflow, but this appeared to cause more panic. Capital flight continued and, in August, Mexican authorities suspended payments on international loans. The government was forced into a further 100% devaluation in December.

European Monetary System 1992-93 In March 1979, the European Community (EC) established the European Monetary System (EMS), a currency arrangement established to limit exchange-rate fluctuations among nine EC countries.* Under the EMS, member nations maintained fixed exchange rates among themselves, while floating freely against other currencies.† The EMS required each participating country to maintain the value of its currency within 2.25% of a target value against the other participating currencies (the Italian lira was allowed to fluctuate in a 6% band). Although parity levels within the EMS were adjusted periodically (eleven times between 1979 and 1987), the system appeared to reduce exchange rate volatility and the bands were maintained at 2.25%. There were no adjustments between 1987 and the fall of 1992. Because of Germany's persistently low inflation and the confidence that investors had in the Bundesbank (Germany's central bank), the German deutschmark (DM) became the de facto anchor to the system.

Following German reunification in 1990, government spending increased sharply and tensions within the system increased dramatically. In response to expansionary fiscal policy, the Bundesbank tightened monetary policy. This raised the value of the DM, and because of the currency link, put pressure on other EMS members to raise their interest rates. Other member countries were reluctant to do so because their economies were growing slowly. Other EMS central banks were faced with a choice between inducing a domestic recession or saving the EMS.⁵ Because of this tension, investors began to speculate about a realignment and several EMS currencies faced speculative attacks when they reached the bottom of their trading bands.⁶

* The EMS also created a new monetary unit of account, the European Currency Unit (ECU) that was a composite of all the EC currencies. Several countries later joined the system: Spain in June 1989; the United Kingdom in October 1990; and Portugal in April 1992.

† The mechanism in which the currencies were linked was referred to as the Exchange Rate Mechanism (ERM). To simplify terminology and avoid confusion, I refer to the EMS in the text, although some references technically apply to the ERM.

When speculators attacked the pound on September 16, 1992, the British government defended its currency by raising interest rates from 10% to 12% and then to 15%. Continued selling, however, led the government to abandon its peg the next day.

Foreign selling forced Italy to devalue the lira by 7% on September 13, 1992, but this did little to restore confidence. Continued selling led the Italian government to pull the lira out of the EMS shortly after the United Kingdom. Spain experienced problems as well and implemented a series of small devaluations*, however, it remained within the EMS. Over the next several years, growth in Britain and Italy was much better than most countries that remained in the EMS (see **exhibits 3 and 4** for a review of the macroeconomic situation in the U.K. and Italy).⁷ The experience of Italy and the United Kingdom following the EMS crisis has led some scholars to call their departure a “positive event.”⁸ The EMS remained in place after Italy and Britain left, but the pressures remained.

There was much speculation that France would also be forced to leave the system, but the central bank raised interest rates and the franc remained in the EMS. Membership came, however, at a high cost. GDP growth between 1992 and 1996 averaged only 1.2%. In August 1993, the bands around targeted parity rates were widened to ± 15 percent.

Mexico 1994 Between 1988 and 1994, Mexico implemented a series of major economic reforms—including trade liberalization, privatization, deregulation, and macroeconomic stabilization. Fiscal balance was achieved in 1992, inflation was reduced to single digits, and the reforms dismantled layers of protection and regulation.⁹ The international financial community heralded Mexico as model reformer and capital inflows grew rapidly. Between 1990 and 1993, Mexico received more than half of all foreign investment flows to Latin America—\$91 billion.¹⁰

Despite the international enthusiasm, economic performance was mixed. Real GDP growth was moderate, averaging only 2.8% between 1988 and 1994—significantly lower than either Chile (7.1 percent) or Columbia (4.1 percent); productivity growth was almost flat until 1993; the current account deteriorated, moving from a \$4.2 billion surplus in 1987 to a deficit of more than \$29 billion at the end of 1994; and the real exchange rate appreciated by 36% between 1988 and 1993. Mexico adjusted the exchange rate several times, and implemented an exchange rate band with a fixed nominal ceiling and a sliding floor (see **exhibit 5**).

A series of political shocks played an important role in the run-up to the 1994 peso crisis. On January 1, 1994, a rebel uprising erupted in the southern state of Chiapas. In March, the presidential candidate for the ruling political party (PRI) was assassinated. Tragedy struck the country again in September when the secretary general of the PRI was assassinated. These political shocks increased domestic interest rates sharply. Because it felt the shocks were temporary, the treasury began to issue shorter-term debt instruments and to refinance maturing Cetes (peso denominated debt obligations) into Tesobonos (dollar denominated securities).

When the Zedillo administration took office on December 1st, foreign currency reserves stood at \$12.5 billion, with short-term public debt of more than \$27 billion, about 70 percent of it in Tesobonos.¹¹ Reserves had been declining throughout the year, but the outflows had accelerated in November and continued in December. On December 20, 1994, in the wake of enormous capital outflows, Mexico was forced to devalue the peso, which quickly led to a complete free float.

In the days following the collapse, the central bank raised interest rates to a peak of 80% in order to combat soaring inflation rates. These high rates led to a sharp contraction in domestic demand, and real GDP fell by 6.2 percent in 1995.

Southeast Asia 1997 Many Asian nations experienced strong economic growth during the early and mid 1990s. Between 1990 and 1996, GDP growth averaged nearly 8% in Indonesia, South Korea,

* Spain devalued the peseta by 5% in September 1992, 6% in November 1992, and 8% in May 1993.

Malaysia, and Thailand. The Philippines grew at an average rate of 3%. During the 1990s, all five of these countries (the Asian-5) utilized fixed exchange rate systems.*

The Asian-5 also experienced from huge capital inflows during the 1990s. As a percentage of GDP, capital flows to these countries rose from an average of 1.4% in 1986-1990 to 6.7% between 1990-96 (see **exhibit 6**).¹² Except for Malaysia, the bulk of capital inflows came from offshore borrowing by banks and private corporations.¹³ Despite strong GDP growth and large capital inflows, some disturbing trends developed in the mid-1990s. As a group, the Asian-5 nations faced rising current account deficits, declining growth in exports, and currency appreciation.

These trends, and perceived weakness in the regions' financial system, led some investors to speculate about devaluations. This led to increases in domestic interest rates and declines in foreign currency reserves. A spike in Thai interest rates caused property prices to decline, which led to the collapse of several financial companies that had lent heavily to property companies.¹⁴ As speculation continued, the Thai central bank chose to float the baht on July 2, 1997. This led to panic selling of other currencies and, quickly, to further devaluations throughout the region. The Philippines floated its peso on July 11, and Indonesia abandoned its dollar peg and allowed the rupiah to float on August 15. South Korea expanded the won's trading bands from 2.25% to 10% in November, but eliminated the bands entirely in early December. Investors quickly lost faith in the region, which led to enormous capital flight.[†]

Currency Crisis Exercise

Country A—is an industrialized nation and an OECD member. Although its economy is one of the largest in the OECD, it is only one-sixth the size of the United States. Manufacturing is the largest single sector of the economy. GDP is composed of high levels of consumption, but a somewhat low contribution from the external sector and from gross fixed investment. The economy entered a recession this year, leading to a 2% decline in GDP. Real interest rates have been relatively high in recent years, averaging nearly 6%. Country A has had persistent trade and current account deficits. Foreign exchange reserves have fluctuated mildly over the last six years, averaging 4.2% of GDP. The government budget has reversed from a surplus of 1.5% of GDP three years ago to a 1% deficit at the end of this year. Its currency informally shadowed a single major currency until it formally joined a cooperative arrangement about a year ago.

Country B—is a developing country that is well-endowed with natural resources. About 20 years ago the country experienced de-industrialization, which was followed by a currency collapse, and then a protracted period of stagnation that ended in hyperinflation nearly five years ago. About three years ago, country B undertook shock therapy, which led to a manufacturing boom and made the country a key destination for multinational corporations. Inflation has declined sharply.

Until three years ago, country B's currency floated freely. As part of its economic reforms, the central bank fixed the local currency to the value of another country's currency. Under the new system, the monetary base is fully backed by foreign exchange reserves and the central bank is prohibited from printing money to finance government deficits. Country B has recently experienced rapid GDP growth recently, with a combined growth in real GDP of nearly 40% over the last five years.

* The Philippines pegged the peso to the dollar, and Thailand pegged the baht to a basket of currencies. The other three countries used crawling pegs. Indonesia allowed the rupiah to depreciate against the dollar, Malaysia allowed the ringgit to appreciate moderately against a basket of currencies, while South Korea pegged the won to an undisclosed basket of currencies.

† Between 1996 and 1997, net private capital flows to the Asian-5 reversed from positive \$93 billion to negative \$12.1 billion. [Sachs and Radelet (1998), p. 5]

About a month ago, country B suffered a speculative attack after another country in the region devalued its currency. As a result of the shock in the other country, capital inflows into country B declined markedly, economic activity contracted, and many analysts predicted a recession that could lead to unemployment of 20 percent. The government proposed to remove all investment barriers in order to encourage capital inflows, and to eliminate all exchange controls, registration requirements, and taxes on capital gains and dividends. This would make country B's capital account one of the most open in the world. However, the economy itself has remained relatively closed, with a low foreign trade component.

Country C—is a small developing nation with one of the smallest economies in its region. The economy is very diversified, with manufacturing, agriculture, fishing and forestry, and the service sector all contributing roughly equivalent percentages of GDP. Country C is a relatively poor nation, registering one of the highest rates of people living at or below the poverty line in the region. Over the last ten years, following decades of protectionism, Country C initiated a program of economic reforms. Among the aims of the reforms were: import and foreign exchange liberalization, tariff restructuring, tax reform, privatization, and an opening to foreign investment. Two years ago, the government achieved a budget surplus, which it has since maintained. Its currency is pegged to the U.S. dollar, creating a stable nominal exchange rate over the last six years. During the last decade, the trade deficit increased annually, which led to a growing current account deficit. However, the current account deficit was more than covered by large capital inflows and reserves have been rising for the last five years. Investors found Country C a good place to invest in the 1990s, as portfolio investments rose strongly.

Country D—undertook an export-oriented industrialization drive more than thirty years ago. Last year, exports of merchandise goods represented 26.5% of current-price GDP. Over the last few decades, the country has moved towards increased liberalization and internationalization of its economy and was admitted to the OECD this year. While much progress was made in other parts of the economy, the government has been slow to liberalize its financial sector. The central bank pegged the currency to a basket of currencies and allows it to float within a 2.25% band.

GDP growth over the last five years averaged more than 7% annually. Country D has consistently had a trade deficit, registering only one surplus in the last seven years. Although the current account registered a surplus three years ago, it returned to a deficit the next year, and in the last year recorded the largest deficit ever. Until recently, the government heavily regulated both the inflow and outflow of capital in an effort to avoid a rise in the nominal exchange rate. It is currently easing rules governing FDI. Until recently, Country D had low levels of foreign debt. However, total external debt has risen in recent years as the government encouraged banks and companies to borrow abroad.

Country E—undertook a major economic transition program seven years ago. The government implemented a tough macroeconomic stabilization plan, liberalized the domestic economy, and devalued and then fixed the nominal value of the currency. In the first two years after reform, Country E experienced its most severe recession since World War II. The economy began to grow about four years ago. Inflation, although still high, has declined substantially. Country E has attracted growing amounts of foreign investment in recent years.

After holding the fixed exchange rate for two years, Country E implemented a crawling peg exchange rate system. The inflation-adjusted value of the currency has increased by 35% in the last five years. In recent years, import growth has outpaced export growth, leading to a deterioration of the trade balance and pushing the current account into deficit. Despite this, foreign currency reserves have increased from US\$5.7 billion two years ago to US\$17.7 billion. Country E joined the Organization for Economic Cooperation and Development (OECD) this year.

Exhibit 1 Exchange Rate Arrangements (As of December 31, 1997)¹

	1991	1992	1993	1994	1995	1996	1997	1998 ⁶
Currencies pegged to:								
U.S. Dollar	24	24	21	23	22	21	20	20
French Franc	14	14	14	14	14	14	15	15
Russian Ruble	-	6	-	-	-	-	-	-
Other Currency	4	6	8	8	8	9	11	12
SDR	6	5	4	4	3	2	3	4
Other Currency Composite ²	33	29	26	21	19	20	17	13
Flexibility limited vis-à-vis a single currency ³	4	4	4	4	4	4	4	4
Cooperative Arrangements ⁴	10	9	9	10	10	12	12	13
Adjusted according to a set of indicators	5	3	4	3	2	2	-	-
Managed floating	27	23	29	33	44	45	46	56
Independently floating ⁵	29	44	56	58	54	52	53	45
Total	156	167	175	178	180	181	181	182

¹ For members with dual or multiple exchange markets, the arrangement is that in the major market.

² Comprises currencies that are pegged to various "baskets" of currencies of the members' own choice, not SDR.

³ Exchange rates of all currencies have shown limited flexibility in terms of the U.S. dollar.

⁴ Pertains to the cooperative arrangement maintained under the European Monetary System.

⁵ Starting May 24, 1994, the Azerbaijan authorities ceased to peg the manat to the Russian ruble and the exchange arrangement was reclassified to "independently floating."

⁶ Through QIII

Source: *International Financial Statistics*, International Monetary Fund, March 1999, p. 8.

Exhibit 2 Mexico 1982

	1977	1978	1979	1980	1981	1982
GDP (1990 pesos m)	457,828	495,626	541,012	586,050	632,620	629,139
Current Account (\$ m)	-1,853	-3,171	-5,459	-10,750	-16,061	-6,307
Current Account/GDP (%)	-2.28	-3.08	-4.06	-5.46	-6.86	-6.23
Trade Balance (\$ m)	-1,021	-1,746	-2,830	-3,385	-3,846	6,795
Exchange Rate (P/\$; year average)	.02257	.02277	.02280	.02295	.02451	.05640
Credit Creation (%)	141.2	32.1	34.9	39.0	48.8	96.6
Reserves less gold (\$ m)	1,649	1,842	2,072	2,960	4,074	834
Months of Imports	3.5	2.8	2.0	1.9	2.0	0.7
Government Def/Sur (P m)	-62	-62	-102	-134	-393	-1,453

All values are year-end

Adapted from: *International Financial Statistics Yearbook*, IMF, 1994, p. 516-519.

Exhibit 3 United Kingdom, 1993

	1988	1989	1990	1991	1992	1993
GDP (1990 pound billions)	537.22	548.94	551.12	540.31	537.45	548.59
Current Account (\$ b)	-29.32	-36.66	-32.49	-14.24	-18.36	-16.21
Current Account/GDP (%)	-3.44	-4.43	-3.06	-1.32	-2.03	-1.73
Trade Balance (\$ b)	-38.16	-40.54	-32.74	-18.27	-23.43	-20.24
Exchange Rate (Pound/\$; average)	0.5614	0.6099	0.5603	0.5652	0.5664	0.6658
Real Effective Exchange Rate	105.9	100.4	100.0	103.5	99.6	91.4
Credit Creation (%)	21.6	24.3	11.0	2.4	3.3	3.8
Reserves less gold (\$ b)	44.11	34.77	35.86	41.89	36.64	36.78
Months of Imports	2.92	2.18	2.01	2.50	2.08	2.18
Government Def/Sur (Pound m)	7,284	7,971	4,000	-5,689	-29,995	-40,610

All values are year-end, unless otherwise indicated.

Adapted from: *International Financial Statistics Yearbook*, IMF, 1997, p.846-849.

Exhibit 4 Italy, 1993

	1988	1989	1990	1991	1992	1993
GDP (1990 Lira tr)	1,247.0	1,282.9	1,310.7	1,325.6	1,333.1	1,317.7
Current Account (\$ m)	-7,181	-12,812	-16,992	-24,749	-30,091	8,278
Current Account/GDP (%)	-0.86	-1.37	-1.47	-2.00	-2.95	0.91
Trade Balance (\$ m)	-924	-1,664	1,139	-455	3,186	32,825
Exchange Rate (Lira/\$; average)	1,301.6	1,372.1	1,198.1	1,240.6	1,232.4	1,573.7
Real Effective Exchange Rate	92.8	97.1	100.0	100.9	99.5	83.4
Credit Creation (%)	10.27	13.59	11.02	15.84	13.39	4.06
Reserves less gold (\$ m)	34,715	46,720	62,927	48,679	27,643	27,545
Months of Imports	3.23	3.94	4.46	3.44	1.90	2.42
Government Def/Sur (Lira tr)	-126	-134	-145	-149	-163	-157

All values are year-end, unless otherwise indicated. Data for 1992 and 1993 Gov. Deficit is from July, 1998 IFS

Adapted from: *International Financial Statistics Yearbook*, IMF, 1997, p. 486-491.

Exhibit 5 Mexico 1994

	1989	1990	1991	1992	1993	1994
GDP (1990 Peso m)	661	695	724	750	765	799
Current Account (\$ m)	-5,825	-7,451	-14,888	-24,442	-23,400	-29,418
Current Account/GDP (%)	-3.00	-3.16	-5.21	-7.36	-5.79	-11.01
Trade Balance (\$ m)	405	-881	-7,279	-15,934	-13,481	-18,467
Exchange Rate (Peso/\$; average)	2.4615	2.8126	3.0184	3.0949	3.1156	3.3751
Credit Creation (%)	45.6	41.7	35.6	21.4	11.5	29.2
Reserves less gold (\$ m)	6,329	9,863	17,726	18,942	25,110	6,278
Months of Imports	2.18	2.85	4.26	3.66	4.61	0.95
Government Def/Sur (Peso m)	-25,589	-19,436	-1,990	15,959	4,156	-9,927

All values are year-end, unless otherwise indicated.

Adapted from: *International Financial Statistics Yearbook*, IMF, 1997, p. 588-591.

Exhibit 6 Southeast Asia: Balance of Payments (1985-96)

(% of GDP)	South Korea		Indonesia		Malaysia		Philippines		Thailand	
	1985-89	1990-96	1985-89	1990-95	1985-89	1990-95	1985-89	1990-96	1985-89	1990-95
Current Account	4.3	-1.7	-2.5	-2.5	2.4	-5.6	-0.5	-3.3	-2.0	-6.8
Balance of Trade	3.6	-1.2	5.9	4.5	13.7	3.2	-2.9	-8.7	-2.2	-4.7
Exports	30.7	25.0	21.9	24.2	56.1	73.2	17.1	17.4	22.9	29.6
Imports	-27.2	-26.2	-15.9	-19.7	-42.5	-70.0	-20.0	-26.1	-25.1	-34.3
Capital and Financial Account	-2.5	2.5	3.5	4.1	0.5	9.6	1.4	5.5	4.2	10.2
Direct Investment (net)	-0.1	-0.3	0.5	1.2	2.4	6.9	1.0	1.1	1.1	1.5
Portfolio Investment (net)	0.2	1.9	-0.0	0.9	1.0	-1.0	0.2	0.3	1.2	1.5
Equity Securities	0.0	0.8	0.0	0.5	0.0	0.0	0.0	0.0	0.8	0.7
Debt Securities	0.1	1.1	-0.0	0.4	1.0	-1.0	0.2	0.3	0.4	0.9
Other Investment (net)	-2.4	1.0	3.0	2.0	-2.8	3.8	0.2	4.0	2.0	7.1
Monetary Authorities	-0.0	-0.0	0.0	0.0	0.0	0.0	-0.6	0.0	0.0	0.0
General Government	-1.2	-0.3	2.6	0.5	-1.7	-0.3	2.3	1.1	0.2	-0.4
Banks	-0.8	0.1	0.0	0.4	-1.0	1.8	-0.2	1.4	0.2	3.5
Other Sectors	-0.4	1.2	0.4	1.2	-0.0	2.4	-1.2	1.6	1.5	4.0
Financing	-1.7	-0.6	-0.1	-1.1	-2.9	-5.0	-1.8	-1.8	-3.0	-3.6
Reserve Assets	-1.4	-0.6	-0.2	-1.0	-2.7	-5.0	-1.0	-1.7	-2.7	-3.5

Source: Radelet, Steven and Jeffrey Sachs. "The Onset of the East Asian Financial Crisis." Harvard Institute for International Development, March 30, 1998; Table 9.

Exhibit 7 Country A

	-5	-4	-3	-2	-1	0
National Accounts						
Consumption (% of GDP)	62.8	62.7	63.5	63.4	63.1	63.5
Investment (% of GDP)	17.1	18.0	20.3	21.0	19.2	16.1
Government (% of GDP)	21.0	20.6	19.9	19.7	20.5	21.6
Exports (% of GDP)	25.4	25.1	22.8	23.5	24.2	23.3
Imports (% of GDP)	-26.3	-26.4	-26.5	-27.7	-26.9	-24.5
GDP (domestic currency)	100.0	110.0	122.5	134.1	143.2	149.6
Real GDP (domestic currency)	100.0	104.8	110.1	112.5	112.9	110.7
GDP (\$ U.S.)	100.0	139.6	150.3	146.0	187.3	189.8
Balance of Payments (% of GDP)						
Trade Balance	-2.48	-2.40	-4.47	-4.89	-3.08	-1.70
Net Services	1.60	1.28	0.83	0.67	0.62	0.59
Net Factor Payments	1.20	0.80	0.95	0.70	0.23	0.01
Net Transfers	-0.56	-0.71	-0.74	-0.90	-0.82	-0.23
Current Account	-0.24	-1.02	-3.44	-4.43	-3.06	-1.32
Net Foreign Direct Investment	-1.49	-1.97	-1.86	-0.60	1.23	-0.01
Net Portfolio Investment	0.63	8.79	3.81	-4.14	-0.74	-3.79
Other Capital Inflows*	1.74	-3.26	2.01	8.15	2.56	5.56
Financial Balance	0.88	3.56	3.96	3.41	3.06	1.76
Overall Balance	0.64	2.54	0.52	-1.01	0.00	0.44
Reserves (% of GDP)	3.25	5.27	5.17	4.20	3.37	3.89
Months of imports covered	1.83	3.36	2.92	2.18	2.01	2.50
Exchange Rate and Money Supply						
Exchange Rate [†] (year -5 = 100)	100.0	94.6	100.7	99.5	93.7	95.4
Real Effective Exchange Rate (year -5 = 100)	100.0	101.8	108.3	102.7	102.3	105.8
Growth of money + quasi-money [‡]	22.6	--	17.3	19.4	10.8	2.0
Growth of domestic credit	16.8	--	21.6	24.3	11.0	2.4
Interest Rates						
Lending Rate	10.83	9.64	10.29	13.92	14.75	11.54
Money Market Rate	10.8	9.47	9.72	13.62	14.64	11.77
Inflation	3.47	4.12	4.83	7.79	9.53	5.90
Government Finances (% of GDP)						
Revenues	36.5	36.0	36.1	35.6	37.0	37.5
Expenses	38.9	36.7	34.5	34.1	36.2	38.5
Balance	-2.37	-0.68	1.55	1.54	0.73	-0.99

Index numbers (y-5=100.0) All values are year-end, unless otherwise noted.

Adapted from: 1997 *International Financial Statistics Yearbook*, IMF.

* Includes errors and omissions

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Exhibit 8 Country B

	-5	-4	-3	-2	-1	0
National Accounts						
Consumption (% of GDP)	78.1	80.2	83.7	84.9	83.6	82.6
Investment (% of GDP)	15.5	14.0	14.6	16.7	18.4	20.0
Government (% of GDP)						
Exports (% of GDP)	13.0	10.4	7.8	6.7	6.2	6.7
Imports (% of GDP)	-6.6	-4.6	-6.1	-8.3	-8.2	-9.3
Real GDP (domestic currency)	100	98.7	109.0	120.3	127.8	138.7
Balance of Payments (% of GDP)						
Trade Balance	--	6.99	2.44	-0.63	-0.94	-1.50
Net Services	--	-0.55	-0.88	-0.99	-1.06	-1.04
Net Factor Payments	--	-3.57	-2.35	-1.05	-1.13	-1.16
Net Transfers	--	0.81	0.44	0.29	0.16	0.11
Current Account	--	3.69	-0.36	-2.38	-2.97	-3.59
Net Foreign Direct Investment	--	1.49	1.35	1.75	1.26	1.06
Net Portfolio Investment	--	-1.09	-0.02	0.40	10.97	1.61
Other Capital Inflows*	--	-4.59	-1.42	1.16	-8.41	0.62
Financial Balance	--	-4.19	-0.09	3.31	3.82	3.29
Overall Balance	--	-0.50	-0.44	0.92	0.85	-0.30
Reserves (% of GDP)	8.10	3.72	3.31	4.36	5.35	5.08
Months of imports covered	4.5	14.8	9.5	8.8	10.6	8.6
Exchange Rate and Money Supply						
Exchange Rate [†] (year -5 = 100)	100.0	8.68	4.44	4.27	4.24	4.24
Real Effective Exchange Rate (year -5 = 100)	100.0	185.6	248.6	312.7	357.3	340.3
Growth of money + quasi-money [‡]	--	>100	>100	62.5	46.5	17.6
Growth of domestic credit	--	>100	84.6	23.5	20.7	11.0
Interest Rates						
Deposit Rate	>100	>100	62	17	11	8
Money Market Rate	>100	>100	71	15	6	8
Inflation	>100	>100	>100	24.6	10.6	4.3
Government Finances (% of GDP)						
Revenues	4.7	4.0	4.4	5.7	6.0	5.5
Expenses	5.4	4.3	5.0	5.7	6.7	6.2
Balance	-0.7	-0.3	-0.5	0.0	-0.6	-0.7

Index numbers (y-5=100.0) All values are year-end, unless otherwise noted. --Not available

Adapted from: 1998 International Financial Statistics Yearbook, IMF.

* Includes errors and omissions

† Domestic currency/currency arrangement benchmark (year-average). An increase in index means an appreciation of the currency.

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Exhibit 9 Country C

	-5	-4	-3	-2	-1	0
National Accounts						
Consumption (% of GDP)	73.0	74.3	74.8	72.3	74.2	74.0
Investment (% of GDP)	20.1	21.0	23.6	23.4	22.3	25.3
Government (% of GDP)	9.9	9.5	9.9	10.5	11.4	11.6
Exports (% of GDP)	29.4	28.7	30.8	32.9	36.4	44.3
Imports (% of GDP)	-32.4	-33.5	-39.1	-39.0	-44.2	-55.1
GDP (domestic currency)	100.0	109.3	119.6	138.8	151.6	171.8
Real GDP (domestic currency)	100.0	100.3	102.5	107.0	112.1	118.2
GDP (\$ U.S.)	100.0	116.1	115.0	151.5	154.2	174.1
Balance of Payments (% of GDP)						
Trade Balance	-6.82	-8.59	-11.48	-11.00	-12.32	-13.83
Net Services	3.93	4.45	2.92	2.96	3.34	4.29
Net Factor Payments	-1.06	0.81	1.71	2.59	5.04	4.00
Net Transfers	1.76	1.49	1.29	1.31	1.21	0.72
Current Account	-2.20	-1.83	-5.57	-4.13	-2.73	-4.82
Net Foreign Direct Investment	1.15	0.42	1.59	1.81	1.49	1.63
Net Portfolio Investment	0.23	0.07	-0.10	0.38	1.64	6.48
Other Capital Inflows*	4.53	4.43	4.69	5.21	1.30	2.00
Financial Balance	5.92	4.92	6.19	7.40	4.43	10.11
Overall Balance	3.73	3.09	0.62	3.26	1.70	5.29
Reserves (% of GDP)	6.89	8.06	8.63	8.43	8.78	12.23
Months of imports covered	3.23	3.64	3.19	3.38	2.90	3.77
Exchange Rate and Money Supply						
Exchange Rate [†] (year -5 = 100)	100.0	107.7	101.3	104.0	106.9	104.8
Real Effective Exchange Rate (year -5 = 100)	100.0	111.0	110.5	117.5	120.5	130.2
Growth of money + quasi-money [‡]	17.3	13.6	27.1	24.4	24.2	23.2
Growth of domestic credit	-2.6	17.6	--	19.0	31.3	40.3
Interest Rates						
Lending Rate	23.1	19.5	14.7	15.1	14.7	14.9
Deposit Rate	18.8	14.3	9.6	10.5	8.4	9.7
Inflation	18.7	8.9	7.6	9.1	8.1	8.4
Government Finances (% of GDP)						
Revenues	17.6	17.7	17.4	19.2	18.9	19.0
Expenses	19.7	18.9	18.8	18.2	18.4	18.7
Balance	-2.1	-1.2	-1.5	1.0	0.5	0.3

Index Numbers (y-5=100.0)

All values are year-end, unless otherwise noted.

--Not Available

Adapted from: 1997 *International Financial Statistics Yearbook*, IMF.

* Includes errors and omissions

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Exhibit 10 Country D

	-5	-4	-3	-2	-1	0
National Accounts						
Consumption (% of GDP)	53.3	53.7	53.8	53.6	53.4	54.4
Investment (% of GDP)	38.9	36.4	35.0	35.9	37.3	38.8
Government (% of GDP)	10.3	10.8	10.8	11.2	10.3	10.8
Exports (% of GDP)	28.1	28.8	29.2	30.0	33.3	32.7
Imports (% of GDP)	-30.6	-29.8	-28.8	-30.8	-34.4	-36.7
GDP (domestic currency)	100.0	111.8	123.9	142.2	161.8	178.8
Real GDP (domestic currency)	100.0	105.1	111.1	120.6	131.4	140.8
GDP (\$ U.S.)	100.0	107.9	116.6	137.2	158.9	161.1
Balance of Payments (% of GDP)						
Trade Balance	-2.40	-0.57	0.70	-0.74	-0.99	-3.27
Net Services	-0.76	-0.94	-0.64	-0.46	-0.66	-1.35
Net Factor Payments	-0.06	-0.13	-0.12	-0.12	-0.29	-0.40
Net Transfers	0.28	0.36	0.36	0.33	0.05	-0.01
Current Account	-2.93	-1.29	0.30	-0.99	-1.89	-5.03
Net Foreign Direct Investment	-0.11	-0.14	-0.23	-0.42	-0.39	-0.51
Net Portfolio Investment	1.08	1.90	3.03	1.57	2.57	3.32
Other Capital Inflows*	1.68	0.88	-2.05	1.14	1.38	2.66
Financial Balance	2.64	2.64	0.75	2.29	3.56	5.47
Overall Balance	-0.40	1.22	0.91	1.19	1.56	0.31
Reserves (% of GDP)	4.8	5.6	6.1	6.6	7.3	7.4
Months of imports covered	2.15	2.64	3.04	3.15	3.04	2.82
Exchange Rate and Money Supply						
Exchange Rate [†] (year -5 = 100)	100.0	93.6	91.4	91.3	95.1	91.2
Real Effective Exchange Rate (year -5 = 100)	100.0	105.1	106.2	108.5	112.1	112.1
Growth of money + quasi-money [‡]	21.9	14.9	16.6	18.7	15.6	15.8
Growth of domestic credit	22.6	11.7	12.8	18.4	14.7	19.4
Interest Rates						
Lending Rate	10.0	10.0	8.6	8.5	9.0	8.8
Money Market Rate	17.0	14.3	12.1	12.5	12.6	12.4
Inflation	9.3	6.2	4.8	6.2	4.5	5.0
Government Finances (% of GDP)						
Revenues	17.1	18.1	19.0	19.9	20.6	21.8
Expenses	18.7	18.6	18.3	19.6	20.3	21.4
Balance	-1.6	-0.5	0.6	0.3	0.3	0.5

Index Numbers (y-5=100.0) All values are year-end, unless otherwise noted.

Adapted from: *International Financial Statistics*, November 1998, IMF.

* Includes errors and omissions

† Domestic currency/currency arrangement benchmark (year-average). An increase in index means an appreciation of the currency.

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Exhibit 11 Country E

	-5	-4	-3	-2	-1	0
National Accounts						
Consumption (% of GDP)	59.3	62.1	63.0	64.3	63.7	65.1
Investment (% of GDP)	19.9	15.2	15.6	15.9	18.3	20.2
Government (% of GDP)	22.7	21.2	20.4	18.8	17.9	17.5
Exports (% of GDP)	23.5	23.8	22.9	24.0	24.9	24.8
Imports (% of GDP)	-25.4	-22.3	-22.0	-23.0	-24.8	-27.6
Nominal GDP (domestic currency)	100.0	141.4	192.6	260.1	353.6	448.6
Real GDP (domestic currency)	100.0	102.6	106.5	112.0	119.9	127.2
Nominal GDP (\$ U.S.)	100.0	98.2	98.9	116.9	157.0	170.9
Balance of Payments (% of GDP)						
Trade Balance	-0.96	-0.18	-4.80	-0.67	-1.42	-5.78
Net Services	0.94	1.00	0.78	3.29	3.05	2.70
Net Factor Payments	-3.92	-5.75	-4.95	-2.97	-1.72	-0.85
Net Transfers	1.04	0.64	1.04	1.45	0.83	1.34
Current Account	-2.91	-4.28	-7.93	1.11	0.74	-2.59
Net Foreign Direct Investment	0.40	0.92	2.33	2.14	3.12	3.52
Net Portfolio Investment	0.00	0.00	0.00	-0.72	1.02	0.24
Other Capital Inflows*	-7.08	-2.61	1.18	-12.03	3.37	1.63
Financial Balance	-6.68	-1.69	3.51	-10.61	7.50	5.39
Overall Balance	-9.58	-5.97	-4.42	-9.51	8.24	2.81
Reserves (% of GDP)	4.92	5.65	5.61	6.77	12.75	14.14
Months of imports covered	2.89	3.50	2.87	3.70	6.64	6.15
Exchange Rate and Money Supply						
Exchange Rate [†] (year -5 = 100)	100.0	77.6	58.4	46.5	43.6	39.2
Real Effective Exchange Rate (year -5 = 100)	100.0	106.4	114.1	115.1	124.5	135.5
Growth of money + quasi-money [‡]	36.95	57.49	36.04	38.23	34.99	30.82
Growth of domestic credit	158.69	55.63	44.25	30.13	20.07	31.39
Interest Rates						
Deposit Rate	53.5	37.8	34.0	33.4	26.8	20.0
Money Market Rate	49.9	29.5	24.5	23.3	25.8	20.6
Inflation	76.7	45.3	36.8	33.3	26.8	20.1
Government Finances (% of GDP)						
Revenues	26.1	27.4	29.5	30.0	29.3	27.5
Expenses	29.9	33.4	32.3	32.7	31.9	30.0
Balance	-3.8	-6.0	-2.8	-2.7	-2.6	-2.5

Index numbers (y-5=100.0)

All values are year-end, unless otherwise noted.

Adapted from: *International Financial Statistics Yearbook*, 1998. IMF.Government finance figures from: *1997-98 EIU Country Profile*, 1997-98, Economist Intelligence Unit.

* Includes errors and omissions

† Domestic currency/currency arrangement benchmark (year-average). An increase in index means an appreciation of the currency.

‡ Money + quasi-money is equal to the sum of currency outside banks, demand deposits, and time, savings, and foreign currency deposits of resident sectors other than central government.

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 - ¹⁰ Edwards (1997) p. 8.
 - ¹¹ Edwards (1997) p. 23.
 - ¹² Radelet and Sachs (1998), p. 8.
 - ¹³ Radelet and Sachs (1998), p. 8.
 - ¹⁴ This section adapted largely from Radelet and Sachs (1998), p.18-19.