

IMF WORKING PAPER

© 1991 International Monetary Fund

This is a working paper and the author would welcome any comments on the present text. Citations should refer to an unpublished manuscript, mentioning the author and the date of issuance by the International Monetary Fund. The views expressed are those of the author and do not necessarily represent those of the Fund.

WP/91/2

INTERNATIONAL MONETARY FUND

Treasurer's Department

The Japanese Yen as an International Currency

Prepared by George S. Tavlas and Yuzuru Ozeki*

Authorized for Distribution by Orlando Roncesvalles

January 1991

Abstract

The role of the Japanese yen as an international currency is assessed. It is found that the determinants of international-currency use imply some increase for the yen's use in international finance; however, the implications for the yen's use in international trade are mixed. It is also shown that, despite Japan's emergence as the world's largest net creditor nation, Japan's capital outflows have not significantly facilitated the yen's internationalization. Data are presented showing that, although the yen's use as an international currency has increased, it is still rather modest. Wider use of the yen as a regional currency in Asia has occurred, though a "yen-zone" does not appear to be emerging.

JEL Classification Number

430

*We have benefitted from helpful comments and suggestions from Stanley Black, David Blond, Peter Clark, Warren Coats, Max Corden, Robert Corker, Jeffrey Frankel, James Hanson, Yuzo Harada, Charles Kindleberger, Norman Klath, Jorge Marquez-Ruarte, Orlando Roncesvalles, Walter Salant, Chikahisa Sumi, Michael Ulan, and David Williams.

<u>Contents</u>	<u>Page</u>
Summary	iv
I. Introduction	1
II. The Theory of International Currency Use	2
1. Characteristics of an international currency	2
2. The origins of international-currency status	3
3. Theoretical aspects of invoicing practices	4
a. The choice of an invoicing currency	4
b. Inflation variability, information costs, and invoicing	5
III. The Determinants of International Currency Use: Implications for the Japanese Yen	7
1. Monetary policy and inflation performance	7
2. Liberalization of financial markets and capital flows	10
a. Overview	10
b. Liberalization of capital flows	12
c. Deregulation of the domestic markets	13
d. The Japan offshore market	14
3. Trade patterns	16
IV. Japan's Capital Outflows: Implications for the Yen's International Use	21
1. Overview	21
2. International financial intermediation and the roles of the capital and current accounts	22
a. The role of the capital account: the nation as world banker	22
b. The current account and international currency use	23
3. Overview of Japan's capital account	25
4. Japan as an international financial intermediary	25
5. Destination and composition of long-term capital outflows	30
6. Japan's international financial intermediation: implications for the international use of the yen	34

<u>Contents</u>	<u>Page</u>
V. Evidence on the International Use of the Yen	35
1. Overview	35
2. Currency invoicing pattern	35
3. The yen as a medium-of-exchange vehicle	38
4. The yen as an investment and borrowing vehicle	40
VI. Conclusions	48
Text Tables	
1. Inflation and Inflation Variability	9
2. Internationalization of Japanese Banking and Financial Institutions	15
3. Development of the Japan Offshore Market	17
4. Direction of Japanese Trade	19
5. Share of Japanese Exports by Product Category to Asian Countries and the World	20
6. Summary Balance of Payments of Japan, 1980-89	26
7. Japan's External Balance Sheet	27
8. External Lending by Japanese Banks	29
9. Japanese Long-term Net Capital Outflows by Type and by Destination	31
10. Geographic Distribution of Net Long-Term Capital Flows, 1984-88	32
11. Japanese Direct Investment by Region	33
12. Currency Denomination of Japanese Foreign Trade	36
13. Currency Denomination of Trade Invoicing in Selected Industrial Countries	37
14. Currency Denomination of Japanese Foreign Trade by Region	39
15. Foreign Claims in Japan and External Capital Market Data	41
16. Yen-Denominated Bond Issues	42
17. Relative Shares Based on External Capital Market Data	44
18. Currency Composition of External Debt, Selected Asian NICs	45
19. Official Holdings of Foreign Exchange, 1980-89	46
Appendix	50
References	51

Summary

This paper provides an account of the Japanese yen as both a key international currency and a regional Asian currency. Theoretical considerations indicate that several factors are necessary for a currency to be used internationally, including: (a) relatively low levels of inflation and of inflation variability, which in turn contribute to a stable external value of a currency; and (b) deep, open, and broad financial markets. The paper also assesses the role of a set of supplementary conditions that contribute to the emergence of international currencies, including a country's share of world exports, the share of its exports comprising differentiated manufactured goods, and the extent of its trade with developing nations.

In general, the recent evolution of these factors is suggestive of a growing role for the yen in international financial transactions. However, despite recent measures taken to deregulate Japanese financial markets, a number of restrictions remain, which inhibit the yen's use. The implications of the determinants of international currency use for the yen's role in trade transactions are mixed. Although Japan's share of world exports, and the share of its exports of differentiated manufactured products rose during the 1980s, several factors have restrained the yen's use in international trade transactions, including: (i) the rising share of Japanese exports to industrial countries, which tend to denominate their imports in their own currencies; (ii) the thin bankers' acceptances market in Japan, which has discouraged trade invoicing in yen; (iii) the fact that Japanese imports are mainly primary products, which are invoiced in U.S. dollars and

sterling; and (iv) the pricing strategy of Japanese exporters, who have sought to invoice in foreign currencies to maintain market shares.

The pattern of a nation's capital flows can show how international currencies emerge, given the existence of the necessary conditions for international use. In view of Japan's enormous long-term capital outflows and its emergence as the world's largest net creditor nation, the paper also discusses Japan's role as an international financial intermediary. In the case of Japan, the direction and composition of capital outflows have not been very conducive to the yen's internationalization because capital flows (both short-term and long-term) have been primarily non-yen denominated. The evidence on the extent of the yen's use as an international currency shows that some increase in the yen's use in international finance has occurred, but that its share of international trade transactions is much smaller than in other large industrial countries. There appears to be a relatively wider use of the yen as a regional currency in Asia. However, a yen-zone--with the yen serving first as a reference currency, and ultimately as an anchor currency, similar to the deutsche mark's role in Europe--does not appear to be emerging.

I. Introduction

In recent years there has been considerable interest in the possibility that a tripolar international monetary system, centered on the U.S. dollar, the deutsche mark and the Japanese yen, is emerging. In this regard, a number of studies dealing with the use of the Japanese yen as an international currency have appeared; however, in the main, these studies have considered the yen's international use as a subsidiary component of another subject of inquiry. For example, Argy (1987), Thorn (1987), and Osugi (1990) briefly discuss the international use of the yen in the context of recent financial market deregulation in Japan. None of the studies has furnished a thorough analysis of the determinants of the yen's international use. 1/

The purpose of this paper is to provide a more comprehensive account of the use of the Japanese yen as an international currency. The paper is divided into six sections, including this introduction. Section II briefly discusses the necessary conditions underlying international currency use. Section III describes the evolution of those factors as they relate to the Japanese yen. Section IV deals with the relationship between Japan's external accounts--including its status as the world's largest net creditor --and the international use of the yen. The section shows how, given the existence of the necessary conditions for international currency use, the direction, composition, and magnitude of a nation's capital outflows can shed light on the processes through which international currencies emerge. The section also presents data suggesting that, although Japanese capital outflows have been large, their direction and composition have not been very conducive to the yen's international use. Section V describes recent empirical trends regarding the yen's use as an international currency. In light of the view set-forth by several writers, including Asanuma (1988), Dornbusch (1989), Frankel (1989b), and (Black 1990), that a yen zone is emerging in Southeast Asia, 2/ the section also presents data on the yen's use as a regional currency in Asia. Concluding comments are provided in Section VI.

1/ Discussions that touch upon the yen's international use also include Eken (1984), Frankel (1984), Akahane (1986), Feldman (1986), Horii (1986), Shinkai (1986), Sakai (1987), Uchida (1987), Asanuma (1988), Yamasaki (1988;1989), and Black (1990).

2/ Not all writers define precisely what they mean by a "yen zone." In this paper, a monetary definition is used, whereby the use of the yen in regional trade and financial transactions results in its use as a reference currency. The eventual outcome could be a monetary union, with the yen serving a similar function to that of the deutsche mark in the European Monetary System (see Holloway and Lumpua (1990)).

II. The Theory of International Currency Use

1. Characteristics of an international currency

The uses of a currency in the international monetary system are analogous to, albeit more complex than, those of a national currency serving as a unit of account, means of payment, and store of value for domestic residents. The international use of a currency occurs whenever a national currency performs the functions of medium of exchange, unit of account, or store of value beyond the borders of the nation that issued it. As a means of payment, it is used to settle foreign-trade transactions and to discharge international financial obligations. As a unit of account, an international currency is used in invoicing merchandise trade and in denominating financial instruments. International currencies are also used by official agents in expressing exchange rate relationships. As a store of value, an international currency serves as an investment asset (e.g., in the form of bonds held by nonresidents). For example, official agents hold international currencies and financial assets denominated in such currencies as reserve assets.

An international currency is also used as a vehicle--i.e., as a currency used to denominate and execute foreign trade and international capital transactions that do not involve direct transactions with the issuing country. For example, if Japanese exports to the United Kingdom are denominated and paid for in U.S. dollars, the U.S. dollar is used as a vehicle. A currency is used as a vehicle when the transactions costs (e.g., the costs of information, search, negotiation) using it are less than transactions costs using other currencies. The transactions costs of using a currency are less the lower its exchange rate volatility (and, hence, risk), and the larger the volume of transactions conducted in that currency. As Kubarych (1978, p. 18) has observed with respect to the vehicle use of the U.S. dollar: "Since the dollar is the main currency for international trade and investment, the dollar market for each currency is much more active than between any pair of foreign currencies. By going through the dollar, large amounts can be traded more easily." ^{1/} Moreover, once a currency emerges as a vehicle, economies of scale enter into play, decreasing transactions costs further and enhancing the currency's position as a vehicle (see Swoboda, 1968; Krugman, 1984).

^{1/} For a formal presentation of the relationship between transactions costs, and exchange rate volatility and the volume of transactions, see Black (1989).

2. The origins of international-currency status

Two sets of factors are necessary for the international use of a nation's currency. 1/ First, there needs to be confidence in the value of the currency and in the political stability of the issuing country. High and variable inflation rates--relative to those of other countries--generate nominal exchange rate depreciation and uncertainty. 2/ In order to serve as an international unit of account, means of payment, and store of value, a currency should embody sufficient information to make it generally accessible without the need for costly investigation. However, unlike movements in relative prices through which market information is transmitted, inflation serves to reduce the purchasing power of money. Furthermore, inflation can be misinterpreted by economic agents as a relative price signal, causing the transmission of market information to be less accurate than otherwise, creating uncertainty and leading to an inefficient allocation of resources. 3/ In turn, a protracted record of relatively low levels of inflation and of inflation variability depends importantly upon stable and consistent government policies, particularly monetary policy.

Second, a country whose currency is used internationally should possess financial markets that are broad (e.g., contain a large assortment of financial instruments), deep (e.g., existence of well-developed secondary markets), and substantially free of controls (such as trade restrictions and capital controls). For example, a well-developed bankers' acceptance market contributes to the amount of trade financed in a currency, and thus, to

1/ For a more detailed discussion of these factors, see Tavlas (1991).

2/ On the costs of exchange rate variability, see Bailey and Tavlas (1988; 1991) and Williamson (1985).

3/ Discussions concerning the costs of inflation are provided in Goodhart (1989) and Bryan (1990). The importance of relatively-stable exchange rates in contributing to international currency use has been noted in connection with work dealing with the emergence of sterling and the dollar, respectively, as international currencies. Thus, with regard to the earlier dominance of sterling, Cohen (1971, p. 61) states: "No other currency offered such a high degree of capital certainty as did sterling." (See also Williams 1968, pp. 272-74). Similarly, with respect to the emergence of the dollar as an international currency, Aliber (1966, p. 18) observes: "The sizable fluctuations in the external values of many European currencies, coupled with increasing uncertainty about their external values in the future, meant that an increasing volume of international transactions was denominated in dollars. European business firms began to maintain considerable amounts of liquid dollar assets to ease the impact of exchange rate uncertainty on their transactions."

trade invoicing in that currency. 1/ Correspondingly, active short-term (e.g., Treasury bill and commercial paper) markets contribute to the international demand for currencies, reflecting central banks and other investors' preferences for liquid and safe financial instruments. Strong penetration of foreign financial firms in the domestic market also contributes to international use of the domestic currency in that it stimulates foreign investment in domestic securities.

In general, just as relatively-low levels of inflation and inflation variability contribute to the demand for international currencies, well-developed financial markets facilitate the supply of, as well as the demand for, such currencies. Thus, the large and free financial markets of New York and London contribute to the use of the dollar and the pound sterling, respectively, as international currencies. 2/ On the other hand, the Tokyo financial market was, until recently, rather tightly regulated, inhibiting the use of the yen as an international currency.

3. Theoretical aspects of invoicing practices

a. The choice of an invoicing currency

While the foregoing conditions are important determinants of international currency use, they do not suffice to explain the emergence of a currency as an international currency. In this regard, studies of international invoicing practices have shown the following (see Tavlas, 1991): (i) trade between developed countries in manufactured products is likely to be invoiced in the currency of the exporter; (ii) currency hedging

1/ Bankers' acceptances are financial instruments through which banks act as intermediaries between importers and exporters by guaranteeing to make payment to the exporter on a specified date. The bank guarantees payment by accepting an order to pay drawn on it by the exporter. Bankers' acceptances serve a similar function as did bills of exchange under the earlier sterling system. As noted by Williams, (1968, p. 169), the readiness of London banks to discount bills of exchange facilitated the use of sterling in international trade during the second half of the nineteenth century.

2/ Despite London's status as an international financial center, sterling's use as an international currency declined after the Second World War. Several factors combined to undermine the role of sterling as an international currency, including: a number of episodes of sharp fluctuations in sterling's external value beginning in the late 1940s, induced in part by high inflation in the United Kingdom relative to that country's trading partners, which made it difficult for London to attract short-term capital from the non-sterling world (McKinnon (1979, p. 169); and Cohen (1971, p.70)); the continuation of exchange and other controls after the Second World War in conjunction with the relative openness of the financial market in the United States (Williams, 1968, p. 296); the decline after the Second World War in the share of world trade accounted for by sterling-area countries (Williams, 1968, pp. 293-94).

by importers in forward markets is not very prevalent; (iii) invoicing in the exporter's currency is more recurrent for differentiated manufactured products with long production lags; (iv) trade between developed and less-developed countries tends to be denominated in the currency of the developed country, although the U.S. dollar is also frequently used; and (v) trade in primary products and transactions in financial investments are usually denominated in U.S. dollars and to a lesser extent in sterling.

What explains these observed invoicing patterns? ^{1/} Whenever an importer or an exporter invoices in a foreign currency, their revenues or costs (in terms of domestic currency) will be affected if the exchange rate changes. Traders can, of course, use the forward market to cover their risk. But as the observed patterns of invoicing behavior have shown, the use of the forward market is not very prevalent. Such markets are typically thinner than spot markets and, therefore, entail larger bid-ask spreads (i.e., higher costs).

Consequently, when making the invoicing decision both the exporter and the importer attempt to minimize the variance of their total profits; this variance is a measure of risk and depends importantly on the covariance between revenue and costs (McKinnon, 1979; Bilson, 1983). Under foreign exchange invoicing, the covariance between an importer's receipts and unforeseen exchange-rate changes is likely to exceed the covariance between an exporter's cost (i.e., factor payments) and exchange rate variations. Importers are often in a position to guard against currency fluctuations by passing-through the consequences of unfavorable exchange rate movements (i.e., depreciation) to their customers in the domestic market. This course of action is most practical in small, open economies in which a large domestic importing-competing industry does not exist (i.e., there is an inelastic demand curve for the product), and helps explain why trade between developed and developing countries is usually denominated in the currency of the developed country.

In contrast, exporters are more prone to guard against unexpected exchange rate changes by invoicing in their own currency. Specifically, the covariance between exchange rate movements and their costs is likely to be relatively low, since they cannot easily cut factor payments that have been contractually set. In this connection, the longer the production lag, the higher the exporter's exchange risk. Consequently, exporters of specialized manufactured products (i.e., goods with long production lags) have a particular incentive to invoice in their home currency.

b. Inflation variability, information costs and invoicing

The preceding discussion can shed light on the relationship between high and variable inflation, and the choice of the invoicing currency. Consider, in this connection, the case in which inflation in the importer's

^{1/} Tavlas (1991) discusses the theoretical underpinnings of these invoicing patterns at greater length.

currency is higher and more unstable than that prevailing in the country of the exporter. High and variable inflation rates increase the costs of ascertaining information and performing efficient calculations about the prices for goods and capital assets, decreasing the information content of prices in the importer's country. 1/ Therefore, transactors in that country have less scope to decompose price variations into changes in the general level of prices and changes in relative prices; trading is more likely to take place at "false" prices. Since the high degree of noise increases the difficulty of extracting information about relative prices, under foreign exchange invoicing the importer is in a better position to pass-through exchange rate movements on to the domestic economy. The fact that prices convey relatively-little information means that an increase in the price of a particular good is less likely to be perceived as a change in its relative price; the demand for the product will be less elastic with respect to prices. Thus, high and variable inflation in the importer's country could encourage invoicing in the currency of the foreign (i.e., low and stable inflation) country.

The role of prices in disseminating information helps explain why trade in primary products and capital assets is usually denominated in a common vehicle currency. Primary products and capital assets are typically characterized by low levels of product differentiation and they are traded in competitive markets. In such markets, using as a numeraire a currency with which there is widespread familiarity minimizes costs of information and calculation. Consequently, the choice of invoicing currency in these markets usually narrows to the selection of a single currency (or, at most, several vehicle currencies), since it is more efficient to transmit price change information about homogenous products in a single currency than through many currencies. For example, if five currencies are used to invoice the price of a primary commodity, there are ten bilateral exchange rates and 30 triangular cross-rates to consider. 2/ Therefore, in markets for homogeneous products economies of communication lead to price quotations in a single currency. As Page (1981, p. 62) has noted: "the larger a country's trade, the more likely are its currency, and probable movements in it, to be already familiar to traders." Hence, such currencies are more apt to be used as vehicles in denominating the prices of primary commodities.

1/ Mussa (1977) has shown that there are both intangible costs (e.g., the loss of information and the loss of goodwill) and tangible costs (e.g., the cost of printing and disseminating new price lists) associated with high and unstable inflation.

2/ Likewise, n currencies give rise to $n(n-1)/2$ bilateral exchange rates and to $n(n-1)(n-2)/2$ triangular cross rates.

III. The Determinants of International Currency Use: Implications for the Japanese Yen

What are the implications of the evolution of these factors that promote internationalization for the use of the Japanese yen as an international currency? In order to address this issue, the following discussion assesses: (i) Japan's recent historical record on inflation; (ii) institutional characteristics of Japanese financial markets; and (iii) relevant patterns of Japan's foreign trade. As the importance of the determinants of international currency use--i.e., inflation, domestic financial markets, and trade patterns--depends upon Japan's performance relative to other countries, the discussion considers--to the extent feasible--the position of Japan relative to other major industrial countries.

1. Monetary policy and inflation performance

During the first half of the 1970s, monetary policy in Japan was implemented through the use of both interest-rate and quantitative indicators, with the aim of attaining a variety of objectives including real growth, low unemployment, balance of payments equilibrium, and price-level stability; however, the latter objective was at times given somewhat less emphasis than the others (Shimamoto, 1983; Suzuki, 1987; Batten et al., 1990). With the growth rates of both narrow and broad measures of the money supply peaking at about 30 percent in 1972, and in the wake of the first oil price shock, consumer price inflation rose to double digit levels from 1973 to 1975 (Suzuki, 1987, p. 329).

This experience with double-digit inflation contributed, beginning in 1975, to changes in the implementation and objectives of monetary policy. Monetary policy evolved from a system implemented through credit controls in association with regulation of interest rates, to a system geared more to medium-term monetary control with market-determined interest rates aimed at achieving price-level stability; ^{1/} flexibility of interest rates was fostered by extensive financial and foreign exchange liberalization (Batten, et al., 1990). As part of this evolution, the intermediate target of monetary policy employed by the Bank of Japan shifted in mid-1978 from lending by financial institutions to the nonbank sector (mainly the corporate sector) to the supply of a broadly-defined monetary

^{1/} In this connection, the Governor of the Bank of Japan Yasushi Mieno (1990, pp. 4-5) has stated: "I would conclude that the simple fine tuning and curing of symptoms [of the 1970s] were of little use in retrospect to sustain economic growth. To put it differently, it is essential to foster an environment and infrastructure through which strong economic performance can be realized. First and foremost, this means price stability...To this end, when conducting monetary policy, it is of utmost importance that the Bank of Japan places priority on securing price stability."

aggregate. 1/ In particular, since 1978 the Bank of Japan has announced in the first month of each quarter a projection--as opposed to a target--for the year-on-year growth of broad money measured from the same quarter of the previous year. These changes in both the implementation and the objectives of monetary policy have contributed to sharp decelerations in the growth rates of the monetary aggregates. For example, whereas annual growth of narrow money (M1) averaged over 12 percent in the 1970s, growth in that aggregate fell to an annual rate of about 5 percent between 1980 and 1989. Likewise, growth of broad money (M2 plus certificates of deposit) averaged over 15 percent in the 1970s, but fell to under 9 percent between 1980 and 1989. 2/

A medium term, anti-inflationary orientation for monetary policy was also adopted by Germany, France, Italy, Switzerland, the United Kingdom, and the United States in the 1970s. 3/ The outcomes of these policies in terms of the inflation objective are reported in Table 1; this table--reproduced from Tavlas (1991)--presents the average annual inflation rate (in terms of consumer prices) for these countries and Japan during 1970-89 and several subperiods.

Over the period as a whole, Japan experienced the third lowest inflation rate (5.7 percent)--well above the rates experienced by Germany (3.9 percent) and Switzerland (4.2 percent), and slightly less than the rate in the United States (6.4 percent); the other countries reported in the table registered much higher inflation rates. However, the message conveyed by Table 1 changes substantially if the separate intervals are considered. During the decade 1970-79 Japan experienced the third highest inflation rate (9.3 percent) among the seven countries; in fact, during the subperiod 1970-74 Japan had the highest inflation rate (11.5 percent). In contrast, during the decade 1980-89 Japan registered the lowest inflation rate (2.5 percent), below those of Germany (2.9 percent) and Switzerland (3.3 percent), and less than half the rate experienced by the United States (5.6 percent).

1/ Broadly defined money consists of M2 (currency plus demand, savings, and time deposits) plus certificates of deposit. This change in the intermediate target reflected in part a declining share of corporate sector lending in the portfolios of financial institutions and a commensurate sharp increase in claims on the public sector and nonresidents, which resulted in a weakening of the link between bank lending to the corporate sector and the ultimate objectives of monetary policy.

2/ These growth rates are calculated on the basis of the year-end levels of the respective aggregates.

3/ Isard and Rojas-Suarez (1987) discuss the specific changes in the implementation and the objectives of monetary policy that occurred in these countries. See also, Batten et al. (1990).

Table 1. Inflation and Inflation Variability ^{1/}

	France	Germany	Italy	Japan	Switzerland	United Kingdom	United States
1970-74	8.1	6.2	10.1	11.5	7.9	10.4	6.2
1975-79	10.2	4.2	15.9	7.5	2.9	15.7	8.1
<u>1970-79</u>	<u>9.2</u>	<u>5.1</u>	<u>13.3</u>	<u>9.3</u>	<u>5.1</u>	<u>13.3</u>	<u>7.2</u>
1980-84	11.2	4.5	16.6	3.9	4.4	9.6	7.5
1985-89	3.6	1.3	6.2	1.2	2.1	5.2	3.6
<u>1980-89</u>	<u>7.8</u>	<u>2.9</u>	<u>11.4</u>	<u>2.5</u>	<u>3.3</u>	<u>7.5</u>	<u>5.6</u>
<u>1970-89</u>	<u>8.3</u>	<u>3.9</u>	<u>12.3</u>	<u>5.7</u>	<u>4.2</u>	<u>10.2</u>	<u>6.4</u>
(Inflation variability)							
1970-74	3.4	0.9	6.0	7.4	1.6	3.5	3.1
1975-79	1.2	1.2	3.5	3.3	2.4	5.8	2.2
<u>1970-79</u>	<u>2.6</u>	<u>1.5</u>	<u>5.6</u>	<u>5.9</u>	<u>3.2</u>	<u>5.6</u>	<u>2.8</u>
1980-84	2.4	1.5	3.8	2.2	1.6	5.2	3.9
1985-89	1.3	1.2	1.7	1.0	1.1	1.7	1.1
<u>1980-89</u>	<u>4.3</u>	<u>2.1</u>	<u>5.9</u>	<u>2.2</u>	<u>1.8</u>	<u>5.6</u>	<u>3.5</u>
<u>1970-89</u>	<u>3.7</u>	<u>2.1</u>	<u>5.9</u>	<u>5.5</u>	<u>2.7</u>	<u>5.8</u>	<u>3.3</u>

Source: IMF, International Financial Statistics.

^{1/} Based on consumer price indices. Inflation variability is measured by the standard deviation using quarterly data for the indicated periods.

Table 1 also reports the standard deviations of national inflation rates as a measure of inflation variability. These data tell a similar story. Over the entire period 1970-89, Japan experienced the third highest inflation variability (5.5 percent), only slightly below those of Italy (5.9 percent) and of the United Kingdom (5.8 percent). This outcome is again attributable to Japan's performance in the 1970s; during that decade Japan had the highest inflation variability (5.9 percent) among the seven countries. In contrast, Japan registered the third lowest inflation variability in the 1980s; at 2.2 percent, it was only slightly above that of Switzerland (1.8 percent) and Germany (2.1 percent).

These data indicate that relative to other major industrial countries, during the 1980s the medium term orientation of Japan's monetary policy was successful in maintaining a stable internal value of the yen; therefore, Japan's inflation performance could have established credibility for the nation's monetary policy, contributing to the international use of the yen. However, to the extent that Germany and Switzerland have achieved relatively-low inflation and inflation variability performances over a longer period, these countries may have achieved greater credibility for their monetary policies than in the case of Japan.

2. Liberalization of financial markets and capital flows

a. Overview

For a number of years leading up to the mid-1970s, the Japanese monetary authorities attempted to discourage the international use of the yen. As Frankel (1984, pp. 33-34) has observed, the Japanese monetary authorities "were concerned that extensive foreign holdings of their currency would reduce their degree of control over the money supply, and would increase the variability of the exchange rate." ^{1/} Accordingly, the Japanese financial system was tightly regulated via controls on the quantity and distribution of credit and on interest rates which were generally below market-clearing levels. In particular, the financial system was rigidly segmented and designed to enhance personal savings so that the investment needs of private industry and the rebuilding of public sector infrastructure could be financed at low interest rates. In addition, controls on capital flows insulated the financial market from foreign influences. The guiding principle underlying foreign influences was to "forbid virtually all capital transactions, except by prior approval" (Morgan Guaranty, 1984, p.3).

^{1/} A similar concern was characteristic of the Bundesbank's view regarding the international use of the deutsche mark prior to the early 1980s. See Tavlas (1991).

A number of factors emerged during the 1970s which provided a strong impetus for financial market deregulation. ^{1/} Following the first oil-price shock, the growth of the Japanese economy sharply decelerated as did investment activity in the corporate sector; consequently, the demand for funds by the corporate sector declined. During the same period, a large government budget deficit materialized as the Japanese economy entered a contractionary phase. Accordingly, the public sector assumed the position of net borrower, and it became necessary to divert personal savings from industrial investment to the financing of the budget deficit. As Eken (1984, p. 506) has noted, the amount of government bonds outstanding rose eight-fold in absolute terms during the fiscal years 1974/75 to 1981/82 (from the equivalent of 7 percent of GNP, to 32 percent of GNP).

This situation contributed to a rapid growth of Japan's primary and secondary bond markets and led to pressures from the financial community for improvements in the efficiency of financial markets. For example, under institutional arrangements by which long-term government bonds with a maturity of 10 years were underwritten by a syndicate consisting of major financial institutions (required to purchase and hold for specified periods the bonds they had underwritten), a rising share of banks' portfolios consisted of government bonds. To contain the debt-servicing burden, interest rates on new issues were often kept below market-clearing levels, leading to lower bank profits (Eken, 1984, p. 508; Morgan Guaranty, 1984, p. 4). As a result, banks lost market shares in part because their regulated interest rates could not compete with those of other financial institutions; the banks, therefore, sought freedom to offer new instruments (such as negotiable certificates of deposit) and new businesses (such as the bond-repurchase market).

Against this background, liberalization measures were implemented in the domestic financial market beginning in the late 1970s, creating and developing new markets, and deregulating interest rates. The first significant measure was the authorization of resale of government bonds by syndicated banks, thereby creating a secondary market for rapidly accumulating government bonds. Yields on the new issues of government bonds rose gradually to the level of unregulated yields on the secondary market. In recent years, both the primary and secondary markets for government bonds have expanded rapidly. The greater availability of government bonds facilitated the development of the Gensaki market (repurchase agreement on government bonds) and the market for certificates of deposit, the two main instruments in the open money market with unregulated interest rates. Liberalization initially focussed on large denomination instruments (time deposits, money market certificates and certificates of deposit), and has gradually been applied to smaller-denomination instruments. In what follows, measures taken to liberalize capital flows and domestic markets,

^{1/} An extensive literature has materialized discussing in detail Japanese financial deregulation. See, for example, Frankel (1984), Argy (1987), Sakai (1987), Suzuki (1987), Rosenbluth (1989), Batten et al. (1990), and Osugi (1990).

that bear directly upon the international use of the yen, are briefly discussed.

b. Liberalization of capital flows

The enactment of the Foreign Exchange and Trade Control Law in 1980, established the principle that capital flows should be free, unless specifically restricted. 1/ Nevertheless, the law contained a set of restrictions pertaining to implementation; these restrictions included a large number of reporting and prior notice provisions, as well as requirements for prior approval of some transactions, on nonresidents' yen-denominated bond issues in Tokyo, euro-yen bond issues, euro-yen certificates of deposit, euro-yen lending, and interest paid on nonresidents' yen-denominated deposits.

A new phase began in May 1984 with the release of a report by the Yen-Dollar Committee--a working group of Japanese and U.S. officials--and an accompanying report by the Ministry of Finance titled "Current Status and Future Prospects for the Liberalization of Financial and Capital Markets and the Internationalization of the Yen." 2/ These two documents took note of the importance of financial liberalization and internationalization to the Japanese economy, proposed changes, and set up a schedule of measures for subsequent years.

Since 1984, a number of measures have, in fact, been taken to liberalize international yen transactions. Among the major measures that have been implemented are the following: (i) in December 1984, eligibility to issue euro-yen bonds by nonresidents was extended to include foreign private corporations which had a credit rating of at least "A" and met certain minimum standards with regard to their financial positions (previously, only international organizations and national governments had been authorized to issue euro-yen bonds); (ii) in April 1985 there was a further relaxation regarding the issuance of euro-yen bonds by nonresidents doing away with the criteria pertaining to financial positions and allowing three Japanese institutions to become approved credit rating agencies; 3/ (iii) also in April 1985, the withholding tax on

1/ As noted, previous legislation forbade capital movements unless authorized by the government.

2/ The Yen-Dollar Committee, headed by the Vice Minister for International Affairs of the Japanese Ministry of Finance and the Under Secretary for Monetary Affairs of the U.S. Department of the Treasury, was established in 1983 amid concern over the large and persistent bilateral current account imbalances between the two countries. The U.S. Department of the Treasury attributed the imbalances to the closed nature of the Japanese domestic market that perpetuated an undervalued yen.

3/ These agencies were: Nippon Investors Service, Japan Bond Research Institute, and Japan Credit Rating Agency. Previously, the approved agencies were Moody's and Standard and Poors. In July 1987, another U.S. rating agency, Fitch, was added.

nonresidents' interest earnings on euro-yen bonds issued by Japanese residents was abolished; (iv) in June of 1985, foreign banks were extended access to the euro-yen bond market; (v) in November 1987, nonresidents were allowed to issue euro-yen commercial paper (in parallel with the opening of the domestic commercial paper market); and (vi) in May 1989, euro-yen lending to residents was relaxed. These and other liberalizing measures with respect to the euro-yen market are reported in the Appendix.

Despite these measures aimed at liberalizing the use of the yen in international financial markets, several restrictions remain. In this regard, the market for nonresidents domestically-placed yen bonds has a number of drawbacks (Osugi, 1990, pp. 12-13). Specifically, the secondary market for this type of domestic bond is narrow, there is a complex issuing procedure, and privately placed nonresident bond issues are strictly controlled. ^{1/} In addition, residents are not allowed to hold euro-yen deposits or to purchase euro-yen certificates of deposit.

c. Deregulation of the domestic markets

The progressive liberalization of external transactions has been accompanied by measures to deregulate the domestic financial markets. These measures have aimed to: (i) widen the range of domestic assets with market-denominated interest rates; (ii) relax the segmentation of domestic markets and widen the scope of foreign institutions' participation in Japan's financial markets; and (iii) strengthen bank supervision.

For purposes of this study, several specific deregulatory measures are worth mentioning. First, a yen-denominated bankers' acceptance market was established in June 1985 for trade bills with a minimum denomination of ¥ 100 million and maturities of one to six months. Second, in June 1985 the Government was allowed to issue short-term bonds for the refinancing of existing debt, similar to Treasury bills in some other countries. Such bonds were publicly auctioned for the first time in February 1986. Third, the commercial paper (CPs) market, established in November 1987, developed rapidly as a source of short-term finance for nonfinancial corporations. The number of enterprises eligible to issue CPs was increased from 190 to 400 in December 1988, and the outstanding balance of CPs increased from ¥ 9 trillion at that time to ¥ 13 trillion at the end of 1989. Further reforms, introduced in 1990, permitted major companies to issue CPs in overseas markets (effective January 1990). Fourth, a number of measures have been implemented to provide foreign financial institutions easier access to the Japanese market; following these latter measures, between 1985 and 1988 the number of foreign banks operating in Japan rose from 233 to 254, and the number of foreign securities firms rose from 139 to 182

^{1/} With regard to the issuing procedure, Osugi (1990, p. 13) cites the need for "advance notification to the Ministry of Finance and a protracted decision-making process for underwriters' issuing terms. In particular, issuers complain about obstacles hindering the quick use of currency swaps and interest rate swaps."

(Table 2). 1/ Finally, in 1989 and 1990, a number of measures were taken to open and promote financial futures trading including the establishment of futures markets for the yen-dollar exchange rate, euro-yen and eurodollar interest rates, U.S. Treasury bonds, and stock-index futures.

While the foregoing measures deregulating the domestic financial system have, in general, encouraged an increased international use of the yen, it is important to note the following: (i) the bankers' acceptance market has remained insignificant and, in fact, has declined in size in recent years. 2/ The complicated operating procedures in this market have restrained the amount of trade financed in yen (Yamasaki, 1989). Participants in the market are required to confirm the details of yen-denominated trade financing provided by the foreign banks issuing the bills. Also, participants are required to collect documents from the issuing banks ensuring that these banks will not raise funds in other markets to refinance the yen-denominated trade credits; (ii) the Treasury bills market is not very active, 3/ and the trading in the government repurchases market is complex (Yamasaki, 1989); 4/ (iii) despite the increased presence of foreign financial firms in Japan, foreign penetration is still relatively limited (Yamasaki, 1989); and (iv) a significant segment of the short-term markets is restricted by the continued administrative structure of interest rates; at the end of 1989, only 54 percent of bank deposits earned market-determined interest rates. 5/

d. The Japan offshore market

In the aftermath of the report of the Yen-Dollar Committee, the Japanese Ministry of Finance established a Subcommittee on the Internationalization of the Tokyo Market to examine the recommendations of

1/ However, as shown in Table 2, the number of Japanese institutions overseas increased more rapidly than did foreign institutions in Japan.

2/ Yamasaki (1989) points out that the outstanding balance of the yen-denominated bankers acceptance market declined to ¥ 700 million at end-March 1989, from ¥ 70 billion at the time the market was established in June 1985.

3/ However, the Japanese authorities consider the development of the presently small market for Treasury bills (TBs) as an important objective in promoting Japan as an international financial center. Consequently, the fiscal year 1990 budget provides for the issuance of ¥ 6.7 trillion in TBs, compared with ¥ 4.1 trillion in the previous budget. Until September 1989 all TBs had a maturity of six months, but at that time three-month TBs were introduced. Also, the minimum denomination of TBs was reduced from ¥ 50 million to ¥ 10 million in April 1990. The Bank of Japan initiated operations in TBs in January 1990.

4/ The government repurchases market is known as the gensaki market. The calculation of after-tax rates in this market is extremely cumbersome, due to the tax on securities transactions. Tax rates vary depending on the type of security.

5/ However, this figure compares with just 10 percent in September 1985.

Table 2. Internationalization of Japanese Banking
and Financial Institutions

	1975	1980	1985	1988
<u>Foreign institutions in Japan</u>				
<u>Banks</u>				
Branches	72	85	114	119
Subsidiaries <u>1/</u>	...	...	3	9
Representative offices	77	103	116	126
Total	<u>149</u>	<u>188</u>	<u>233</u>	<u>254</u>
<u>Securities firms</u>				
Branches	2	5	22	50
Representative offices	43	65	117	132
Total	<u>45</u>	<u>70</u>	<u>139</u>	<u>182</u>
<u>Japanese institutions overseas</u>				
<u>Banks</u>				
Branches	100	139	191	254
Subsidiaries <u>1/</u>	47	74	155	236
Representative offices	106	186	370	423
Total	<u>253</u>	<u>299</u>	<u>716</u>	<u>913</u>
<u>Securities firms</u>				
Subsidiaries <u>1/</u>	36	39	62	115
Representative offices	18	26	55	81
Total	<u>54</u>	<u>65</u>	<u>117</u>	<u>196</u>

Sources: Bank of Tokyo, Tokyo Financial Review, July 1987; and Japanese Ministry of Finance, Annual Report, various issues.

1/ Implies at least 50 percent ownership.

the Yen-Dollar Committee. As a means of further promoting the international use of the yen, the Subcommittee recommended the establishment of an offshore banking market in Tokyo, whereby banks could accept deposits from nonresidents without having to meet reserve requirements and other restrictions applicable to Japanese residents in the domestic market. 1/ The rationale for removing restrictions only on transactions involving nonresidents was to increase the offshore centers' share of international bank intermediation without reducing the effectiveness of domestic financial regulation on residents (Rosenbluth, 1989, p. 59). The aim of creating such an offshore facility was to establish Tokyo "as a center for the world's transactions in yen and thus aid the expansion of euro-yen transactions and the progress of internationalization of the yen" (Suzuki, 1987, p.127). For example, the offshore market was expected to result in lower costs for domestic financial institutions compared with the cost of establishing branches abroad, thereby allowing "an opportunity for increased profits through the expansion of euro-yen activity" (Suzuki, 1987, p.127). As Frankel (1984, p.44) observed, the establishment of an offshore market was expected to "help grease the wheels of capital movement," encouraging the supply of, and demand for, yen-denominated financial instruments.

The Japan offshore market opened in December 1986 and has grown rapidly since its inception. 2/ As reported in Table 3, the market's volume was almost \$400 billion at the end of 1988. As Osugi (1989, p. 26) observes, this volume was "on a par with [those of] the neighboring offshore markets of Hong Kong and Singapore." While positions in foreign currencies are greater than those in yen, the yen's share of positions vis-à-vis nonresidents nearly doubled between 1986 and 1989, rising from 21.6 percent to 42.7 percent. The Japan offshore market does contain, however, a number of restrictions, including: eligible counterparties are limited to nonresidents, except for offshore accounts of resident banks; securities transactions are prohibited; local taxes and stamp duties still apply; and individuals are not allowed to participate (Osugi, 1990, p.27).

3. Trade patterns

Three of the factors found to influence invoicing behavior were the following: (i) a country's share of world exports; (ii) the proportion of a nation's exports to developing countries; and (iii) the share of a country's exports comprised of specialized manufactured products. Data presented in Tavlas (1991) on each of these factors imply a growing use of the yen as an

1/ The recommendations of the Subcommittee were issued on May 30, 1984. For a detailed account of its recommendations, see Rosenbluth (1989).

2/ Banks maintaining offshore accounts are prohibited from transferring funds to and from the domestic accounts in settlement of the offshore accounts as a principle, but are allowed to do so for the present within certain limits. The banks are required to confirm the nonresident status of the counterparts in all their offshore transactions, and to ascertain the use of loan proceeds in offshore activity.

Table 3. Development of the Japan Offshore Market

(End-of-year, asset amount in billions of U.S. dollars; figures in brackets: percentage share)

Item	1986		1987		1988		1989	
Positions vis-a-vis nonresidents	88.7	(100.0)	191.9	(100.0)	307.8	(100.0)	429.0	(100.0)
Yen	19.2	(21.6)	69.0	(36.0)	123.9	(40.3)	183.0	(42.7)
Foreign currencies	69.5	(78.4)	122.9	(64.0)	183.9	(59.7)	246.0	(57.3)
Positions vis-a-vis residents	5.0	(100.0)	46.9	(100.0)	86.1	(100.0)	...	(100.0)
Yen	...	(...)	31.3	(66.7)	56.0	(65.1)	...	(...)
Foreign currencies	...	(...)	15.6	(33.3)	30.0	(34.9)	67.0	(...)
Total	93.7	(100.0)	238.8	(100.0)	393.9	(100.0)	...	(100.0)
Yen	...	(...)	100.3	(42.0)	179.9	(45.7)	...	(...)
Foreign currencies	...	(...)	138.5	(58.0)	213.9	(54.3)	313.0	(...)

Source: Osugi (1990); Bank for International Settlements, International Banking and Financial Market Developments, May 1990.

invoicing currency. Specifically, these data show that during the 1980s (i) Japan's share of world exports, and the proportion of its exports to developing nations, each rose by about 2 1/2 percentage points, more than in any other large industrial country; and (ii) between 1980 and 1989, the proportion of specialized manufactured products in Japanese exports increased 12 percentage points, to 72 percent. The proportion of such products in total exports for the United States grew by 5 percentage points (to 49 percent); and Germany recorded a 4 percentage points increase (to 43 percent).

In order to discern the implications of these data for the use of the yen in Asia, Tables 4 and 5 report data on Japan's trade with selected Asian countries. Table 4 separates the direction of Japanese exports and imports according to the following categories: Asian countries, industrial countries, developing countries excluding the Asian countries, and the world excluding the Asian countries. ^{1/} As the table shows, during the 1980s the direction of Japan's trade moved progressively toward the Asian countries and the industrial countries. For example, whereas the shares accounted for by the Asian countries in Japan's total exports and imports were both about 21 percent in 1980, by 1988 those shares had increased to over 27 percent. Likewise, the shares of Japanese exports and imports accounted for by industrial countries each rose by about 15 percentage points between 1980 and 1988. It is also worth noting that the share of Japanese exports accounted for by the United States rose from about 25 percent in 1980 to about 35 percent by the late 1980s. The United States is unique in that more than 80 percent of its imports are denominated in its own currency (see below). Accordingly, the large increase in the U.S. share of Japanese exports should have, in and of itself, worked against the use of the yen in Japan's export invoicing. Further, some writers (e.g., Marston, 1990; Osugi, 1990, pp. 46-48) have noted that Japanese exporters have, to some extent, sought to price their exports in foreign currencies in order to maintain market shares. Specifically, by invoicing their exports in foreign currencies, Japanese firms have, in the case of yen-appreciation, avoided losses in sales volume while absorbing declines in profits. Finally, an interesting feature shown in Table 4 is the large decline in the shares of both Japan's exports to, and imports from, developing countries excluding the NICs; in fact, Japan's exports to, and imports from, those countries declined in nominal terms between 1980 and 1988.

Table 5 presents data on the share of Japan's exports by product category to the same group of Asian countries included in the previous table. As noted, the most important category in terms of its influence on the use of a nation's currency in export invoicing is specialized manufactured goods--i.e., machinery and transport equipment. Table 5 shows that between 1980 and 1989 the share of Japan's total exports to Asian countries comprised of such products rose by an even greater extent than did Japan's exports of these products to the world as a whole. Thus, whereas

^{1/} The Asian countries included are: China, Hong Kong, Indonesia, South Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand.

Table 4. Direction of Japanese Trade

(Percent of total)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	Percentage cumulative change 1/
<u>Exports</u>										
Asian countries 2/	21.8	20.6	23.2	24.7	24.1	24.1	22.7	25.0	27.3	159.9
Industrial countries	45.3	46.4	47.3	50.4	55.3	57.6	61.5	61.2	60.1	169.2
Of which:										
United States	(24.5)	(25.7)	(26.4)	(29.5)	(35.6)	(37.6)	(38.9)	(36.8)	(34.1)	(182.8)
Developing countries less Asian countries	25.1	25.7	25.4	21.9	18.2	15.9	13.6	12.4	11.2	-9.5
World less Asian countries	78.2	79.4	76.8	75.3	75.9	75.9	77.3	75.0	72.7	88.9
<u>Imports</u>										
Asian countries 2/	21.1	21.6	23.6	23.0	24.9	25.5	25.3	28.5	27.6	73.8
Industrial countries	33.6	34.6	35.2	37.7	38.8	38.9	47.3	46.2	49.3	94.9
Of which:										
United States	(17.4)	(17.7)	(18.4)	(19.6)	(19.8)	(20.0)	(23.0)	(21.2)	(22.5)	(65.3)
Developing countries less Asian countries	42.0	40.8	39.6	39.8	34.9	33.6	25.4	23.4	21.2	-33.0
World less Asian countries	78.9	78.4	76.4	77.0	75.1	74.5	74.7	71.5	72.5	21.7

Source: IMF, Direction of Trade Statistics, Yearbook 1989.

1/ Percent change of absolute levels (expressed in U.S. dollars) over 1980 to 1988.

2/ Includes China, Hong Kong, Indonesia, South Korea, Malaysia, Philippines, Singapore, Taiwan, and Thailand.

Table 5. Share of Japanese Exports by Product Category to Asian Countries and the World

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<u>Food and live animals; beverages and tobacco</u>										
Asian countries <u>1/</u>	1.2	2.4	1.1	0.9	0.9	0.8	0.8	0.8	0.8	0.8
World	1.0	0.9	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.4
<u>Crude materials</u>										
Asian countries <u>1/</u>	3.9	2.7	2.6	2.2	2.2	1.9	1.8	1.6	1.6	1.6
World	1.5	1.3	1.3	1.2	1.0	0.9	0.7	0.7	0.7	0.7
<u>Mineral fuels</u>										
Asian countries <u>1/</u>	0.9	0.5	0.6	0.6	0.6	0.6	0.8	0.5	0.9	0.9
World	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.4
<u>Animals and vegetable oils</u>										
Asian countries <u>1/</u>	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
World	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
<u>Chemicals and related products</u>										
Asian countries <u>1/</u>	9.8	9.3	9.4	9.5	9.0	9.5	9.7	10.1	10.0	9.7
World	4.5	3.9	4.4	4.6	4.3	4.3	4.5	5.0	5.2	5.3
<u>Manufactured goods</u>										
Asian countries <u>1/</u>	33.5	29.9	30.6	30.2	28.1	26.6	26.0	23.2	22.1	21.5
World	22.2	20.3	20.9	18.4	16.9	15.5	13.4	12.5	12.7	12.4
<u>Machinery and transport equipment</u>										
Asian countries <u>1/</u>	41.9	44.0	47.0	48.0	50.8	53.1	52.4	55.1	56.8	57.1
World	60.0	63.0	62.3	64.8	67.5	68.8	70.9	71.5	71.3	71.6
<u>Miscellaneous manufactured articles</u>										
Asian countries <u>1/</u>	8.7	9.9	8.7	8.5	8.4	8.6	8.6	8.3	8.2	8.4
World	10.3	10.2	9.9	9.9	9.4	9.5	9.5	9.4	9.3	9.1

Source: Data Resources Inc.

1/ Includes China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan, and Thailand.

the share of specialized manufactured goods in Japan's exports to the world rose by 11.6 percentage points (from 60 percent to 71.6 percent) between 1980 and 1989, the respective share of such goods in the country's exports to the Asian NIC's rose by 15.2 percentage points (from 41.9 percent to 57.1 percent), an even greater gap in terms of percent change from the base. Consequently, these data suggest that the use of the yen for invoicing Japan's exports to the Asian countries should have increased during the 1980s.

To summarize, several factors that together imply a growing role for the yen as an international currency have been identified. These factors are: (i) Japan's performance with respect to inflation during the 1980s and the associated gain in the credibility for Japanese monetary policy; (ii) the liberalization of Japan's financial markets and the lifting of controls on capital flows; and (iii) the increase in Japan's share of world exports, and the growing shares of such exports that are both comprised of specialized manufactured products and directed to developing (i.e., Asian) countries. On the other hand, Japan's late entry into the low-inflation club and its delayed implementation of financial deregulation measures relative to some other countries may have served to impede the use of the yen internationally. Several restrictions remain in Japanese financial markets, including some controls on short-term interest rates; additionally, markets in Treasury bills, and bankers acceptances are thin, a commercial paper market was only recently developed, and some euro-yen transactions by Japanese residents are regulated. Also, although some trends in Japanese trade suggest a growing role for the yen in international trade transactions, there are several factors not working in that direction: (i) a rising share of exports to industrial countries (particularly the United States) has occurred, and these countries tend to denominate imports in their own currency; (ii) there is evidence that Japanese exporters have sought to denominate in foreign currencies in order to maintain market shares (while absorbing declines in profits); (iii) the absolute level of Japan's exports to non-Asian developing countries has declined; (iv) the *thin bankers' acceptances market* has made it more difficult than otherwise for Japanese firms to obtain trade financing in yen. With regard to the yen's regional use, the rising proportion of Japan's exports directed toward Asian countries, and the growing share of such exports comprised of specialized manufactured products, indicate an increased scope for the use of the yen as a regional Asian currency.

IV. Japan's Capital Outflows: Implications for the Yen's International Use

1. Overview

This section discusses the relationship between a nation's capital flows and international currency use. In this connection, several writers (e.g., Black, 1990; Frankel, 1989b) have suggested that the implications in recent years of the pattern of Japan's capital flows (borrowing short, on net, and lending long, on net) for the international use of the yen are

comparable to the earlier periods during which sterling and the U.S. dollar, respectively, emerged as international currencies. Thus, Black (1990, p. 175) states that Japan's "[external] position is analogous in some ways to that of American banks in the postwar period 1945 to 1980 and to British banks in the 19th and early 20th centuries as bankers to the world, borrowing short and lending long." ^{1/} Likewise, Frankel (1989b, p. 2) argues that the emergence of the United States as a net-debtor country will diminish the international role of the dollar, and "with Japan now the world's largest creditor, the dollar's loss should be the yen's gain." Accordingly, the section also examines the extent to which Japan's position as an exporter of long-term capital (on net) has served to facilitate the international use of the yen.

2. International financial intermediation and
the roles of the capital and current accounts

a. The role of the capital account: the nation as world banker

A country's financial institutions engage in international liquidity transformation when they supply loans and investment funds to foreign enterprises that would have to pay more in their home countries to borrow long-term, and when they supply liquidity to foreign asset holders who would receive less (in terms of interest payments and/or capital certainty) for holding their short-term deposits at home. Diversification of their portfolios provides the financial intermediaries with reduced risk and cost relative to the risk that would be borne by an individual investor whose holdings are often too small to allow diversification; also, economies of expertise enable them to evaluate risk more efficiently, than individuals can. ^{2/}

A nation's ability to serve as an international financial intermediary (i.e., world banker) is directly related to the necessary conditions for international currency use noted above. In particular, a nation's capacity to attract short-term capital denominated in its own currency depends importantly upon the certainty of the currency's value (and, therefore, on the nation's inflation performance), and the availability of a wide range of safe, liquid financial instruments denominated in that currency. For example, if foreigners are acquiring short-term claims (i.e., supply short-term capital) on net in the currency of a particular country, it implies

^{1/} The notion that a country can serve as world banker was articulated in work on the earlier sterling-dominated system by Williams (1963a; 1963b; 1968), and in work on the U.S. dollar system of the 1950s by Kindleberger (1965; 1981; 1987), Despres, Kindleberger, and Salant (1966), and Salant (1966). For a recent discussion, see Corden (1985).

^{2/} This is the traditional role assigned to financial intermediation, whereby economies of scale and expertise allow the intermediary to make a profit. Recent work has focused on the role of information asymmetries in determining the need for, and form of, intermediaries. See Bryant (1987); Goodhart (1989, pp. 113-121).

that: (i) the country possesses a large supply of short-term, relatively high-yielding financial instruments denominated in its own currency, (ii) the access to such instruments is relatively free from controls; and (iii) foreigners attach a relatively-high degree of certainty to that nation's currency (and, therefore, the nation has a relatively-low and stable inflation rate). Foreigners may demand short-term claims denominated in such a currency in part for liquidity and/or investment, or to pay for imports denominated in that currency. At the same time, that nation's ability to attract short-term capital enhances its capacity to supply longer-term loans to the rest of the world; furthermore, the supply of longer-term capital to the rest of the world denominated in the nation's currency also facilitates the international use of its currency since it encourages foreigners to hold their short-term claims in that currency. As Williams (1967, p. 268) observed with respect to the earlier sterling system, foreigners held short-term claims in sterling in part "to meet sterling obligations in London." 1/

Consequently, the nation can function as a world banker; a manifestation of this activity on the capital account is that the nation imports short-term capital (on net) and exports longer-term capital (on net) denominated in its own currency, though its overall capital account position can be in balance. In conjunction with its role as a world banker, the growth of a nation's liquid liabilities can exceed that of its official reserves. As Kindleberger and Lindert (1978, p. 265) noted with respect to the financial intermediary role of the United States in the 1950s, the nation's liquid liabilities were growing faster than its reserves, but it also had "such extensive longer-term, less liquid, assets abroad that the nation was a heavy net creditor to the rest of the world overall...[Thus] the United States was acting as a financial intermediary, lending long and borrowing short." A nation's ability to serve the world banker role depends upon the necessary conditions for international use. Given those conditions, a nation could be borrowing short and lending long in its own currency, thereby enhancing the international use of that currency.

b. The current account and international currency use

A country with a current account surplus accumulates net claims on the rest of the world; the rest of the world accumulates net claims on a country with a current account deficit. An interesting issue is whether a current account imbalance (and, therefore, imbalance of the capital account) contributes to the international use of a country's currency, and, in particular, its use to denominate foreign claims (assets and/or liabilities held by nonresidents).

1/ Likewise, decades earlier Bagehot (1908, p. 34) remarked: "At whatever place many people have to make payments, at that place those people must keep money. A large deposit of foreign money in London is now necessary for the business of the world."

In fact, there is little connection between a nation's current account position and international currency use. Thus, a nation can experience persistently-large current account surpluses and not have its currency used internationally because its exports may not be denominated to a substantial extent in its own currency. In this case, foreigners do not need to hold short-term claims denominated in the exporter's currency to pay for those exports. Hence, the determinants of invoicing behavior discussed above are the main factors influencing the trade side of international currency use. Correspondingly, a nation with a persistently-large current account surplus and whose exports are largely denominated in its own currency also need not have its currency used internationally. For example, if such a country also has tightly regulated financial markets and capital flows, there may be little opportunity for foreigners to hold claims denominated in that nation's currency. Further, regardless of the currency denomination of a nation's exports and the characteristics of its financial markets, foreigners would be discouraged from holding claims denominated in its currency if they expected the nation to experience high and variable inflation.

Thus, the factors influencing the denomination of international claims are those discussed previously: the extent, nature, and pattern of trade (and hence the choice of invoicing units), the stability of the value of currencies and the depth, breadth, efficiency and openness of markets in financial instruments denominated in particular currencies. In short the willingness of foreigners to hold assets or liabilities denominated in a country's currency (a gross capital account phenomenon) has little to do with whether the net capital/current account is in balance but depends on the risk/return (including transaction costs) characteristics of financial instruments denominated in the currency. However, such factors as the current account position and the net-debtor position of a country do enter into play to the extent that they affect confidence in a currency, increasing solvency risks and jeopardizing the functioning of a financial market as an international banking center.

These factors help explain, for example, why the Saudi Arabian riyal has not emerged as an international currency, despite the fact that during the 1970s Saudi Arabia recorded huge current account surpluses. Specifically, Saudi Arabia's exports are predominantly invoiced in U.S. dollars, and Saudi Arabian financial markets are not broad, deep, or substantially free from controls. In contrast, during the 1980s the Australian dollar emerged as an international currency in that it is one of the most actively traded currencies in foreign exchange markets. Yet during this period Australia has recorded annual current account deficits equivalent to about

5 percent of GDP. Underpinning the international use of the Australian dollar has been the complete deregulation in recent years of the Australian financial system, which until 1980 had been tightly controlled. 1/

3. Overview of Japan's capital account

Reflecting both its current account surplus--the counterpart to the nation's excess of saving over domestic investment--and its emergence as an international financial intermediary, Japan's role in the global allocation of capital flows has increased markedly in recent years. In this connection, Table 6 presents Japanese balance of payments data over the 1980s. Several features of these data are particularly noteworthy with regard to Japan's role in allocating capital flows. First, during the period 1983 through 1989, Japan accumulated a current account surplus of about \$415 billion, making that nation the largest net international supplier of capital. Second, net long-term capital outflows during the 1983-89 period totaled about \$620 billion, or \$205 billion more than the accumulated current account surplus. The balance has been financed mostly by short-term capital inflows. As noted above, the capital flows of a country are conducive to the international use of its currency if a substantial proportion of its financial transactions are denominated in its own currency. Therefore, in what follows, the key issue examined is the extent to which Japan's external financial transactions have been denominated in yen.

4. Japan as an international financial intermediary

Japan's role as an international financial intermediary is highlighted in Table 7 which provides data on that nation's external balance sheet during the 1980s. As the table shows, by the end of 1989 Japanese residents had accumulated net external assets of more than \$290 billion, up from an average of about \$30 billion in the first half of the decade. 2/ Reflecting its intermediary function, the predominance (almost 60 percent) of Japan's foreign claims were long-term while over 60 percent of the nation's liabilities were on the balance sheets of its banks and were short-term. Also note--in line with the Kindleberger-Lindert (1978, p. 265) view that the "short-term liabilities [of an international banking center] come to be a multiple of official reserves"--the ratio of Japan's short-term liabilities to official reserves rose from an average of

1/ For discussions, see Swamy and Tavlas (1989; 1991). By comparison, during the 1970s--when the Australian dollar exhibited virtually no signs of international use--Australian current account deficits averaged about 1 1/2 percent of GDP. In 1989 the Australian dollar was the seventh most actively traded currency in New York foreign currency trading (see Federal Reserve Bank of New York, 1989).

2/ In 1985 Japan became the world's largest holder of net external assets.

Table 6. Summary Balance of Payments of Japan, 1980-89

(In billions of U.S. dollars)

	Current account balance		Long-term capital, net	Basic balance	Short-term capital, net <u>1/</u>	Errors and omissions	Overall balance
1980	-10.7	(-1.0) <u>2/</u>	2.3	-8.4	16.2	-3.1	4.7
1981	4.8	(0.4)	-9.7	-4.9	8.6	0.5	4.2
1982	6.9	(0.6)	-15.0	-8.1	-1.5	4.7	-4.9
1983	20.8	(1.8)	-17.7	3.1	-3.6	2.1	1.6
1984	35.0	(2.8)	-49.7	-14.7	13.3	3.7	2.3
1985	49.2	(3.7)	-64.3	-15.3	9.9	4.0	13.7
1986	85.8	(4.4)	-131.5	-45.6	56.9	2.5	13.7
1987	87.0	(3.6)	-136.5	-49.5	95.7	-3.9	42.3
1988	79.6	(2.8)	-130.9	-51.3	64.0	2.8	15.5
1989	57.2	(2.4)	-89.3	-32.1	41.3	-22.0	-12.8

Source: IMF, International Financial Statistics.

1/ Includes gensaki flows.

2/ Numbers in parentheses are percent of GNP.

Table 7. Japan's External Balance Sheet
(In billions of U.S. dollars, end-of-year data)

	1980-84 average	1985	1986	1987	1988	1989
<u>Total assets:</u>	<u>242</u>	<u>438</u>	<u>727</u>	<u>1,072</u>	<u>1,469</u>	<u>1,771</u>
<u>Long-term</u>	149	301	476	646	833	1,019
<u>Private sector</u>	119	264	425	565	728	902
Of which:						
<u>Securities</u>	47	146	258	340	427	534
<u>Direct investment</u>	29	44	58	77	111	154
<u>Short-term</u>	93	136	251	425	637	752
<u>Banks</u>	63	100	195	320	502	678
 <u>Total liabilities</u>	 <u>210</u>	 <u>308</u>	 <u>547</u>	 <u>831</u>	 <u>1,178</u>	 <u>1,478</u>
<u>Long-term</u>	82	122	192	236	312	447
<u>Private sector</u>	60	92	152	179	268	405
Of which:						
<u>Securities</u>	54	85	144	166	255	374
<u>Short-term</u>	128	186	355	595	866	1,030
<u>Banks</u>	121	177	322	530	765	895
 <u>Net assets:</u>	 <u>30</u>	 <u>130</u>	 <u>180</u>	 <u>241</u>	 <u>292</u>	 <u>293</u>
<u>Long-term</u>	67	179	284	410	521	572
<u>Private sector</u>	59	172	273	386	460	497
Of which:						
<u>Securities</u>	-7	61	114	174	172	160
<u>Short-term</u>	-25	-50	-104	-170	-229	-278
<u>Banks</u>	-58	-77	-127	-210	-263	-267
<u>Government sector</u>						
<u>Reserves</u>	26	28	43	82	98	85
Ratio of short-term liabilities to reserves	4.7	6.6	9.3	6.7	8.8	12.1

Source: Bank of Japan, Balance of Payments Monthly, various issues.

about five in the first half of the 1980s, to about 12 by the end of the decade.

Japan, however, departs from the traditional model assigned to international financial intermediaries in an important respect. In contrast to the earlier cases of the United Kingdom and the United States, which borrowed short and lent long primarily in their own currencies, commercial banks in Japan have been involved chiefly in maturity transformation of external funds, borrowing short-term funds overseas in foreign currencies (mostly U.S. dollars) and investing funds in long-term instruments overseas denominated in foreign currencies. Specifically, banks as well as some nonfinancial corporations, have capitalized on their good credit-standings in the international capital market to profit from the yield curve structure, borrowing short-term funds to acquire long-term bonds overseas. As reported in Table 8, external lending by Japanese banks increased during the 1980s, but the share of yen-denominated lending--though rising--remained less than one-third of the total. ^{1/}

Since Japanese banks lend predominantly in foreign currencies (mostly U.S. dollars) to take advantage of higher yields abroad, why do the banks also borrow primarily in foreign currencies? One factor accounting for the banks' foreign currency borrowing is the absence of a well-developed bankers' acceptance market and the fact that both exports and imports are predominantly non-yen denominated; therefore, as Thorn (1987, p. 87) points out, banks often borrow short-term to make "impact loans" (foreign currency loans to domestic firms) to finance trade. A second factor that appears to have contributed to foreign-currency borrowing by Japanese banks is the fact that such borrowing possesses several advantages over yen-denominated borrowing in Japan. The reserve requirement on all foreign-currency liabilities to nonresidents, regardless of duration or size, is close to the minimum. ^{2/} Unlike rates paid on other types of deposits, which are regulated, interest rates on foreign currency deposits are set freely by the banks. The maturity of these deposits is left to negotiation between the bank and the depositor, and there are no upper limits to the quantities of such deposits. For large deposits (over \$100,000) the interest rates are determined through individual negotiation on a bilateral basis and take into consideration euromarket rates in order to ensure competitiveness with rates in that market (Suzuki, 1987, p. 81).

^{1/} In contrast to banks, a number of Japanese institutions (e.g., insurance companies) are very active in currency transformation, that is, holding foreign (mostly dollar-denominated) assets to back domestic, yen-denominated liabilities. The shares of foreign securities in the portfolios of other financial institutions are considerably above the corresponding share for the banks. (See IMF, 1989, pp. 84-89.)

^{2/} Japanese banks are subject to reserve requirements ranging from only 0.125 percent to 2.5 percent on their deposits, with the 0.125 percent requirement being the lowest in effect among the larger industrial countries (Deutsche Bundesbank, 1990). The reserve requirement on foreign currency liabilities is 0.25 percent.

Table 8. External Lending by Japanese Banks 1/

	1980	1981	1982	1983	1984	1985	1986	1987	1988
(In billions of U.S. dollars)									
Foreign-currency denominated	54.9	74.3	92.5	102.6	123.0	134.4	169.1	218.2	275.5
Yen-denominated <u>2/</u>	9.1	13.6	15.5	19.8	29.0	35.2	57.2	80.4	99.7
Total	<u>64.0</u>	<u>87.9</u>	<u>108.0</u>	<u>122.4</u>	<u>152.0</u>	<u>169.6</u>	<u>226.3</u>	<u>298.6</u>	<u>375.2</u>
(In percent)									
Foreign-currency denominated	86	85	86	84	81	79	75	73	73
Yen-denominated <u>2/</u>	14	15	14	16	19	21	25	27	27
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

Source: Annual Report of International Finance Bureau, Japanese Ministry of Finance 1989.

1/ Outstanding balance at end of period.

2/ Does not include euro-yen loans.

A third factor accounting for Japanese banks' foreign currency borrowing is the existence of prudential regulations that limit banks' net foreign exchange exposure. Specifically, banks' combined (spot plus forward) net foreign exchange exposure cannot exceed \$1 million (positive or negative) at the close of each business day. Consequently, if banks lend in foreign currencies, prudential regulations prompt the banks to also borrow in foreign currencies.

5. Destination and composition of long-term capital outflows

Tables 9 and 10 provide data on capital outflows. With regard to the composition of such outflows, several noteworthy developments can be observed. For one, long-term capital outflows have been concentrated in securities. In turn, as Mattione and Klath (1989, p. 3) have documented, over the five years through 1989 about 85 percent of securities purchases have been in debt instruments with Japanese banks serving as the main investors. Also, direct investment was the second-largest component, at about 23 percent, of long-term net capital outflows in the late 1980s; the share of direct investment has exhibited marked variability, falling from 22 percent in 1980 to 5 percent in 1985, before recovering in the second half of the 1980s.

Turning to the destination of net long-term capital outflows, Tables 9 and 10 also show that in recent years such flows have increasingly been directed toward OECD countries. Thus, in 1980, about half of Japan's net long-term capital outflows were to OECD countries and about half to non-OECD countries. However, by the late 1980s about 84 percent of such outflows were directed to OECD countries, and about 5 percent to developing countries; in the late 1980s, approximately one-half of net long-term capital outflows was to the United States.

A regional decomposition of Japan's capital outflows that breaks out the Asian region separately is available with respect to direct investment data and is reported in Table 11. The proportion of Japanese direct investment going to Asian countries fell by half between 1983 and 1989, from about 28 percent to 14 percent. However, this decline reflects several special factors. First, direct investments in Asian countries were abnormally high during the late 1970s and early 1980s because of Japan's desire to develop supplies of natural resources. ^{1/} Second, during the 1980s there was a sharp increase in direct investment in industrial countries concurrent with rising trade protection in those countries, the appreciation of the yen (which made dollar-priced imports cheaper,) and the growing presence of Japanese financial institutions abroad. Despite the decline in the share of Japan's direct investment accounted for by Asian countries, the absolute amount of Japan's direct foreign investment in those countries tripled (from \$1.8 billion to \$5.7 billion) between 1983 and 1989, and remained a substantial proportion of their total investment inflows.

^{1/} For example, investments in mining account for close to a third of all foreign investment during the 1960s and 1970s.

Table 9. Japanese Long-Term Net Capital Outflows by Type and by Destination

(In percent)

	1980	1985	1986	1987	1988	1989 <u>1/</u>
Direct investment	22.0	7.9	11.0	14.7	22.8	23.0
Trade credits	6.0	3.4	1.4	0.4	4.6	2.1
Loans	23.6	12.7	7.0	12.2	10.1	11.7
Securities	34.7	73.1	77.2	66.1	58.0	58.9
Other	<u>13.0</u>	<u>2.9</u>	<u>3.4</u>	<u>6.6</u>	<u>4.4</u>	<u>4.3</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0
OECD countries	49.5	80.0	87.1	82.7	83.9	84.1
United States	-2.9	43.2	44.8	38.0	41.0	27.7
European Communities	22.2	26.2	34.9	37.7	37.0	49.6
Of which:						
United Kingdom	(11.7)	(8.5)	(11.3)	(8.8)	(10.9)	(9.1)
Other OECD countries	30.1	10.4	7.4	6.9	5.9	8.8
Non-OECD countries	<u>50.5</u>	<u>20.0</u>	<u>12.9</u>	<u>17.3</u>	<u>16.1</u>	<u>15.9</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Japanese Ministry of Finance.

1/ Annualized data for the first six months of the year.

Table 10. Geographic Distributions of Net Long-Term Capital Flows, 1984-88

(In billions of U.S. dollars, minus sign indicates net outflow
of capital from Japan) 1/

	1984	1985	1986	1987	1988
Total	-49.7	-64.4	-131.5	-136.5	-130.9
United States	-14.8	-33.2	-65.7	-61.0	-59.2
European Community	-10.9	-9.6	-34.4	-34.3	-34.1
Other industrial countries	-8.2	-5.0	-9.4	-10.9	-6.1
Developing countries	-10.4	-12.4	-16.2	-20.0	-18.9
State trading economies	-0.8	-0.4	-0.1	0.1	-2.5
International organizations	-4.5	-4.0	-2.0	-3.9	-5.4
Other 2/	-0.1	--	-3.6	-6.4	-4.7
Direct investment	-6.0	-5.8	-14.3	-18.4	-34.7
United States	-3.2	-2.0	-7.8	-9.0	-19.6
European Community	-0.7	-1.5	-2.7	-3.5	-5.7
Other industrial countries	-0.2	-0.3	-0.7	-1.7	-3.0
Developing countries	-1.9	-1.9	-3.1	-4.0	-5.8
State trading economies	--	-0.1	-0.1	-0.2	-0.6
Trade credits	-4.9	-2.8	-1.9	-0.5	-7.0
United States	-0.2	-0.6	-0.3	-0.5	-1.0
European Community	-0.7	-0.5	-1.1	-1.1	-4.5
Other industrial countries	-1.5	-0.8	-0.1	0.3	-1.8
Developing countries	-2.5	-1.4	-1.1	0.7	0.6
State trading economies	--	0.5	0.8	0.1	-0.2
Loans	-12.0	-10.5	-9.3	-16.3	-15.3
United States	-0.5	-0.7	-0.7	-1.7	-2.8
European Community	-1.6	-0.8	-1.0	-2.3	-1.8
Other industrial countries	-3.4	-2.2	-2.3	-3.6	-0.3
Developing countries	-4.5	-4.8	-5.2	-7.3	-8.1
State trading economies	-0.6	-1.1	-0.8	0.4	-1.2
International organizations	-1.3	-0.9	0.6	-2.0	-1.1
Securities and external bonds	-23.6	-43.0	-101.4	-93.8	-66.7
United States	-10.6	-29.9	-55.9	-48.2	-33.3
European Community	-7.6	-6.6	-29.0	-26.4	-21.2
Other industrial countries	-3.0	-1.7	-6.3	-5.4	0.1
Developing countries	-1.3	-3.6	-6.5	-8.9	-4.9
State trading economies	-0.1	0.2	0.1	--	-0.4
International organizations	-1.5	-2.2	-1.5	--	-2.1
Other 2/	0.5	0.8	-2.3	-5.0	-4.8
Other	-3.1	-2.4	-4.6	-7.5	-7.4
United states	-0.4	0.1	-1.0	-1.6	-2.5
European Community	-0.4	-0.2	-0.6	-1.3	-0.9
Other industrial countries	--	--	-0.1	-0.5	-1.1
Developing countries	-0.1	-0.6	-0.4	-0.5	-1.1
State trading economies	--	--	-0.1	-0.3	-0.1
International organizations	-1.7	-0.9	-1.2	-1.8	-2.1
Other 2/	-0.6	-0.8	-1.3	-1.5	-0.1

Source: Bank of Japan, Balance of Payments Monthly.

1/ Excluding gensaki transactions. State trading economies comprise Albania, Bulgaria, Czechoslovakia, the German Democratic Republic, Kampuchea, Laos, Mongolia, Democratic People's Republic of Korea, People's Republic of China, Poland, Romania, the U.S.S.R., and Viet Nam.

2/ Data not classified by territories (net receipts accrued from intermediary trade, transactions, nonmonetary gold transactions, etc.).

Table 11. Japanese Direct Investment by Region 1/

(In percent)

	1983	1984	1985	1986	1987	1988	1989 <u>2/</u>
Asia	28.2	20.4	14.7	13.7	17.9	13.7	13.9
(In billions of U.S. dollars)	(1.8)	(1.8)	(1.6)	(1.4)	(2.3)	(4.7)	(5.7)
Europe <u>3/</u>	11.1	20.3	16.7	14.0	17.7	20.7	26.4
United States	39.1	42.1	55.4	59.7	54.2	53.2	46.8
Other <u>4/</u>	21.6	17.2	13.2	12.6	10.2	12.4	12.9
<u>Total</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Sources: Ministry of Finance, Zaisei Kinyu Tokei Geppo; data supplied by Japanese authorities and staff estimates.

1/ Fiscal years (i.e., April through March).

2/ First half of fiscal year 1989/90.

3/ Excluding Luxembourg.

4/ Includes tax havens: Bahamas, Bermuda, The Cayman Islands, The Netherland Antilles, Luxembourg, and Panama.

6. Japan's international financial intermediation:
implications for the international use of the yen

The discussion above indicates that Japan's role as an international financial intermediary is characterized by the following attributes: (i) Japanese long-term capital outflows have been concentrated in securities; and (ii) the predominance of capital outflows has been denominated in terms of the U.S. dollar, because of the relatively high-yields available on U.S. securities. As Thorn (1987, pp. 77-79) has observed, Japan's long-term capital outflows have "largely financed the financial disequilibrium of developed countries." On the other hand, direct investment to developing countries comprises a small share of net capital outflows, and most of that has been directed toward Asian developing countries. ^{1/} Thus, the processes underlying the emergence of sterling and the dollar as international currencies, whereby developing (and reconstructing) countries accumulated sterling- and dollar-denominated balances (for liquidity and/or investment, to pay for imports invoiced in those currencies, and to service loans for capital development denominated in those currencies), appear to be less significant in the case of the yen (except with respect to Asian developing countries) than they were earlier for sterling and the U.S. dollar. ^{2/}

With regard to the emergence of sterling and the dollar as international currencies, the well-developed financial markets of the United Kingdom and the United States were conducive to international financial intermediation in terms of sterling and the dollar, respectively. In contrast, Japan's intermediation has not been denominated predominantly in terms of the yen. Consequently, although Japan has been channeling funds to the rest of the world, that process has not necessarily been conducive to the yen's international use. Since foreigners have not primarily been accumulating yen-denominated loans, they have had less incentive to accumulate yen-denominated claims to pay back such loans. Further, the fact that the Japanese financial market has been (until recently) tightly regulated, and remains narrow and thin in some areas, has also discouraged the holding of short-term, yen-denominated claims by foreigners.

^{1/} Thorn (1987, p. 113) states that: "A major portion of Japanese overseas investment has been placed in a single instrument, the U.S. Treasury securities. Little of the explosive increase in overseas investment has found its way into direct investment or to developing countries. Whatever direct investment has gone to developing countries, has been concentrated in a small number of NICs and less than a handful of other developing countries."

^{2/} See Williams (1968) and Aliber (1966) for discussions on the emergence of sterling and the dollar, respectively, as international currencies.

V. Evidence on the International Use of the Yen

1. Overview

The preceding discussion suggests that, in general, the determinants (i.e. inflation performance, development of financial markets, trade patterns) of international currency use imply some scope for a growing role for the yen in international financial transactions (though not in trade transactions). However, the direction and composition of Japan's long-term capital outflows indicate that the process through which currencies become international have not been as conducive to the yen's international use as is indicated by the magnitude of those outflows. In order to determine how these various factors have combined to influence the internationalization and regionalization of the yen, the following discussion presents data pertaining to the yen as an international unit of account, medium of exchange, and store of value.

2. Currency invoicing patterns

The currency invoicing patterns of Japan's exports and imports from 1975 through 1989 are provided in Table 12. The data show that the proportion of Japan's exports denominated in yen rose from 17.5 percent in 1975 to 40 percent in 1983; the yen's share declined to about 35 percent in the second half of the 1980s. (The share of Japanese exports denominated in U.S. dollars remained at over 50 percent in the second half of the 1980s.) With regard to invoicing of imports, the yen's share rose steadily, from less than one percent in 1975, to about 14 percent in 1989; the dollar's share of import invoicing fell somewhat, from 83 percent in 1983 to 77 percent in 1989.

How do Japan's currency invoicing patterns compare with those of other large industrial countries? Table 13 provides data on trade invoicing in 1980 and 1988 for six countries: Japan, France, Germany, Italy, the United Kingdom, and the United States. ^{1/} These data show that the proportion of Japan's exports denominated in its national currency has remained far below the comparable figures of 96 percent for the United States and 40-80 percent for the major European countries. In terms of the national currency component of import invoicing, all countries except the United States experienced substantial increases in the 1980s, with Japan recording the largest percentage gain--a sixfold increase (from 2.4 percent to 14.1 percent); but Japan's proportion at the end of the 1980s was well below those of the United States (85 percent) and the major European countries (27 percent to 52 percent).

^{1/} The data reported for Japan pertain to 1989. For the other countries, the latest data available are reported.

Table 12. Currency Denomination of Japanese Foreign Trade

(In percent of total)

	1975	1980	1983	1986	1987	1988	1989
<u>Exports</u>							
Japanese yen	17.5	29.4	40.5	35.5	34.7	34.3	34.7
Other	82.5	70.6	59.5	64.5	65.3	65.7	65.3
Of which:							
U.S. dollar	...	...	...	54.2	55.6	53.2	52.4
<u>Imports</u>							
Japanese yen	0.9	2.4	3.0	9.7	11.6	13.3	14.1
Other	99.1	97.6	97.0	90.3	88.4	86.7	85.9
Of which:							
U.S. dollar	...	...	...	83.2	80.5	78.5	77.3

Sources: Annual Report, International Finance Bureau, Japanese Ministry of Finance, various issues; and data provided by the Japanese Ministry of Finance.

Table 13. Currency Denomination of Trade Invoicing in Selected Industrial Countries

(In percent)

	Exports						Imports					
	1980			1988 1/			1980			1988 1/		
	National Currency	Japanese Yen	Other	National Currency	Japanese Yen	Other	National Currency	Japanese Yen	Other	National Currency	Japanese Yen	Other
France	62.5	--	37.5	58.5	0.5	41.0	33.1	1.0	65.9	48.9	1.3	49.8
Germany	82.3	--	17.7	81.5	0.5	18.0	43.0	--	57.0	52.6	2.5	44.9
Italy	36.0	--	74.0	38.0	--	62.0	18.0	--	82.0	27.0	--	73.0
Japan	29.4	29.4	70.6	34.3	34.3	65.7	2.4	2.4	97.6	14.1	14.1	89.6
United Kingdom	76.0	--	24.0	57.0	--	43.0	38.0	--	62.0	40.0	2.0	58.0
United States	97.0	--	3.0	96.0	1.0	3.0	85.0	1.0	14.0	85.0	3.0	12.0

Sources: Page (1981); Black (1990); Alterman (1989); Ministries of Finance of France, Germany, Italy, and Japan; and U.S. Bureau of Labor Statistics.

1/ 1988 data except for German exports, and Italian exports and imports, which are 1987 data.

Several previously-cited factors account for the relatively-low shares of Japanese exports and imports denominated in yen. First, a large and growing share of Japanese exports are supplied to the United States, and that country's imports are predominately invoiced in terms of the dollar. Second, Japanese imports are mainly primary products which have been traditionally invoiced in dollars and sterling. 1/ Third, the high transactions costs in the bankers' acceptance market has restrained the amount of trade financed in yen. Finally, Japanese exporters have apparently sought to invoice in yen to maintain market shares.

A regional breakdown of Japan's trade invoicing from 1983 through 1989 is presented in Table 14. These data show that yen-invoicing of exports to North America were little changed (at about 15 percent); and declined with respect to Western Europe (from 51 percent to 42 percent) and Southeast Asia (from 48 percent to 44 percent). The data on import invoicing show that yen-invoicing from North America and Western Europe doubled between 1983 and 1989 (to 10 percent and 29 percent, respectively), and that yen-invoicing of imports from Southeast Asia rose to 20 percent, from 2 percent.

3. The yen as a medium-of-exchange vehicle

Developments regarding the volume of currencies traded on foreign exchange markets are suggestive of the relative importance of currencies as unit-of-account and medium-of-exchange vehicles. 2/ Data on the currency turnover in the interbank markets are available from surveys conducted by central banks in New York, London, and Tokyo in March 1986, April 1989, and at earlier dates in New York. These data have been reported in Tavlas (1991). The data show a marked increase in the share of the Japanese yen in the New York market; specifically, the yen's share in New York trading rose from about 5 percent in 1980 to slightly more than 12.5 percent in 1989. In the London market, the yen's share rose slightly, from 7 percent to 7.5 percent, while there was a slight decline in the yen's share in the Tokyo market (to about 36 percent). By comparison, the deutsche mark's share has been fairly steady in New York and Tokyo, while declining modestly in London. The data also indicate that the interbank markets continued to be dominated by transactions involving the U.S. dollar.

1/ In fact, the share of primary products in Japan's total imports declined by 12 percentage points (from 64 to 52 percent) over 1980-89; this fact helps explain the 11 percentage points increase in the yen denomination of Japanese imports over these years.

2/ Since foreign exchange turnover also reflects speculation, such turnover is also indicative of the asset demand for currencies. These data are subject to valuation effects resulting from exchange rate changes, but are indicative of longer-term trends. This situation also applies with respect to data on the investment uses of currencies presented below.

Table 14. Currency Denomination of Japanese Foreign Trade by Region

(In percent of Total)

	1983		1986		1987		1988		1989	
	Japanese yen	Other	Japanese yen	Other	Japanese yen	Other	Japanese yen	Other	Japanese yen	Other
<u>Exports</u>										
All regions	40.5	59.5	35.5	64.5	34.7	65.3	34.3	65.7	34.7	65.3
North America	14.0	86.0	17.3	82.7	16.8	83.2	16.4	83.6	16.4	83.6
Western Europe	51.0	49.0	51.2	48.8	53.1	46.9	43.9	56.1	42.2	57.8
Southeast Asia	48.0	52.0	37.5	62.5	36.3	63.7	41.2	58.8	43.5	56.5
West Asia	52.0	48.0	35.5	64.5	34.6	65.4	...	...	...	...
Latin America	...	...	33.8	66.2	31.6	68.4	...	...	...	...
Africa <u>1/</u>	...	...	57.7	42.3	58.4	41.6	...	...	...	...
<u>Imports</u>										
All regions	3.0	97.0	9.7	90.3	11.6	88.4	13.3	86.7	14.1	85.9
North America	5.0	95.0	7.8	92.2	9.4	90.6	10.0	90.0	10.2	89.8
Western Europe	13.0	87.0	28.9	71.1	27.1	72.9	26.9	73.1	27.7	72.3
Southeast Asia	2.0	98.0	9.2	90.8	13.9	86.1	17.5	82.5	19.5	80.5
West Asia	...	...	1.2	98.8	1.3	98.7	1.8	98.2	1.5	98.5
Latin America	...	...	5.7	94.3	8.4	91.6	7.8	92.2	8.3	91.7
Africa <u>1/</u>	...	...	3.9	96.1	2.3	97.7	1.6	98.4	10.9	89.1

Source: Japanese Ministry of Finance.

1/ Excluding South Africa.

Another measure of a currency's role as an international medium of exchange is its use in foreign exchange market intervention by central banks. In this connection, the available data--reported in Tavlas (1991)-- indicate that there is relatively little use of the yen. For example, intervention within the European Monetary System is primarily in deutsche mark and U.S. dollars. Intervention by the U.S. monetary authorities during the 1980s has been mostly in deutsche mark and yen; the yen's share of total U.S. intervention rose from about 12 percent in the early 1980s to about 40 percent in the late 1980s, although part of this increase could represent the coordinated efforts undertaken by central banks to support the Japanese currency.

4. The yen as an investment and borrowing currency 1/

Foreign yen claims can be classified into three broad categories: (i) claims held in Japan by nonresidents. These claims are predominantly on Japanese banks and the public sector; 2/ (ii) claims held outside Japan by nonresidents in the form of euro-yen (short-term deposits); and (iii) claims held outside Japan by nonresidents in the form of euro-yen (long-term) bonds.

Data for each of these categories (denominated in U.S. dollars) over the period 1982 through 1989 are reported in Table 15. This table, which for purposes of comparison also includes foreign non-yen claims in Japan, shows the following: (i) borrowing in Japan from foreigners is done mostly by the banking sector. In fact, the public sector's share of such borrowing has declined in recent years. The share of yen-denominated borrowing by the banking sector rose from 21 percent in the first part of the 1980s, to 33 percent in 1989; (ii) nevertheless, within the banking sector (as noted in the previous section), the predominance of borrowing from foreigners is in non-yen denominated instruments (67 percent in 1989); 3/ (iii) euro-yen claims by foreigners are significantly less than claims (both yen-denominated and non-yen) by foreigners in Japan; and (iv) euro-yen bonds grew by a multiple of more than 15 (from \$5.6 billion to \$87.7 billion) during the 1980s whereas euro-yen deposits grew by a multiple of less than five.

A comparison of the euro-yen bond market with the market for nonresidents' domestically placed yen bonds is provided in Table 16; the table reports data on new issues (i.e., flow data) in the respective markets. Issues of yen bonds placed in Japan declined sharply in 1986 and subsequently remained stagnant; in contrast, euro-yen bond issues rose sharply. Underlying this divergence between the performances of the two

1/ The uses of a currency for investment and borrowing purposes are, of course, also related to its use as a unit of account.

2/ The Japanese corporate sector borrows foreign funds mainly in the euro-yen market.

3/ In Germany, in contrast, deutsche mark-denominated claims account for about 60 percent of total claims by nonresidents (Tavlas, 1991, p. 41).

Table 15. Foreign Claims in Japan and External Yen Claims

(In billions of U.S. dollars; end-of-year data)

	1983-85 average	1986	1987	1988	1989
<u>Foreign claims in Japan</u>					
of which:					
<u>Claims on banks</u> 1/ 2/	137.6	346.0	592.0	772.5	879.7
<u>yen-denominated</u>	(29.1)	(91.5)	(223.8)	(268.8)	(291.4)
<u>non-yen denominated</u>	(108.5)	(254.5)	(368.2)	(503.7)	(588.3)
<u>Claims on government</u>					
(yen denominated) 3/	27.5	40.1	57.3	43.2	42.0
<u>External yen-claims</u>	38.7	114.6	205.0	223.9	239.5
<u>Euro-money markets</u>	33.1	83.8	137.2	141.3	151.8
of which:					
claims by banks 4/	(30.0)	(78.2)	(124.6)	(130.2)	(137.1)
claims by nonbanks 4/	(3.1)	(5.6)	(12.6)	(11.1)	(14.7)
<u>Euro-yen bonds</u>	5.6	30.8	67.8	82.6	87.7

Sources: International Banking and Financial Developments, Bank for International Settlements, various issues, and the Balance of Payments Monthly, Bank of Japan.

1/ Average for 1983 to 1985.

2/ External liabilities of banks resident in Japan to all sectors as reported to BIS.

3/ Government bonds held by nonresidents.

4/ External liabilities of banks in the euro markets to all sectors as reported to BIS.

Table 16. Yen-denominated Bond Issues

(In billions of yen)

	1980	1984	1985	1986	1987	1988
<u>Euro-yen bonds</u>						
By non-residents	55	227	1,341	2,847	2,954	1,815
By residents	...	...	140	442	555	127
<u>Total</u>	<u>55</u>	<u>227</u>	<u>1,482</u>	<u>3,289</u>	<u>3,509</u>	<u>1,942</u>
<u>Non-residents' issues in Japan</u>						
Publicly placed	261	915	1,115	590	420	635
Privately placed	...	199	157	195	78	162
<u>Total</u>	<u>261</u>	<u>1,114</u>	<u>1,272</u>	<u>785</u>	<u>498</u>	<u>797</u>

Sources: Zaikaikansoku, Nomura Research Institute; Annual Report, International Finance Bureau, Ministry of Finance.

markets have been, as noted above, the various rigidities in the domestic bond market for nonresidents, including its underdeveloped secondary market, and the complexity of the issuing procedures. Thus, Tables 15 and 16 show that foreign lending in Japan, which is primarily directed to the banking system and is non-yen denominated, exceeds euro-yen lending by foreigners. On the other hand, yen-denominated bond issues by nonresidents (i.e., foreign borrowing) outside of Japan far exceed nonresidents' yen-denominated issues in Japan.

In order to assess the performance of the yen vis-à-vis other currencies in international markets, Table 17 presents data on the use of the yen and other currencies as a store of value and unit of account over the period 1981 through 1989. The data in the table classify the uses of currencies into three types of instruments: (i) external bank loans, which include foreign and international bank loans; (ii) external bond issues, which include foreign and international issues and special placements, and (iii) eurocurrency deposits.

With respect to external yen bank loans, the share of the yen rose sharply until 1985, but subsequently declined to 5.5 percent--about the same as its share during the first part of the 1980s. Regarding external bond issues, the share of the yen rose from less than 6 percent in the first part of the 1980s, to over 8 percent in the second half of the decade (although the yen's share declined in 1988 and in 1989). Finally, the share of the yen in the denomination of eurocurrency deposits rose from under 2 percent in the early 1980s to 5.5 percent in 1989. Thus, although the yen's share in international markets has been rising, in each of the three areas examined above it remains between 5-8 percent of the total. In fact, since 1987 the yen's share of each of these three international markets has declined.

In order to assess the performance of the yen vis-à-vis other currencies in Asian capital markets, Table 18 presents data during 1980 to 1988 on the currency composition of the external debt of five Asian countries: Indonesia, South Korea, Malaysia, the Philippines, and Thailand. The data show a sharp increase in the yen's share among each of the five countries. In the aggregate, the share of yen-denominated external debt nearly doubled, rising from 19.5 percent in 1980 to almost 38.0 percent in 1988. This rise in the yen's share was quite uniform, ranging from 12.9 percentage points (South Korea) to 19.3 percentage points (Indonesia), and entirely at the expense of U.S. dollar-denominated external debt; the dollar's share fell from 47 percent to 27 percent.

The importance of currencies as international units of account, media of exchange, and stores of value can also be gauged from their use as official reserves. Table 19 reports currency shares of official holdings of foreign exchange by all reporting countries, and by selected Asian countries, over the period 1980 to 1989. As the table shows, the yen's share of foreign exchange holdings has consistently been higher in Asian

Table 17. Relative Shares Based on External Capital Market Data

(In percent)

	1981-84 <u>1/</u> average	1985	1986	1987	1988	1989 <u>2/</u>
I. Shares of currencies of <u>external bank loans 3/</u>						
Japanese yen	5.9	18.5	16.1	10.8	5.6	5.3
U.S. dollar	83.3	62.5	67.0	65.1	69.9	77.0
Pound sterling	3.1	3.4	6.4	14.7	14.1	6.4
ECU	1.3	7.1	2.2	2.4	2.8	4.6
Deutsche mark	1.7	2.1	3.0	2.4	2.2	3.2
Swiss franc	1.2	3.0	2.1	0.7	0.3	0.4
Other	<u>3.5</u>	<u>3.4</u>	<u>3.2</u>	<u>3.9</u>	<u>5.1</u>	<u>3.1</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0
II. Currency denomination of <u>external bond issues 4/</u>						
Japanese yen	5.7	9.1	10.4	13.7	8.4	8.3
U.S. dollar	63.2	54.0	53.9	38.8	41.2	51.9
Swiss franc	14.7	11.3	10.7	12.9	11.1	7.5
Deutsche mark	6.3	8.5	8.0	8.0	10.1	6.4
Pound sterling	3.4	4.0	4.6	7.8	9.4	6.8
Canadian dollar	1.6	1.6	2.3	3.4	5.7	4.0
ECU	1.7	5.2	3.4	4.0	4.9	5.2
Australian dollar	--	1.6	1.5	4.9	3.4	2.3
French franc	--	1.1	1.7	1.3	1.3	2.1
Dutch guilder	1.8	1.3	1.3	1.1	1.2	0.9
Other	<u>1.6</u>	<u>2.3</u>	<u>2.2</u>	<u>4.1</u>	<u>3.3</u>	<u>4.6</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0
III. Currency denomination of <u>eurocurrency deposits</u>						
Japanese yen	1.8	3.4	4.5	5.8	5.5	5.5
U.S. dollar	74.0	67.9	63.5	58.2	60.1	59.7
Deutsche mark	11.4	11.4	12.8	14.2	13.3	13.9
Swiss franc	5.8	6.4	7.2	7.7	5.4	4.9
Pound sterling	1.4	2.0	2.1	2.8	3.4	3.1
French franc	0.9	1.2	1.2	1.4	1.3	1.3
ECU	0.5 <u>5/</u>	2.6	2.6	2.8	3.0	3.2
Other <u>6/</u>	<u>4.3</u>	<u>5.0</u>	<u>6.0</u>	<u>7.0</u>	<u>7.9</u>	<u>8.4</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Financial Market Trends, OECD, No. 30; No. 46, International Banking and Financial Market Developments, BIS, various issues.

1/ The average of 1981-84 data are used since the 1980 data are not consistent with the 1981-84 data.

2/ Data for eurocurrency deposits are through September 1989.

3/ Foreign and international bank loans, excluding loan renegotiations.

4/ Includes international issues, foreign issues, and special placements.

5/ Included in other category prior to 1983.

6/ Includes foreign currency position of banks in the United States for which no currency breakdown is available.

Table 18. Currency Composition of External Debt, Selected Asian NICs 1/

(In percent of total)

	1980	1981	1982	1983	1984	1985	1986	1987	1988
INDONESIA									
Deutsche mark	7.8	8.8	8.2	7.1	5.8	6.3	7.0	6.4	5.6
Japanese yen	20.0	19.3	21.0	23.3	25.0	31.7	33.9	39.4	39.3
Pound sterling	0.8	0.5	0.5	1.9	2.0	2.1	2.1	1.9	1.8
U.S. dollar	43.5	44.4	43.1	42.3	41.4	30.7	26.0	19.2	18.5
Other currencies	28.0	27.0	27.1	25.4	25.8	29.3	30.9	33.1	34.8
Total (in millions of U.S. dollars)	15,019.9	15,901.8	18,520.7	21,607.5	22,273.5	26,845.2	32,4927.8	41,429.9	41,258.0
KOREA									
Deutsche mark	3.7	2.6	2.2	1.8	1.2	1.6	2.7	3.7	3.4
Japanese yen	16.6	14.1	12.3	12.5	12.8	16.7	22.0	27.2	29.5
Pound sterling	3.3	2.3	1.7	1.5	1.5	1.7	1.5	2.1	2.2
U.S. dollar	53.5	60.2	63.7	64.4	66.0	60.3	49.4	33.8	32.4
Other currencies	22.9	20.9	20.1	19.9	18.6	19.8	24.4	33.3	32.6
Total (in millions of U.S. dollars)	15,932.8	18,360.7	20,190.7	22,175.5	23,831.8	28,304.0	29,354.3	24,541.0	21,349.1
MALAYSIA									
Deutsche mark	3.3	2.1	2.3	3.1	2.4	6.0	6.9	8.5	9.2
Japanese yen	19.0	16.9	13.3	14.2	21.2	26.4	30.4	35.7	37.1
Pound sterling	3.6	2.2	1.3	1.5	1.0	1.8	1.6	1.8	1.3
U.S. dollar	38.0	51.5	62.3	65.8	61.5	50.6	45.0	36.3	35.6
Other currencies	36.1	27.3	20.7	15.4	13.9	15.3	16.2	17.7	16.8
Total (in millions of U.S. dollars)	4,007.5	5,743.1	8,201.7	11,876.1	13,247.5	14,686.5	16,635.1	18,044.2	16,101.0
PHILIPPINES									
Deutsche mark	2.0	1.4	1.2	1.0	0.7	0.6	1.0	1.1	1.2
Japanese yen	22.0	20.6	19.2	20.0	20.0	24.9	25.5	35.2	40.5
Pound sterling	0.2	0.2	0.2	0.1	0.3	0.2	0.5	0.6	0.7
U.S. dollar	51.6	51.1	53.9	51.2	52.7	47.8	48.1	42.4	34.7
Other currencies	24.3	26.7	25.6	27.6	26.2	26.5	24.9	20.8	22.9
Total (in millions of U.S. dollars)	6,367.8	7,466.4	8,768.9	10,465.5	11,244.1	13,782.6	19,284.5	23,484.0	23,474.6
THAILAND									
Deutsche mark	4.7	4.8	4.1	3.1	2.7	2.5	2.6	2.4	2.9
Japanese yen	25.5	23.2	24.0	27.3	29.2	36.1	39.9	43.1	43.5
Pound sterling	0.2	0.2	0.3	0.4	0.5	0.5	0.5	0.5	0.5
U.S. dollar	39.7	40.5	38.0	32.5	29.9	25.5	20.6	17.8	20.8
Other currencies	29.8	31.3	33.5	36.7	37.7	35.4	36.5	36.2	32.3
Total (in millions of U.S. dollars)	3,903.8	4,974.6	5,993.5	6,867.2	7,154.3	9,836.0	11,537.0	13,962.9	13,375.0
Aggregate of above countries									
Deutsche mark	4.9	4.4	4.1	3.6	2.8	3.6	4.3	4.7	4.5
Japanese yen	19.5	17.8	17.2	18.5	20.3	25.8	29.3	36.0	37.9
Pound sterling	1.8	1.2	0.9	1.3	1.3	1.5	1.4	1.5	1.4
U.S. dollar	47.3	51.3	53.4	53.2	52.9	44.7	38.5	29.0	27.0
Other currencies	26.6	25.3	24.4	23.5	22.7	24.4	26.5	28.8	29.2
Total (in millions of U.S. dollars)	45,231.8	52,446.6	61,675.5	72,991.8	77,751.2	93,454.3	109,738.7	121,462.0	115,557.7

Source: World Bank.

1/ Public and publically guaranteed debt. Includes both official and private, fixed-rate and variable-rate debt.

Table 19. Official Holdings of Foreign Exchange, 1980-89 1/

(In percent)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Japanese yen										
All countries	4.4	4.2	4.7	5.0	5.8	8.0	7.9	7.5	7.7	7.9
Selected Asian countries	13.9	15.5	17.6	15.5	16.3	26.9	22.8	30.0	26.7	17.5
U.S. dollar										
All countries	68.6	71.5	70.5	71.4	70.1	64.9	67.1	67.2	64.9	60.2
Selected Asian countries	48.6	54.4	53.2	55.7	58.2	44.8	48.4	41.2	46.7	56.4
Pound sterling										
All countries	2.9	2.1	2.3	2.5	2.9	3.0	2.6	2.4	2.8	2.7
Selected Asian countries	3.0	2.5	2.7	2.9	3.5	4.1	3.6	3.9	4.2	6.4
Deutsche mark										
All countries	14.9	12.3	12.4	11.8	12.7	15.2	14.6	14.4	15.7	19.3
Selected Asian countries	20.6	18.9	17.6	16.7	14.6	16.4	16.7	16.7	17.4	15.2
French franc										
All countries	1.7	1.3	1.0	0.8	0.8	0.9	0.8	0.8	1.0	1.3
Selected Asian countries	0.6	0.6	0.7	0.8	0.6	0.9	1.1	1.0	0.5	0.5
Swiss franc										
All countries	3.2	2.7	2.7	2.4	2.0	2.3	2.0	2.0	1.9	1.7
Selected Asian countries	10.6	5.1	5.6	6.6	4.9	4.9	5.1	5.7	3.4	3.0
Netherlands guilder										
All countries	1.3	1.1	1.1	0.8	0.7	1.0	1.1	1.2	1.1	1.1
Selected Asian countries	2.8	3.1	2.6	1.8	1.9	2.1	2.2	1.5	1.0	0.9
Unspecified currencies										
All countries	3.0	4.2	5.2	5.3	5.0	4.6	3.9	4.4	4.9	5.7
Selected Asian countries <u>2/</u>	...	...	...	...	...	...	...	...	...	...

Source: IMF Annual Report, 1990, and staff estimates.1/ End-of-year data. The data for 1989 are preliminar and could be subject to substantial revision.2/ The amount of holdings of unspecified currencies by the selected Asian countries has been negligible.

countries than in the world at large. Between 1980 and 1989, the yen's share in holdings by all countries rose by 3.5 percentage points, to 7.9 percent; the yen's share in Asia rose by 4.6 percentage points, to 17.5 percent. This increase in the yen's share in Asia occurred mainly at the expense of the U.S. dollar, the Swiss franc, and the deutsche mark.

The foregoing data show that the international use of the yen expanded during the 1980s, although it started from a modest base. The use of the yen in international finance grew rapidly, but yen-denominated trade still remains relatively small. An enlargement in the role of the yen has taken place with regard to its uses in interbank trading, external bank loans, external bond issues, eurocurrency deposits, and official foreign exchange holdings. Nevertheless, in the late 1980s the yen's share of the markets for external bank loans, external bond issues, and eurocurrency deposits, as well as its share of official reserves, remained between 5-8 percent. Foreign lending in Japan is predominantly directed to Japanese banks and is mostly in non-yen financial instruments, though the proportion of non-yen lending has declined.

The available data on the yen's regional use, though rather limited, show that an increase in such use has occurred: (i) although yen-invoicing of Japanese exports with Asian countries has declined somewhat, yen invoicing of Japanese imports with Asian countries has grown. However, yen invoicing of Japanese trade with Asian countries is very low relative to own-currency by other industrial countries. For example, about 80 percent of German exports are denominated in deutsche mark (Tavlas, 1991); this compares with about 40 percent of Japanese exports to Southeast Asian countries that are denominated in yen; ^{1/} (ii) the share of yen-denominated debt of Asian countries nearly doubled in the 1980s and the yen has replaced the dollar as the predominant currency of denomination in Asian debt; and (iii) the yen's share of official reserve holdings among Asian countries has risen sharply; in the late 1980s about 18 percent of such holdings were in yen. However, a far greater proportion (56 percent) was held in U.S. dollars and a substantial share (15 percent) was held in deutsche mark. In contrast, European countries hold about 25 percent of their reserves in deutsche mark and only about 5 percent in yen (Tavlas, 1991). ^{2/} Thus, the data indicate that the yen's regional use, though growing, is considerably less than the use of the deutsche mark within Europe. Moreover, as Frenkel and Goldstein (1986, p. 652) have observed, "the viability of the European Monetary System owes much to the unusual political commitment behind it." By contrast, a political commitment for an Asian yen-zone does not appear to have emerged (Holloway and Lumpua, 1990).

^{1/} Further, there appears to be little or no vehicle use of the yen as an invoicing currency in intra-Asian trade.

^{2/} In addition, most intervention within the exchange rate mechanism of the European Monetary System appears to be conducted with the deutsche mark serving as the intervention currency. See Tavlas (1991).

IV. Conclusions

This paper has examined the use of the Japanese yen as an international currency. The main findings of the paper are as follows. In general, the determinants of international currency use suggest some scope for an increased role of the yen in international financial transactions; however, the implications of those factors for the yen's use in international trade are mixed. The determinants supporting the yen's international use include: Japan's favorable inflation performance in recent years; the substantial deregulation of Japanese financial markets and capital flows; and the nation's growing share of world exports, and the rising share of exports comprised of specialized manufactured products. Further, Japan's growing trade with Asian countries suggests an enlarged role for the yen as a regional currency.

The paper also examined the connections between a nation's capital account position and international currency use. In particular, theoretical considerations suggest several channels through which the capital account can facilitate such use provided that capital flows are primarily denominated in the nation's currency. In this regard, the size of Japanese international financial intermediation, and the country's emergence as the world's largest creditor (to the extent that this brings about confidence in the yen), appear to also presage a growing international role for the yen.

However, not all of the factors examined were conducive to the yen's international use. Japanese financial markets remain narrow and thin in some areas and subject to several restrictions. For example, the Treasury bills market is not very active, the commercial paper market was only recently developed, restrictions persist on some euro-yen investments, and trading in the government repurchases market is complex. All these factors serve to discourage the use of the yen as an international unit of account and store of value. Furthermore, a number of factors have inhibited the yen's use in international trade, including: (i) the rising share of exports to developed countries (particularly the United States) which are more likely to denominate their imports in their own economies; (ii) Japanese exporters apparently have sought to denominate in foreign currencies to maintain market shares (while absorbing declines in profits); (iii) the absolute level of exports to non-Asian developing countries fell during the 1980s; and (iv) the bankers' acceptance market is thin, curtailing the yen's use as an international unit of account and medium of exchange. In addition, capital outflows and inflows are predominantly non-yen denominated (though the yen's share has been rising), suggesting that despite the nation's emergence as the world's largest creditor, Japanese international financial intermediation has so far not been very conducive to the yen's international use.

The data show that there has been some expansion in the international use of the yen: (i) the yen's share of Japanese import invoicing has risen markedly, although it remains well-below the shares of own-currency

invoicing of other large industrial countries. The share of yen-denominated exports declined after 1983; it, too, remains much below the shares of own-currency invoicing of exports by other large industrial countries; (ii) there has been an advance in the use of the yen in interbank trading, though use as an intervention currency appears to be insignificant; (iii) finally, an enlargement in the role of the yen has taken place with regard to its uses in external bank loans, external bond issues, euro-currency deposits, and official foreign exchange holdings. Nevertheless, in the late 1980s the yen's share of the markets in external bank loans, external bond issues, and eurocurrency deposits, as well as its share of official reserves, remained less than 8 percent. In fact, after rising in the first half of the 1980s the yen's share of markets in external bank loans, external bond issues, and eurocurrency deposits subsequently declined.

The availability of data on the yen's regional use is limited, but suggestive of a somewhat larger use of the yen. In particular, there have been marked increases among Asian countries in the yen's use as a reserve currency and as a currency used to denominate and hold foreign debt. However, the yen's use as a numeraire and means of payment in Japanese trade with other Asian countries is still relatively small, and the vehicle use of the yen within Asia appears to be very limited. Hence, although there has been an increase in the yen's regional use, it is uncertain whether an Asian yen-zone--with the yen serving as an anchor currency similar to the deutsche mark's role in Europe--will emerge in the foreseeable future.

Selected Measures Taken to Internationalize the Yen

Month/Year	Measure
June 1983	Short-term Euro-yen loans to non-residents were liberalized.
April 1984	External yen loans were liberalized. Rules for yen-bond issuance and management were relaxed. Guidelines for Euro-yen bond issuance by residents were relaxed.
June 1984	The conversion of foreign currencies to yen was completely decontrolled.
December 1984	Guidelines for Euro-yen bond issuance by non-residents were relaxed. The market for Euro-yen CDs (with a maturity of 6 months) was created.
April 1985	Withholding tax on resident Euro-yen bonds was abolished. Medium- and long-term Euro-yen loans to non-residents were liberalized.
June 1985	Non-resident Eurobonds were diversified (to include, for instance, dual currency bonds). The market for yen-denominated bankers acceptance was created.
April 1986	The maximum maturity of Euro-yen CDs was extended (from 6 months to 1 year). Restrictions on the recycling of Euro-yen were relaxed (180 days-90 days).
June 1986	Foreign banks were given permission to issue Euro-yen bonds.
December 1986	The Tokyo offshore market was created.
April 1987	Medium-term Euro-yen bonds (with 4 year or longer maturities) were deregulated.
May 1987	Yen-denominated bankers acceptances were further liberalized (lowering the minimum denomination from ¥ 100 million to ¥ 50 million and extending the period from 6 months to 1 year).
November 1987	Euro-yen commercial paper issuance by non-residents was decontrolled.
May 1989	Euro-yen loans to residents relaxed.

Source: Bank of Tokyo, Tokyo Financial Review, various issues.

References

- Akahane, Soichiro, "The Internationalization of the Yen," Tokyo Financial Financial Review, Bank of Tokyo, Vol. 11, (October 1986), pp. 1-5.
- Aliber, Robert, The Future of the Dollar as an International Currency (New York: F.A. Praeger, 1966).
- Alterman, William, "International Economic Transactions: Issues in Measured and Empirical Research," paper presented at the Conference on Research in Income and Wealth, Washington, D.C., November 1989.
- Argy, Victor, "International Financial Liberalization--The Australian and Japanese Experiences Compared," Center for Studies in Money, Banking and Finance, Discussion Paper, Macquarie University, 1987.
- Asanuma, Norihisa, "The Yen's Appreciation and Internationalization," Monthly Review, Mitsui Bank, Vol. 33, (February 1988), pp. 1-7.
- Bagehot, Walter, Lombard Street, 12th ed., (London: Kegan Paul, 1908).
- Bailey, Martin J. and George S. Tavlas, "Trade and Investment Performance Under Floating Exchange Rates: The U.S. Experience," CATO Journal (Washington), Vol. 8 (Fall 1988), pp. 421-442.
- , "Exchange Rate Variability and Direct Investment," Annals of the American Academy of Political and Social Science (Philadelphia), 1991 forthcoming.
- Bank for International Settlements, Annual Report, various issues.
- , International Banking and Financial Market Developments, various issues.
- Bank of Japan, Economic Statistics Annual, various issues.
- , Economic Statistics Monthly, various issues.
- , Balance of Payments Monthly, various issues.
- Batten, D., Blackwell, M., Kim, I., Nocera, S., and Ozeki, Y., "The Instruments and Operating Procedures for Conducting Monetary Policy in the G-5 Countries," Occasional Paper 70 (Washington: International Monetary Fund, 1990).
- Bilson, John, "The Choice of an Invoice Currency in International Transactions," in Economic Interdependence and Flexible Exchange Rates, ed. by J.S. Bhandari and B.H. Putnam (Cambridge, MA: MIT Press, 1983).

Black, Stanley W., "Transactions Costs and Vehicle Currencies," IMF Working Paper WP/89/96, (Washington: International Monetary Fund, November 1989).

-----"The International Use of Currencies," in The Evolution of the International Monetary System ed. by Y. Suzuki, J. Miyake, and M. Okabe (Tokyo: University of Tokyo Press, 1990).

Bryan, Michael, "Inflation and Growth: Working More vs. Working Better," Economic Commentary, Federal Reserve Bank of Cleveland (August 15, 1990).

Bryant, Ralph, International Financial Intermediation (Washington: Brookings, 1987)

Cohen, Benjamin, The Future of Sterling as an International Currency (London: Macmillan, 1971).

Corden, W.M., Inflation, Exchange Rates and the World Economy (Oxford: Clarendon Press, 1985).

Despres, Emile, Charles Kindleberger, and Walter Salant, "The Dollar and World Liquidity: A Minority View," The Economist (London), No. 218 (February 5, 1966). Reprinted in International Money, ed. by C. Kindleberger (London: George Allen and Unwin, 1981), pp. 42-52.

Deutsche Bundesbank, "Minimum Reserve Arrangements Abroad," Monthly Report (Frankfurt), Vol. 42 (March 1990), pp. 21-28.

Dornbusch, Rudiger, "The Dollar in the 1990's: Competitiveness and the Challenges of New Economic Blocs," in Monetary Policy Issues in the 1990's, Federal Reserve Bank of Kansas City, 1989, pp. 245-273.

Eken, Sena, "Integration of Domestic and International Financial Markets: The Japanese Experience," Staff Papers 31, International Monetary Fund (Washington), Vol. 31, (September 1984), pp. 499-548.

Feldman, Robert A., Japanese Financial Markets: Deficits, Dilemmas and Deregulation (Cambridge: MIT Press, 1986).

Frankel, Jeffrey A., "The Yen/Dollar Agreement: Liberalizing Japanese Capital Markets," Policy Analyses in International Economics No. 9 (Washington, D.C.: Institute for International Economics, 1984).

-----"The World's Key Currencies," paper presented at the Fourth Nikkei Teleconference, April 1989a.

-----, "Commentary on the Dollar in the 1990's: Competitiveness and the Challenges of New Economic Blocs," in Monetary Policy Issues in the 1990's, Federal Reserve Bank of Kansas City, 1989b, pp. 275-281.

- Frenkel, Jacob and Morris Goldstein, "A Guide to Target Zones," Staff Papers, International Monetary Fund (Washington), Vol. 33 (December 1986), pp. 663-73.
- Goodhart, C.A.E., Money, Information and Uncertainty (Cambridge, Massachusetts: MIT Press, 1989).
- Holloway, Nigel, and Kuaia Lumpur, "Building a Yen Bloc," Far Eastern Economic Review, Vol. 150, (October 11, 1990), pp. 72-73.
- Horii, Akinari, "The Evolution of Reserve Currency Diversification," BIS Economic Papers, No. 18, Bank for International Settlements (Basle, December 1986).
- International Monetary Fund, "Capital Account Developments in Japan and the Federal Republic of Germany: Institutional Influences and Structural Changes," World Economic Outlook (April 1989), pp. 84-89.
- , International Financial Statistics, various issues.
- , Direction of Trade Statistics Yearbook, various issues.
- Isard, Peter, and Liliana Rojas-Suarez, "Velocity of Money and the Practice of Monetary Policy: Experience, Theory and the Policy Debate," in Staff Studies for the World Economic Outlook (Washington, International Monetary Fund, July 1986).
- Japanese Ministry of Finance, Annual Report of the Bureau of International Finance, various issues.
- Japanese Ministry of Finance and U.S. Department of the Treasury, Working Group, Report on Yen/Dollar Exchange Rate Issues (Washington, 1986).
- Kindleberger, Charles, Balance of Payments Deficits and the International Market for Liquidity. Essays in International Finance, No. 46, (Princeton: Princeton Univ. Press, 1965).
- , International Money (Boston: George Allen, 1981).
- , International Capital Movements (Cambridge: Cambridge Univ. Press, 1987).
- Kindleberger, Charles, and Peter Lindert, International Economics (Homewood, Illinois: Richard Irwin, 1978).
- Krugman, Paul, "The International Role of the Dollar: Theory and Prospect," in Exchange Rate Theory and Practice, ed. by J. Bilson and R. Martson, (Chicago: University of Chicago Press, 1984), pp. 261-78.

- Kubarych, R. Foreign Exchange Markets in the United States (New York: Federal Reserve Bank of New York, 1978).
- Marston, Richard, "Pricing to Market in Japanese Manufacturing," Journal of International Economics, Vol. 29 (November 1990), pp. 217-36.
- Mattione, Richard, and Norman Klath, "Japan: The World's Leading Foreign Investor," World Financial Markets, Morgan Guaranty Trust Company, No. 4 (November 10, 1989), pp. 1-13.
- McKinnon, R., Money in International Exchange (New York: Oxford University Press, 1979).
- Mieno, Yashushi, "A Japanese Viewpoint on the Challenges Posed by the Rapid Internationalization of the Japanese Economy and the Financial System," Speech presented at the 19th Annual Meeting of the Yomiuri Economic Society, February 1, 1990.
- Morgan Guaranty Trust Company, "Japan's Financial Liberalization and Yen Internationalization," World Financial Markets, (June 1984), pp. 1-11.
- Mussa, Michael, "The Welfare Cost of Inflation and the Role of Money as a Unit of Account," Journal of Money, Credit and Banking, Vol. 9 (May 1979), pp. 276-86.
- Osugi, K., "Japan's Experience of Financial Deregulation Since 1974 in an International Perspective," BIS Economic Papers, No. 26, Bank for International Settlements (Basle, January 1990).
- Page, S.A., "The Choices of Invoicing Currency in Merchandise Trade," National Institute Economic Review, No. 85 (March 1981), pp. 60-72.
- Rosenbluth, F.C., Financial Politics in Contemporary Japan (Ithaca; Cornell Univ. Press, 1989).
- Sakai, N., "Recent Progress in Financial Liberalization and Internationalization--Since the Yen-Dollar Committee," Tokyo Financial Review, Bank of Tokyo, Vol. 12 (December 1987), pp. 1-7.
- Salant, Walter S., "Capital Markets and the Balance of Payments of a Financial Center" in Maintaining and Restoring Balance in International Payments ed. by W. Fellner, F. Machlup, and R. Triffin (Princeton: Princeton Univ. Press, 1966).
- Shimamoto, R., "Monetary Control in Japan," in Central Bank Views on Monetary Targeting, ed. by P. Meek (New York, Fed. Res. Bank of New York, 1983).
- Shinkai, Y., "The Internationalization of Finance in Japan," The Political Economy of Japan, Vol. 1, (Stanford: Stanford University Press, 1986).

Suzuki, Yoshio, The Japanese Financial System, (Oxford: Clarendon, 1987).

Swamy, P.A.V.B. and George S. Tavlas, "Financial Deregulation, the Demand for Money, and Monetary Policy in Australia," Staff Papers, International Monetary Fund, (Washington), Vol. 36 (March 1989), pp. 69-101.

-----, "Is it Possible to Find an Econometric Law that Works Well in Explanation and Prediction? The Case of Australian Money Demand," The Journal of Forecasting, (1991, forthcoming).

Swoboda, A., The Euro-Dollar Market: An Interpretation, Essays in International Finance, No. 64 (Princeton University Press, 1968).

Tavlas, George S. "On the International Use of Currencies: The Case of the Deutsche Mark," IMF Working Paper WP/90/3, (Washington: International Monetary Fund, January 1990). Revised version to be published: Essays in International Finance, Princeton University, January 1991.

Thorn, Richard S., The Rising Yen, (Singapore: Institute of Southeast Asian Studies, 1987).

Uchida, Masahiro, "The Internationalization of the Yen," Tokyo Financial Review, Bank of Tokyo, Vol. 12 (October 1987), pp. 1-5.

Williams, David, "London and the 1931 Financial Crisis," The Economic History Review (The Netherlands) Vol. 15, (No. 3, 1963a), pp. 513-528.

-----, "The 1931 Financial Crisis," Yorkshire Bulletin (United Kingdom) Vol. 15, (November 1963b), pp. 92-110.

-----, "The Evolution of the Sterling System," Essays in Money and Banking in Honour of R.S. Sayer, ed. by C.R. Whittlesey and J.S.G. Wilson (Oxford: Oxford University Press, 1968), pp. 266-97.

Williamson, John, The Exchange Rate System (Washington: Institute for International Economics, 1985).

Yamasaki, Toshio, "The Internationalization of the Yen: A Progress Report," Tokyo Financial Review, Bank of Tokyo, Vol. 12 (December 1988), pp. 1-7.

-----, "The International Use of the Yen," Tokyo Financial Review, Bank of Tokyo, Vol. 14 (July 1989), pp. 1-5.

