International Financial Liberalisation — The Australian and Japanese Experiences Compared*

VICTOR ARGY**

I. Introduction

Financial integration is a subject which has attracted a good deal of attention in the postwar years. It played a key role in the macro modeling and analysis of policy in the well-known models of Fleming (1962) and Mundell (1963). Cooper (1968) reviewed some of the findings on financial integration. By the mid-late 1970s there were several surveys of the literature on financial integration, including those by Kenen (1976), Logue, Salant and Sweeney (1976), Aliber (1978). More recently there has been a new round of surveys by Cumby–Obstfeld (1984), Frankel (1985), Obstfeld (1986). A closely related study is one by Bryant (1986).

This paper is a further study in financial integration. It begins by briefly reviewing developments in the world economy which are widely held to have had some bearing on financial integration. It then presents two case studies of Australia's and Japan's experience with international financial liberalisation. Some comparisons of the two experiences are then made.

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** Professor, Macquarie University, Australia.

II. Developments in the World Economy Bearing on Financial Integration

In this section we consider developments in the world economy in recent decades which have had a bearing on the degree of asset substitution. Many of these developments are well-known so we will deal with them summarily.

1. Trade, Multinationals and Financial Integration

In the wake of lower trade barriers and reduced costs of transportation there has been a dramatic increase in trade amongst developed economies. For example for the OECD, as a whole exports, represented some 11.6% of GNP in 1960; by 1975 this share had grown to 17.4%; in 1980 it was 20%; since then it has fallen marginally.

Increased trade produces closer financial links for a number of reasons. It increases the scope for interest rate arbitrage and leads and lags amongst traders; it increases the demand for foreign currency assets; financial enterprises are also likely to follow their trading customers and offer or set up facilities abroad. In general, trade enhances exposure to and awareness of financial markets in countries with which one trades (Bryant (1986)). Thus for any given set of restrictions on the movement of capital one would expect a greater responsiveness to interest rate or speculative incentives (unless effective countermeasures are implemented).

The increased presence of multinational business also increases financial links and has very similar effects to the increase in trade. The existence of foreign controlled resident companies or resident companies with affiliations abroad facilitates the transfer of funds between national economies (for example, by altering the timing of the repatriation of profits or of payments for transactions, by transfer pricing).

The rapidly expanding presence of foreign banking entities in national markets is also a factor making for increasing financial integration. Several countries in recent years, including Australia, Canada and Sweden have permitted foreign banks to operate or liberalised their activities. A recent study by the BIS (1986) documents these developments, noting that "foreign establishments as a rule carry out a higher proportion of their business in foreign currency with non-residents or multinational companies than do domestically-owned banks".

2. Technology, Euro-currency Markets and Integration

Technological developments in communication, transportation, and information gathering may also have contributed to the integration of national financial markets. The lower costs of international transactions, the rapidity with which international

transactions can now be effected, the breadth of information available and the speed at which such information becomes available through computer technology, has facilitated the transmission of capital across frontiers.

The rapid growth of the Euro-currency markets, particularly in the 1970s, and the internationalisation of banking, by acting as a channel for the transmission of capital, is also widely held to have increased financial integration. Bryant (1986) shows that international banking has expanded even more rapidly than trade.

3. Official Dismantling of Capital Controls

Over the last thirty years or so there has been a dramatic lowering of official barriers to the movement of capital. This progress has not, however, been uninterrupted. At the same time, official as well as academic attitudes to capital controls have swung full circle.

Immediately after World War II, at the time the IMF was set up, there was considerable opposition in both official and academic circles to the free movement of capital, which was judged to be disequilibrating. The IMF Articles reflected these views, permitting controls over such movements. In the decade or so which followed countries retained considerable barriers to capital flows.

The first wave of liberalisation came in 1958 when current account convertibility was reestablished. Between 1960 and 1968 there was some further reduction in the barriers, particularly on outflows, in several European economies (OECD (1982)). A notable exception, however, to this trend was the U.S. which introduced new restrictions on outflows.[1]

In the years 1968 to 1972 barriers were reimposed in response to the huge swings in U.S. monetary policy. In 1968–69 the tight monetary policy in the U.S. led to huge outflows from the rest of the world; one response was to tighten controls over outflows. In sharp contrast, in 1970–71, U.S. interest rates tumbled; the rest of the world now put up barriers to the inflow of capital.

A second big wave of liberalisation came in 1973/74 in the wake of the switch to flexible exchange rates. Several countries, notably the U.S. and Germany, reduced their barriers.

Some liberalisation continued in the subsequent years but from 1979 there was a third big wave of liberalisation. In 1979 the U.K. dismantled its exchange controls; in 1980 Japan took a major step forward in liberalising her capital movements; Ger-

1. In July 1963 the Interest Equalisation Tax, designed to discourage portfolio investment by U.S. residents abroad, became effective. Then in March 1965 the U.S. authorities introduced a balance of payments programme (the Voluntary Foreign Credit Restraint Programme and the Foreign Direct Investment Programme) designed to restrict credit to non-residents and U.S. overseas affiliates.

many further liberalised her international capital markets in 1981; Australia abandoned her capital controls in 1983; New Zealand followed Australia in 1984; Denmark liberalised her controls over capital movements between 1983 and 1985. Other countries, too, moved in that direction, although only part of the way, including France, Italy and Sweden. By 1986 of 17 developed economies only five maintained significant barriers. These were the three Scandinavian countries (Sweden, Finland and Norway), Italy and France. France has announced that she is to dismantle her exchange controls very shortly. Indeed, as fewer countries retain these controls, the more isolated they appear and the greater the pressure to liberalise (for example, on Italy by the EEC).

Why this dramatic shift in official and indeed academic opinion towards capital controls? Amongst the more important reasons were: the disillusionment over their effectiveness, the switch to flexible exchange rates, the large current account and budget deficits in the wake of the two oil price shocks, liberalisation in domestic capital markets, international pressures and perhaps, too, a marked swing towards conservative convictions that markets should be freed.

Controls tend to proliferate to close emerging loopholes in earlier controls. Germany's and Australia's experience, to mention only two, illustrate this. Baumgartner (1977) reviewing Germany's experience concluded that:

> "in order to reduce capital inflows caused by the relatively higher degree of monetary tightness in the domestic economy, Germany first introduced discriminatory minimum reserve requirements against the growth (and subsequently also against the level) of banks' liabilities to non-residents, of money market paper and for 'en pension' transactions regarding domestic fixed-interest securities for money market investment. Soon these measures had to be supplemented by a cash deposit for non-bank borrowing abroad (tightened in several stages) in an effort to close loopholes that were widely used for evading the regulations. Finally, borrowing by non-bank residents from non-residents, certain inward direct investment, and the cession of claims to non-residents were restricted administratively, and banks were requested not to sell to non-residents their portfolio holdings of deutsche mark bonds of foreign issuers. These measures aimed at containing capital imports, whether induced by differing monetary conditions or exchange rate expectations, and were complemented in this respect by the restriction of approvals for the payment of interest on bank deposits of non-residents."

Australia also found that important loopholes in the application of capital controls came from the activities of multinationals and from traders, so in due course the authorities moved to regulate the timing of payments by traders and to increase surveillance over multinational accounts.

There has also been some disillusionment in countries which typically have tried .

to use capital controls to buy monetary independence under a managed exchange rate regime. There is a considerable body of opinion, for example, that Sweden at least in recent years, has not been able to achieve much monetary independence (see OECD (1985), Horngren–Viotti (1985)). Many would also contend that controls have only made a marginal contribution to monetary and exchange rate independence in Australia (See III).

Skepticism over the continued effectiveness of controls is also expressed in a Gatt study, which the IMF summarised in the following terms "For capital controls to be effective, [Gatt argues] restrictions would have to directly cover every aspect of a country's international transactions – a proposition that is highly unlikely to succeed in a market economy" (IMF (1980)).

With fixed exchange rates capital controls are thought to be needed to buy monetary independence. As we saw, when monetary independence was severely threatened in 1968–71, barriers to the flow of capital were further raised. A major motivation in the switch to flexible exchange rates was the conviction that with flexible exchange rates would come monetary independence. In this context capital controls were not only unnecessary but indeed served, at least according to Mundell-Fleming type models, to weaken the effectiveness of monetary policy (albeit strengthening the effectiveness of fiscal policy). There was here then what looked like a solid theoretical rationale for liberalising capital flows.

In the aftermath of the First Oil Crisis in 1974 large current account and budget deficits surfaced. To finance these many developed economies liberalised their policies towards capital inflows. In the wake of the Second Oil Crisis again the large current account deficits encouraged further liberalisation of inflows.

Many developed economies from the mid-1970s moved to deregulate their domestic capital markets. (See III and IV for Australia's and Japan's experience). Liberalising on the external front was seen as a logical extension of this, although sometimes reverse pressure (from international to domestic liberalisation) may have been at play.

International pressures have also been of some importance over the years. Both the OECD and the EEC uphold the principle that international markets should be progressively freed. The 1961 OECD Code of Liberalisation of Capital Movements, to which all member countries (except Canada) subscribe, imposes an obligation to "progressively abolish between one another ... restrictions on movements of capital to the extent necessary for effective economic cooperation." There has been considerable pressure from the OECD and, even more importantly, from the EEC on Italy and France to take further steps in liberalising capital movements. Japan has also come under considerable pressure, notably from the U.S., to liberalise its own international markets (Frankel (1984)).

4. Other Developments and Conclusions

The abolition of the withholding tax on interest payments to non-residents, first in 1984 in the U.S. and soon afterwards in the U.K., France and Germany has served to integrate further the international securities markets.

It is perhaps more difficult to evaluate the effects of domestic deregulation and of financial innovations on financial integration. The creation of new financial instruments may also have served to attract more foreign capital. A host of international innovations have also reinforced the integration process (for detailed documentation, see BIS (1986)).

Finally the BIS (1986) also notes that "a growing number of institutionally managed funds ... have actively pursued a policy of diversifying their portfolios internationally (p 155)."

All the influences noted so far, if anything, serve to increase asset substitution. We note here, however, one potentially important influence pushing in the other direction. The switch to flexible rates by increasing exchange rate volatility has probably increased the risk premium and so reduced asset substitution. At the same time transactions costs have increased, with the same outcome.

There is now very convincing evidence that after individual countries dismantled their exchange controls covered parity tended to hold, so capital mobility (as distinct from asset substitution) was effectively perfect (Argy (1987)). Prominent illustrations are Germany (after 1973), the U.K. (after 1979), Japan (after 1980), Australia (after 1984). This does suggest, importantly, that a dominant influence on asset substitution was capital controls and that many of the other influences reviewed (risk premium apart) could only have played a secondary role.

Has increased asset substitution been beneficial to individual countries and to the world economy? Some concern has recently been expressed about the effects of increased financial integration; indeed, some prominent economists have even proposed that capital movements be regulated again (see Chrystal – Dowd (1986)). Argy (1987) analyses the theoretical macro implications of increased financial integration, concluding that, on balance, the effects are unfavourable. Financial integration probably enhances exchange rate volatility and weakens a country's insulation from disturbances.

2. Useful general references on the Australian experience are Manuell (1986), Reserve Bank of Australia Annual Reports, OECD Annual Economic Surveys of Australia, Polasek–Lewis (1985). I acknowledge helpful comments from several members of the staff of the Reserve Bank of Australia.

III. The Australian Experience – 1971 to 85[2]

1. Background

When Australia entered the 1970s its capital markets were tightly administered, with direct controls over trading and savings banks' activities and over capital movements.

A. Controls over Banks

There were extensive controls applied over the trading banks. Ceilings were placed on lending rates and on interest paid on term deposits (these last had to have a maturity of at least three months). The banks were also prohibited from paying interest on current accounts.

There were, in addition, several restrictions placed on banks' portfolios. A given, but varying proportion of deposits had to be held in reserves with the Reserve Bank (the Statutory Reserve Deposit – SRD – ratio); these reserves paid an interest rate which was well below the market rate. At the same time a proportion of deposits was required to be held in the form of liquid assets or government securities (the LGS ratio). From time to time, too, the Reserve Bank used moral suasion to restrict new bank lending.

The principal tools of monetary policy were: variations in the SRD ratio and occasionally the LGS ratio, open market operations and some direct controls over lending.

The entry of new banks was restricted by licensing. The banking industry in 1970 was characterised by an oligopolistic structure, made up of a few large banks (seven dominated the scene) with numerous branches around the country.

Savings banks were also subject to controls on the interest rate they could pay on their savings accounts and on the interest rate they could charge on their lending to the private sector (principally for housing). At the same time they had to hold a fixed proportion of depositors' balances in the form of liquid assets and public sector securities.

There were as well some restrictions which applied to the capital market outside the banking system (for example, on interest rates offered by building societies, on the portfolios of the life assurance companies and of some superannuation funds). In the main, however, this segment of the market was relatively free and there was a fairly active securities (both public and private) and equities market. Banks faced substantial competition not only from a wide range of financial institutions, but also from an active inter-company loan market and from direct funding.

During the 1960s, too, the financial system had become less rigid, with interest

rates becoming noticeably more flexible. Thus already by 1970 some moves towards liberalisation were under way.

B. Controls over Capital Movements

There were also restrictions placed on the movement of international capital.[3] As a general principle capital flows were prohibited, unless specifically authorised.

In reality most capital inflows were allowed entry, and indeed encouraged. Non-bank residents could borrow freely from abroad; non-residents (other than banks) could also freely purchase domestic securities and equities. Non-residents, including foreign banks, were however, prohibited from holding deposits in Australian banks, apart from minimum working balances. There were, too, restrictions on non-resident bank holdings of domestic interest bearing investments; foreign governments were also strictly restricted in their holdings of domestic deposits or interest bearing assets.

In sharp contrast, capital outflows were rigidly controlled. Residents were banned from portfolio investment abroad and were also tightly limited in the amounts of foreign currency deposits they were allowed to hold. Resident banks were also prohibited from holding net positions in foreign currencies in excess of working balances. Finally, non-residents were prohibited from raising funds in the Australian capital market.[4]

The pricing and availability of forward cover offered another means of monitoring short-term capital flows. Forward cover facilities were officially provided, through the intermediary of the banks, only by the Reserve Bank. Access to these facilities was, however, available only for legitimate trade transactions. By prohibiting cover for capital flows the restrictions aimed at moderating such flows. At the same time, the Reserve Bank's official pricing policy for forward cover had implications for short term capital flows by traders (For details and an analysis of the forward market see Argy (1987), Sieper–Fane (1982)).

C. Capital Controls, Money and Exchange Rate Targets

The principal objective of capital control regulations is to achieve an exchange rate target (in line with "fundamentals") without having to compromise a money target. Thus the test of the effectiveness of such regulations is to see if they allowed a

3. Since we are principally concerned with short term capital, we disregard in what follows the changing restrictions on direct investment.

4. Despite the tight controls over outflows there remained, nevertheless, numerous ways in which, if incentives were there, outflows could take place. Amongst the more important of these were: leads and lags in trade, interest rate arbitrage by traders, through the accounts of foreign enterprises and their domestic affiliates, the timing of payments of interest, dividends and principal, sales by non-residents from their large stock of accumulated Australian assets.

reconciliation of monetary and exchange rate targets.

The test, however, is very difficult to apply rigorously. Strictly one needs to know both the monetary and exchange rate objectives of the authorities. When the authorities adopt a money growth target, as they did, for example, from 1976–77, there is some signal of the intended monetary policy; it is, however, more difficult at times to know what the exchange rate objectives were. To be more precise, when we observe an exchange rate adjustment we cannot be sure to what extent it is consistent with policy objectives and to what extent the authorities were forced by massive flows of capital into an unwanted exchange rate change.

Table 1 Fluctuations in Australian Dollar under Different Exchange Rate Regimes

	Exchange Rate Regime		
	Adjustable Peg	Crawling Peg	Flexible Rate
strong dollar	71-72-73	Dec. 76 - June 77 mid-80 - mid-81 Mar. 83 - Dec. 83	
weak dollar	74-76	mid-81 - Mar. 83 July 77 - mid-80	Jan. 85 on*

* Between December 1983 and January 1985, the Australian dollar was fairly steady (see Table 5).

Table 1 summarises the exchange rate regime in operation and the fortunes of the Australian dollar over the years 1971–85. Over those years there have been three exchange rate regimes. The first, a carry-over from Bretton Woods, is the adjustable peg regime, under which the authorities periodically adjusted the par value in accordance with what they judged to be a change in the fundamentals. This lasted, with minor changes, to December 1976 when a "crawling peg" system was adopted. Under this system, daily adjustments were made in line with market trends. The adjustments were small, thus allowing smoother transitions, without the disruptive effects of the periodical large jumps under the previous regime. Finally, in December 1983 the Australian dollar was allowed to float.

The Table also identifies periods when the Australian dollar was weak and when it was strong. Broadly these trends can be related predominantly to (a) current account trends (1972–73), (1974–76), (1977–80), (1981–83), (1985 on), (b) differences in monetary policy (1971), (c) resources boom (1980–81), and (d) "excessive" devaluation (December 1976 – June 1977 and March 1983 – December 1983).

2. International Liberalisation – the Experience in Detail 1971 to 73 – the Strong Australian Dollar

As in several European economies during 1970–71 and early 1972 the monetary authorities tried to implement a tight monetary policy at a time when monetary policy in the U.S. had become much easier. Without controls over capital inflows the Australian economy thus became exposed to very large inflows of capital. In time, these inflows were reinforced by fears that controls over such inflows might be introduced and by speculation that the Australian dollar would be appreciated. In the circumstances, the authorities found it difficult to sterilise the effects on the money supply of such inflows and so base money grew rapidly in that period.

By early 1972, in part at least in acknowledgement of the futility of trying to pursue an independent monetary policy in such conditions, (but also because economic activity had begun to slacken) monetary policy was allowed to ease. This was followed by a succession of additional measures designed to restrict the inflows. These measures were of two types: controls over inflows (see Table 2) and several appreciations of the currency.

In July 1972 the Reserve Bank adopted a more flexible pricing policy for forward cover; it also denied access, to such cover, to non-residents. In September an embargo on short-term borrowing was imposed. The embargo was supplemented in December by a variable deposit requirement (VDR) on borrowings not covered by the embargo.[5] In late December the Australian dollar appreciated by some 7% and in February 1973 there was a further appreciation of some 11%.

Meanwhile the industrial countries grew rapidly in 1972–73. This led to a dramatic improvement in Australia's terms of trade and in the current account balance (Table 3). Coming in the wake of the huge inflows of capital reserves grew very rapidly during 1972, reinforcing speculation that the Australian dollar was undervalued.

By early 1973 relative interest rates had shifted sharply in favour of overseas investment (Table 8). These developments coming on top of the appreciations and the capital controls led to a change in perception about the strength of the Australian dollar. Private capital flows became negative in the course of 1973 but for much of the year the current account continued to improve (Table 3). Despite these changing trends and perceptions, in July 1973 there was a large tariff cut and in September yet another appreciation of 5%.

We can summarise this first episode in the following terms. Tight monetary policies failed in 1970/1 because international links were strong and left exposed. Controls were introduced but too late; it is difficult to judge their effectiveness

5. This was a reaction to evidence that the embargo was being sidestepped.

Table 2 Capital Control Measures

Position start 1970	–	"Open door" policy on inflow. Severe restrictions on outflows.
13 Sep. 1971	–	Surveillance of capital inflow - all inward capital remittances of $250,000 or more to receive Reserve Bank approval. Approval generally granted.
Dec. 1971	–	Banks required to sight Reserve Bank approval before converting inward capital remittances of $250,000 or more.
10 July 1972	–	More flexible pricing for forward cover - non-residents excluded from access to official forward cover.
26 Sep. 1972	–	Embargo on borrowing of maturity 2 years or less.
	–	Resident investment in overseas equity shares and real estate at a rate not exceeding $10,000 p.a. for individuals and $1m p.a. for institutional investors and public accountants now permitted.
23 Dec. 1972	–	Variable Deposit Requirement (VDR) introduced - 25% of borrowings over 2 years to be lodged as an interest free deposit with the Reserve Bank.
	–	Coverage of embargo (Sep. 1972) broadened.
1 Feb. 1973	–	Limitations imposed on leads, lags on export receipts and import-invisibles payments.
	–	Reserve Bank surveillance over inter-company and intra-company accounts.
26 Oct. 1973	–	VDR raised to 33.33% of borrowings.
30 May 1974	–	Differential price offered on purchases and sales of forward cover.
	–	Official cover only available to those exporters and importers who enter into forward contract within seven days of assuming an exchange risk (the 7-day rule).

25 June 1974	–	VDR dropped to 25%.
8 Aug. 1974	–	VDR dropped to 5%.
10 Nov. 1974	–	Maturity applicable to borrowing embargo reduced to 6 months from 2 years.
11 Nov. 1974	–	VDR suspended.
14 Jan. 1975	–	Restriction on non-resident investment in fixed interest securities eased.
Jan. 1977	–	Ban on borrowings less than 2 years imposed.
	–	VDR revived and set at 25%.
July 1977	–	VDR suspended.
	–	Ban on overseas borrowing relaxed to 6 months.
June 1978	–	Ban lifted on borrowings of less than 6 months.
Mar. 1980	–	Relaxation of regulations on portfolio investment overseas by Australian residents. Limits increased on equity and real estate investments.
July 1980	–	Surveillance of capital flows into Australia eased to reduce delays on inflows of capital.
July 1981	–	All restrictions removed from Australian investment overseas in equities and real estate.
May 1983	–	Interest paid to non-residents by Australian borrowers would be subject to withholding tax.
October 1983	–	RBA withdrew from official forward market. Greater freedom was given to trading banks to hold foreign currency balances abroad or to borrow abroad to match forward positions. Limited open spot positions in foreign currencies also allowed.
	–	"Seven day rule" for entering into forward contracts in the official market abolished.

Dec. 1983	– Australian dollar floated and exchange controls abolished for almost all transactions and parties.
	– Banks free to deal with customers in currencies at mutually negotiated rates.
	– Australian banks are the only institutions authorised to deal in foreign exchanges.
	– Forward market cover remains restricted to export and import transactions of Australian traders and some related invisible items.
	– Clearing of spot positions with RBA each day ceased.
	– RBA retains discretion to intervene in exchange market.
	– Exchange controls retained on investments in Australia by governments, government agencies and foreign banks including central banks.
	– RBA consent continued to be required for a variety of transactions because of the requirements of taxation and foreign investment policy.
Apr. 1984	– Increase in number of foreign exchange dealers by authorising some non-bank financial institutions that meet certain criteria (forty licences have since been issued).
	– Restrictions on covering non-trade related risks in the banks forward exchange market was to be removed with effect from the date those authorisations were first issued which turned out to be 25 June 1984.
Dec. 1984	– Limits on Australian notes and coins that travellers can carry overseas were increased to $5,000 per person.
Jan. 1985	– Removal of restrictions on foreign banks (other than central banks) and foreign government agencies making interest-bearing investments in Australia.

July 1986	–	Government changes withholding tax arrangements to encourage offshore banking in Australia. At the same time is removed a number of exemptions from the interest withholding tax so as to protect its revenues.
Aug. 1986	–	Government abolishes dividend withholding tax and branch profit tax and one of the exemptions from the interest withholding tax closed off in July was reinstated.
Nov. 1986	–	Relaxation of restriction on investments at interest by foreign governments.

Sources: Reserve Bank of Australia.

because, as noted, they came at a time when perceptions were changing and the interest differential had swung sharply in favour of overseas investments. In retrospect, too, it is likely that, at the end of the day (by late 1973) the Australian dollar was overvalued, that is, had appreciated by too much. Finally, despite the turnaround in the balance of payments the money supply continued to grow very rapidly during most of 1973 and this also served in time to change perceptions about the currency.

It is interesting to note in this context that in several places in its 1971/2 Annual Report the Reserve Bank draws attention to Australia's growing financial integration with the rest of the world. Reflecting on the huge inflows of capital in 1970/1 it noted that "The growing international contacts of Australian business enterprises and the influx of financial intermediaries with international affiliations would have increased borrowers' awareness of and access to overseas sources of capital."

A. 1974 to 76 – the Australian Dollar Under Attack

Over the three years 1974–76 there were three attacks on the currency; one in late 1975 (associated with a political crisis), the other two (late 1974 and late 1976) associated with the emerging weakness in the current account.

By late 1973 and early 1974 the scene was changing rapidly. Beginning late 1973 the authorities recognised the need to moderate money growth and for a year or so after that monetary policy became extremely tight. As a result the interest rate differential shifted strongly in favour of Australia (Table 8).

At the same time, in the wake of the revaluations, the tariff cut and the collapse in economic activity abroad the current account began to deteriorate (Table 3). This weakness in the current account reinforced the perception during 1974 that the Australian dollar was overvalued.

From May 1974 steps were taken to reverse the stance of capital controls and to

Table 3
Australia: Private Capital Inflows and Current Account
1971-85 (Quarterly) Australian Dollar

		Private Capital	Current Account			Private Capital	Current Account
1971	I	478	−225	1979	I	470	−822
	II	576	−154		II	800	−675
	III	426	−160		III	158	−594
	IV	509	−233		IV	−124	−280
1972	I	414	−46	1980	I	766	−581
	II	569	83		II	940	−548
	III	497	127		III	912	−1293
	IV	459	175		IV	1570	−1185
1973	I	−515	239	1981	I	1696	−1505
	II	−46	150		II	2488	−1472
	III	−83	−33		III	904	−2073
	IV	−32	−66		IV	1728	−2155
1974	I	100	−281	1982	I	2350	−2259
	II	420	−537		II	4902	−2386
	III	62	−659		III	1663	−2088
	IV	218	−485		IV	2988	−1682
1975	I	34	−127	1983	I	645	−1326
	II	203	52		II	2716	−1565
	III	14	−289		III	2090	−1789
	IV	−474	−419		IV	3922	−1110
1976	I	362	−418	1984	I	1102	−1855
	II	141	−278		II	1464	−1979
	III	−133	−403		III	2274	−2799
	IV	129	−501		IV	2083	−2893
1977	I	840	−794	1985	I	1363	−2354
	II	454	−733		II	1186	−2301
	III	−380	−920		III	2099	−3416
	IV	−259	−356		IV	1606	
1978	I	557	−872				
	II	418	−905				
	III	453	−1145				
	IV	470	−1047				

Source: Reserve Bank of Australia - Bulletins

stem potential outflows. The scope for leads and lags was restricted in May; the VDR was lowered to 25% in June and to 5% in August. Despite this, by the third quarter, following sharp falls in reserves, rumours of a devaluation became rife and this led to large outflows. On the 25 September the Australian dollar was devalued by 12%; at the same time, the Australian dollar became tied to a currency basket. In late 1974 the VDR was suspended while the stance of policy was eased.

This episode in 1974 is an interesting one. One view frequently expressed (for example, in Manuell (1986)) is that controls over capital inflows should have been eased earlier. Such a move would have served to encourage more inflow, which would have eased the balance of payments position and, more importantly, would have given some relief to the very tight (near panic) financial conditions which developed in the course of 1974. The 1974 devaluation might then have been unnecessary. There is some force to this argument; some easing of capital inflows might have improved the situation on both counts. The authorities may, however, have had in mind the 1970–71 experience when tight monetary policies had been frustrated by inflows. Moreover, monetary policy turned out to be much tighter than even the Reserve Bank anticipated. Thus, it was a very fine line to draw between policies supportive of a tight monetary policy and policies supportive of the balance of payments.

The second attack came in late 1975 during the political crisis. Fears that a victory by a Liberal-Country Party coalition would lead to yet another devaluation again provoked large outflows. This time, however, the authorities survived the attack without giving in to the speculators.

In the course of 1976 the current account deteriorated sharply and although the larger deficit was more or less matched by larger inflows of capital the perception developed by the second half of the year that the dollar was due for yet another devaluation. The attack came in the third quarter when there were large outflows. This time the authorities were not able to withstand the attack and on 29 November the dollar was devalued by 17.5%. At the same time the exchange rate regime changed again with the dollar now allowed to "crawl" on a daily basis.

B. 1977 to 80(1) – the New Economic Strategy

There were three arms to the new strategy adopted by the Liberal-Country Party coalition government.

First they would try and consolidate the competitive gains from the large 1976 devaluation by an appropriate wages and monetary policy.[6] In the meantime, until

6. The government tried in the years that followed, to argue against full wage indexation in the national wage cases before the Commission. For a description of Australia's centralised wage system and the more recent decisions, see OECD Annual Survey (1984).

the strategy worked, there would be official borrowing from abroad to finance balance of payments deficits.

Second beginning in the financial year 1976–77 money growth targets (projections) were announced. A policy of gradually reducing money growth was adopted, with the objective of gradually bringing inflation down.

Third the new exchange rate policy was launched from end 1976. Its aim was to stabilise movements in the currency. At the same time the exchange rate was to be actively used in the fight against inflation by maintaining a relatively overvalued currency.

The period readily falls into three parts. The months to about July-August 1977, the period to the end of 1978 and the 1 1/2 years following to about mid-1980.

In the weeks immediately following the large November devaluation there were very large inflows of capital, notwithstanding the embargo which was in force at the time. The inflows represented reversals of speculative positions but they were also in response to relatively higher domestic interest rates and, possibly, to some expectation of an appreciation in the months to come; perhaps, too, there was an expectation that capital controls would be reintroduced.

In the event, the authorities did tighten controls over inflows. On 14 January the maturity of borrowing, to which the embargo applied, was raised from six months to two years and a few days later the VDR was reimposed at a 25% rate.[7] This appeared to slow down the rate of inflow in the months that followed despite the fact that the interest rate differential continued to favour Australia (Table 8).

Notwithstanding the perturbations over the period, the authorities succeeded in achieving their money growth objective (Table 4) without compromising their exchange rate objective. Indeed, the effective rate was kept more or less constant till some time in August (Table 5). A not unreasonable conclusion is that some credit for this achievement would have to be given to the reimpositon of capital controls.

With the current account deteriorating further during 1977, by the second half perceptions were changing again. At the same time the interest rate advantage was beginning to shrink. The authorities reacted to the new situation in two ways. They reversed the stance of capital controls. In early July the maturity for the embargo was lowered to six months and the VDR was suspended. They also began to adjust the effective exchange rate downwards on a gradual basis. This continued, through till the end of 1978, a year which witnessed a further deterioration in the current account.

7. There were several differences between the operation of the borrowing restrictions in the two periods. For the VDR the deposit was to be lodged for three years or the term of the loan if less. Previously deposits were for the term of the loan. Exemptions were also different in the two periods. In the earlier period loans with preexisting exchange control approvals were exempted; in the later period, certain mining and manufacturing transactions were exempted.

In the meantime, considerable official borrowing abroad was undertaken, as envisaged in the original strategy. In June 1978 too, somewhat belatedly, the embargo was lifted altogether. With the VDR suspended a year previously this was to mark the end of controls on inflows.

Table 4 Money Growth Targets and Outcomes

(1) Financial Year	(2) Target	(3) Outcome
1976 - 77	10 - 12	11.0
1977 - 78	8 - 10	8.0
1978 - 79	6 - 8	11.8
1979 - 80	Max. 10	12.3
1980 - 81	9 - 11	12.7
1981 - 82	10 - 11	11.3
1982 - 83	9 - 11	11.1
1983 - 84	9 - 11[1]	11.4
1984 - 85	8 - 10[2]	(17.5)

Source: Treasury Budget Papers
[1] Revised to 10 - 12 at mid-year.
[2] Suspended in January 1985.

The last phase in this period 1979–80(1) was a particularly interesting one in that it witnessed the dramatic surge in U.S. interest rates, with Euro-rates rising from some 10.5% in March 1979 to nearly 20% in March 1980. Under normal circumstances, despite the controls over outflows in place, this would have led to very big potential outflows and some combination of a tight monetary policy at home and some devaluation of the currency. In the event, Australia was fortunate in that, coincidentally, from early 1979 there was an improvement in the current account, a development which considerably facilitated the task of monetary and exchange rate management. Over the entire period the effective rate remained fairly stable, with only a very small upward adjustment (Table 5). It is significant, too, that there was only a modest slowing down in the rate of inflow of private capital, much of it occurring in the last half of 1979.

Money growth in 1979/80 overshot its target. The Reserve Bank in their Annual Report for this period explain this overshoot in terms of the sharp rise in the U.S. rate. They advance two arguments. First, lower relative domestic interest rates en-

couraged excessive borrowing from the banking system. Second, the sharp increase in foreign interest rates created expectations that domestic rates would also rise; so the authorities had difficulties selling domestic bonds and this forced up the money supply (see Table 6 which shows the importance of these two elements). Thus, paradoxically, higher rates abroad actually forced an increase not a reduction in the money supply.

Table 5

Australia: Nominal and Real Effective Exchange Rate[1]

		Nominal	Real			Nominal	Real
1976	1	121.5	107.6	1977	1	106.7	96.9
	2	121.6	107.7		2	106.8	97.5
	3	121.8	108.7		3	107.1	98.1
	4	121.7	109.2		4	107.2	98.1
	5	121.8	110.2		5	107.1	97.8
	6	121.8	110.6		6	107.1	98.0
	7	121.9	110.0		7	107.2	98.5
	8	121.9	109.9		8	105.8	97.5
	9	121.9	109.5		9	106.0	98.4
	10	122.2	109.3		10	105.0	97.9
	11	119.8	107.6		11	104.6	97.4
	12	104.0	94.1		12	103.7	96.8
1978	1	103.0	96.0	1979	1	95.2	91.8
	2	102.4	95.8		2	94.9	92.2
	3	101.6	95.2		3	94.5	91.9
	4	101.1	94.7		4	94.6	91.6
	5	101.4	94.8		5	94.9	91.7
	6	100.4	94.2		6	94.8	91.2
	7	98.7	92.7		7	94.2	90.9
	8	96.7	91.4		8	94.6	91.7
	9	96.4	91.9		9	94.8	91.8
	10	96.4	91.2		10	95.1	91.6
	11	95.7	92.0		11	94.8	91.9
	12	95.6	92.1		12	94.3	91.3
1980	1	94.0	90.3	1981	1	98.5	96.1
	2	94.2	91.9		2	99.5	97.8
	3	95.3	92.6		3	100.2	98.8
	4	95.8	92.2		4	101.2	99.6
	5	95.3	91.6		5	102.9	101.2
	6	95.5	91.7		6	105.1	104.0
	7	95.8	92.5		7	107.8	107.2
	8	96.6	94.1		8	108.8	108.2
	9	96.4	94.3		9	107.9	107.4
	10	96.6	94.2		10	106.8	106.2
	11	97.5	95.3		11	105.1	104.7
	12	98.2	96.0		12	103.9	103.3

		Nominal	Real			Nominal	Real
1982	1	103.4	103.4	1983	1	97.3	103.7
	2	103.0	104.5		2	96.8	103.7
	3	102.1	104.7		3	89.3	96.3
	4	102.3	105.3		4	78.5	94.6
	5	101.2	104.6		5	88.2	95.4
	6	102.0	106.1		6	89.4	96.6
	7	100.9	105.6		7	89.8	97.2
	8	98.2	103.8		8	91.5	99.3
	9	97.0	103.2		9	92.2	100.7
	10	97.0	102.8		10	93.5	102.0
	11	97.2	102.7		11	94.8	103.9
	12	96.7	102.4		12	94.1	103.4
1984	1	95.5	105.4	1985	1	93.8	105.4
	2	97.3	107.4		2	86.8	97.9
	3	97.2	107.3		3	81.5	92.5
	4	95.1	105.2		4	74.2	84.9
	5	95.1	105.6		5	76.3	88.3
	6	93.0	103.6		6	74.2	86.5
	7	90.3	101.1		7	75.4	88.5
	8	91.9	103.4		8	75.4	89.2
	9	92.1	104.1		9	74.0	88.5
	10	93.6	105.8		10	71.8	86.1
	11	95.0	107.9		11	67.9	82.0
	12	94.8	108.0		12	67.8	82.4

Source: Morgan Guaranty World Financial Markets

[1] Index Number 80-82 = 100

Table 6
Australia: Money Formation Table 1978/79 to 1980/81 Forecast and Outcome ($ million)

	1978/79		1979/80		1980/81	
	Forecast	Actual	Forecast	Actual	Forecast	Actual
Domestic Budget Deficit	2190	2258	1100	566	−39	−446
External	−1150	−254	400	979	1815	2801
Bank Advances	3940	3958	3350	4903	4375	4612
Sales Debt	−1200	−720	−1000	−740	−600	−535
Other	−638	−616	−	−326	−50	−204
M_3	3142	4626	3850	5382	5501	6228

Source: Institute of Applied Economic and Social Research, Australian Economic Reviews

C. 1980(2) to 1981 – the Resources Boom

The distinctive feature of this period was the short lived (but nevertheless important in terms of its impacts) resources boom which came in the wake of the Second Oil Crisis. Australia suddenly became the recipient of huge amounts of capital seeking to take advantage of what looked like very attractive investment prospects, particularly in coal, mineral resources and allied industries.

Capital inflows, some of which were also speculative, more than offset the current account deficit which actually deteriorated sharply. This led to a potentially very large overall surplus. The authorities responded in part by allowing the currency to appreciate (Table 5); by about August 1981 the effective rate had risen by some 12%. At the same time there were large official purchases of U.S. dollars, notably in the first half of 1981. The authorities, however, found it difficult to sterilise these purchases and money supply grew rapidly, exceeding again its target for the year 1980–81 (Table 4). Thus the authorities tried to moderate the appreciation but at the cost of some loss of control over its monetary policy.

It is interesting to note that this time the authorities did not try to reimpose controls over inflows, although on the face of it this might have helped in part to resolve the dilemmas. Indeed as Table 2 shows there was less surveillance applied so as to reduce delays on inflows. On the other hand, some modest measures were taken at the time to encourage more outflows. In March 1980 limits on equity and real estate investment abroad were increased and in July 1981 restrictions on such investment were removed.

The period also saw extremely sharp fluctuations in the U.S. interest rates. Between March 1980 and July 1980 the U.S. rate fell from some 20% to less than 10%. It then rose very sharply again, reaching nearly 18% in January 1981, after which it fluctuated more moderately for the rest of the year. Australian short-term interest rates followed these trends (with an apparent lag) but the fluctuations were substantially more modest. For most of the period under consideration the interest rate differential tended to favour investment abroad and this actually served to moderate the capital inflows.

D. 1982 to December 1983 – the System Collapses

With the price of oil beginning to fall back by 1982 and the resources boom exhausting itself, increased attention came to be placed on the current account, which in 1982 continued to deteriorate rapidly. Capital inflows, however, continued to be large, more than offsetting the current account deficit. Nevertheless now the authorities, with an eye on the current acount, chose to gradually lower the Australian dollar and buy U.S. dollars in the foreign exchange market. From late 1981 to March 1983 the dollar had fallen by significantly more than the gains made in 1980/1 (Table 5).

As in 1981/2, until early 1983 Australian interest rates continued to fluctuate more or less in line with U.S. rates. The sharp fall in Australian rates during 1982 parallels the fall in the Eurodollar rates.

In February 1983 with an election campaign under way fears that the Labor Party might win government led initially to some cautionary outflows of capital. Those outflows gathered momentum and, from late February, reached massive proportions. On 8 March, with the new Labor Government installed, the dollar was devalued by 10%. With this devaluation the "crawling peg" system, under which only small daily adjustments would be made, had broken down.

The current account was beginning to show some improvement in 1983; at the same time, the interest rate differential moved more in favour of Australia; moreover, some confidence in the new government was beginning to surface. These forces combined to produce a dramatic reversal in capital flows. In the months that followed inflows became massive; indeed, for a while they were almost double the current account deficit. As in 1980/1 the authorities responded partly by allowing the dollar to appreciate and partly by intervening in the foreign exchange market. As in 1980/1 they found it impossible to sterilise the inflow. During those months money growth was overshooting its projected range (revised upward by one point in December). Finally on 12 December the Australian dollar was allowed to float; at the same time most exchange controls were removed (Table 2). The float enabled the authorities to regain control over money growth in the second half and this allowed money growth over the whole financial year 1983/4 to remain close to the target range.

It is convenient, at this point, to summarise very briefly the reasons why exchange controls were finally abandoned at the end of 1983. The shift to flexible rates clearly meant that there was no longer any need to use an instrument to reconcile money and exchange rate targets. Without an exchange rate target money growth targets could, in principle, now be achieved. The Campbell Report, which had recommended the dismantling of exchange controls, clearly also influenced the decision. As we have already seen, too, international attitudes had begun to change, with liberalisation measures adopted in several Western countries, notably in the U.K. and Japan, so Australia was in some danger of being isolated on this front. Moreover, as we will see shortly, there had already been some steps taken to liberalise domestic capital markets, and it seemed ideologically consistent to liberalise international markets. Finally, as we will also see, there were growing doubts about the effectiveness of exchange controls in the financial environment which prevailed in 1983.

3. Liberalisation on the Domestic Front

Since this is outside the scope of this study we can be brief on the pace of

liberalisation on the domestic front. In this respect, as in respect of international liberalisation, the Campbell–Martin Reports (but particularly the former) which strongly supported the freeing up of domestic and international markets, played a most important role.

Whilst there had been some deregulation prior to 1980 the pace quickened from late 1980. Table 7 sets out a chronology of domestic financial deregulation in Australia since 1970. It is worth noting that some domestic deregulation actually preceded international deregulation.

We can sum up the measures listed in the Table in the following terms. The changed techniques for marketing government debt allowed more flexible interest rates to be paid. Interest rates on banks have been decontrolled progressively; additionally trading banks are now authorised to pay interest on current deposits. Portfolio controls on trading and savings banks have been eased gradually; as well, restriction on investments by life assurance companies and superannuation funds have been lifted. Finally, foreign bank entry has enhanced domestic competition.

What, in the end, prompted the deregulation drive on the domestic front? Harper (1986), in an interesting paper, tries to explain the policy developments in terms of "private interest" pressure and public interest. In other words, there were pressures for change coming from private pressure groups, who had been adversely affected by regulation, and from the public authorities who had begun to judge that the "public interest" might best be served by liberalisation measures.

Ultimately, the reasons for the policy changes are extremely complex and they will be summarised briefly (See on this also Harper (1986) and OECD Annual Survey (1985)). Restrictions on interest rates, on deposit maturities and on their portfolios had limited the capacity of the banks to compete in the inflationary environment of the 1970s; as a result, banks lost ground to other financial institutions, notably the merchant banks, the Building Societies, the finance companies and the credit unions.[8] Inflation and increased uncertainty had also led to some increase in private sector savings; this, in turn, brought increased awareness of relative real returns on savings and some demand for greater interest rate flexibility.

The increase in the public sector deficit, too, from the mid-1970s, a new awareness that money growth had to be brought under control, the slower growth of "captive" institutions[9] all combined to underline the importance of offering realistic

8. Much ground had already been lost during the 1960s. It is worth noting that whilst in some respects the banks had been restricted in their capacity to compete, in other respects they were privileged: the legally protected oligopolitic structure, as agents for dealing in foreign exchange and in their monopoly over transactions deposits.

9. Institutions that were required by law to hold some proportion of their assets in the form of government securities.

interest rates on government securities. The marketing of the Australian Savings Bonds in 1976 at attractive interest rates and the subsequent shift from a tap to a tender system of marketing securities (see Table 7) were steps in that direction.

Table 7 Chronology of Domestic Regulation in Australia 1970 - 1985

1970	December	Approval given for the extension from two to four year of the maximum allowable period for which trading banks can take fixed deposits.
1972	February	The maximum rate of interest chargeable on "small" trading bank loans drawn under limits of less than $50,000.
1973	September	The ceiling on rates payable by trading banks on certificates of deposit was removed and their maximum term was extended from two to four years.
1976	January	The maximum rate of interest chargeable on 'small' trading bank overdrafts was extended from overdrafts drawn under limits of less than $50,000 to overdrafts drawn under limits of less than $100,000. The maximum interest rates chargeable on "small" savings bank loans are similarly extended to loans under $100,000.
1977	May	The Banking (Savings Banks) Regulations amended to allow, a reduction from 50 to 45% in the proportion of depositors' balances required to be held in certain prescribed assets (mainly liquid assets and public sector securities).
1978	August	An amendment to the Banking (Savings Banks) Regulations reduced from 45 to 40% the proportion of depositors' balances required to be held in prescribed asset form.
1979	January	Establishment of (Campbell) Committee Inquiry into the Australian Financial System.
	December	Introduction of tender system for Treasury Note sales.
1980	December	Removal of interest rate ceilings on deposits with trading and savings banks.
1981	February	Banking authority granted to Australian Bank Limited.

	June	Treasurer authorises mergers between Bank of New South Wales and Commercial Bank of Australia and between National Bank of Australia and commercial Banking Company of Sydney.
	August	Minimum maturity on trading bank certificates of deposit reduced from three months to thirty days.
	November	Final Report of Campbell Committee tabled.
1982	June	Cessation of quantitative bank lending guidance. Introduction of tender system for Treasury Bond sales.
	August	Relaxation of portfolio controls on savings banks.
1983	May	Establishment of Martin Review Group.
1984	February	Report of Martin Review Group tabled.
	April	Deregulation of Australian stock exchanges.
	August	Removal of minimum and maximum maturities on trading and savings bank interest-bearing deposits. Savings banks permitted to offer cheque facilities on all accounts.
	September	Portfolio prescription on life insurance and some superannuation funds abolished (30/20 rule).
1985	February	Sixteen foreign banks invited to establish operations in Australia. Banking authority granted to Macquarie Bank Limited.
	April	Removal of remaining ceilings on bank loan interest rates except ceiling on loans for owner-occupied housing of amounts less than $100,000. Banking authority granted to Bank of China.
		LGS convention replaced by Prime Assets Ratio arrangements.
	June	Banking authority granted to Advance Bank Australia Limited.
1986	April	The interest rate ceiling on banks' loans for owner occupied housing of less than $100,000 removed.

Source: Harper (1986), Hall (1985), Reserve Bank of Australia.

Increasing financial integration with the rest of the world also underlined the need for a more flexible interest rate policy at home. Technological developments began to blur distinctions between banks and non-banks; these also gave non-banks a further competitive advantage; at the same time, these developments allowed banks to evade some controls (see Harper (1986)). Increased importance was also being placed on the micro-costs of regulation (OECD Annual Survey (1985)). Some domestic liberalisation abroad was making some impact on the local scene. There was also considerable questioning of whether regulation was achieving its social goals (promoting housing amongst low income groups and encouraging small business) as well as its macro-objectives. As the OECD Annual Survey (1985) put it on social objectives:

> "Interest rate controls forced banks to implement rationing devices for finance and since risk assessment becomes relatively more important in this situation low interest rate finance was probably allocated to the most credit worthy rather than the more needy."

There were also feelings that regulation had served to weaken the effectiveness of monetary policy, although this was never very well articulated or formalised. Clearly the growth of non-banks was one element in this contention. A more flexible interest rate policy would also have wider impacts on financial markets, outside the banks. Interest rate deposit deregulation is also known to enhance the effectiveness of monetary policy (Argy 1983)).

4. Evidence on Integration and the Effectiveness of Capital Controls

A. Evidence on Integration

At the start of the 1970s, capital inflows were free while capital outflows were tightly controlled. Beginning late 1972 capital inflows began to be regulated; until mid-1978 inflows and outflows were subject to some regulation. Between mid-1978 and end 1983 only outflows again were regulated.

Although it is widely believed that financial links became closer during the 1970s and particularly in the early 1980s it is difficult to produce hard evidence in support of this assertion.

Evidence of integration and changes in integration can be impressionistic, inferential and econometric.

Australian banks extended their international operations in the 1970s. International banks set up local merchant banks, which quickly became actively involved in the business of arranging foreign finance. In the early 1980s, in the wake of the resources boom and the huge inflows associated with it, international financial links tightened (Polasek–Lewis (1985)). The growth of the private hedge market after the mid 1970s would have facilitated some capital flows (see Argy (1987)). We saw, too,

in our review of the Australian experience that beginning 1980 till early 1983 the Australian interest rate was almost a mirror image, with a lag, of the U.S. rate.

A striking feature of early 1983 was the magnitude of the outflows, despite the existence of outward controls. Indeed, it is fair to say that the authorities actually lost control of the situation then. All in all this is prima facie evidence of a very high degree of and indeed increased integration.

Sanders (1985) summarises the attitude to integration in the following terms:

> "More Australian financial institutions and businesses came to rely on access to foreign funds as a normal and flexible part of their financial arrangements. This tended further to erode the effectiveness of exchange control."

There are quite a number of econometric studies, undertaken in the early 1970s, which attempt to estimate an "offset" coefficient for Australia.[10] They are summarized in McFarlane (1979). Surprisingly, considering the many econometric difficulties associated with such studies, there is a remarkable consensus in the results, even though different specifications and techniques are used. Nearly all converge to a range between 0.5 and 0.7, which is quite high.[11]

Carland–Valentine (1982), taking the uncovered interest rate parity equation as a starting point, find that one can explain very well the short-term interest rate, in terms of the foreign interest rate, some summary measures of the expected change in the exchange rate and dummies to capture changing capital control regulations.

The RBA econometric model RBII has a capital flow equation which allows for the interest rate differential and the expected change in the exchange rate. Unfortunately it has been difficult to determine whether that coefficient has increased over time.[12]

B. Effectiveness and Timeliness of Capital Controls

There is some evidence that integration could not have been perfect and that capital controls, for a while at least, were effective. Exchange control approvals on inflows in early 1973 and again from early 1977, after the controls were introduced on

10. The offset coefficient is the proportion of an exogenous increase (decrease) in the domestic assets of the central bank which is offset by an outflow (inflow) of capital. It is a rough measure of the degree of asset substitution. If asset substitution is near perfect this offset coefficient approaches – 1.

11. Hardly any use two-stages. None tries to test for the asymmetry in capital control regulations for example an expansionary monetary policy will have a smaller offset than a tight monetary policy. Capital controls after 1972 are generally disregarded in the later studies. Exchange rate expectations also in general tend to be disregarded.

12. As the senior author of the model (P. Jonson) put it to this writer in a private communication "The major changes in Australia's external regime ... cannot be estimated but effectively have to be imposed on our model."

the two occasions, fell off sharply.[13] (We, however, did question the 1973 evidence). Carland–Valentine (1982), as we saw, find evidence that capital controls did drive a wedge between domestic and foreign interest rates. From about mid-1978, after controls over inflows were removed, until end 1983 the covered differential significantly and persistently favoured overseas investment (Argy (1987), Table 8).

Although again there is no hard evidence on this (see, however, Carland–Valentine (1982)) a widely held view is that the controls were effective in the short run but their effectiveness weakened in the longer run or by continued application (Australian Financial System Inquiry (Campbell Report); (1981) p. 140), Cohen (1983)). A quote from Sanders (1985) again summarizes this view;

> "In Australia the embargo and the VDR were effective when first introduced. The longer they were kept in place, the less effective they became. Erosion grew and so did the number of exemptions granted in response to pressure."

If the controls were effective in some degree the timing of their imposition, removal or reimposition may, however, have left something to be desired. We saw that in 1972 the controls came too late; in 1977 too, although less so, they were introduced after massive inflows had already occurred. The reversal in 1974 was late in coming. The six month embargo on inflows was retained from November 1974 to January 1977, during which the currency was weak. Nor was there any attempt made to reintroduce controls over inflows either in 1980 or in 1983 when those inflows assumed massive proportions. Again at a time when net outflows ought to have been encouraged there was very little attempt, except for a weak one in 1980, to ease up on controls over outflows.

Did capital control policy then succeed in reconciling monetary and exchange rate targets? A very quick summary suggests that it did not. On two occasions, in 1970/1 and in 1980/1, when there were no controls over inflows the monetary authorities lost control over money growth, on both cases because of huge inflows which could not be sterilised. The loss of control was costly on both occasions. Inflation, after a lag of a year to two years, subsequently accelerated. Again in 1979/80 when U.S. interest rates rose rapidly money growth overshot its target, now for reasons which were closely but indirectly associated with Australia's integration with world markets, as we saw. In 1983, however, when a situation similar to 1970/1 and 1980/1 threatened the authorities floated the exchange rate, thus retaining control over money growth.

It is also likely that on at least some occasion(s) the authorities may have had to compromise their exchange rate objectives under pressure of massive flows of cap-

13. There may have been anticipations of these controls and these may have accelerated the rate of inflow before they were imposed. Thus in this sense the controls may have been destabilising (Sieper–Fane (1982), Cohen (1983)).

Table 8

Australia: Interest Rate Differentials Forward Margins and Covered Differential
1972-1983 end of months

Year		(1) Australia[1] less Euro-dollar rate (3 month)	(2) Forward discount (–) on Australian dollar	(3) Covered[2] differential
1972	1	1.06	NA	NA
	2	0.62	NA	NA
	3	0.06	NA	NA
	4	0.50	NA	NA
	5	0.94	NA	NA
	6	0.25	NA	NA
	7	–0.13	NA	NA
	8	0.06	NA	NA
	9	–0.50	NA	NA
	10	–0.50	NA	NA
	11	–1.19	NA	NA
	12	–1.13	NA	NA
1973	1	–1.88	NA	NA
	2	–3.56	NA	NA
	3	–2.63	NA	NA
	4	–1.50	NA	NA
	5	–1.94	NA	NA
	6	–2.00	NA	NA
	7	–4.88	NA	NA
	8	–5.00	NA	NA
	9	–1.38	NA	NA
	10	–0.13	NA	NA
	11	–1.38	NA	NA
	12	–1.13	NA	NA
1974	1	0.56	NA	NA
	2	1.25	NA	NA
	3	–0.19	NA	NA
	4	4.31	NA	NA
	5	8.12	NA	NA
	6	–0.38	NA	NA
	7	0.56	NA	NA
	8	1.06	NA	NA
	9	2.81	NA	NA
	10	4.94	NA	NA
	11	3.44	NA	NA
	12	2.31	NA	NA

Year		(1) Australia[1] less Euro-dollar rate (3 month)	(2) Forward discount (−) on Australian dollar	(3) Covered[2] differential
1975	1	3.06	NA	NA
	2	2.62	NA	NA
	3	3.12	NA	NA
	4	3.81	NA	NA
	5	4.00	NA	NA
	6	3.37	NA	NA
	7	2.81	NA	NA
	8	1.94	NA	NA
	9	0.87	NA	NA
	10	1.94	NA	NA
	11	1.50	NA	NA
	12	2.69	NA	NA
1976	1	2.75	−4.66	−1.91
	2	3.44	−4.65	−1.21
	3	3.25	−5.00	−1.75
	4	5.12	−5.53	−0.41
	5	4.25	−5.69	−1.44
	6	5.00	−5.75	−0.75
	7	4.62	−5.79	−1.17
	8	4.44	−5.73	−1.29
	9	4.25	−5.81	−1.56
	10	4.69	−5.87	−1.18
	11	4.87	−	4.87
	12	4.75	0.37	5.12
1977	1	4.25	1.25	5.50
	2	4.87	−2.46	2.41
	3	5.56	−4.55	1.01
	4	6.25	−4.76	1.49
	5	4.94	−4.77	0.17
	6	5.50	−4.64	0.86
	7	4.75	−4.18	0.57
	8	4.75	−4.32	0.43
	9	4.13	−4.86	−0.73
	10	3.31	−3.41	−0.10
	11	3.12	−3.00	0.12
	12	2.56	−3.11	−0.55
1978	1	2.50	−2.51	−0.01
	2	2.31	−1.52	0.79
	3	3.40	−1.12	2.28
	4	3.13	−1.66	1.47
	5	2.60	−2.06	0.60
	6	1.51	−2.46	−0.95
	7	1.30	−2.65	−1.35
	8	0.93	−2.31	−1.38
	9	0.56	−1.25	−0.69
	10	−1.57	−0.44	−2.01
	11	−2.36	0.88	−1.48
	12	−2.59	1.46	−1.13

Year		(1) Australia[1] less Euro-dollar rate (3 month)	(2) Forward discount (−) on Australian dollar	(3) Covered[2] differential
1979	1	−1.61	2.25	0.64
	2	−1.20	2.43	1.23
	3	−1.00	2.49	1.49
	4	0.25	2.20	2.45
	5	0.16	0.94	1.10
	6	−0.10	0.46	0.36
	7	−1.31	0.35	−0.96
	8	−1.92	0.71	−1.21
	9	−2.45	2.64	0.19
	10	−5.04	5.00	−0.04
	11	−3.50	4.30	0.80
	12	−4.14	5.43	1.29
1980	1	−4.07	3.37	−0.70
	2	−6.54	5.39	−1.15
	3	−7.94	7.07	−0.87
	4	−0.37	1.50	1.13
	5	3.38	−3.57	−0.19
	6	3.25	−4.93	−1.68
	7	2.69	−3.15	−0.46
	8	0.15	−2.10	−1.95
	9	−1.81	0.17	−1.64
	10	−3.67	0.95	−2.72
	11	−6.31	3.10	−3.21
	12	−4.55	3.86	−0.69
1981	1	−4.25	3.82	−0.43
	2	−2.62	2.95	0.33
	3	0.29	−1.10	−0.81
	4	−1.12	−0.80	−1.92
	5	−2.25	0.77	−1.48
	6	−1.81	1.25	−0.56
	7	−2.68	2.38	−0.30
	8	−2.44	1.52	−0.92
	9	−2.25	1.71	−0.54
	10	−0.49	0.49	−
	11	3.50	−2.62	0.88
	12	2.25	−3.69	−1.44
1982	1	1.60	−3.12	−1.52
	2	2.91	−2.78	0.13
	3	5.13	−4.20	0.93
	4	7.06	−5.93	1.13
	5	3.87	−4.82	−0.95
	6	3.29	−3.95	−0.66
	7	3.89	−6.12	−2.23
	8	5.12	−7.18	−2.06
	9	2.66	−3.96	−1.30
	10	5.50	−7.53	−2.03
	11	3.92	−4.58	−0.66
	12	1.46	−1.02	0.44

Year		(1) Australia[1] less Euro-dollar rate (3 month)	(2) Forward discount (−) on Australian dollar	(3) Covered[2] differential
1983	1	2.05	−3.78	−1.73
	2	7.25	−12.45	−5.20
	3	6.62	−7.32	−0.70
	4	4.02	−4.43	−0.41
	5	3.56	−4.59	−1.03
	6	4.16	−5.10	−0.94
	7	1.91	−2.28	−0.37
	8	1.95	−2.06	−0.11
	9	1.65	−1.57	0.08
	10	1.37	−0.83	0.54
	11	0.85	0.31	1.16
	12	−0.31	2.67	2.36

[1] Prime Finance Company paper
[2] (−) favours investment abroad

Sources: Morgan Guaranty World Financial Markets
IMF Financial Statistics (IFS)

ital. In 1972/3 they may have appreciated too much; in 1983 they may have been pressured, while 1974 and 1976 remain controversial.

On the other hand, capital control policy may have helped to reconcile objectives in 1977/8 and, to a lesser extent, 1979/80.

IV. The Japanese Experience – 1973 to 85

Japan's experience readily falls into three fairly distinct periods.[14] The first is the period to the early 1970s; for convenience we can take the cut off point as the First Oil Crisis. The second is the period from late 1973 to 1980. This is the period during which the financial scene changed quite dramatically, with some liberalisation occurring on the domestic and external fronts. The third is the period after 1980 when Japan's capital market became progressively more open to the rest of the world.

14. Relevant general references here are Suzuki (1980, 1986), OECD (1972, 1984), Pigott (1983), Eken (1984), Morgan Guaranty (1984), Frankel (1984), Sakakibara–Kondoh (1984), Horne (1985), McKenzie (1986) and Feldman (1986).

1. Background

A. The Domestic Financial Scene

The years to the early 1970s are frequently referred to as the high growth - high investment era; at least until early 1973 they were also the years when the Bretton Woods system was in operation.

The principal characteristics of the Japanese financial scene in this period were the following.

1. Financial institutions comprised the banking system, the "specialist" private and government intermediaries and the insurance companies. The banking system in turn was made up of the commercial banks, the long-term credit banks and the trust banks. The specialist institutions concentrated on lending to particular sectors such as trade, small business, agriculture, forestry and housing.

A feature of the financial institutions is that they tended to be compartmentalised in their functions, with only limited arbitrage amongst them. Commercial banks took deposits (including short-term) and invested in short-term loans, principally to the corporate sector, and in securities. Long-term credit banks were not allowed to accept deposits but borrowed by issuing longer term bank debentures and in turn made loans on a long-term basis, again principally to the corporate sector. Trust banks borrowed by issuing loan trust certificates (longer time deposits) and also made longer term loans. They also, importantly, specialised in the management of trust accounts, which was another source of funding. The specialist institutions mostly accepted "savings" deposits and made loans for particular purposes. Insurance companies made long-term loans and purchased securities.

Banks were at the center of the system, commercial banks alone accounting in 1970 for nearly 40% of all lending by these institutions (OECD (1972)).

2. Commercial banks were subject to rigid controls. Interest rates on their deposits and on their prime lending were regulated. They were also subject to varying reserve requirements and to quantitative control over their lending to the private sector. Such lending was controlled by the Bank of Japan (BOJ) in part by changes in reserve requirements, but primarily through its own lending policies: the discount rate at which it lend and the volume it was prepared to lend at that rate.[15]

3. There was a dual structure of interest rates in force. In addition to the controlled rates (which also included savings deposit rates, issue terms for bonds, bank debentures and loan trust rates), there were relatively freer rates, which included call rates, the bill discount rate, the Gensaki[16] rate, bond yields in the secondary market. The

15. The banks as a group tended to be "overloaned" in the sense that their reserve position (cash less borrowings from the BOJ or deposits less loans) was negative.

16. These are (mostly) 3 month bond repurchase agreements.

"freer" rates were much higher than the controlled rates which were kept deliberately low.

4. The household sector tended to have a substantial financial surplus (an excess of own saving over investment). At the same time household financial assets were mostly held with the banking system. The corporate sector, by contrast, was in substantial deficit, financing the excess of its own investment over its savings by borrowing heavily from the banking system.

Both the government and the external sectors ran small deficits which more or less offset one another. Thus the net surplus of the household sector (of some 6 – 10%) tended to be absorbed by the net deficit of the corporate sector (of roughly the same order of magnitude), with the banking system fulfilling an important intermediary function (Table 9).

Table 9 Flow of Funds by Sector % of GNP

	1970	1975
Corporate Sector	−6.1	−3.5
Personal Sector	7.9	10.7
Public Sector	−0.7	−7.3
Rest of the world	−1.0	0.1

Source: Bank of Japan, Economic Statistics Annual

5. There was no active secondary securities market to speak of. This reflected three institutional facts: Japan's financial isolation from the rest of the world (see below), the predominance of indirect financing by the corporate sector and the small public sector deficit. Because of the lack of a securities market, too, open market operations were not an important instrument of policy.

The lack of an active capital market and of sources of short-term credit outside the banks also meant that, at the given bank lending rate, there was an excess demand for credit which went largely unsatisfied. Credit rationing was thus an important feature of the financial system.[17]

B. Controls over Capital Movements

As a support to its monetary and exchange rate policies the Bank of Japan also

17. Even after allowing for the costs of holding compensating balances the cost of borrowing from the banking system tended to be below the true market level.

closely regulated the movement of capital. In principle, all capital movements were forbidden unless specifically authorised.

Non-resident acquisition of real estate, bonds-equities was tightly monitored. Non-bank resident investments abroad were subject to approval. There were also tight controls over leads and lags for trade-related financing. A variety of instruments were also in use to monitor the flow of capital through the banking system, including direct controls over their net foreign positions and (varying) special reserve requirements over their free yen (non-resident) deposits. There were as well, severe limitations on the activities of foreign banks.

These capital controls did succeed, in the main, in sheltering Japan's monetary policy from that of the rest of the world during the fixed exchange rate era, more so one suspects than in most other developed economies at the time. The conduct of monetary policy, in other words, was not unduly frustrated by offsetting capital flows. Evidence for this comes from findings that: (a) the interest rate effect on capital flows was "weak" (OECD (1972)) (b) variations in the supply of bank credit had a direct effect on non-residential fixed investment (OECD (1972)) (c) the offset coefficient was relatively low (see for example Miller (1980) who finds a 1st quarter offset coefficient of -0.3).

2. Trends in International Liberalisation – 1971 to 1986 a Summary

There are three discernible periods in the application of capital controls. The years between 1971 and December 1980; the years between December 1980 and 1984 and the years after 1984.

Between 1971 and 1980 capital controls were used in the main to stabilise the currency. One can here identify five distinct phases. First the years from 1971 to early 1973 when the yen was strong and net capital outflows were promoted. Second the period from the end of 1973 to 1976 when the intent was, on balance, (particularly in the earlier period when the yen was weak), to encourage inflows. Third from mid 1977 to the end of 1978 the yen was strong and policy reverted to encouraging net outflows. Fourth, the period from 1979 to December 1980 when the yen was again weak and there was yet another policy reversal, with net inflows now being encouraged. The final phase began in December 1980. (For details see Argy (1987)).

Until 1980 it is difficult to detect a clear trend in respect of international liberalisation, although there was probably some net intent to liberalise. From December 1980, with the passing of the Foreign Exchange and Foreign Trade Control Law, a decisive step forward was taken towards liberalisation. After 1980, additional moves to liberalise were adopted, but the pace is to some extent regulated with one eye on the strength of the yen.

The 1980 legislation provided that, in principle, most capital flows were free,

unless specifically disallowed. Thus the earlier principle that flows were prohibited unless specifically allowed was reversed.

The legislation explicitly liberalised transactions in a number of areas.

From April 1978 non-corporate residents had been allowed to hold foreign currency deposits only with Japanese banks but up to a limit of 3m yen. From December 1980 there was no limit. Until December 1980, too, accounts with banks abroad were prohibited. From December 1980, however, they were allowed to hold up to 3m yen (including Euro-yen). Corporate resident accounts, however, continued to be subject to approval. Japanese foreign exchange banks' freedom to accept foreign currency deposits (from residents and non-residents) and make foreign currency loans was enhanced. They were also free to pay market related interest rates on such deposits. Japanese companies had greater freedom to borrow abroad. Non-residents could now purchase and sell Japanese securities without licensing, issue bonds in Japan (subject to prior reporting) and hold non-resident bank accounts (replacing non-resident free yen accounts). Residents were free to invest abroad in foreign securities; foreign loans were also permitted (subject to prior reporting).

Despite the liberalisation measures in the 1980 legislation many restrictions remained. Ceilings continued to apply to banks' net foreign positions, spot and forward. These banks were also not allowed to trade in foreign currency CDs and CPs. There were restrictions on investments abroad by insurance companies and pension trust funds. There were also restrictive rules concerning borrowing abroad by government and semi-government bodies. Public sector financial institutions were also restricted in their investments abroad. Euro-yen bond issues by residents and non-residents continued to be tightly controlled. Non-resident issues in Japan were closely monitored with respect to collateral required, grade of company permitted, period between offerings by the same borrower and approval period. Residents were allowed to purchase foreign securities but these excluded CDs and CPs. Euro-yen lending with a maturity greater than one year was restricted. As noted above corporate resident accounts held abroad were restricted. The interest rate paid on non-resident yen deposit accounts was controlled. There was also some screening of real estate purchases by non-residents. Finally, an important point, the fact that controls could be reintroduced under broadly defined emergency conditions must itself have discouraged some movement.

From 1981 but particularly in 1983–84 these restrictions were gradually relaxed. Conditions were eased on the issue of Samurai bonds,[18] on Euro-bond issues and on Euro-yen lending. Ceilings were also relaxed on investments abroad by some financial institutions. Finally, legislation opened the door to potential official government

18. Non-resident yen-denominated securities issued in Japan.

borrowing from abroad.

3. The Effectiveness of Capital Controls 1972 to 80

A. The Available Evidence

Most of the available evidence appears to suggest that in general, the measures, once adopted, succeeded in their objective of changing the direction of capital flows, although the timing of the policy changes was not always necessarily right (see Argy (1987)).

Eken (1984) estimates an equation for the real U.S. dollar-yen exchange rate using as arguments the real short-term interest rate differential, lagged unexpected developments in the bilateral current account, the last period's real exchange rate and, importantly from our point of view, dummies to capture variations in capital controls. The time period covered by the regression in the last quarter of 1978 to the first quarter 1983 (a relatively short period). The dummies are significant and have the right sign suggesting capital controls had the expected effect on the exchange rate.[19]

A very recent study by Fujii–Ueda (1986) reviews existing econometric studies of long term capital flows and finds that in some of these at least some changes in capital controls (proxied by dummies) were significant. Fujii and Ueda themselves undertake an econometric study of the long term capital flow account, using as arguments several dummies to represent controls in different periods, the long term interest rate differential (with the U.S.), the difference between long and short rates in the U.S., the stock of net private wealth in Japan, the stock of net long-term foreign assets, the inflation rate differential and the difference between the rate which equilibrates the current account and the spot rate, the last two capturing exchange rate expectations.

Their principal findings, from our point of view, are that the coefficient on the interest rate differential increased over time while some of the dummies are significant, with the right sign,[20] but here much depends on the equation being estimated.

The effectiveness of capital controls could, in principle, also be tested by reference to the movements in the covered differential and in the differential between the Euro-rate and the local rate. Studies along these lines for Japan have been undertaken, for varying periods, by Otani–Tiwari (1981), Ito (1986), Otani (1983). They all find some support for the view that controls were effective (see also later).

19. No account is taken of official intervention which was important in that period. It may be that the dummies are really picking up the effects of intervention.

20. The dummies used were the following: D_0 72(1)–72(4), D_1 74(1)–75(2), D_2 78(1)–74(4), D_3 80(1)–80(4), D_4 (varying recent periods).

B. A Closer Look at the Capital Flows and the Evidence

A more impressionistic way of testing the effectiveness of capital controls is to relate variations in controls to particular components in the capital account which were the object of these controls.

To demonstrate we focus only on two components: the change in the net asset position on long term account (securities + loans only) and the change in the net asset position of the commercial banks. These accounts were tightly regulated.

Table 10 shows the trends in these two capital accounts. What do these trends reveal in relation to changes in capital controls, as summarised earlier?

In the course of 1972/3 when net outflows were being encouraged, there was a big change in the long term capital account, the rate of net outflow increasing sharply. At the same time in 1972 there was a big turn around in the monetary account which went from large net inflows to large net outflows.

In 1974/5 when net inflows were encouraged, we again observe a changed pattern in the accounts. The rate of long term outflows falls sharply in 1974, by 1975 becoming net inflows; there are also now monetary inflows in the first half of 1974.

From the second half of 1977 to the end of 1978, when net outflows were encouraged, there is again a dramatic turnaround,in line with directives. There are now large long term outflows; in 1977 and for most of 1978 there are also large monetary outflows. Finally, in 1979/80, when inflows were encouraged, the rate of long term outflow falls sharply, becoming inflows by 1980; at the same time, there is shift towards monetary inflows.

Despite the evidence reviewed so far there are reasons for remaining a little agnostic about its worth. First, one has to recall that in a flexible rate regime, without intervention, the capital account must, by definition, be the opposite of the current account. Since controls were in response to trends in the current account so opposite movements in the capital account might be expected, in part at least. The force of this argument is weakened, however, by the fact that there was a good deal of intervention undertaken by the Bank of Japan.

Second, an important consideration is that success in regulating a particular flow could well be neutralised by an opposite movement in another account. For example, Hewson–Sakakibara (1977), in a econometric study of the effectiveness of German capital controls, found precisely that: the effectiveness of the controls over a range of items, subject to control, was undermined by offsetting movements in the relatively uncontrolled accounts. Obvious candidates for such offsets in Japan could be net long term trade credit and direct investments or in some short term accounts. It has, however, been difficult to test these possibilities. For what it is worth, casual inspection of these other accounts and the capital account as a whole which includes these accounts does not appear to support these conjectures. For example, the long term capital account as a whole follows fairly closely the behavior of the selective account.

Table 10

Japan: Select Data on the Capital Account, Interest Rate Differentials and Exchange Rate

Year		1 Current account balance	2 Long term capital Account Loans + securities = outflows	3 Monetary movements change in commercial banks' position = outflows	4 Real long term interest rate differential + favours investment abroad	5 Covered differential (-favours investment in JAP) (average of the 3 months)	6 Euro-yen less Gensaki (average of the 3 months)	7 Effective rate (merm) 1980=100
1971	I	434	−175	−450	0.3	NA	NA	70.2
	II	1262	−427	147	1.5	NA	NA	70.0
	III	2100	52	−1725	0.4	NA	NA	71.1
	IV	2001	371	−1131	−0.9	−6.5	NA	75.6
1972	I	958	211	−453	−0.1	−2.0	NA	79.3
	II	1212	268	1237	0.3	−2.2	NA	79.7
	III	2084	714	894	0.4	−0.9	NA	80.6
	IV	2370	1285	−67	2.3	−1.5	NA	80.9
1973	I	494	1297	−564	4.5	−4.6	NA	85.2
	II	−416	1283	−382	5.2	0.3	NA	88.4
	III	101	1387	−1705	7.2	−0.4	NA	86.3
	IV	−315	1963	−1304	12.8	16.6	NA	84.8
1974	I	−3288	832	−4317	11.0	13.1	NA	82.2
	II	−2404	165	−4068	11.2	1.2	NA	83.6
	III	−134	762	−341	10.4	−0.5	NA	79.2
	IV	1133	535	615	2.1	−0.3	NA	77.9
1975	I	−925	−647	−1324	1.0	−4.5	−4.5	78.7
	II	−300	−611	−1537	−0.7	−4.2	−3.6	78.8
	III	−23	−242	1020	−0.8	0.3	0.3	80.0
	IV	566	−100	−132	0.6	−0.9	−0.9	79.2
1976	I	−109	−830	−1153	1.6	−0.4	−1.7	80.0
	II	941	−465	−407	2.4	−0.3	−1.0	82.0
	III	983	−456	164	2.4	−0.7	−1.0	84.4
	IV	1865	−8	531	1.2	−0.5	−0.6	83.3
1977	I	893	−537	149	0.5	−0.9	−1.1	85.8
	II	2183	−156	1057	0.8	−1.1	−0.7	88.9
	III	3261	391	1260	−0.3	−0.9	−1.0	91.8
	IV	4581	461	−967	−1.6	−3.2	−2.5	98.1
1978	I	3971	−1024	−1416	−1.8	−2.4	−3.4	99.8
	II	4579	2933	2569	−2.1	−2.2	−2.5	107.5
	III	5146	3396	−264	−3.7	−2.4	−2.6	120.9
	IV	2838	3814	−5110	−5.0	−2.3	−3.4	120.1

Year		1 Current account balance	2 Long term capital Account Loans + securities = outflows	3 Monetary movements change in commercial banks' position = outflows	4 Real long term interest rate differential + favours investment abroad	5 Covered differential (-favours investment in JAP) (average of the 3 months)	6 Euro-yen less Gensaki (average of the 3 months)	7 Effective rate (merm) 1980=100
1979	I	−711	3211	903	−5.7	−0.4	−1.0	113.3
	II	−1126	3406	−265	−7.6	0.9	0.1	105.5
	III	−3229	1547	−4077	−7.2	0.6	0.4	103.1
	IV	−3688	1690	−531	−5.8	1.6	0.8	94.2
1980	I	−5810	332	−3808	−4.2	1.7	1.7	92.2
	II	−4533	−2764	−9722	−3.7	0.9	0.5	97.4
	III	−1011	−2461	1021	−3.2	1.1	0.7	101.6
	IV	608	−1683	−792	−2.2	1.0	−0.1	109.1
1981	I	−2076	−1309	636	−1.5	1.0	0.1	116.1
	II	1455	331	−5386	−2.7	0.0	0.3	113.2
	III	3531	1384	1231	−1.0	0.2	0.1	111.0
	IV	1860	420	−1796	0.4	0.0	0.0	112.1
1982	I	−912	3314	−2119	1.3	−1.0	0.2	110.3
	II	2582	1688	−1636	1.8	1.8	0.1	107.2
	III	2924	2206	1405	1.7	−1.6	0.1	103.8
	IV	2256	−1242	2520	0.7	0.5	0.0	105.2
1983	I	1373	556	−1061	1.7	0.3	−0.1	114.9
	II	6272	1231	1610	1.6	0.7	−0.1	116.2
	III	6915	4989	1308	2.2	0.0	0.0	116.7
	IV	6239	3562	2088	2.2	0.2	0.1	121.8
1984	I	4806	2794	−3683	2.5	−0.9	0.0	124.3
	II	9982	10058	−5361	3.8	0.3	0.0	125.6
	III	8679	9248	−3559	3.6	0.1	0.0	122.6
	IV	11536	13500	−4414	3.3	0.2	−0.1	123.8
1985	I	6818	7517	−2639	3.2	−1.1	0.0	122.2
	II	13262	14615	−2951	3.3	−0.6	0.0	122.9
	III	13095	15450	−4705	3.0	−0.7	0.0	124.8
	IV	15994	15952	−2220	2.1	0.4	0.2	138.6
1986	I	12668	15146	−7102	2.9	1.2	0.0	147.7
	II		24929	−10615		−0.8	0.1	160.2

Sources: Bank of Japan (Monthly Balance of Payments), IMF, IFS, BIS

1-3 Bank of Japn
4 BIS Rate of inflation as the percent change in the consumer index in the first 3 months of term
5 IMF Data on spot forward end of month
BIS End of month interest rates Euro-dollar less Gensaki rate
6 BIS
7 IMF

This, however, is less striking for the short term accounts.

Third, the sharp turnarounds in the capital accounts could, in principle, also be explained by changes in expected relative returns on financial assets.

This is difficult to test on a casual basis. To identify some of the difficulties we look at trends in our long term account in relation to the long term real interest rate differential and the current account (as a proxy for expected real exchange rate changes). (See Table 10).

In 1973 the real interest rate differential strongly favoured investment abroad; at the same time with the current account weakening expectations about the yen may have become adverse. Consistent with these trends in relative returns there was in that year a sharp escalation in the rate of outflow.

In 1974 the signals even more strongly favoured investment abroad but now the rate of outflow fell sharply. In 1978 signals[21] appear to strongly favour investment in Japan yet there were huge long term outflows.

In 1979/80 the real interest rate differential strongly favoured investment in Japan but on the other hand the yen was weak (at least till the first half of 1980), so expectations were adverse most of the time. As we saw there was a sharp deceleration in the rate of outflow.

The conclusion from this brief analysis is that 1974 and 1978 seem to support our conclusion that capital controls were effective. However, 1973 and 1979/80 are ambiguous.[22]

21. Real short term interest rates, however, probably marginally favoured investment abroad.

22. The arguments above can be cast very simply in terms of an econometric equation. We have, as our starting point,

$$1.1 \quad K = -\alpha_1\left(rd - rf - \frac{Ee - e}{E}\right) + \alpha_2 D_1 + \alpha_3 D_2$$

where K is say, the long term loans + securities net outflow account. The first bracketed expression is the interest rate differential adjusted for expectations. D_1 and D_2 are dummies the first to represent the period 1972–73 and 1977–78 when net outflows were encouraged. the second to represent 1974 and 1979–80 when net inflows were encouraged. We can also write

$$1.2 \quad \frac{Ee - e}{E} = Pe - Pef - \alpha_3 CA/Y$$

The expected percent change in the exchange rate is a function of relative expected rates of inflation and the current account trend. Substituting this in the original equation gives

$$1.3 \quad K = -\alpha_1[rd - rf - (Pe - Pef)] - \alpha_1\alpha_3 CA/Y + \alpha_2 D_1 + \alpha_3 D_2$$

where the bracketed expression is now the real differential. In principle, too, according to the argument in the text total capital outflows (including the short term account) could replace the select long term component as a test of whether or not there has been some substitution into other accounts. Inevitably, having cast the relationships in this form one was tempted to estimate variations of Equation 1.3 for different periods. The results were very mixed but in general unsatisfactory, so they are not reported here. [See, however, Fujii – Ueda (1986)].

Before concluding we review briefly the evidence for the effectiveness of controls from trends in the covered differential and the Euro-yen-gensaki rate differential. These differentials are shown in Table 10.

In 1972 and early 1973 the covered differential favoured investment in Japan; after that briefly the differential strongly favoured investment abroad. In the years to late 1977 the differential in the main was small and tended to favour Japan. In 1977–78 the differential strongly favours investment in Japan. In 1979–80 the differential favours investment abroad. After that no clear trend is perceptible but the differential becomes, on average, small.

Similar trends are in evidence for the own-currency interest differential. The gensaki rate exceeded the Euro-yen rate by a significant margin in 1977–78; by 1979–80 this was reversed, although now the opposite margin is small. After that the differential approaches zero.

All these trends are consistent with the hypothesis that when controls discouraged (encouraged) net inflows the covered differential and the Euro-home rate differential would favour investment at home (abroad). At the same time after the controls were largely abandoned the differentials on both counts becomes small to insignificant.

4. Domestic Liberalisation – a Summary

It is difficult to understand Japan's experience with international liberalisation without some reference to her parallel experience with domestic liberalisation. Japan began to liberalise her domestic markets from about 1977; by the end of 1980, when the big switch to international liberalisation occurred, some progress on the domestic front had already been made. Domestic liberalisation actually preceded international liberalisation; however, one view is that since 1980 international liberalisation has actually outpaced domestic liberalisation.

We proceed in two steps. First we summarise the changes in the domestic financial scene which generated pressures to liberalise. Next we review very briefly the steps actually taken to free domestic markets. (For more details see Argy (1987)).

A. Pressures to Liberalise

In the aftermath of the First Oil Crisis the domestic financial scene was radically transformed. This in turn produced some pressures for domestic, as well as some international, deregulation.

From 1974 the decline in activity, combined with the adoption of easier fiscal policies, produced substantial deficits in the public sector accounts; these were financed by issues of government bonds, whose share in GNP increased dramatically.

As principal members of a syndicate, made up of financial institutions, the banks were forced to take up a proportion of the new bonds which were on offer. At the same time, they were required to hold these bonds for certain periods (after which, in general, the BOJ would purchase them). These arrangements allowed the authorities to set a relatively low interest rate on new issues. There was thus some divergence between the interest rate on new issues and the "freer" interest rate on bonds in the secondary (open) market.

The monetary authorities themselves became dissatisfied with the arrangements. From 1974 increasing attention was being paid to controlling money growth; direct sales to banks and large potential repurchases of bonds appeared to pose a threat to money stock control, so from around 1975 the Bank of Japan strongly insisted that the government should issue its bonds on the conditions consistent with prevailing market interest rates.

The banks also became increasingly dissatisfied with these developments. As the share of government bonds in their assets rose (from 2% in 1975 to nearly 8% in 1978) profitability fell; at the same time as open market rates became more volatile, the banks were concerned about potential capital losses from sales of some of these securities on the secondary (open) market.[23]

Meanwhile, with investment opportunities declining sharply, the corporate sector deficit was almost halved, in the process reducing its need for borrowing from the banking system. Thus the banking system reduced its lending to the corporate sector at the same time that it increased its lending to the government.

There were other (but lesser) sources of pressure for change. The inflation that followed the First Oil Crisis and the explosion in money growth in 1972 and 1973 produced sharp reductions in real interest rates on household savings. At the same time the inflation itself and the uncertainties associated with the years after the crisis also produced an increase in the financial surplus of the household sector. These developments, combined with slower real growth in the economy from 1974, made households more aware of the real returns they were earning on savings and of relative real returns potentially available on these savings. This led to some pressure from households for greater flexibility in the setting of interest rates.

Also, the search for higher real returns by both households and corporations (now in an easier financial position) resulted in banks losing funds to other financial institutions, (notably public sector intermediaries for example, postal savings), threatening their market shares. This brought yet further pressures from the banks to liberalise the interest rates and the maturity retrictions on their own deposits and to be allowed to offer new instruments (such as negotiable CDs), on which competitive

23. These sales to the secondary market of bonds held over the minimum period were allowed from 1977.

interest rates could be paid. The banks also demanded to be allowed a less restricted and more flexible lending policy. With the corporate sector more liquid, too, and with the growth of non-banks direct control of commercial bank lending (window-guidance) became less effective and this also led to demands for a more flexible interest rate policy.

The pressures went hand in hand with and were not unrelated to pressures to liberalise international markets. The gradual freeing up of domestic interest rates inevitably led to demands for freer capital flows, so households, enterprises and financial institutions could diversify their portfolios and take advantage of potentially higher returns abroad. Banks, faced with some decline in demand for their loans from corporations, squght to internationalise their activities. International liberalisation also required that a suitable range of flexible financial instruments be available to foreign investors and this brought reverse pressure to liberalise domestic markets.

Also, in the wake of the Oil Crisis came the huge OPEC surplus, some of which found its way into financial markets in Japan. At the same time central banks abroad, wishing to diversify their reserve asset holdings, diverted an increasing proportion of their reserves into the yen. This sharp increase in the demand for the yen as a store of value itself generated pressures to liberalise domestic interest rates and widen the available range of financial assets.

The shift to flexible exchange rates also highlighted a potential need to deepen the foreign exchange market as a means of potentially moderating exchange rate volatility (see Suzuki (1986) 9–17 and V). As we saw, too, there were strong pressures, particularly from the U.S., to liberalise on the domestic as well as international fronts (Frankel (1984)).

B. Domestic Liberalisation Measures

The domestic liberalisation measures adopted fall into a number of (overlapping) domains: arrangements respecting the marketing of government debt, the deregulation of interest rates, the widening of the capital market, the diversification of financial instruments available, the gradual relaxation of financial market segmentation, the shift from direct controls to more market oriented methods of conducting monetary policy. All of these developments which are briefly reviewed below, have important implications for the ways in which international liberalisation functions.

From 1977 the restrictions on the sales of government bonds imposed on syndicate members were gradually eased. The period over which they were required to hold such bonds was progressively reduced. By late 1983 banks were free to sell bonds in the secondary market, although they were still required to take up some proportion of new issues.

The freeing of interest rates on government bonds has proceeded gradually. In

1978/9 some newly issued bonds were marketed on a bidding basis. As restrictions on sales by syndicate members were relaxed interest rate differences between primary and secondary markets narrowed. Interest rates on newly authorised CDs in May 1979 were unregulated. Inter-bank rates were largely decontrolled in 1979. More recently (October 1985), the interest rate ceiling on large denomination deposits was removed.

A number of developments have also served to open up the capital market. More government debt was transacted in the secondary market; at the same time the corporate sector began to sell securities in the open market (in part because of the lesser availability of bank loans and a wish, in any event, to become more independent of banks but in part, too, because the open market has widened). Finally, non-resident participation increased the turnover in these markets.

An important development is the greatly extended range of financial instruments available in the last 6 years or so. The range of government bond maturities widened. For example, in 1978/9 the government began marketing bonds with maturities of two to four years. More recently bonds of less than six months maturity have been marketed. In May 1979 CDs were authorised. In 1985, the issue of money market certificates (MMC) and bankers' acceptances were authorised. The terms of issue of CDs, MMC, and large deposits have been progressively liberalised. Beginning 1981 there has been an avalanche of innovations in financial instruments offered by commercial and long-term credit banks, securities companies.

The capital market has also become less segmented. There are now closer linkages across financial institutions and arbitrage across different maturities and assets.

Finally, in the implementation of monetary policy there is some shift in emphasis towards more market oriented techniques. Although direct controls over banks are still in use there is now greater resort to market oriented measures; moreover, the intermediate target of policy has shifted from credit to the private sector to a broad money aggregate.

Yet with all these developments a prevalent view is that domestic liberalisation has still a long way to go (see The Economist, 11 October 1986, p 77; Okumura (1984)). The interest rate on some 80% of deposits is still regulated. There is no treasury bill or commercial paper market. The corporate bond market remains relatively underdeveloped. There are restrictions placed on CDs, money market certificates and bankers' acceptances.

5. How Internationalised is the Japanese Economy Now?

We have already seen that in terms of (a) conventional covered interest rate analysis, (b) Euro-yen less domestic rate analysis and (c) the application of capital controls and their bearing on capital movements, the Japanese economy has, since

1980, become very integrated with the rest of the world.

In this section we examine additional evidence on the internationalisation of the yen. In particular we review first its role (a) as a means of exchange, (b) as an intervention currency, (c) as a reserve currency and (d) as an investment currency. Additionally we look at further evidence of financial links. Finally, we try to summarise the present state of play on international restrictions and their impacts.

A. Some Summary Measures of Integration

As a means of exchange (transactions currency) the yen is still not widely used. It is virtually unused as a transactions currency for trade outside of Japan. However, even for Japanese trade its use is limited. Whilst the proportion of yen-denominated trade has risen sharply in the last decade or so (from some 17% for exports in 1976 to some 34% in 1985 and from some 1% for imports in 1976 to some 3% in 1985) it remains very low compared to other major Western economies.

As an intervention currency it is again virtually unused outside of Japan. (There has been some official foreign exchange market intervention by the U.S. but the amounts have been small). The DM, for example, is much more widely used, notably within the EMS.

As a reserve currency the share of the yen has risen sharply in the last decade or so. By 1985 its share was over 5% compared with some 65% for the U.S. dollar, 12% for the mark and some 3% for the pound sterling.

There are two measures widely used to represent the use of the yen as an investment currency. One is the share of the yen in Euro-currency deposits, the other is the share of the yen in international bond issues (including Euro-bonds).

The share of the yen in Euro-currency deposits has risen since 1976, when it was negligible, to some 2%, compared to some 81% for the U.S. dollar and nearly 10% for the mark. The share of the yen in international bond issues has fluctuated considerably in the last decade; in 1985 it was some 7.7% (compared to some 61% for the dollar, 6.8% for the mark, 9% for the Swiss franc).

We now turn to additional presumptive evidence of closer financial links. The share of trade in GNP has been rising; exports-imports as a per cent of GNP have risen from some 10% in 1973 to some 14%. Japanese companies and financial institutions have escalated their activities abroad. Foreign enterprises and financial institutions are much more in evidence in Japan now. The escalation in foreign banks' presence is well documented (BIS (1986)). The internationalisation of fund raising and investment of Japanese banks and of the corporate business sector is also well documented (Bank of Japan Special Paper No 112, Tables 5 and 6).

Evidence of closer financial links also comes from the rapid growth of both assets and liabilities, particularly long term, vis a vis the rest of the world. Table 11 presents some data on this. The most striking feature of the Table is the very rapid

Table 11
Japan - Private Sector
External Assets and Liabilities of Japan as percent of Exports
1972-85 - Select Years

	1972	1976	1979	1981	1982	1985
Assets						
1. Loans and Securities (long term)	11.8	14.2	33.2	33.3	45.7	108.7
2. Non-Monetary (short term)	0.6	0.3	1.1	1.2	2.0	5.1
3. Monetary (short term)	30.5	21.2	29.3	40.3	44.2	56.3
Liabilities						
1. Loans and Securities (long term)	31.3	19.7	23.5	30.0	35.0	48.6
2. Non-Monetary (short term)	24.8	14.8	14.3	13.4	13.5	9.0
3. Monetary (short term)	28.7	42.2	49.1	66.4	72.3	90.9

Long term means with a maturity of more than a year.

Sources: Assets and Liabilities, Bank of Japan - Monthly - Balance of Payments
DATA extended back to 1972 by Sakakibara - Kondoh (1984)
Exports - IMF Financial Statistics

Original Data
in millions of US dollars

growth, particularly since 1982, of private sector assets in the form of long term loans and securities. Short term liabilities and assets, but particularly the former, of the banking sector have also expanded rapidly. Interestingly short term liabilities of the non-bank sector have actually declined as a share of exports in recent years.

Table 12 presents some comparative statistics on international banking, recently published by the I.M.F. Shares in each total are provided in brackets. To get some idea of the importance of each component for an individual country this share must be compared with the share in GNP shown in the last column.

The Table is revealing in several respects. There are, however, no real surprises. The U.K. is consistently overrepresented reflecting its dominance as an international financial centre and its liberal policies towards capital movements. Germany and Japan, particularly Japan, are strongly underrepresented. Italy, particularly with respect to asset holdings abroad, is underrepresented. Both Switzerland and the Netherlands are overrepresented.

Table 12 International Banking Statistics end 1984 - in U.S. Dollars (bils)

	Resident Non-bank Holdings of Deposits Abroad	Bank Deposit Liabilities to Non-residents	Bank Loans to Non-banks abroad	Non-bank resident borrowings from banks abroad	Deposit Banks' Foreign Assets	Deposit Banks' Foreign Liabilities	GNP_2 Share (Weights)
U.S.	160.42 (0.64)	67.45 (0.17)	119.01 (0.27)	68.26 (0.39)	443.37 (0.29)	338.12 (0.24)	0.500
U.K.	20.35 (0.08)	144.70 (0.36)	144.85 (0.33)	13.83 (0.08)	489.71 (0.32)	531.62 (0.36)	0.069
Germany	11.36 (0.04)	17.47 (0.04)	32.36 (0.07)	35.14 (0.20)	75.23 (0.05)	58.22 (0.04)	0.100
Switzerland	26.62 (0.11)	111.10 (0.28)	28.19 (0.06)	7.31 (0.04)	161.64 (0.10)	134.59 (0.09)	0.015
Japan	2.81 (0.01)	3.58 (0.01)	36.99 (0.09)	8.52 (0.05)	126.92 (0.08)	127.05 (0.09)	0.162
France	9.87 (0.04)	36.59 (0.09)	56.82 (0.14)	17.06 (0.10)	151.06 (0.10)	165.24 (0.11)	0.079
Netherlands	11.69 (0.05)	14.94 (0.04)	15.66 (0.04)	7.34 (0.04)	57.37 (0.04)	52.94 (0.03)	0.021
Italy	8.98 (0.03)	1.95[1] (0.01)	0.66[1] (0.00)	19.64 (0.10)	39.78 (0.02)	56.69 (0.04)	0.054
Totals	252.0	397.78	434.54	177.1	1545.08	1464.47	
Australia	1.25	1.37	(N.A.)	19.73	0.85	2.07	

1 end 3rd quarter
2 Giavazzi - Giovanini (1986)
( ) Shares in total

Source: IMF, IFS

B. Existing Restrictions on International Capital Transactions and Their Exchange Rate Implications

Three considerations appear to be relevant in any short run analysis of currency effects of liberalisation measures. First we need to know if the restriction was binding on the particular sector, that is, was the sector in "disequilibrium"? A formal restriction need not be binding either because it can be avoided or because it is too generous in any event. For example, insurance companies may be able to get around the restrictions on foreign currency investments by appropriate diversification of their investments or the ceiling may be too generous (for some possible evidence on the latter see McKenzie (1986)).

Second, we need to know what the degree of "asset substitution" is at the margin. Suppose exchange rate expectations are given and suppose too that asset

substitution is perfect. If the ceiling on Insurance Companies was binding and it were lifted they would try to switch out of say domestic bonds into foreign bonds, in the process potentially raising domestic interest rates and pushing down the currency; however, marginal investors would take advantage of the potentially larger returns offered on domestic investment and absorb the switch without any actual change either in the home interest rate or in the exchange rate.

Third, the role of exchange rate expectations is crucial. There are two aspects of this. Liberalisation measures are frequently announced in advance; they are usually anticipated. Hence an exchange rate adjustment may occur in advance of the liberalisation measure; or a change in exchange rate expectations may accompany the measure. Evidently even if asset substitution were perfect a change in expectations would produce some chage in the currency. The interesting question, which we do not go into here, is what the "rationally expected" change in the currency is after a known restriction is lifted.

A simple, now very familiar, portfolio balance framework can serve to illustrate some of the points made, particularly with reference to the Japanese experience.

$$\frac{Mo}{Wh} = \alpha_1 rm - \alpha_2 rd - \alpha_3 \frac{Ee-E}{E} - A_2 \tag{1}$$

$$\frac{B}{Wh} = -\alpha_4 rm + \alpha_5 rd - \alpha_6 \frac{Ee-E}{E} - A_1 - A_3 \tag{2}$$

$$\frac{E.FA}{Wh} = -\alpha_7 rm - \alpha_8 rd + \alpha_9 \frac{Ee-E}{E} + A_1 \tag{3}$$

$$\frac{E.Moa}{Wh} = -\alpha_{10} rm - \alpha_{11} rd + \alpha_{12} \frac{Ee-E}{E} + A_2 + A_3 \tag{4}$$

$$Wh = Mo + B + E.FA + E.Moa \tag{5}$$

$$\alpha_1 = \alpha_4 + \alpha_7 + \alpha_{10} \qquad \alpha_5 = \alpha_2 + \alpha_8 + \alpha_{11}$$
$$\alpha_3 + \alpha_6 = \alpha_9 + \alpha_{12}$$

Residents are assumed to hold four assets: two domestic assets, money (Mo) and bonds (B) and two foreign assets, money (Moa) and foreign bonds (FA). The sum of these four assets, denominated in domestic currency, comprises resident wealth (Wh). Each of these as a proportion of wealth is a function of relative returns. rm and rd are respectively the returns on "money" and bonds respectively. $\frac{Ee-E}{E}$ is the expected rate of change of the exchange rate.

We need to impose the constraint that the current account in foreign currency terms cannot change in the short run, so we also have

$$\triangle FA = -\triangle Moa \tag{6}$$

Table 13
Japan: Existing (December 1986) Restrictions[1] on International Transactions

International

1. Ceilings on foreign exchange banks' net external position (effectively zero for spot and forward combined).

2. Ceilings on investments abroad by Insurance Companies and Pension Trust Banks. (For Insurance Companies from August 1986 ceiling of 30% of assets for foreign currency investments (including securities). For Pension Trust Banks 10% limit for foreign currency bonds).

3. Resident issues of Euro-yen bonds and foreign currency bonds abroad – requires conditional notification (20 days wait) – same restrictions (for example, as to grade of company, collateral required etc.) as those applying to resident companies issuing yen securities in Japan. However, inflow prohibited within 90 days.

4. Resident issues of foreign currency securities in Japan – conditional notification required – restrictions as in 3.

5. Non-resident issues of foreign currency securities in Japan (Shogun bonds). Conditions same as in 6 below.

6. Non-resident issues of yen denominated bonds in Japan (Samurai bonds) – conditional notification required – conditions to be met now more relaxed than for resident companies (for example, may not need collateral, maturity up to 15 years – resident companies require collateral and maturity to 12 years allowed). There may, however, be administrative delays in implementation.

7. Non-resident issues of Euro-yen bonds abroad – need approval of Ministry of Finance – however for high grade private companies (AAA) normally approved – credit rating approved for foreign governments lower (AA or AAA).

8. Medium to long run (longer than 1 year) Euro-yen lending to residents – restricted by administrative guidance.

9. Borrowing overseas by some public authorities (for example, municipalities) – by administrative guidance.

10. Restrictions on investments abroad by public sector and some specialised financial institutions – by administrative guidance.

11. Interest rate paid on non-official non-resident year deposits subject to same ceiling as for residents. Official non-resident deposits earn market related rates.

12. Resident holdings of foreign accounts abroad, including Euro-yen (currently Y.10m limit for non-corporate residents – corporate residents subject to approval of Ministry of Finance).

13. Screening of some non-resident purchases of real estate in Japan.

14. All direct foreign currency dealings (that is, outside foreign exchange banks) by residents subject to approval.

15. Offshore market (established December 1986) subject to some restrictions (issue of CDs and investment in bonds prohibited)[2].

Domestic (with potential implications for international transactions).

16. Interest rate controls on banks and some financial institutions.

17. Restricted availability of some short term financial assets – for example, T Bills, Commercial Bills. Restrictions on maturity range minimum size deposit on money market instruments currently available.

Notes: 1. Excluding direct investment restrictions.
2. At first sight it might be thought that the offshore market makes the interest rate control on non-resident domestic deposit accounts irrelevant. This may not be so since non-residents cannot transact with residents through the offshore account, hence some deposits in domestic banks will continue to be held. There is bound, however, to be some slippage between the two markets in Japan and also with the Euro-yen market.

This simple model can be solved for the domestic interest rate and the exchange rate in terms of several exogenous disturbances. The framework allows us to evaluate the currency-interest rate effects of four types of liberalisation measures, two "domestic", two international. The two domestic measures are (1) a decontrol of the interest rate on money (rm), (2) an increase in the range or quality of financial assets available. The two international measures are, (3) lifting of a ceiling on foreign security investments by some financial sector and (4) lifting of a restriction on foreign currency deposit accounts by residents.

We assume in what follows that any restriction is binding, that asset substitution is imperfect and that the expected exchange rate is given.

The first change is represented by an assumed exogenous rise in rm. The effect of this in the model is as expected: the currency appreciates and the domestic interest rate rises.

The second can be (indirectly) represented by a shift out of foreign bonds and into domestic bonds (reverse A1). (If we had non-resident holdings of domestic bonds there would be an upward disturbance here). This leads to an appreciation again but now a fall in the home interest rate.

The third can be represented by A1, that is, a shift out of domestic bonds into foreign bonds. We now get the reverse of the second disturbance: a devaluation and a rise in the home interest rate.

The fourth can be represented by a shift into foreign money but this can come out of domestic money (A2) or out of domestic bonds (A3). The shift out of domestic money leads to a devaluation and a fall in the home interest rate; the shift out of

bonds again leads to a devaluation and a rise in the home interest rate (see Appendix for proofs).

Thus it is seen, not surprisingly, that the lifting of some restrictions can strengthen the currency while the lifting of others may weaken it.

A detailed analysis of the effects of the lifting of remaining restrictions, shown in Table 13, is difficult for reasons already noted: how binding they are, the assumption about asset substitution and the effects on exchange rate expectations. The net overall effects are unlikely to be very significant.

C. Integration, Intervention and Money Targeting (Forecasting)

As we have seen there have been many occasions when the yen has been under strong pressures, sometimes upward (as in 1973–73, 1977–78, 1985–86) and sometimes downward (1974–75, 1979–83).

These pressures have come principally from fluctuations in U.S. interest rates and (more sustained) from current account developments. In the face of such pressures what are the principal financial policy options? First the authorities may do nothing and allow the exchange rate to bear the adjustment. Second they can try to relieve some of the pressures by resort to capital controls. Third they can intervene in the foreign exchange market and try to sterilise the cash base effects. Fourth they can change their monetary policy either by not sterilising foreign exchange intervention or by adjusting the monetary policy instrument.

In Japan's case a mix of these policies has been implemented when the yen has been under pressure. The second option represents a means of reducing the degree of integration; to a large extent, too, the choice between three and four depends on the degree of integration. If integration is very high three is not viable and so if intervention occurs the monetary stance will have to change.

The point to be made is that, having abandoned capital controls and having opened up the economy financially to the rest of the world, if Japan now chooses, for one reason or another, to stabilise the currency, it is likely that in the process, she will have to give up some monetary independence. Previously, to a limited degree sterilised intervention was feasible (for evidence of sterilised intervention see Haynes, Hutchison and Mikesell (1986)).

Table 14 shows the money growth projections (pseudo-targets) and the outcomes for the corresponding periods. There is a remarkable correspondence between the two. There is also strikingly, no observable difference betweeen periods when controls were relatively tight (1978–80), when they were weakening (1981–84) and when they had been largely dismantled (1984–86). Yet over this period the Bank of Japan had intervened on a fairly substantive scale in the foreign exchange market. If, in fact, as asset substitution increased it became more difficult to sterilise foreign exchange intervention one might have expected larger discrepancies between pro-

Table 14
Japan: Projected and Actual Growth Rates of Money[1]

Period		Projection %	Outcome %
1978	III	11 ~ 12	12.1
	IV	12 ~ 12.9	12.2
1979	I	12 ~ 12.9	12.3
	II	12 ~ 12.9	12.1
	III	around 12.0	11.7
	IV	around 11.0	11.2
1980	I	around 10.0	10.6
	II	10 ~ 10.9	10.1
	III	a little below 10.0	8.4
	IV	about 8.0	7.8
1981	I	about 7.0	7.6
	II	7 ~ 7.9	7.9
	III	9 ~ 9.9	9.6
	IV	10 ~ 10.9	10.6
1982	I	around 11.0	10.6
	II	around 10.0	9.2
	III	around 9.0	9.0
	IV	around 8.0	8.1
1983	I	7 ~ 7.9	7.6
	II	7 ~ 7.9	7.6
	III	around 7.0	7.1
	IV	around 7.0	7.2
1984	I	7 ~ 7.9	7.9
	II	around 8.0	7.6
	III	around 8.0	7.8
	IV	around 8.0	7.9
1985	I	around 8.0	7.9
	II	around 8.0	8.3
	III	around 8.0	8.3
	IV	8 ~ 8.9	9.0
1986	I	around 9.0	9.0
	II	8 ~ 9.0	8.5
	III	8 ~ 8.9	8.8
	IV	8 ~ 8.9	8.3
1987	I	around 8.0	–

Source: Bank of Japan

[1] M_2 including negotiable certificate of deposit from 1979.

jected and actual outcomes over time. This has not happened. One reason may simply be that money stock projections, in some measure at any rate, anticipate pressures on the currency and intervention. (This is facilitated by the fact that the projections are quarterly).

To amplify this last argument, assume that there is an anticipated upward pressure on the currency and compare two situations, one where asset substitution is relatively low and hence sterilisation is feasible and the other where it is high and sterilisation is not feasible. In the former case the authorities will expect to intervene and sterilise, in the second intervene and not sterilise. In the two cases money stock projections could be equally realized.

V. The Japanese and Australian Experiences Compared

A close inspection of the experiences of the two countries reveals that in general there are probably more parallels than contrasts. This section will try to summarise the comparative experiences of the two countries.

1. In the very early 1970s there were many similarities in the respective capital markets. In the two economies the banks were subject to detailed control; also particular attention was paid to bank credit aggregates, which were subject to quantitative limits. In the two economies, too, capital movements were, in principle barred and subject to special approval.

An important difference, then, was that capital markets outside the banking system were more highly developed in Australia than in Japan. Thus, whereas credit rationing tended to be highly effective in Japan it was somewhat less effective in Australia.

2. In the two economies, changes in capital controls were used during the 1970s to reconcile monetary and exchange rate objectives. The direction of capital controls changed as the position of the balance of payments changed. The controls were more extensive in Japan's case. In Japan too, the controls were direct (via approvals); in Australia's case outflows were monitored through authorisation; inflows, however, were subject partly to a pricing mechanism (the VDR) and partly to an embargo. It is likely too, that the controls were more effective in Japan's case as well as being in general more timely.

Capital controls were largely abandoned in Japan at the end of 1980. In Australia capital inflows were freed in 1978 but international markets were not completely liberalised till late 1983.

3. In the two countries some domestic liberalisation preceded full international liberalisation. A striking parallel is in the pressures to liberalise. A careful reading reveals many similarities here. In the two countries the growth of the public debt played a key role. Additional common influences were inflation, the increased sur-

plus of the household sector, the pressures on the banking system. In Japan there was some pressure from abroad; in Australia the Campbell Report in 1981 reflected changed public opinion.

In the two countries interest rates on government debt were freed; both countries in the late 1970s adopted some bidding (tender) system for marketing government debt while restrictions on holdings of such debt by financial institutions were removed. Other interest rates were also progressively decontrolled while in the two economies the range of financial instruments available widened substantially. Monetary policy also came to rely more on market mechanisms; the two countries switched to money growth "projections" at about the same time.

Despite these many similarities it is fair to say that domestic financial regulation has proceeded much farther in Australia than in Japan. To quote the Australian governor of the RBA (Johnston (1985) p. 808).

> "We now have a virtually fully-deregulated financial system – at least in the monetary management sense. Indeed, we have deregulated the financial system as fast as any country".

The contrast is more striking on the domestic than on the international front. Japan is still some way from complete liberalisation on the domestic front; in Australia the principal remaining control is on the maximum interest rate that can be charged on older housing loans (prior to April 1986); on new loans (after April 1986) there is also in reality an effective limit, but the level is higher.

On the international front the differences are less pronounced. In Australia there are three very minor controls remaining:

— no more than $5,000 in notes and coins may be taken abroad;
— companies and individuals wishing to invest in countries seen as "tax havens" by Australian authorities must obtain clearance from the Australian Taxation Office; and
— foreign official institutions, other than central banks, which have responsibility for investing part of their country's foreign reserves, must seek Reserve Bank agreement to their investments in Australia if they wish to be exempt from withholding tax.

In addition, there are prudential controls over the net foreign asset positions of the trading banks.

It is probably also true to say that despite the progress in Japan the range, type and quality of financial instruments available is wider in Australia than in Japan.

4. Australia had great difficulty controlling its money stock growth during the crawling peg years. Indeed for three years in succession money growth targets were missed. These difficulties were not unrelated to Australia's integration with the rest of the world. In sharp contrast, Japan was very successful, in the main, in meeting her money growth projections (target) despite at times massive foreign exchange

intervention.

5. The pressures for international liberalisation were a little different in the two economies. In Australia the principal forces at work were the precedents abroad, the feeling that controls were becoming increasingly ineffective, the shift to flexible rates, the conservative influence, the domestic liberalisation programme and, related, the Campbell Report. In Japan overseas pressures were very important but there was also some feeling that controls had had their day.

Appendix

Case 1: The Effect of a Change in rm

To solve for the effects on E (the exchange rate) and rd (the interest rate) we totally differentiate Equations (1) and (2) noting that $\triangle Mo=\triangle B=0$ (that is, the total volume of money and bonds is fixed) that, as in the text (6) $\triangle FA=-\triangle Moa$ and Ee is given. We have

$$-\frac{Mo}{Wh^2}(FA+Moa)\triangle E = \alpha_1\triangle rm-\alpha_2\triangle rd+\alpha_3\triangle E[-\triangle A_2] \quad (A\text{-}1)$$

$$-\frac{B}{Wh^2}(FA+Moa)\triangle E = -\alpha_4\triangle rm+\alpha_5\triangle rd+\alpha_6\triangle E[-\triangle A_1][-\triangle A_3] \quad (A\text{-}2)$$

For this case $\triangle A_1=\triangle A_2=\triangle A_3=0$

It is readily seen that these two equations can be solved for E and rd in terms of rm.

The solutin for E is

$$\frac{\triangle E}{\triangle rm} = \frac{\alpha_2\alpha_5\left(\frac{\alpha_1}{\alpha_2}-\frac{\alpha_4}{\alpha_5}\right)}{\alpha_2\left[\alpha_6+\frac{B}{Wh^2}(FA+Moa)\right]+\alpha_5\left[\alpha_3+\frac{Mo}{Wh^2}(FA+Moa)\right]} \quad (A\text{-}3)$$

where $\alpha_1>\alpha_4$ and $\alpha_5>\alpha_2$ so there is an unambiguous appreciation.

The solution for rd is

$$\frac{\triangle rd}{\triangle rm} = \frac{\alpha_1\left[\alpha_6+\frac{B}{Wh^2}(FA+Moa)\right]+\alpha_4\left[\alpha_3+\frac{Mo}{Wh^2}(FA+Moa)\right]}{\alpha_2\left[\alpha_6+\frac{B}{Wh^2}(FA+Moa)\right]+\alpha_5\left[\alpha_3+\frac{Mo}{Wh^2}(FA+Moa)\right]} \quad (A\text{-}4)$$

The domestic interest rate will unambiguously rise.

Cases 2 and 3: The Effect of a Change in A_1

We use now Equation 2 and 3 assuming again $\triangle Mo=\triangle B=0$ and $\triangle FA=-Moa$. We differentiate dropping now rm

$$\frac{FA}{Wh}\triangle E-\frac{1}{Wh}\triangle Moa-\frac{FA}{Wh^2}(FA+Moa)\triangle E = -\alpha_8\triangle rd-\alpha_9\triangle E+\triangle A_1 \quad (A\text{-}5)$$

Differentiating Equation (4) for $\triangle$Moa and substituting in (A5) we have

$$\begin{aligned}&\frac{FA}{Wh}\triangle E+\frac{Moa}{Wh}\triangle E-\frac{Moa}{Wh^2}(FA+Moa)\triangle E+\alpha_{11}\triangle rd\\&+\alpha_{12}\triangle E-\frac{FA}{Wh^2}(FA+Moa)\triangle E\\&=-\alpha_8\triangle rd-\alpha_9\triangle E+\triangle A_1+\triangle A_2+\triangle A_3\end{aligned} \tag{A-6}$$

Collecting terms in (A6) and (A2), disregarding (A2) and (A3) and rm, we again have two equations which we can solve for E and rd now in terms of $\triangle A_1$.

The solution for E is

$$\begin{aligned}&\frac{\triangle E}{\triangle A_1}=\left(1-\frac{Moa+FA}{Wh}\right)\left(\frac{Moa+FA}{Wh}\right)+\alpha_{12}+\alpha_9-\left(\frac{\alpha_8+\alpha_{11}}{\alpha_5}\right)\\&\left[\alpha_6+\frac{B}{Wh^2}(Moa+FA)\right]\end{aligned} \tag{A-7}$$

Recalling that $\alpha_5>\alpha_8+\alpha_{11}$ and $\alpha_{12}+\alpha_9>\alpha_6$ it is easily shown that $\frac{\triangle E}{\triangle A_1}>0$. For the interest rate we have

$$\begin{aligned}&\frac{\triangle rd}{\triangle A_1}=\frac{k_1-k_2}{k_1(\alpha_8+\alpha_{11})-\alpha_5 k_2}\\&k_1=\alpha_6+\left(\frac{B}{Wh}\right)\left(\frac{FA+Moa}{Wh}\right)\\&k_2=\left(1-\frac{Moa+FA}{Wh}\right)\left(\frac{Moa+FA}{Wh}\right)+\alpha_9+\alpha_{12}\end{aligned} \tag{A-8}$$

Noting that $\alpha_5>\alpha_8+\alpha_{11}$ and $\alpha_{12}+\alpha_9>\alpha_6$, $k_2>k_1$, the above expression must be positive.

Case 4: Shift out of money (A2)

We now use (A6) and (A1) to obtain

$$\frac{\triangle E}{\triangle A_2}=\frac{\alpha_2+\alpha_8+\alpha_{11}}{k_3(\alpha_8+\alpha_{11})+\alpha_2 k_2} \tag{A-9}$$

where $k_3=\alpha_3+\frac{Mo}{Wh}\left(\frac{FA+Moa}{Wh}\right)$

and k_2 is as above.

$$\frac{\triangle rd}{\triangle A_2} = -\frac{(k_2-k_3)}{k_3(\alpha_8+\alpha_{11})+\alpha_2 k_2} \tag{A-10}$$

Noting that $\alpha_9+\alpha_{12}>\alpha_{13}$ it is easily demonstrated that $k_2>k_3$.

Shift out of domestic bonds into foreign money (A3)

We now use (A2) and (A6). The solutions are

$$\text{A11}\quad \frac{\triangle E}{\triangle A_3} = \frac{\alpha_5-(\alpha_8+\alpha_{11})}{\alpha_5 k_2-(\alpha_8+\alpha_{11})k_4} \tag{A-11}$$

$$k_4 = \alpha_6+\frac{B}{Wh}\left(\frac{FA+Moa}{Wh}\right)$$

where $\alpha_5>\alpha_8+\alpha_{11}$ and $k_2>k_4$.

$$\frac{\triangle rd}{\triangle A_3} = \frac{k_2-k_4}{\alpha_5 k_2-(\alpha_8+\alpha_{11})k_4} \tag{A-12}$$

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