Quantitative Analysis

The Latin American Debt Crisis and Japan's Official Financial Flows

Japan became one of the most prosperous economies in the world in the 1980s. Concomitantly, and as the debt crisis deepened, the indebted economies of Latin America began to suffer from their limited access to the foreign capital on which they had previously relied. The Japanese government, in the mid-1980s, began to extend its official flows (OOF and ODA) to stabilize and help resolve the Latin American debt crisis. Particularly under the debt crisis situation, foreign aid (ODA) as well as OOF provided an important source of stable foreign capital inflows for the debtors, a trend that helped keep the debtors from defaulting. These funds thus contributed significantly to providing stability in international finance. In this special context, therefore, we can consider official flows as a cost in maintaining international public goods.[1] Japan shouldered a large portion of this cost of public goods provision. As Japan's total official flows to developing countries increased dramatically under the Capital Recycling Program initiated in 1986, Latin America received the second largest portion of such flows among the developing regions. A close examination of Japan's official financial flows, however, reveals the uneven allocation of such flows among the Latin American debtors.

This chapter examines Japan's involvement in the Latin American debt crisis through its official financial contributions. The quantitative method used in the chapter identifies and isolates important factors that influenced the Japanese government's decision to allocate official funds to Latin America. As I discussed in chapter 2, Japan's financial flows have constituted important channels for the past few decades, during which Japan has related to developing countries. Particularly as a financial crisis hit these countries, any positive financial flows (more likely from public sources than private) contributed to the stability of specific debtors and to the world of international finance in general. What were the major factors influencing the Japanese government's decisions regarding the disbursement and allocation of Japan's official financial flows during the debt crisis? With what criteria did the Japanese government (and its private sector, to lesser extent) decide which Latin American countries would receive a greater share of needed financial resources and which would receive less?

The analysis of these questions, in effect, tests the two hypotheses posed in chapter 1, hypotheses that aim to explain variance in Japan's behavior during different episodes of financial crisis management. This exercise probes how the hypotheses fare on the microlevel as they try to explain country variation of Japanese financial allocation in Latin America at the time of the debt crisis. In addition, by taking advantage of multivariate regressions, the quantitative method enables us to isolate and control for the influence of the variables included. The results provide unambiguous findings of the relevance of each variable.[2] The purpose of this quantitative chapter is therefore to clarify the sets of relationship among actors and forces involved in Japan's decision making in management of the Latin American debt crisis and to verify them statistically.

The Latin American debt crisis provides good experimental ground for quantitative analysis for various reasons. First, the actors involved in the genesis and resolution of the crisis are definable and quite limited in scope; the governments of the creditors, IFIs such as the IMF and the World Bank, the debtors (mostly governments and some private sector debtors), and transnational banks from the creditor countries. Furthermore, we can observe the fairly discernible resolution of this debt crisis, especially among the middle-income countries of Latin America (and some in Asia) in the early 1990s, after many of them experienced rescheduling and reconstruction of their debt through Brady deals or otherwise. This resolution enabled many of these economies to begin a successful return to the international financial market for at least several years, into the 1990s.[3] The second reason is more technical. Due to the relatively slow pace of its resolution and the large number of Latin American countries involved, the Latin American debt crisis presents a significant number of data points from which to run regression analysis.

In the first section of this chapter, I analyze Japanese–Latin American economic relations and the role of official financial flows (ODA and OOF) allocated to Latin America.[4] In the second section, I construct regression models to examine factors determining the decisions of the Japanese government and, to a lesser extent, Japan's private financial sector concerning fund allocation to the Latin American countries under the debt crisis. I include discussion on how I operationalize the variables used in the regression models. Five mutlivariate regressions are run, and results are reported. In the third section of the chapter, the results and findings are discussed. The quantitative analysis in this chapter indicates that the Japanese government's commitment to the management of the Latin American debt crisis was increased by three principal factors: (1) Japanese self-interest and the high private returns anticipated from the government's active involvement, including a desire to support U.S. economic interests in Latin America; (2) the strong institutional linkages consti-

tuted among transnational banks; and (3) the strong political leverage that banks had on the Japanese government's decision making at the time of the debt crisis.

Japan and Latin America

Due to extensive geographical distance and a lack of historical interaction, most of Latin America was unfamiliar to Japan until recently. In addition, the Japanese government considered the region to be within the U.S. sphere of influence, so it refrained from competing directly with U.S. economic interests there. Migration and bilateral trade dominated the early stage of interaction between Japan and Latin America.

The history of Japanese immigration to Latin America began with the migration of mostly poor Japanese farmers to Brazil in the 1920s and 1930s. Paraguay, Peru, Mexico, and other Latin American countries have also accommodated Japanese immigrants. Latin America currently has the largest Japanese population (estimated at 1.5 million) outside of Japan.[5] Approximately 250,000 Japanese chose to go and live in Latin America throughout the first half of the twentieth century, a flow that constituted 56 percent of total Japanese emigration.

Trade relations between Japan and Latin America became relatively important in the 1950s, when almost 10 percent of Japan's export and import exchange occurred with Latin America. However, Latin America's importance in Japanese trade has declined slowly and surely over time. As I noted earlier, total Japanese trade with Latin America looks much less impressive than Japanese trade with industrial democracies or countries in Asia (see chap. 2 and fig. 2.1).

Japanese FDI activities in the region followed a path similar to those of the United States during a large influx in the 1950s. Latin America was an attractive direct investment site because of its abundant minerals and natural resources and its relatively large but traditionally closed markets for manufactured goods. Japan followed the American example, but its firms arrived late in Latin America; balance-of-payments restrictions imposed by Japan's still capital-poor position limited Japanese FDI considerably until the 1970s. However, the "national project" format helped increase Japan's FDI in Latin America, partly by reducing private sector risk in investing in the region's natural resource projects (see chap. 2). For the Japanese government, these projects became important policy instruments in influencing private sector capital allocation in the developing world. For Japanese commercial banks, the government provided additional money for potentially lucrative but highly risky
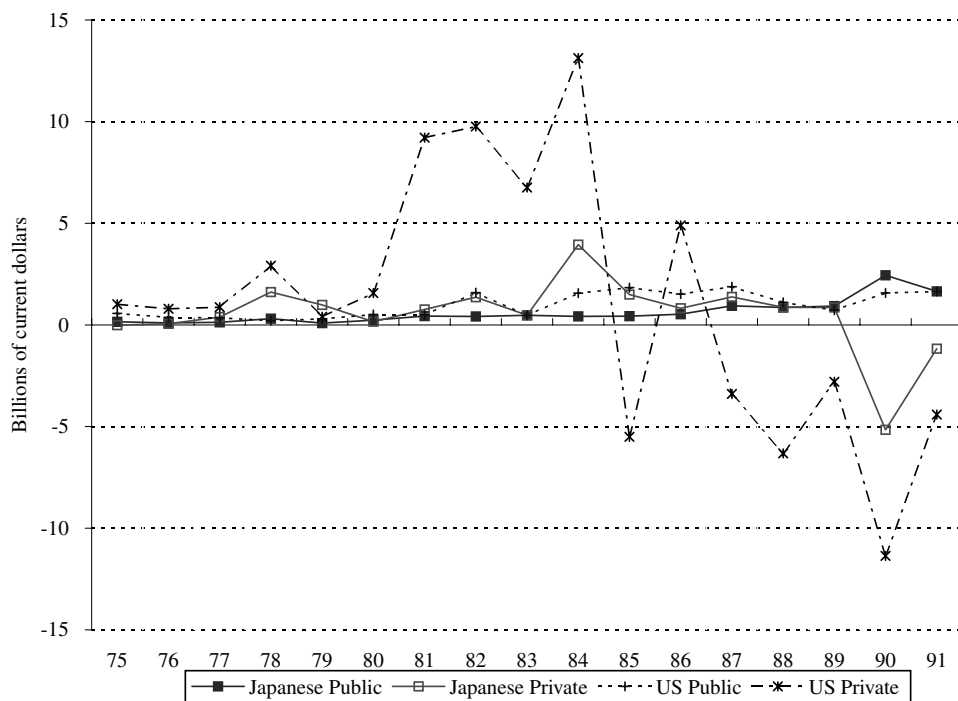
Fig. 3.1.   Net financial flows to Latin America from the United States and Japan, 1975–91. (From OECD, *Geographical Distribution of Financial Flows to Developing Countries.*)

investments in natural resource extraction industries. Despite the policy efforts, Japan's FDI in Latin America did not become significant until the mid-1970s (see table 2.3).

The internationalization of Japan's financial activities since the mid-1970s led Japan to become increasingly actively engaged in Latin America (see fig. 3.1). Japanese banks began lending to the region and other developing countries as their foreign lending increased rapidly in conjunction with deregulation granted by the MOF. Heavy lending began in the latter half of the 1970s and continued until the early 1980s, as Japanese banks extended syndicated loans to Latin American and other governments in collaboration with American and European banks.[6]

There are several reasons for the significant increase in Japanese lending to Latin America. First, Japanese banks' eagerness to extend loans abroad had the same root as the global lending boom itself. Petrodollars accumulating in the foreign exchange accounts of some newly enriched oil-exporting countries

were recycled and found their way into Japanese bank deposits. Hit additionally by the slump in domestic demand after the oil shock and the increased internationalization of the Japanese manufacturing sector, many banks saw no other option but to seek customers overseas. At the time, the Japanese government believed it was necessary to diversify its sources of raw materials, particularly oil, from countries beyond Asia and other than OPEC (Organization of Petroleum Exporting Countries) members. In the 1970s, after a brief period of a balance-of-payments deficit caused by the oil crisis, the Japanese economy managed to overcome its chronic balance-of-payments problems and was in a position to allow some outflow of capital.

Together, profit-maximization calculations, international competition, and medium- and long-term economic considerations made by the Japanese banks constitute a second reason that led the banks to proceed with lending to sovereign entities.[7] In many cases, Japanese banks followed the lead of American banks in forming syndicates, and they eventually became managers (leading banks) in syndicated loans. The MOF also guided such banks' behavior, encouraging them to act as leading banks in syndication.[8]

The Japanese government's overall development policy and pressure from the Japanese manufacturing sector comprise a third reason for increased lending to Latin America. The Japanese government played a major role in facilitating private lending to developing countries, particularly to a booming but traditionally foreign Latin America. Various official instruments (including the formation of "national projects," discussed in chap. 2) were used to encourage banks to lend to countries where they otherwise would not. The Japanese manufacturing sector also relied heavily on Japanese bank loans for investments abroad. Spindler notes,

> In essence, this general pattern has called for private Japanese industry to execute a given overseas project, relying on the Japanese government and a syndicate of Japanese commercial banks to provide a major share of the necessary financing.[9]

Furthermore, it is important to consider the essential relationship between trade and financial flows. The role of trading companies is crucial in this respect. On one hand, because of Japan's lack of natural resources, especially oil, a good part of Japanese investments or loans were provided to secure these raw material imports. Joint ventures between the Japanese government, banks, and trade and manufacturing companies were developed in the 1960s and 1970s to expand access to natural resources. On the other hand, such financial instruments as export credit or tied aid were also frequently used to expand Japan's export markets for its manufacturing goods.

Finally, the presence of the United States is an important factor in explaining Japanese banks' international behavior, particularly in the Latin American debt crisis. The U.S.-Japanese relationship was a major factor that led the Japanese private banks and the government to become heavily involved in the debt crisis. Interbank politics between the two countries were important in determining the volume and allocation of private capital flows. Devlin stresses that before 1979, those seeking loans (i.e., developing countries) faced a nearly flat commercial loan supply curve in Latin America. Devlin explains that this flat supply curve results from the competitive nature of banking and the "follow-the-leader psychology" among banks.

> Concentration of the debt crisis in Latin America may not be unrelated to market structure. The leaders in the oligopolistic market, especially in the initial phase of the 1970s expansion, were U.S. banks. These institutions have traditionally been most comfortable in Latin America. To the extent that the credit market was subject to interdependent decision-making and follow-the-leader psychology, Latin America may have been the developing region subject to the most intensive marketing pressures of the banks.[10]

In the evolution of syndicated bank loans, notes Devlin, "upstart banks relied heavily on the participation of other relatively *inexperienced* banks."[11] Japanese banks' involvement in Latin America increased, and they began taking a leading role in syndicated loan operations more often in the late 1970s and early 1980s, despite signs of impending disaster.

As the Japanese government was faced with the debt crisis in Latin America, a situation that threatened the stability of the international banking and financial sector, one primary means through which the government participated in the resolution of this financial crisis was to increase official financial flows to the region. Traditionally, official financial support from the Japanese government was limited to resource-related activities in Latin America, but the goals of Japan's official financial flows expanded as the region experienced a major financial crisis.

The Latin American countries were not, however, treated as like units. A close analysis of Japan's relations with individual Latin American countries reveals variance in Japan's interests. In addition, each country has had different and sometimes fluctuating politico-economic relations with the United States. All these factors influenced the Japanese government's decisions. Before I discuss these factors, it is worthwhile to analyze the dependent variable—Japan's official flow allocation in Latin America over time.

On the aggregated level, as figure 3.2 indicates, there was a gradual but

ODA
OOF

2000
1500
1000
500
0
-500

Millions of US dollars

1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991
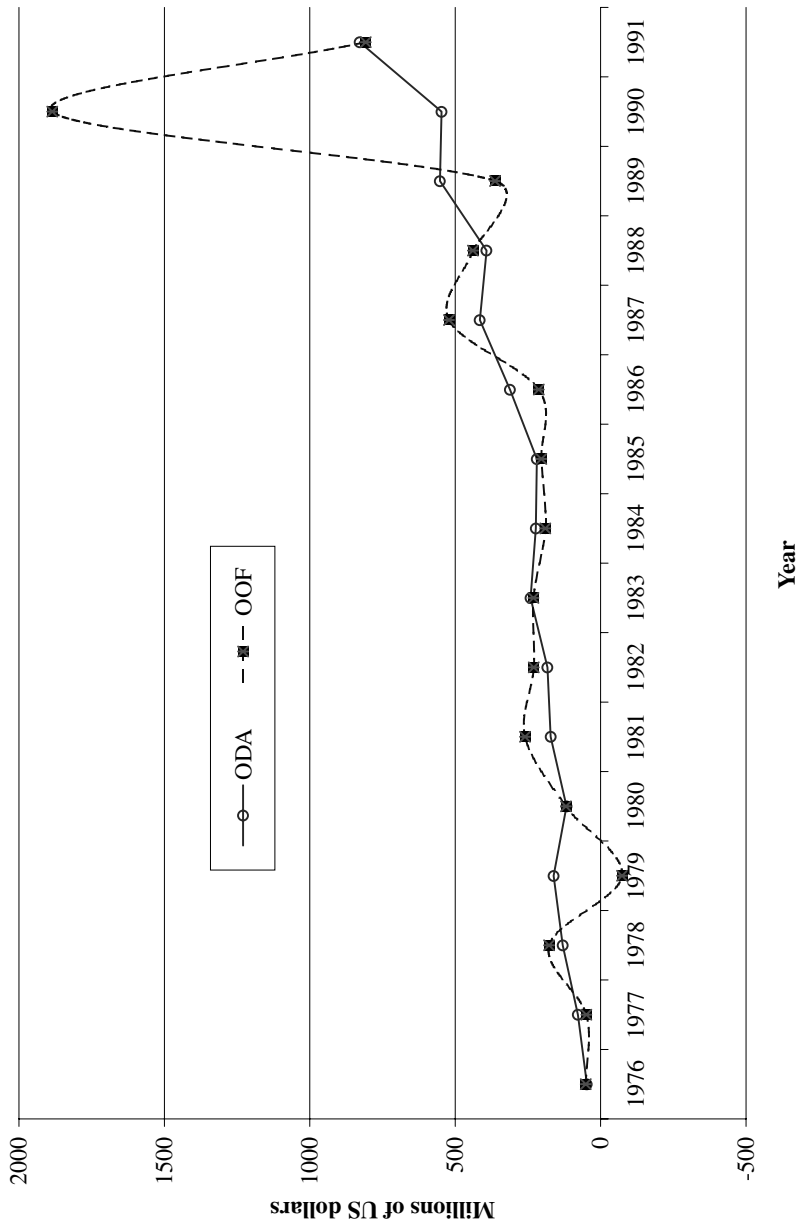
Year

Fig. 3.2.   Japan's ODA and OOF to Latin America, 1976–91. (From OECD, *Geographical Distribution of Financial Flows to Developing Countries*.)

steady increase in both ODA and OOF to Latin America, particularly after the onset of the debt crisis and since the initiation of Japan's Capital Recycling Program in 1986. The year 1990 shows a prominent peak in OOF disbursement to Latin America, which stemmed from the successful conclusion of the Brady deals with Mexico. The Japanese government contributed $1.9 billion in official loans to Mexico for this purpose. Table 3.1 demonstrates that certain Latin American countries, especially Brazil and Mexico, were consistently large recipients of Japan's official flows during this period. These two countries plus Venezuela and Argentina received the majority of Japan's OOF. ODA was distributed to smaller and poorer countries (with a large number of Japanese immigrants), such as Peru and Paraguay, as well as some Central American countries, including Honduras, El Salvador, and Costa Rica.

Three variables are plotted against Japan's official flow allocation (the average from 1983 through 1990) in Latin America: the outstanding debt of each Latin American country, the total trade of each country with Japan, and the country's respective per capita GNP. These variables are the usual suspects when it comes to Japan's aid allocation decisions. However, none of them give any clear indication of single-handedly attracting or repelling Japanese official flows. Three scatter plots (figs. 3.3, 3.4, and 3.5) provide an inconclusive picture of any of these factors as the single and dominant influence on Japan's official financial flow allocation. Therefore, we have every reason to proceed to run multivariate regressions.

TABLE 3.1.   Top Five Latin American Recipients of Japan's ODA and OOF, 1976–1991 (averages in millions of US dollars)
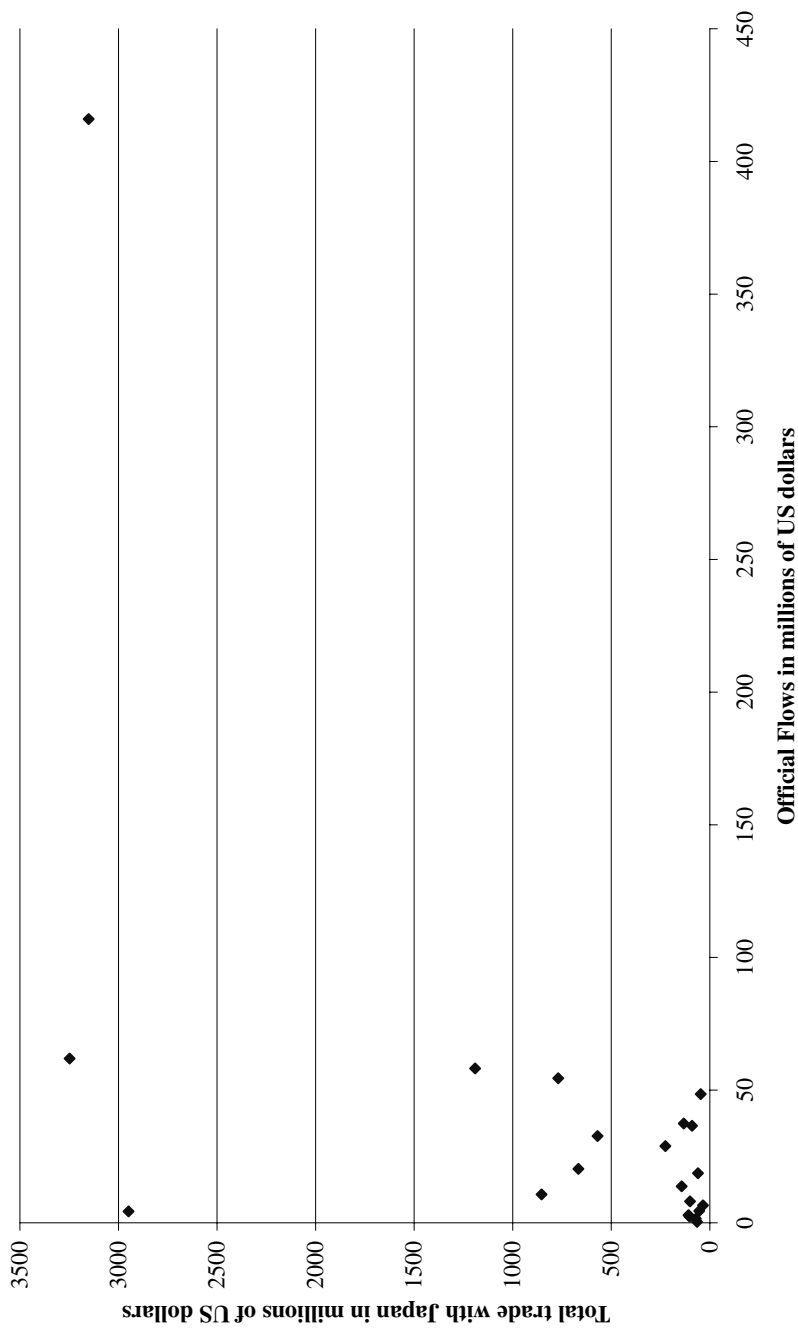
	1976–80[a]		1981–85[a]		1986–91	
ODA						
1	Brazil	25.48	Brazil	37.04	Peru	86.48
2	Bolivia	13.16	Bolivia	29.58	Brazil	68.18
3	Peru	11.70	Peru	24.64	Bolivia	59.35
4	Paraguay	11.48	Mexico	23.72	Honduras	45.43
5	Ecuador	9.12	Paraguay	23.46	Paraguay	44.30
OOF						
1	Brazil	60.92	Mexico	151.22	Mexico	511.35
2	Trinidad	1.32	Colombia	46.80	Venezuela	110.30
3	Mexico	1.24	Argentina	12.14	Chile	67.62
4	Ecuador	0.96	Paraguay	6.08	Argentina	53.10
5	Jamaica	0.60	Brazil	3.54	Ecuador	19.27

Source: OECD, *Development Report,* various issues.
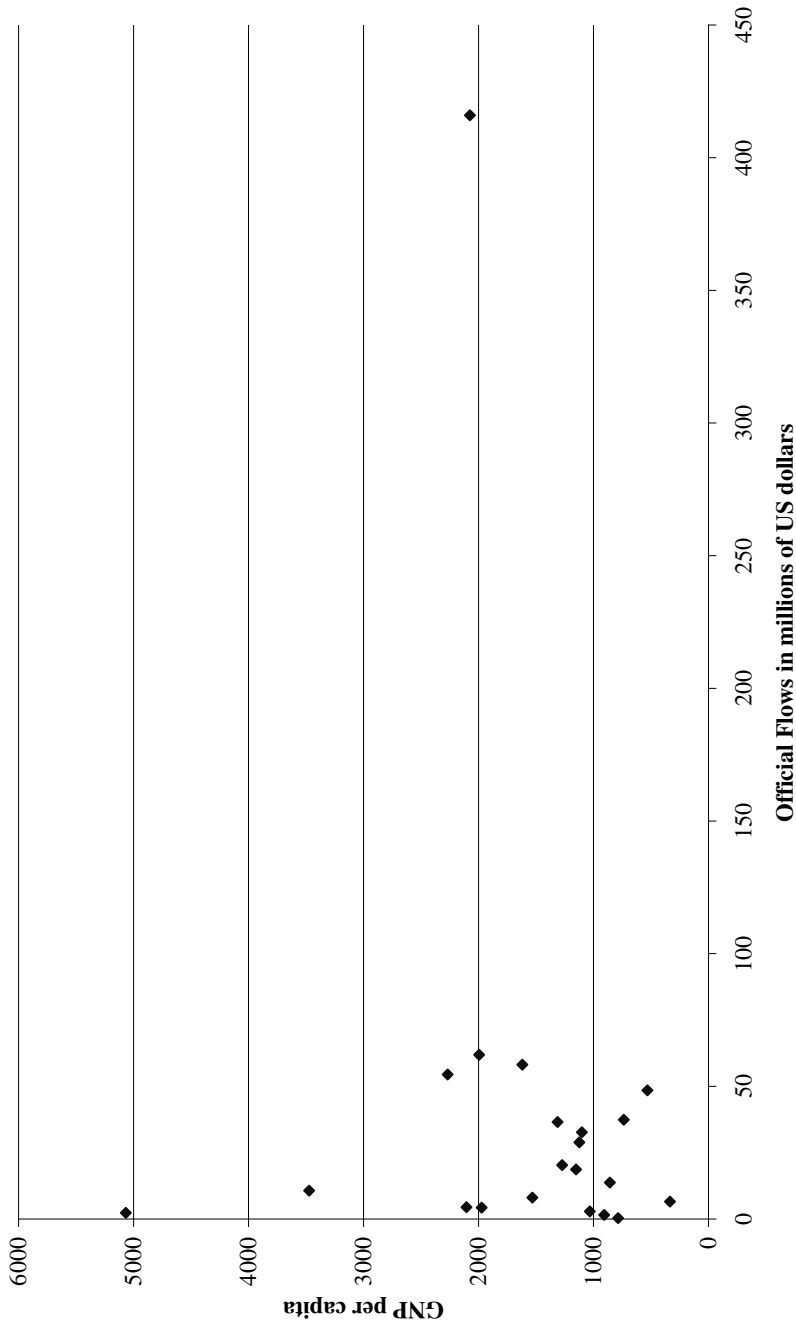[a]Venezuela is not included during these years due to missing OOF data.

Official Flows in millions of US dollars

450

400

350

300

250

200

150

100

50

0

70000

60000

50000

40000

30000

20000

10000

0

Debt outstanding in millions of US dollars

Fig. 3.3.   Official flows (X) and debt outstanding (Y), average 1983–90. (From OECD, *Geographical Distribution of Financial Flows to Developing Countries*, and Japan Bond Research Institute, *Country Risk Information*.)

Official Flows in millions of US dollars

Total trade with Japan in millions of US dollars

Fig. 3.4.   Official flows (X) and total trade with Japan (Y), average 1983–90.   (From OECD, *Geographical Distribution of Financial Flows to Developing Countries*, and IMF, *Direction of Trade Statistics Yearbook*.)

Official Flows in millions of US dollars

GNP per capita

6000 5000 4000 3000 2000 1000 0

0 50 100 150 200 250 300 350 400 450

Fig. 3.5.   Official flows (X) and GNP per capita (Y), average 1983–90. (From OECD, *Geographical Distribution of Financial Flows to Developing Countries*, various issues, and World Bank, *World Tables*, various issues.)

Regression Analyses

Variables of Interests

This study argues that two factors, the joint product nature of international financial stability and transnational linkages, are critical components of the Japanese government's decisions regarding involvement in financial crisis management. These two factors motivated the Japanese government when it allocated public funds to and among Latin American and Caribbean countries during the debt crisis. The first dimension arises from Japan's private interests. Japan's bilateral economic (trade and investment) and political (immigration) interests in certain Latin American countries have shaped Japan's private interests. In addition, Japan's relatively high financial exposure in these countries led the Japanese government to become involved in crisis management to protect Japanese financial institutions. The second dimension involves the economic and institutional linkages that connected Japan to Latin America, directly and bilaterally in some cases and indirectly, through the United States, in other cases. The involvement of Japan's financial institutions in Latin American lending also led to the establishment of institutional linkages between Japan and the United States that compelled the Japanese government to act. Finally, Japan's actions in Latin America clearly reflected U.S. interests in the region. The Japanese government and the business sector were concerned about the negative impact of the Latin American debt crisis on the U.S. economy. The detrimental impact of the Latin American debt crisis on the United States affected Japan in two different negative ways. The first involved the negative impact of the crisis on Japanese businesses exposed to the U.S. economy, and the second involved the bilateral pressure the U.S. government exerted on the Japanese government in relation to their bilateral trade imbalance.

Organizing Variables

This regression analysis involves two exclusive types of data, because important elements in the Japanese government's allocation decision making create two sets of variables of different characters. The substantive distinction among the variables is whether they capture Japan's relationship with Latin America as an aggregate unit (one-year one-data-point variable) or as individual countries (one-year N-data-point variable). For example, Japanese domestic conditions and U.S.-Japanese relations not concerned with Latin America only have one data point per year, so they belong to the former set. The variables that capture the importance of Japan's bilateral relations with each Latin American country, such as trade relations or immigration, belong to the lat-

ter set, containing as many data points as the number of individual Latin American countries included in the regressions.[12]

An obvious consequence of including these distinct variables is that it is hard to estimate their relationship in a single regression. These variables have to be grouped into two sets of regression models, and the organizational principle is that the data for certain variables are available for only one data point per year ($t \times 1$), while others have as many data points as the number of Latin American countries per year ($t \times N$). Regression models consisting of the former resort to time series ($t \times 1$) as the basis of estimation, and the latter provides an opportunity to run regressions based on time-series cross-section (TSCS) pooled data ($t \times N$). The first set of variables is estimated using twenty-one years of time-series data (1971–91), and the second set is estimated on a panel of twenty Latin American countries for seventeen years (1975–91). In addition, some TSCS regressions incorporate 0–1 dummy variables for certain time periods, as interaction terms to analyze the shifts in the relationship between dependent and independent variables during the different periods. The most obvious interaction terms indicate the precrisis period (1975–82) and the crisis period (1983–91).

Models with Financial Flows Disaggregated by ODA, OOF, and Private Flows

The dependent variable, capital flows from Japan to Latin America, is also disaggregated by type of flows, to avoid aggregation bias. Official financial flows, as I noted before, consist mainly of ODA and OOF. These two flows, in principle, have different objectives, different sources of funding, different implementing agencies, and different sets of constraints. During the Latin American debt crisis, however, there were cases where nonconcessional OOF was used to supplement Japan's ODA, because ODA has various noneconomic constraints, due to its heavier reliance on Japan's central budget.[13] ODA is more exposed to international and domestic pressure that it be appropriately used and to the mandates of the implementing agencies of ODA—the Ministry of Foreign Affairs (MOFA), the OECF, and the Japan International Cooperation Agency (JICA). Furthermore, the distinction between ODA and OOF comes from public scrutiny. Despite the fact that taxpayers' inquiry into the use of the central budget is weak in Japan compared to the Western nations, the Japanese government still has difficulty allocating a significant portion of its ODA for the purpose of "bailing out the banks with taxpayers' money." In comparison, OOF derives its funding largely from the Fiscal Investment and Loan Program (*zaisei-toyushi* or FILP), which is composed of the Japanese people's postal savings and pension funds managed by the government. Although this fund has to be repaid, the government and OOF-implementing institutions, such as the JEXIM

Bank, are under relatively weak public scrutiny in their use of this fund. This scrutiny was even weaker prior to the 1990s.[14]

Hence, disaggregation of these flows when running both time-series and TSCS regressions should improve the accuracy of the quantitative analysis by exacting the concrete dynamics that determine the flows and allocation of the two types of official funds to Latin America. One more time-series model is added, using as a dependent variable private capital flows dominated by bank lending from Japan to Latin America.[15] This allows me to empirically demonstrate influential factors that induced Japan's private flows to Latin America, factors that have increased total capital flows to the region.

Regression Models, Operationalization of Variables, and Results from Time Series (ODA, OOF, and Private Capital Flows as Dependent Variables)

The following three time-series regressions are run with three different dependent variables, all representing the needed foreign capital flows to debt-ridden Latin America as a region. The model specified under each category (Model A, B, or C) indicates the best and most interesting model from other slightly different specifications. The results from alternative specifications are also included in the regression result tables (tables 3.4, 3.5, and 3.6). Due to the small degrees of freedom in these regressions, I use Student's t-statistics to calculate the significance of each coefficient.[16]

For all three time-series regressions, unit roots are tested, and when found, as is the case for all of the variables, first differences are taken to detrend the series. No significant autocorrelation is found. Later, cointegration tests are conducted for all the variable pairs. Only one significant cointegrating pair is found (private capital flow model), and the lagged residual from this cointegrating regression is plugged back into the private capital regression model (Model 3C) as an error correction term.[17] Independent variables are lagged by one year to avoid a simultaneity problem. A lagged dependent variable has been added to each regression to control for the incremental nature of the capital flows.

Table 3.2 summarizes the variables and models from the time-series regression models discussed in detail in this section. Expected signs are also noted in the table. Appendix 1 details the data sources.

Models with Japan's ODA as the Dependent Variable (Model 1)

$$\text{JODA}_t = b1 + b2\ \text{DIFEX}_{t-1} + b3\ \text{BUDGET}_{t-1} + b4\ \text{LDPSP}_{t-1}$$
$$+ b5\ \text{CASURUS}_{t-1} + b6\ \text{USAID}_{t-1} + b7\ \text{TJODA}_{t-1} + e.$$
$$\text{(Model 1B)}$$

TABLE 3.2. Models, Variables, and Their Expected Signs from Time-Series Models (one-year, one-data-point variables)

Dependent Variables	Independent Variables: Concepts	Independent Variables: Operationalization	Acronyms	Signs
Japan's ODA to Latin America as a region (JODA)	Japan's relative power gain	Difference in the world market share between the US and Japan	DIFEX	−
	US influence (1)	Japan's trade surplus vis-à-vis the US	CASURUS	+
	US influence (2)	Japan's vested financial interest in the US in government bonds	GVBOND	+
	US influence (3)	Japan's vested financial interest in the US in loans	LTFIW	+
	US influence (4)	Japan–US policy coordination in foreign aid; US foreign aid in Latin America	USAID	+
	Domestic constraint (1)	Total Japanese central budget	BUDGET	+
	Domestic constraint (2)	LDP popularity and support in Japan	LDPSP	+
	Importance of other regions	Japanese foreign aid (ODA) to Asia	ASIAID	−
Japan's OOF to Latin America as a region (JOOF)	US influence (1)	Japan's trade surplus vis-à-vis the US	CASURUS	+
	US influence (2)	Japan's vested financial interest in the US in government bonds	GVBOND	+
	US influence (3)	Japan's vested financial interest in the US in loans	LTFIW	+
	Government-bank linkage	Outstanding Japanese bank loans to Latin America	JOUT	+
Japan's private capital flows to Latin America as a region (JPRV)	Transnational bank linkage	Outstanding US loans to Latin America	USOUT	+
	Private sector interest in US	Japan's vested financial interest in the US in loans	LTFIW	+
	US commitment in region	US foreign aid to Latin America	USAID	+
	Government influence on banks	Japanese official flows as signs of commitment to Latin America	JOFF	+
	Profit motives of banks	Interest rate differentials between Japan and the international market	DIFINRT	+
	Link with Japan's MNCs	Japan's FDI in Latin America	FDIGR	+
	Yen power	Japanese yen's weakness vis-à-vis US dollar	YVSUSD	−

Note: For data sources and estimation procedures, see appendix 1.

For Model 1A, an additional variable, LTFLW, is added, and ASIAID is added for Model 1C.

DIFEX is a measurement of difference between the respective American and Japanese market shares of the world exports. This variable also captures Japan's increasing stake in a stable world economic system. DIFEX examines the hypothesis associated with the international systemic argument that Japan's official financial commitment to Latin America should have increased as Japan became a relatively large country. Scholars have been concerned, particularly in the second half of the 1980s, with the declining hegemony of the United States, and they have questioned the role of the supporting or challenging powers of Europe and Japan. From the Japanese government's perspective, as the Japanese role in the world economy increased, there should have been a greater demand for Japan to increase its commitment to the economic well-being of developing regions. Japan also had to become involved in regions where Japan had no direct economic or strategic concerns—for example, Latin America. Furthermore, as Japan became an increasingly "large country" capable of influencing the world economy, and as it increased self-interest in global economic stability, the Japanese government would have had far more incentive to make financial commitments.[18] Therefore, the hypothesis is that as the difference in the U.S. and the Japanese market share decreases (DIFEX), Japanese official financial flows to Latin America should increase, making the sign on this variable's coefficient negative.

The two following variables in the equation are controlling variables. BUDGET represents the government's budgetary conditions that finance Japan's ODA (General Account).[19] If there are enough budgetary resources available in the general account budget, one can expect greater ODA flows to Latin America. The elasticity of the Latin American allocation to the availability of budgetary resources was high: the more abundant available resources were, the more likely it was that ODA to Latin America would increase. ASIAID (Japan's ODA allocation to Asia as a region) is also included, because Asia takes the lion's share of Japanese financial resource flows. This share tends to be inelastic due to the region's political and economic importance to Japan. In contrast, the marginal increase in funding to Latin America during the 1980s depended on an increase in available financial resources.

LDPSP indicates the level of support for the Liberal Democratic Party (LDP), which was the ruling party throughout the period of analysis of this study. The support for this party influenced the legislative process and proved an important determinant of the control of resources used for official financial flows, such as ODA. The provision of public money to Latin America was a remote issue for most of the LDP's domestic constituents. When the party had more support from the public and thus a better chance of winning the

next election, it had greater autonomy in responding to external demands, such as U.S. pressures to disburse money to Latin America. Strong popular support of the LDP also made it easier for the leading party to use official funds for purposes that did not appeal to its constituency, such as providing more funds to rescue Japanese banks in Latin America. However, if the Japanese financial sector, with its political contribution and support, was critical for the LDP's electoral success, the LDP might even have supported the banks' demands at the time of lower public support.

Finally, the increasing economic linkages between Japan and the United States in the 1980s undoubtedly influenced the behavior of the Japanese government. The government understood the impact the Latin American debt crisis would have on Japan's economic activities abroad, particularly in the United States. The transmission of U.S. influence could occur through explicit or implicit threats of protectionist retaliation by the United States against Japan and through linking financial issues to other economic and political tensions that existed in U.S.-Japanese relations. CASURUS, measured in terms of the size of Japan's trade surplus with the United States, is one way to operationalize the degree of economic tension between these two countries during this period. USAID represents the regional allocation of U.S. economic aid to Latin America, capturing the changes in the level of U.S. official commitment to Latin America, and LTFLW measures the amount of Japan's long-term investment in the United States, capturing Japan's direct financial interests in the country.

The Latin American debt crisis and U.S.-Japanese trade relations (CASURUS) were linked by the fact that the debt crisis caused a significant deterioration in the U.S. trade balance: Latin American debtors reduced their imports and adopted aggressive export-oriented strategies to improve their balance of payments and thus service their debt.[20] This decreased U.S. exports to the region and increased U.S. imports from the region. The deterioration of the external economic position of the United States became pronounced after 1982. Meanwhile, Japan kept accumulating its trade surplus against the United States, a factor that further intensified protectionist pressures against the Japanese.[21] Therefore, this trade imbalance (CASURUS) between Japan and the United States should have led to greater U.S. pressure on Japan, and it should have increased Japan's ODA flows to Latin America, making the sign on the coefficient positive.

Determining the amount of U.S. aid to Latin America (USAID) is an appropriate way to measure the region's importance to the United States. Assuming that the United States assists with foreign aid a region that the U.S. government perceives vital to U.S. interests, and assuming that the Japanese

government responds to U.S. political considerations, an increased amount of U.S. foreign aid to Latin America should have increased Japanese ODA to the region. However, the Japanese government might have been more concerned about the decline of the U.S. economy, a condition that would hurt Japanese private investment in and lending to the country. The Japanese government might have tried to support the U.S. economy by shouldering more of the burden of the Latin American rescue, because of Japan's high financial exposure to the United States. In this case, the larger Japan's long-term capital flow (LTFLW) to the United States was, the more likely it was for Latin America to receive Japan's official economic assistance.

Table 3.3 summarizes the results from the regressions. Model 1B included the specification that performed the best, with all the variables of interests showing significance and with an adjusted R^2 of 0.5003.

TABLE 3.3.   Times-Series Regression with ODA (JODA) as the Dependent Variable (Model 1: various specifications)

Independent Variables	Model 1A	Model 1B	Model 1C
Intercept	125.303	112.87	112.35
	(4.184)***	(3.802)***	(3.475)***
Difference in world	−57.227	−56.42	−56.79
market share (DIFEX)	(−2.317)**	(−2.200)**	(−2.059)*
Overall Japanese central	−0.032	−0.026	−0.026
budget (BUDGET)	(−2.898)**	(−2.467)**	(−2.319)**
Japanese foreign aid			0.002
to Asia (ASIAID)			(0.056)
Public support to LDP (LDPSP)	8.856	6.037	6.052
	(2.351)**	(1.830)*	(1.751)
Trade surplus vis-à-vis the US	−0.009	−0.007	−0.007
(CASURUS)	(−3.019)**	(−2.580)**	(−2.461)**
US foreign aid allocation	−0.226	−0.202	−0.201
to Latin America (USAID)	(−2.953)**	(−2.609)**	(−2.372)**
Japanese claims to US long-term	0.002		
securities (LTFLW)	(1.393)		
Lagged dependent variable	−0.195	−0.368	−0.375
(TJODA)	(−0.776)	(−1.625)	(−1.424)
Observations	18	18	18
Adjusted R^2	0.5367	0.5003	0.4551

Notes: Figures in parenthesis are *t*-statistics. With 11 degrees of freedom (Model 1B), the *t*-statistic at .975 level of confidence (two-tailed test) is 2.201.

Unit roots are found in all series; thus, the first differences are taken to detrend.

No significant cointegration is found among every pair of variables.

* $p < .10$, ** $p < .05$, *** $p < .01$.

Models with Japan's OOF as the Dependent Variable (Model 2)

$$\text{JOOF}_t = b1 + b2 \text{ JOUT}_{t-1} + b3 \text{ TJOOF}_{t-1} + e. \qquad \text{(Model 2C)}$$

Models 2A and 2B include CASURUS. In addition, LTFLW is added to Model 2A, while that variable is replaced by GVBOND in Model 2B.

The model hypothesizes that OOF has been geared specifically to satisfy Japan's economic interests and that it is less constrained by Japan's domestic budgetary and political concerns. Among the economic interest variables, JOUT is the amount of outstanding claims by Japanese banks in Latin America each year, and it also measures the level of economic vulnerability and interests that the Japanese government had in protecting Japanese banks financially exposed to the region. If one of the Japanese government's objectives in providing public resources to Latin America came from its need to protect Japanese banks, the increased JOUT in Latin American would have invited more OOF from Japan, making the sign positive.

However, the strength of economic linkages arising from economic interdependence between the United States and Japan might have led the Japanese government to intervene actively in support of U.S. initiatives to resolve the Latin American debt crisis. Rather than focusing on the trade conflict (CASURUS), some (mostly Japanese) scholars have argued that there was an increase in financial support by the Japanese government for U.S. economic policies in the mid-1980s, a factor that prompted leading Japanese financial institutions to purchase a significant number of U.S. Treasury bonds.[22] This was allegedly the major contributing factor that enabled the U.S. government to sustain its large federal budget deficit for such a long time.[23] At the same time, the exposure of the Japanese financial sector to loan commitments in the United States created vulnerability on the part of Japan, particularly given oversensitive bilateral trade relations. This economic interdependence element is captured through variables constructed from the amount of either U.S. government bonds (GVBOND) or long-term securities in general (LTFLW) purchased by the Japanese financial sector. The former includes the political decision on the part of investors to support U.S. budget outlays, and the latter indicates more general economic considerations. As the Japanese financial sector became more involved in financing the U.S. debt, I would expect to see that there would be more funding made available to Latin America to help support a region essential to the U.S. economy. The coefficient of this variable should show a positive influence of the Japanese financial sector's economic involvement in the United States on increased capital flows to the indebted Latin American region.

The regression results indicate that the simplest model, Model 2C, is the best specification, capturing the most influential variable, JOUT. The adjusted R^2 from Model 2C is 0.8540.

Models with Japan's Private Capital Flow as the Dependent Variable (Model 3)

$$JPRV_t = b1 + b2 \ YVSUSD_{t-1} + b3 \ LTFLW_{t-1} + b4 \ USOUT_{t-1}$$

$$+ \ b5 \ USAID_{t-1} + b6 \ TJPRV_{t-1} + e. \qquad \text{(Models 3B and 3C)}$$

Model 3A is a Japan-centered specification in which DIFINRT, JOUT, and JOFF are included to capture Japan's domestic dynamics that influenced Japanese bank lending to Latin America. Models 3B and 3C are U.S.-centered specifications. The only difference between Models 3B and 3C is that the error correction terms of USPRV is added to Model 3C to address the cointegration between USOUT and JPRV.

This regression model on Japan's private financial flow is a supplementary one used to ascertain how private and official financial flows interacted

TABLE 3.4. Time-Series Regression with OOF (JOOF) as the Dependent Variable (Model 2: various specifications)

Independent Variables	Model 2A	Model 2B	Model 2C
Intercept	138.52	135.19	155.22
	(2.870)**	(2.994)**	(3.378)***
Trade surplus vis-à-vis the US	0.007	0.006	
(CASURUS)	(1.127)	(1.023)	
Japanese claims to US long-term	−0.004		
securities (LTFLW)	(−0.953)		
Japanese claims to US		−0.0072	
government bonds (GVBOND)		(−1.555)	
Japanese bank exposure to Latin	−0.037	−0.035	−0.038
American debt (JOUT)	(−6.382)***	(−6.155)***	(−7.361)***
Lagged dependent variable	−0.933	−0.934	−0.934
(TJOOF)	(−7.403)***	(−8.064)***	(−7.917)***
Observations	18	18	18
Adjusted R^2	0.8508	0.8654	0.8540

Notes: Figures in parentheses are *t*-statistics. With 13 degrees of freedom (Models 2A and 2B), the *t*-statistic at .975 level of confidence (two-tailed test) is 2.161.

Unit roots are found in all series; thus, the first differences are taken to detrend.

No significant cointegration is found among every pair of variables.

* $p < .10$, ** $p < .05$, *** $p < .01$.

and if institutional linkages among private financial sectors from the United States and Japan were important. YVSUSD is the strength of the Japanese yen against the major world currency, the U.S. dollar, an indication of the increased capability of Japan's economic power in the world. This factor should have positively influenced the behavior of the Japanese government and the private sector, resulting in a commitment to increased funding to the debt-ridden region.

For private capital flows, various economic and business-related variables need to be considered. The most obvious and important variable is the difference in profits (DIFINRT) between Latin American lending and Japanese domestic lending, which is measured using interest rate differentials. The standard economics literature suggests that an increase in an asset's expected return relative to that of an alternative asset, all other things being equal, increases the quantity demanded of that asset.[24] The expectation here is straightforward: when there is greater potential profit, there is more incentive for banks to lend to Latin America, leading to a strong positive relationship. However, Japanese private loans to Latin America might have been extended either in the form of defensive lending as Japanese banks' outstanding loans increased (JOUT) or in response to governmental signals or guidance as the Japanese government increased its official financial flows (JOFF) to the region. When there is a stronger commitment to the region by the private financial sector's home government, there should be increased private financial flows. The expected signs of the coefficients according to the hypotheses on these two variables (JOUT and JOFF) are both positive.[25]

Economic interdependence and institutional linkage between the United States and Japan might have influenced the behavior of Japan's private financial sector in several ways during this period. First, the Japanese financial sector's exposure to the U.S. economy in terms of long-term investment interests (LTFLW) might have prompted an increase in financial flows to Latin America in support of U.S. initiatives. Japanese banks' increased investment in the United States further enhanced the linkages among transnational banks from Japan and the United States, as Japanese banks relied on many American banks during the time of the Japanese buying spree in the United States in the mid-1980s.[26] Second, it is conceivable that there was a positive relationship between the amount of Japanese bank lending and the American banks' loan exposure (USOUT) in Latin America. Strong institutional linkages between American and Japanese banks were constructed during the height of the Latin American lending boom of the late 1970s into the early 1980s. As I discussed earlier, transnational banks bound their interests and tried, at least, to create a unified front to deal with the debtors.[27] These ties were strengthened through the very nature of the syndicated loans preva-

lent in sovereign lending to developing country governments before the crisis and through the BACs set up after the onset of the crisis, and this structure provided a legal and institutional framework for banks' conduct in financial crisis. Finally, Japanese private lending to Latin America might have responded to U.S. political commitments to the region. In the same way as in Model 1, this concept is here captured by the amount of U.S. foreign aid to Latin America (USAID). The expectation is that Japanese banks saw U.S. political commitment to the solution of the Latin American debt crisis as a positive element as they decided to increase lending to the region, making the sign on the coefficient positive.

Table 3.5 shows that none of the specifications produced a good fit. The poor results might be due to the relatively volatile nature of private financial flows, which cannot be captured by annual data. Nevertheless, Model 3C,

TABLE 3.5. Time-Series Regression with Private Capital Flows (JPRV) as the Dependent Variable (Model 3: various specifications)

Independent Variables	Model 3A	Model 3B	Model 3C
Intercept	−541.47	−820.60	−3020.1
	(−0.961)	(−1.723)†	(−5.106)***
Japanese yen exchange rate vis-à-vis US dollars (YVSUSD)	−22.34	−46.48	−43.45
	(−0.858)	(−2.218)**	(−3.198)***
Interest rate differentials between Japan and LIBOR (DIFINRT)	−101.25		
	(−0.377)		
Japanese bank exposure to Latin American debt (JOUT)	0.043		
	(0.665)		
Japanese official flows to Latin America (JOFF)	0.164		
	(0.114)		
Japanese claims to US long-term securities (LTFLW)		0.054	0.044
		(1.557)	(1.921)†
US bank exposure to Latin American debt (USOUT)		0.066	0.044
		(1.691)†	(1.693)†
US foreign aid to Latin America (USAID)		3.741	1.659
		(1.514)	(0.993)
Lagged dependent variable (TJPRV)	−0.488	−0.734	−0.266
	(−1.672)	(−3.420)***	(−1.515)
Lagged residuals from cointegrating regression (USPRV)			0.036
			(4.359)***
Observations	18	18	18
Adjusted R²	0.0130	0.3488	0.7269

Notes: Figures in parentheses are *t*-statistics. With 11 degrees of freedom (Model 3B), the *t*-statistic at .975 level of confidence (two-tailed test) is 2.201.

Unit roots are found in all series; thus, the first differences are taken to detrend. One significant cointegrating pair is accepted (USOUT and JPRV; the *t*-statistic was −3.010, well beyond its critical value, 10 percent, of −2.65); its lagged residuals from the cointegrating regression is added as an error correction term in Model 3C.

† $p < .15$, * $p < .10$, ** $p < .05$, *** $p < .01$.

which has a cointegrated variable between USOUT and JPRIV, produced the best fit, with the adjusted R^2 of 0.7269.

Regression Models, Operationalization of Variables, and Results from Time-Series Cross-Section Data (ODA and OOF as Dependent Variables)

TSCS pooled data allow me to conduct a more in-depth analysis of the interactions among the Japanese government, individual Latin American countries, and the United States. Only two dependent variables (ODA and OOF) are used, because data on Japan's private flows to each Latin American country are not available for these years. In addition, given the nature of private flows, annual regression may not be an appropriate tool to assess the behavior of the Japanese private financial sector.

The two models are run on two different specifications. Model A includes independent variables run on the base period (1975–82) and some of the same variables with interaction terms that capture the "shift" after the onset of the debt crisis in 1982 (1983–91). The assumptions here are that both periods share a common structure and that the influence of some independent variables on the dependent variables should have shifted after the start of the crisis. Model B divides the entire time period (1975–91) into two pieces. First the regression is run for the whole period (Models 4Ba and 5Ba), and then two more regressions are run for 1975–82 (Models 4Bb and 5Bb) and 1983–91 (Models 4Bc and 5Bc). Here, the assumption is that there is a structural change in the regressions. A Chow test indicates that both ODA and OOF regressions experienced a structural shift (i.e., the coefficient vectors are not the same for the two time periods) between 1982 and 1983.[28] These regressions on TSCS data are run using panel-corrected standard errors (PCSE) after taking care of first-order serial correlation.[29]

Table 3.6 summarizes the variables and models from the TSCS regressions discussed in this section. Expected signs are also noted in the table. Appendix 1 details the data sources.

TSCS Models with Japan's ODA as the Dependent Variable (Model 4)

$$\text{JODA}_{xt} = b1 + b2\ \text{IMMIG}_{xt-1} + b3\ \text{TRADE}_{xt-1} + b4\ \text{JLOANO}_{xt-1}$$

$$+ b5\ \text{USAID}_{xt-1} + b6\ \text{USTRD}_{xt-1} + b7\ \text{GNPPC}_{xt-1}$$

$$+ b8\ \text{OPEN}_{xt-1} + b9\ \text{POP}_{xt-1} + e. \qquad \text{(Model 4B)}$$

TABLE 3.6. Models, Variables, and Their Expected Signs from Time-Series Cross-Section Models (one-year, N-data-point variables)

Dependent Variables	Independent Variables: Concept	Independent Variables: Operationalization	Acronyms	Signs[a]
Japan's ODA to a Latin American country (JODA$_x$)	X's political importance to J	The number of Japanese immigrants in X	IMMIG	+
	X's economic importance to J (1)	Total trade between Japan and X	TRADE	+/±
	X's economic importance to J (2)	Japan's FDI to X	FDI	+/±
	X's political importance to US	US foreign aid to X	USAID	+/++
	X's economic importance to US	US total trade with X	USTRD	+/++
	X's economic policy	X's economic openness to trade	OPEN	+
	J's government-bank relations	Japanese banks' exposure to loans to X	JLOANO	±/++
	Developmental needs of X	X's per capita GNP as a measure of poverty	GNPPC	–
	The size of X	X's population for buying influence	POP	–
Japan's OOF to a Latin American country (JOOF$_x$)	X's economic importance to J (1)	Total trade between Japan and X	TRADE	+/±
	X's economic importance to J (2)	Japan's FDI to X	FDI	+/±
	X's economic importance to US	US total trade with X	USTRD	+/±+
	J's government-bank relations	Japanese banks' exposure to loans to X	JLOANO	±/++
	The size of X	X's population for the size of the market	POP	+

Note: For data source and estimation procedures, see appendix 1.
[a]Multiple signs indicate that there are shifts in sign expected after the onset of the debt crisis in 1982.

For Model 4A, time interaction terms (0–1 dummy) are multiplied for all the variables except IMMIG, GNPPC, and POP, whose coefficients, I hypothesize, did not shift after the onset of the debt crisis.

Due to the great distance between Japan and Latin America and the shadow of the United States in the region, the Japanese government has not had a noticeable strategic presence or commitment in each Latin American country. However, the presence of Japanese immigrants (IMMIG) has constituted an important political consideration. Latin America has the largest ethnic Japanese population outside of Japan, and as the case of Peruvian president Alberto Fujimori indicates, Japanese ancestry has attracted special attention from the Japanese government.[30] The Japanese government has also made various special arrangements for the descendants of these immigrants.[31] Particularly since the late 1980s, Japanese Brazilians, Japanese Peruvians, and Japanese Paraguayans returning to Japan, either temporarily for working purposes or permanently, have established strong ties between the Japanese central and local governments and their native communities in Latin America. Therefore, it seems reasonable to assume that the more Japanese immigrants a Latin American country had, the greater was the ODA flow the country could expect, and this relationship should have been consistent over time.

Japan's economic interests in a given Latin American country are important determinants of the Japanese government's decisions, and these interests can be disaggregated into Japan's major economic activities in the region: trade, direct investment, and bank lending. Total trade (TRADE) with a Latin American country consists of the aggregation of both imports (in most cases, raw materials or agricultural products) and exports (mostly Japanese manufactured products for the Latin American market). Foreign direct investment (FDI) is understood here as the gross flow of FDI from Japan to each country.[32] The Japanese multinational corporations' vested interest in each country might have influenced governmental decisions in Japan, thus increasing official capital flows.

Japan's bank lending and its loan exposure to certain Latin American countries (JLOANO) embody an important dynamic between the government and the private sector in Japan, a dynamic that increases Japan's economic interests in certain Latin American countries. The higher the Japanese banks' stake in the economic conditions of a certain debtor country was, the more likely the country was to receive a larger contribution from the Japanese government. As the national lender of last resort, the Japanese government had reasons to be concerned about the exposure of Japanese commercial banks and their vulnerability to their outstanding loans in Latin America. Due to the symbiotic relationship between the Japanese financial sector and the government, the Japanese government felt the need to protect the Japanese

financial sector as it became heavily exposed to the Latin American debt. Hence, as the outstanding loans increased, the Japanese government had more incentives to use its ODA resources to mitigate the financial crisis, thus reducing possibilities of a collapse of or severe damage to the Japanese financial sector. Moreover, Japanese banks themselves could have influenced the Japanese government's policies in terms of attracting increased ODA flows to a certain indebted country, financial resources the banks needed to prevent default.

The influence of both trade and outstanding loans on Japan's ODA allocation may have changed over time. The characteristics of Japanese ODA seem to have shifted in the late 1970s, in the form of the declining mercantilistic nature.[33] If this is an accurate observation, and if, consequently, the impact of the debt crisis on Japanese policymakers was that they gave more consideration to the "public good" function of Japan's official financial flows, the positive relationship between the trade variable (TRADE) and ODA flows (which represents Japan's mercantilistic behavior) should have weakened after the onset of the crisis. Furthermore, as the debt crisis deepened, Japan's outstanding loans in Latin America (JLOANO) might have positively influenced the allocation of Japan's ODA, as the Japanese government became increasingly motivated to financially support the countries to which Japanese banks had high exposure.

U.S. presence in Latin America seems to have influenced Japan's behavior in the region. This is partly because the Japanese government has had a high stake in maintaining a good relationship with the United States and partly because the Japanese government has explicitly coordinated its foreign aid policies with the United States. The amount of U.S. aid (USAID) to a country measures the country's importance to the United States. The logic is as follows: the United States assists with foreign aid countries vital to U.S. interests; the Japanese government adjusts its behavior according to U.S. political considerations; thus, the amount of U.S. economic and military aid to the important recipient countries during the debt crisis should have increased Japanese ODA flows to the same countries. In addition, an established consultation mechanism and informal channels set up to coordinate U.S. and Japanese economic assistance facilitated communication between the U.S. and Japanese governments. These provided opportunities not only for cooperation that was mutually agreed on but also for the transmission of demands from one partner to the other. Such a tendency might have grown after the onset of the debt crisis, making U.S. political concerns a vital factor influencing Japanese ODA flows. As the United States became more concerned, for security or political reasons, about the economic and political stability of particular Latin American countries, Japanese ODA should have likewise been more influenced, making the relationship significantly positive.

Due to the importance of U.S. economic health for Japanese overseas business activities (economic linkage), the Japanese government had strong motives to boost the U.S. economy, which was relatively depressed from the latter part of the 1980s through the early 1990s. USTRD (total American trade—the amount of U.S. exports and imports added—with a country) represents the U.S. economic interests. The stronger the U.S. economic interests in a Latin American country were, the larger Japanese ODA flows were, making the relationship positive.

Given the sizable trade imbalance between the United States and Japan at the time, it is conceivable that efforts were made to recycle Japan's trade surplus accrued against the United States via Latin America. Japan's official financial flows became a perfect channel for this mechanism. The Japanese government at least could have expected the U.S. government to be less demanding on bilateral trade issues when the Japanese government financially assisted Latin America by providing more foreign exchange resources. Congressional debate also supported the triangle that linked the issues of U.S.-Japanese trade to Japan's Latin American financing (see chap. 5). This consideration should make the relationship between U.S. economic interests and Japanese financial flows even more positive during later periods.

Three characteristics of each ODA recipient country should be influential in attracting or repelling Japan's ODA. First, GNPPC (each country's per capita GNP) represents the recipient country's development financial needs—an important factor for the allocation of Japan's ODA. This variable captures whether or not the Japanese government was concerned about the welfare of a country's population when it allocated and disbursed ODA in Latin America during this period. If, as stated in Japan's ODA Charter, humanitarian reasons were important factors in determining the allocation of ODA,[34] the poorer a country was, the more official financial support it should have received. This relationship should be stable over time.

Second, OPEN is a variable on the debtor country's openness to world trade, which operationalizes the impact of a Latin American debtors' economic policy on the Japanese government's aid allocation decisions. Creditor governments support those "exemplar" debtors who comply with the "rules of the game" set by the creditors to increase the debtors' ability to repay their debts through greater openness to trade. Most of the structural adjustment policies implemented in Latin America demanded a dramatic opening of these countries' economies to world trade through adjustment of exchange rates and elimination of trade barriers.[35] These changes were usually made to encourage exports and improve the countries' balance of payments. At the same time, openness to trade indicated a Latin American government's commitment to economic adjustment. Therefore, countries that have been consistent and trustworthy followers of such open-economy policies have tended to re-

ceive better external economic support, as the case of Chile illustrates.[36] The Japanese government rewarded the countries' adherence to these policies that aim to increase debt repayment capacity, a practice that in turn contributed to international financial stability. The likely outcome was that the more open a country's economy was, or the more closely it followed an orthodox adjustment policy, the greater ODA flows from Japan would be. For both measurements, the relationship between the independent and dependent variables should be positive and stable over time.

Finally, the population of a recipient country (POP) is a relevant variable concerning the Japanese government's decisions on ODA allocation. Existing literature on foreign aid suggests that foreign aid tends to be biased in favor of small countries.[37] In the case of Japan, this bias might exist for reasons of political effectiveness: the same amount of money can more powerfully influence a smaller country than a large one, thus making it easier for Japan to gain support for its goals in world forums, such as gaining permanent membership on the Security Council of the United Nations.[38]

The regression results are reported in table 3.7 and discussed later in this chapter.

TSCS Models with Japan's OOF as the Dependent Variable (Model 5)

$$\text{JOOF}_{xt} = b1 + b2 \ \text{TRADE}_{xt-1} + b3 \ \text{JLOANO}_{xt-1} + b4 \ \text{USTRD}_{xt-1}$$

$$+ \ b5 \ \text{POP}_{xt-1} + e. \qquad\qquad \text{(Model 5B)}$$

For Model 5A, time interaction terms (0–1 dummy) are multiplied to all the variables except POP.

Most of the independent variables included here should have a similar impact on the Japanese government's OOF allocation decisions as on Japan's ODA allocation decisions. A few differences in the influence of these factors in ODA and OOF warrant attention. Even though Japan's ODA is known (or alleged) to promote its economic interests, a substantial part of ODA allocation is still driven by stated humanitarian objectives. In comparison, OOF is actually designed to promote and support Japanese companies' economic activities abroad. The Japanese government thus does not have to be concerned about international criticism that Japan extends its OOF based purely on its economic self-interests and disregarding noneconomic criteria, such as GNP per capita and environmental or humanitarian considerations.

From the economic variables, then, the amount of Japanese trade (TRADE) and Japanese loan exposure (JLOANO) to Latin American countries should positively and significantly influence an increase in Japan's OOF. On the JLOANO variable, there should be evidence of a major shift in the impact of

TABLE 3.7. ODA (JODA) Allocation within Latin America, 1975–1991 (Model 4)

Independent Variables	Model 4A (with Time Shift)		Model 4Ba (No Time Shift)	Model 4Bb	Model 4Bc
	Base Period	1983–91 Shift	1975–91	1975–82	1983–91
Intercepts	12.641	10.610	17.802	10.048	24.466
	(3.703)***	(2.545)***	(6.872)***	(8.169)***	(6.131)***
Number of Japanese immigrants (IMMIG)	0.0007		0.0006	0.0007	0.0006
	(4.033)***		(3.495)***	(7.913)***	(2.577)***
Japanese trade with the country (TRADE)	0.0009	−0.0014	−0.0012	−0.0004	−0.0007
	(0.293)	(−0.359)	(−0.566)	(−0.347)	(−0.311)
Outstanding Japanese bank loans (JLOANO)	0.00006	−0.0013	0.00012	−0.0012	−0.0008
	(0.037)	(−0.707)	(0.117)	(−1.848)**	(−0.731)
Amount of US aid to the country (USAID)	−0.0241	0.014	0.0016	−0.016	−0.0218
	(−0.596)	(0.339)	(0.085)	(−1.118)	(−1.248)*
US trade with the country (USTRD)	0.00008	0.0008	0.0005	0.0005	0.0008
	(0.195)	(2.138)***	(1.597)*	(2.981)***	(2.246)**
GNP per capita of the country (GNPPC)	−0.0024		−0.0024	−0.0018	−0.0052
	(−2.709)***		(−2.621)***	(−3.030)***	(−2.304)**
Economic openness of the country (OPEN)	−0.0191	−0.065	−0.0693	−0.013	0.089
	(−0.300)	(−1.078)	(−1.108)	(−0.459)	(0.555)
Country's population (POP)	−0.00007		−0.00003	−0.00006	−0.00006
	(−0.779)		(−0.376)	(−1.118)	(−0.411)
Degrees of freedom	324		331	151	170
Total R^2	0.3804		0.2353	0.6797	0.2858

Notes: Figures in parentheses are t-statistics.
Corrections are made on heteroskadasticity, fixed effects, and autocorrelation. Panel-based standard errors are also corrected.
* $p < .10$, ** $p < .05$, *** $p < .01$.

Japanese banks' outstanding claims before and after the onset of the debt crisis. Before the crisis, or under normal financial conditions, Japanese official financial flows should not have followed private lending. The division of labor in providing finance to developing countries was usually such that private finance went to the higher-income developing countries with more business opportunities and lower risks, while public money, including foreign aid, went to countries with lower income. The relationship between the two variables should have been negative. However, once the financial crisis occurred, Japan's official financial flows should have gone to countries where there was greater bank exposure to assist these banks. In this event, the relationship between the two should have turned positive.

In relation to the United States, the argument applied to Japan's ODA allocation still holds: the Japanese government would allocate its official resources to help Latin American countries with strong trade ties with the United States (USTRD), because the Japanese government was concerned about the detrimental impact that the Latin American economic crisis had on the U.S. economy (which would then increase the pressure on the Japanese government regarding the bilateral trade imbalance). In contrast, there is no established coordinating mechanism between the two creditor governments on OOF; therefore, U.S. foreign aid allocation should not have influenced Japanese OOF allocation.

Table 3.8 summarizes the regression results.

Discussion of the Findings

Private and Public Benefits Constructing a Joint Product

The Japanese government's bilateral interests in each Latin American country appear to have increased its motivation to provide more funding to certain Latin American countries. As observed in the allocation model for ODA (Model 4), the presence of Japanese immigrants in a particular Latin American country increases Japan's ODA significantly and consistently (IMMIG). Thus, although it is said that the Japanese government has very limited political interests in this region, Japanese immigration captures a solid bilateral interest of the Japanese government in certain countries, leading to more ODA.

The variable representing the economic importance of Latin American countries in the form of their total bilateral trade with Japan (TRADE) reveals more complex and noteworthy effects on the allocation of Japan's OOF (Model 5).[39] During the period before the debt crisis (1975–82), the Japanese government allocated more of its OOF to countries trading substantially with Japan; the coefficient of this variable during this period was positive and

TABLE 3.8. OOF (JOOF) Allocation within Latin America, 1975–1991 (Model 5)

Independent Variables	Model 5A (with Time Shift)		Model 5Ba (No Time Shift)	Model 5Bb	Model 5Bc
	Base Period	1983–91 Shift	1975–91	1975–82	1983–91
Intercepts	−7.284	1.813	−9.510	−11.171	−5.208
	(−4.164)***	(0.783)	(−8.140)***	(−6.764)***	(−3.176)***
Japanese trade with the country (TRADE)	0.0083	−0.015	−0.0052	0.0048	−0.0057
	(2.520)***	(−3.678)***	(−2.521)**	(1.846)**	(−2.968)***
Outstanding Japanese bank loans (JLOANO)	−0.0015	−0.009	−0.0074	−0.0179	−0.0097
	(−0.831)	(−4.679)***	(−7.889)***	(−6.009)***	(−12.575)***
US trade with the country (USTRD)	0.0025	0.0097	0.0093	0.0045	0.0123
	(7.378)***	(27.854)***	(49.807)***	(12.087)***	(75.113)***
Country's population (POP)	−0.000012		0.00008	0.0007	−0.0001
	(−0.250)		(1.723)**	(10.978)***	(−2.633)***
Degrees of freedom	350		354	174	194
Total R^2	0.4498		0.3822	0.3437	0.4680

Notes: Figures in parentheses are *t*-statistics.
Corrections are made on heteroskedasticity, fixed effects, and autocorrelation. Panel-based standard errors are also corrected.
* $p < .10$, ** $p < .05$, *** $p < .01$.

significant. This is as expected under the bilateral economic interest motiva-
tion. However, the coefficient turns negative and significant after the onset of
the debt crisis (1983–91), both in the case of the shift (Model 5A) and in time-
divided regressions (Model 5Bc). This means that as the debt crisis hit Latin
American countries, the Japanese government began diverting its OOF away
from countries with which Japan traded substantially. This quite intriguing re-
sult indicates that the Japanese government became less concerned about its
direct economic returns after the onset of the debt crisis and started allocat-
ing its OOF distinctly, moving away from private gains from trade and toward
more indirect benefits. This result is even more interesting, as I discuss later,
because the allocation of Japan's OOF is heavily and positively influenced by
the Latin American countries' high overall trade with the United States.

Private returns do not come only from satisfying Japan's bilateral politi-
cal and economic interests in regard to certain Latin American countries. The
increase of Japan's financial contribution to Latin America could stem from
Japan's own increasing stake in the world economy, as some hegemonic sta-
bility theorists argue. In addition, the benefits of Japan's contribution could
also have accrued from the direct payoffs that the Japanese government might
have received from assisting the United States, the regional power in distress.
In both cases, U.S. influence on the Japanese government's policy decisions
should be measured to support this argument. The results from all the mod-
els must be integrated here to discuss this issue comprehensively.

Two variables that indicate Japan's increasing economic power are Japan's
trade share in the world relative to that of the United States (DIFEX)[40] and the
value of the Japanese yen vis-à-vis the U.S. dollar (YVSUSD).[41] Japan's trade
share in the world influenced the Japanese government in terms of the dis-
bursement of ODA to Latin America (Model 1), a region outside Japan's tra-
ditional sphere of interest. As Japan's trade share increased relative to that of
the United States (DIFEX), Japan allocated greater ODA to the Latin Ameri-
can region (the sign is negative due to how DIFEX is measured). The strength
of the Japanese yen, whether it represents an increase in Japan's economic
power or merely indicates an increase in Japan's purchasing power, influenced
the regional allocation of private financial flows to Latin America (Models 3B
and 3C) positively (again the sign is negative due to the measurement of
YVSUSD) and significantly. As the yen strengthened during this period, there
were greater private capital flows from Japan to Latin America. Hence, the in-
crease of Japan's economic power in the world positively influenced the Japan-
ese government's ODA and private capital allocation to this indebted region.
This is because the Japanese government and private sector became more con-
cerned about the stability of the world economy and about the potential eco-
nomic returns that Japan could accumulate from the region's economic health.

Additionally, the Japanese government was concerned that the strong yen against the U.S. dollar would have a negative impact on the country's exports, a concern that might have motivated the Japanese government to boost the dollar by assisting the Latin American economies.

As I described in chapter 2, the changing relative power between the United States and Japan is not the only possible influence on the Japanese government's behavior: Japan's economic linkage with the United States constituted a critical factor in the Japanese government's decision-making process. This was particularly the case when it came to the Latin American debt crisis, which had a major impact on the U.S. economy. The U.S. government and its private actors found various ways to influence Japan's behavior, because of the important political and economic ties between the two countries. Five regression models capture some interesting aspects in which this U.S.-Japan bilateral interaction influenced Japan's behavior in regard to debt crisis management in Latin America.

A few variables represent U.S.-Japanese bilateral relations, particularly in terms of the extent of the direct interest Japan has in supporting the U.S. economy for either economic or political reasons. The size of Japan's trade surplus with the United States (CASURUS) is conceivably the most prominent factor that would have caused the Japanese government to be concerned about the economic decline of the United States due to the deepening crisis in Latin America. In this rather passive way of responding to the debt crisis, the Japanese government attempted to avoid aggravating Japan-U.S. trade tensions.

But the coefficient on this variable does not show a significant influence on Japan's OOF disbursement to Latin America (Model 2). Even more puzzling, the ODA regression produces a significant but negative coefficient (Model 1). The time-series ODA model (Model 1) indicates that as Japan's trade surplus increased vis-à-vis the United States, ODA flows from Japan to Latin America decreased. This counterintuitive anomaly may be the result of the complex lag structure between Japan's trade surplus and its ODA disbursement to Latin America, a lag based on the way political pressures were transmitted from the U.S. government to the Japanese government. However, one can consider Japan's economic growth as a latent variable that influences both Japan's trade surplus with the United States and the amount of Japan's ODA. When Japan's economic growth slowed down, Japan would have decreased its imports because of less demand and would have possibly increased its exports to survive the economic downturn, thus increasing Japan's trade surplus against the United States. Concomitantly, a slowing of Japan's economy and a decrease in its tax revenues would have caused the Japanese government to cut ODA to Latin America (and possibly increase some to Asia, where there was more Japanese business); consequently, the relationship between Japan's trade surplus and Japan's ODA to Latin America became negative.

In addition, Japan's vested financial interest in the well-being of the U.S. economy, constituting their economic linkages, is represented by two variables regarding Japan's financial investment in the United States—in total long-term security investment (LTFLW) and in U.S. government bonds (GVBOND). These variables capture Japan's rather active interest in maintaining the health of the U.S. economy, in which the Japanese private sector as well as the government had substantial financial interests. However, neither of the variables performed well in influencing Japan's official flows (ODA in Model 1 and OOF in Model 2). None of the variables significantly influenced the flow of Japan's private capital to Latin America (Models 3B and 3C).

There is an indication that the U.S. political relationship with Japan and its financial commitment to Latin America clearly influenced the Japanese government's behavior in the region. The U.S. foreign aid commitment to Latin America—both to the region as a whole (Model 1) and to individual countries (Model 4)—influenced Japan's ODA allocation negatively, particularly in the aftermath of crisis (Model 4Bc). The coefficients on the U.S. aid variable (USAID) have negative signs, and many of them are significant (Models 1 and 4). This suggests that as a result of either explicit or implicit coordination between the Japanese government and the U.S. government, a division of labor arrangement was forming between the two large ODA donors in Latin America in two ways. On one hand (Model 4Bc), after the onset of the debt crisis, the U.S. government began taking care of certain Latin American countries considered of primary political (and to some extent economic) importance, by providing more U.S. foreign aid to them. The Japanese government, meanwhile, avoided those countries and provided more aid to countries that could not obtain sufficient foreign aid from the United States. On the other hand, Model 1 indicates that the Japanese government increased its ODA disbursement to Latin America as U.S. aid declined, to assure that a certain level of foreign aid flow was maintained.

Finally, the most significant and interesting statistical result is how the level of U.S. trade with certain Latin American countries (USTRD) influenced Japan's decisions to increase official flows in the forms of both ODA (Model 4) and OOF (Model 5). The coefficient of this variable, representing the Latin American countries' economic importance to the United States, shows a very significant positive influence on both ODA (particularly after the debt crisis) and OOF (for all time periods). The result strongly suggests that the Japanese official flows, both ODA and OOF, responded positively to the economic needs of the United States in Latin America. As I discussed earlier, there was no indication of the Japanese government responding directly to U.S. pressure in the form of increasing its official flows as Japan accumulated a trade surplus vis-à-vis the United States. However, this U.S.-Latin America trade variable demonstrates that the Japanese official flows were allocated to support

certain Latin American countries that had strong trade relationships with the United States. Through this mechanism, the Japanese government indirectly contributed to the recovery of certain Latin American countries, a factor that would in turn favorably influence U.S. economic recovery.

The last variable representing a factor closest to a pure public good is the way in which Japan's financial contributions rewarded certain Latin American debtors for good behavior, increasing incentives for debtors to follow the "rules of the game" and accelerate their debt repayments. This variable is operationalized in terms of the debtor country's economic openness to world trade (OPEN). Unfortunately, this variable did not significantly influence Japan's allocation of ODA (Model 4) or OOF (the variable dropped from Model 5).

Thus far, regression results from the models indicate that both Japan's increased economic stake in the world economy under its strong yen and the Japanese government's bilateral relationship with the United States—in terms of both economic linkage and political interaction—influenced the Japanese government's official flow disbursement to and allocation in Latin America. These factors were considered private benefits that increased Japan's incentive to become more actively involved in the resolution of the debt crisis. Additionally, the Japanese government seems to have become actively, rather than passively, involved in the resolution of the crisis.

Transnational Linkage and Domestic Politics in Japan

Some variables clearly represent the influence of institutional linkages and of the direct political power of Japan's private financial sector on the Japanese government. First, the overall amount of U.S. outstanding loans to Latin America (USOUT) affected Japan's private flows to the region (Models 3B and 3C) only marginally, a trend predicted by the mechanisms of loan syndications and by the formation of BACs. An additional result worth noting comes from a pair of cointegrating variables: Japanese private capital flows to Latin America (JPRV) and the U.S. outstanding loans to the region (USOUT). As Model 3C demonstrates, the lagged residuals from the cointegrating regression between these two variables (USPRV) produced a strikingly significant positive coefficient (and boosted the adjusted R^2 of the regression from 0.3488 without it to 0.7269 with it). Thus, it can be interpreted that a visible long-term equilibrium trend between these two variables is captured in terms of level and that this trend significantly and positively influenced the behavior of Japan's private financial sector regarding Latin America. This indicates a close institutional linkage between the two private financial sectors across the Pacific.

A second aspect that connects institutional linkage among private sectors

to the Japanese government's behavior toward Latin America is the domestic interaction between Japanese commercial banks (with links to American banks) and the Japanese government. In the regionally aggregated models, Japanese banks' exposure to Latin American debt (JOUT) shows a significant influence on the regional allocation of Japan's OOF (Model 2). The coefficient of JOUT is, however, not positive as predicted by the hypothesis (i.e., the higher the Japanese banks' exposure to Latin America is, the more OOF would flow from Japan to the region to protect the banks). Instead, it is negative (i.e., the lower the Japanese banks' exposure to Latin American debt is, the greater the OOF flows are). This is another counterintuitive regression result. One may interpret that the more the Japanese banks retreated from the Latin American debt, the more the Japanese government stepped up its official financial commitment to the region, for two reasons: (1) the official funding could compensate and justify the retreat of debt-injured Japanese banks, and (2) there would be a certain level of foreign capital inflows maintained to the indebted region. Qualitative analysis of the Latin American debt crisis supports this interpretation (see chap. 5), with qualitative information focusing on the process of bargaining between the Japanese government and its banks.

We can observe the same dynamic between Japan's official flows and the level of Japanese banks' outstanding loans to each Latin American country (JLOANO), particularly for the allocation of Japan's OOF (Model 5). This dynamic was much more prominent during the debt crisis, and it clearly illustrates the link between how the Japanese government became involved in the resolution of the debt crisis through its OOF allocation and the Japanese banks' demands for a secure retreat.[42]

Furthermore, Japan's private financial flow model (Model 3) shows that the sign of commitment given by the Japanese government in terms of its total official flows to Latin America (JOFF) did not influence the behavior of the Japanese private financial sector. This result suggests that Japan's private sector exerted a stronger influence on the Japanese government's behavior than vice versa—an interesting finding that runs counter to conventional explanations of Japanese government-business relations.

Controlling Variables

Japan's regional ODA allocation to Latin America (Model 1) is influenced by Japanese budgetary conditions (BUDGET). However, contrary to the hypothesis regarding this variable, its coefficient shows a significant, negative sign. This indicates that as Japan's overall central budget increased, there were decreased ODA flows to Latin America. It is conceivable in this case that economic growth was once again an underlying variable that drove both Japan's

budget and its ODA. If the Japanese government increased its central budget to stimulate Japan's economy at the time of slow growth, and if such slow economic growth led to some decrease in Japan's ODA, the negative relationship between the two variables could be explained.[43]

The other controlling factor in Model 1 is Japan's political stability in terms of how much public support the country's majority party, the LDP, gained during this period (LDPSP). As the hypothesis predicted, the regression results indicate that when the LDP enjoyed higher popular support, more ODA flowed to the Latin American region. As I noted before, the relative domestic political freedom the LDP enjoyed because of the party's popularity made it easier for the Japanese government to allocate its ODA resources to particular needs (i.e., responding to pressures from both the United States and its own private financial sector).

The profit calculation by Japan's private sector, captured by the interest rate differentials (DIFINRT), did not influence Japan's private financial flows to Latin America as a region (Model 3A). In addition, it is interesting that the economic self-interest model for private capital flows (Model 3A) revealed a very weak fit to the data (with an adjusted R^2 of 0.013), while factors of U.S. influence captured a higher level of significance (Models 3B and, particularly, 3C).

Finally, the ODA allocation models (Model 4) including the level of economic development of the debtor countries (GNPPC)—a mandate for Japan's ODA allocation—showed a significantly strong relationship with ODA allocation. When the country's GNP per capita was low, it could expect more ODA from Japan. This is consistent with expectations. The country's population variable (POP) included in the ODA model (Model 4) failed to show any significant result. But the same variable included in the OOF model (Model 5) produced a positive, significant coefficient during the precrisis years (Model 5Bb) and a negative, significant coefficient during the crisis period (Model 5Bc). It is possible that during the time of normalcy before 1982, Japan's economic interest in allocating its OOF to more populous countries (and thus to a bigger market) influenced its allocation. But after 1982, the Japanese government and OOF-implementing agencies became much more concerned about the impact of OOF allocation on the debt alleviation of certain countries, so considerations of market size became secondary. This led these agencies to pursue an efficient resolution of the financial crises by targeting relatively small (or less populous) debtors.

Summary

The analysis of this chapter began by emphasizing that the Japanese government shouldered costs in providing international public goods in the form of

international financial stability by increasing Japan's capital flows to Latin America at the time of the debt crisis. But the way in which the Japanese government allocated its financial resources to and within Latin America was not consistent over time. The question is, then, What factors influenced the Japanese government's fund allocation decisions? Many of the factors here identified have provided a quantitative support to the two hypotheses posed in chapter 1 of this study.

First, the Japanese government's commitment to increased funding to Latin America was supported by the fact that various private returns accrued to the Japanese government and its private financial sector through the process of debt crisis management. Such returns are notably found in the effects that some U.S.-related variables had on Japan's official flow allocation. The possibility that the Japanese government's actions might either please or directly assist U.S. economic recovery increased Japan's motivation to help the Latin American debtors. The regression analyses themselves do not provide any indication of the mechanism through which the Japanese government adopted these factors as an important aspect of its decision-making regarding official flow commitments to Latin America. But it is quite clear that significant attention was paid to the impact of Japanese policies on the U.S. economy (and possibly on U.S. political and diplomatic attitudes toward Japan).

Second, there is an indication that institutional linkage, which existed between American and Japanese private financial sectors, marginally affected the behavior of the Japanese financial sector and the Japanese government. Various linking mechanisms explained earlier helped form a relatively coherent and united front among Japanese banks and American banks, a connection that made prominent the influence of American banks on Japanese banks.

Finally, and as a complement to the second point, the regression results depict an interesting domestic dynamic between the government and the banks in Japan. This is not merely a straightforward dynamic in which the Japanese government protected its banks by increasing official flows to the debtors to which the banks were most exposed. Rather, the Japanese government's official funds were allocated in a way that made it easier for Japanese banks to retreat from the indebted region and countries, while allowing, at the same time, for additional official funding that maintained certain levels of foreign capital inflows to Latin America. This relationship between the Japanese banks and the government not only helped the banks but also provided public goods to Latin America to sustain a degree of stability at a time when private financial commitment was gradually declining.