〔共同研究：経済開発の理論と現実〕

JAPANESE AND U. S. APPROACHES TO AID, PUBLIC LENDING, DIRECT INVESTMENT, AND TRADE : COMMERCIAL COMPETITION EFFECT AND ITS POLITICAL IMPLICATIONS

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ABSTRACT

In the existing international political economy, developed nations have intensified competition by integrating developing nations into lower tiers of the hierarchy of global divisions of labor. Concurrently, developed nations share a common interest to cooperate in satisfying political and economic preconditions necessary for their economic activities, such as maintenance of political stability and construction of socio-economic infrastructure in developing nations. As a result, the behavior of developed nations presents a complex and complicated mixture of competition and cooperation. This statistical study aims at comprehending current behavioral patterns of Japan and the United States as two economic superpowers, with focus on the impact of their aid, public lending, direct investment, and trade on their own competitiveness. The article is intended to offer an important vantage point from which to analyze a global dimension of U. S. -Japan relations.

I. Introduction

This statistical analysis measures the impact of Japanese and U. S. economic involvement in major developing nations upon the two nations' competitiveness. While the competitiveness is equated with the balance of payment, the involvement consists of aid, public lending, direct investment and trade[1]. Japan and the United States together are the prime source of these financial flows to the developing nations and their leading trade partners,

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1) In this research, direct investment only includes that by the private sector. The government agencies of a developed nation, such as an Export-Import Bank, provide the so-called "soft loans" and "hard loans" to developing nations. The former is public lending on a non-commercial basis, with an interest rate significantly lower than the prevailing market exchange rate; the difference between these rates has the nature of grant while a recipient has to pay back the original loan amount and interests. On the other hand, the latter is public lending on a commercial basis, with an interest rate more or less equal to the prevailing market rate. This type of loan is not a grant at all because a developing nation has to pay back as much as when it borrows from commercial banks. However, if a developing nation has a high country risk assessment and, therefore, commercial banks would not give any loan, "hard loan" provide financial flows which otherwise would not be available. Aid includes grants and "soft loans".

providing forty percent or more of the flows and trade[2]. The research covers Egypt, India, Indonesia, Malaysia, Mexico, Pakistan, the Philippines, Thailand, and Turkey, for the period from 1970 to 1989. This study focuses on identifying the overall pattern of economic relations between Japan, the United States and the selected developing nations as a whole.

My previous study demonstrates some major aspects of the supecior development performance of Japanese economic involvement, particularly in generating a positive impact on the social progress aspects of development, while U.S. performance creates a mixture of large positive and negative impacts on the structural change aspects of development[3]. The next critical question is whether Japan and the United States will be motivated on an enlightened self-interests basis to sustain such an overall beneficial pattern of their economic involvement, at a time when the two aid superpowers appear to stall between self- and common interests, or between competition and cooperation. Put differently, this study aims at measuring the competitiveness effect of economic involvement, exploring the possibilities for cooperation in aid and development under the existing pattern of involvement, and recommending necessary changes for preventing the two aid superpowers from disengagement.

This research follows the research strategy of my previous work but replaces a series of development indicators with the balance of payment as dependent variable. Accordingly, the following sections will first begin with a summary of the research strategy and the findings of independent variables, or the "patterns" of Japanese and U.S. economic involvement.

II. Methodology

The research uses annual data for the perion d from 1970 to 1989 of the following variables concering the nine selected developing nations[4] :

2) For official development assistance and other official flows by all the Development Assistance Committee member states of the Organization for Economic Cooperation and Development, see, OECD, *Development Co-operation*, 1990, p. 186; for the total financial flows by the DAC countries (including bilateral and multilateral ODA and OOF, and various forms of private flows), see, OECD, *Development Co-operation in the 1990*, 1989, p. 225; for Japanese and U. S. ODA and OOF, see, OECD, *Geographical Distribution of Financial Flows To Developing Nations*, 1992, pp. 314–315; for Japanese and U. S. direct investment, see, *Development Co-operation, op. cit.*, p. 127; for Japanese and U.S. trade with the developing world, International Monetary Fund, see, *Direction of Trade Statistics*, 1991. The above information is presented in tables in Masahiro Matsumura," Japanese and U. S. Approaches to Aid, Public Lending, Direct Invastment and Trade", Ph. D. dissertation, University of Maryland-College Park, Ann Arbor: University Microfilms Inc., 1992, pp. 2–3.

3) See, Matsumura, *ibid*. In this research, social progress is measured by two macro-level indicators (infant mortality rate, percentage of female labor force), while structural change by three indicators (percentage of urban population, gross domestic investment, and food production per capita).

4) See, Matsumura, *op. cit.*, pp. 340–349. The data are originally taken from:

(1) Official Development Assistance (ODA) and Other Official Flows (OOF)

OECD, *Geographical Distribution of Financial Flows To Developing Nations*

Supplementary source: Japan's Ministry of Foreign Affairs, OECD Development Cooperation Directorate (for 1970–75 OOF statistics) ↗

1) dependent variables
(1) Japan's balance of payment with a developing nation (JABOP)
(2) U.S. balance of payment with a developing nation (USBOP)
2) independent variables
(1) Japan
〈1〉 official development assistance to a developing nation (JAODA)
〈2〉 other official flows to a developing nation (JAOOF)
〈3〉 direct investment to a developing nation (JADI)
〈4〉 export to a developing nation (JAEX)
〈5〉 import from a developing nation (JAIM)
(2) The United States
〈1〉 official development assistance to a developing nation (USODA)
〈2〉 other official flows to a developing nation (USOOF)
〈3〉 direct investment to a developing nation (USDI)
〈4〉 export to a developing nation (USEX)
〈5〉 import from a developing nation (USIM)

↗(2) Direct Investment (DI)

Japan's Ministry of International Trade and Industry (as registered under the Foreign Exchange and Control Law)

U. S. Department of Commerce, *Survey of Current Business* (for 1980–89 data), U. S. Direct Investment Abroad: *Balance of Payment and Direct and Direct Investment Position Estimates. 1977–81* (for 1977–79 data), and *Selected Data on U. S. Direct Investment 1950–76* (For 1970–76 data).

(3) Trade: Export (EX) and Import (IM) International Monetary Fund, *Direction of Trade Statistics Yearbook,* various years.

Factor analysis identifies the "patterns" of Japanese and U. S. economic involvement, and regression analysis measures linear relation between these "patterns" and the balance of payment. The analysis pools cross-sectional and time-series data to identify general "patterns" and impact across time and country. In this study, as Rummel argues, the meaning of "cause" is "uniformity in relationships" among identified factors[5]. Thus, correlation and causal impact will be used interchangeably.

Factor analysis reduces a large number of relevant variables into a limited number of clusters, or "factors". In this method, the "factor" and "pattern" are defined mathematically rigorously; "factor analysis uncovers the independent 'sources' of data variation"; "because interdependencies may exist between the data, factor analysts are asking whether the same amount of variation in the data can be represented equally well by dimensions smaller in number than the columns necessary to tabulate the data"; "dimensions disclosed by a factor analysis can be interpreted as measures of the amount of ordered or patterned variation in the data"; and "the degree to which such regularity or interdependency exists can be gauged by the number and strength of the dimensions"[6].

Using factor scores as a new data set for regression analysis, the measurement of impact on competitiveness will be accurate because "factors" identified by principal component analysis (with orthogo-

5) Rummel, R. J., *Applied Factor Analysis,* Evanston: Northwestern University Press, 1970, p. 25.
6) Rummel, *Ibid.* p. 16.

nal rotation) are, by definition, free from multicollinearity[7]. Even when a linear combination relationship exists among variables, factor scores remain valid and useful because such a relationship will not affect statistical stability. The analysis is systematic because of pooling cross-sectional and time-series data sets, or jointly matching a series of time series data sets of individual developing nations over an identical set of variables, or variables across time and country. This pooling method will also dramatically expand the number of available observations and thereby provides a strong empirical base for generalization[8].

Factor analysis will identify the "patterns" among all Japanese and U. S. variables. Similarities and dissimilarities of Japanese and U.S. approaches will be investigated in terms of which cluster includes which variables. In order to decide an appropriate number of "factors", the size of eigenvalue and explained variance is examined. An apparent gap is expected between the last relevant "factor" and the fcllowing one.

Regression analysis will measure the effectiveness and efficiency of impact of the "patterns" of independent variables upon a dependent variable. High policy effectiveness means that a specific policy is very important in generating a targeted consequence, regardless of a size of impact. Statistically, this situation includes cases with a very small regression coefficient and a large t score. On the other hand, high policy efficiency indicates that the ratio of a mobilized resource as input in relation to a targeted achievement as output is very large. Statistically, this situation includes cases with a small t score and a large regression coefficient. The most desirable policy outcome possesses high effectiveness and efficiency, statistically, or a large regression coefficient and t score. A size of regression coefficient and t score will be compared.

Theoretically, the data with 180 observations (20 annual observations X 9 countries) will not have any global autocorrelation problem. However, because each set of the 20 observations is time-series data on a particular country, there may exist heavy autocorrelation within a country. As a consequence, the distribution of standardized residuals of a multiple regression is expected to present heavy heteroscedasticity, and will produce an underestimated size of regression coefficients and their t scores. But, this will not deny the validity of regression analysis.

By examining residuals, it will become possible to identify outliers and to make sure of whether there exists any systematic tendency of deviation. If deviation can be associated with a specific country or a period, this will provide additional information on the dynamics of Japanese and U. S. approaches.

Besides, when the results of regression analysis with and without outliers are compared, the results without are expected

7) Factor analysis captures accurate "patterns" even if individual observations of original data are not accurate, as long as the bias to compile the data is consistent. Thus, it is critically important for factor analysis to use a single source of data over a period of time based on a consistent data compiling method.

8) Tucker, Ledyard R., "Implications of Factor Analysis of Three-Way Matrices for Measuring of Change", in Chester W. Harris, ed., *Problems in Measuring Change*, Madison: University of Wisconsin Press, 1967.

to present a larger size of regression coefficient and t scoce.

Ⅲ. Japanese and U. S. Styles

Development policy professionals and policy-oriented scholars of Japan and the United States have recognized major differences in approach through their practical experience based on policy interaction and historical case studies that have prevented the two nations from actively cooperating in aid and development policies[9].

Indeed, a general agreement exists between Japan and the United States that they should coordinate, cooperate, and even collaborate in their efforts to assist and promote development[10]. This agreement has emerged out of a new reality in which Japan replaced the United States as the largest ODA donor in 1989 while the United States has since been unable to match this Japanese challenge because of its budgetary deficits. According to Japan's Ministry of Foreign Affairs, through this evolutionary change, Japan itself has pursued ODA as a major foreign policy instrument to contribute to the international community[11]. Robert Orr analyzes how the United States has promoted and even pressured Japan to do so[12].

However, while the 1980s has seen some limited coordination and cooperation in aid between Japan and the United States, at both the policy making and implementation levels, these efforts still remain the exception rather than the rules[13]. Once U. S. leaders recognized that Japanese aid policy could not be made in accordance with their policy model, i. e., a combination of "American brain and Japanese money", they increasingly felt frustrated and even disenchanted with U. S. -Japan aid cooperation because of bifurcated philosophies, political objectives, policy priorities, and implementation

9) See, for example, Islam, Shafigul, ed., *Yen For Development: Japanese Foregn Aid and the Politics of Burden-Sharing*, New York: Council on Foreign Relations, 1991.

10) As for U. S. views on the necessity of U. S.-Japan aid cooperation, see, Testimony of Secretary of State James Baker before the House Foreign Affairs Committee, February 6, 1991, and also, Testimony of Ronald Roskins, Administrator, Agency for International Development, before Subcommittee on Foreign Operation, Senate Appropriations Committee, February 12, 1991. As for the Japanese views, for example, Masamichi Hanabusa, former Director-General of the Economic Cooperation Bureau, Ministry of Foreign Affairs, "A Japanese Perspective on Aid and Development", Islam, *op. cit.*

11) See, Japan's Ministry of Foreign Affairs, *Japan's ODA: 1989 Annual Report*, 1990.

12) Robert Orr, *The Emergence of Japanese Aid Power*, Columbia University Press, 1990.

13) As for bilateral cooperation in strategic use of aid, see Yasumoto, Dennis, *The Manner of Giving: Strategic Aid and Japanese Foreign Policy*, Lexington Books, 1986; for bilateral dialogues on aid cooperation and Philippines multilateral aid initiatives, see, Bloch, Julia Chang, "A U. S.-Japan Aid Alliance?", in Islam, *op. cit.;* For bilateral aid cooperation in Sub-Saharan Africa, conferences co-sponsored by AID and OECF, AID-JICA cooperation in Bangladesh, Thailand, Zaire, Peace Corp-JICA cooparation in Western Samoa and Cambodia, JICA-OECF-AID cooperation in Indonesia, and AID-OECF cooperation in India, see, Grimm, Margo, "Japan-U.S. Aid Cooperation: The Prospect for Collaboration", *JEI Report* (March 29. 1991; No. 12A).

styles[14].

Ⅳ. Target Period and Countries

This research targets a specific time period and developing nations. It is thus essential to explain the core nature of this targeting in order to produce a general statement. By analyzing Japanese and U. S. economic involvement in a specific set of developing nations, this research seeks to obtain an important source of information on general "patterns" of the two nations' involvement and the impact on their global competitiveness.

Practically, the research is targeted in terms of the following questions : (1) what time period is selected and why ; (2) which set of developing nations represents the developing world and why ; (3) in which set of developing nations Japan and the United States have been involved in aid, public lending, direct investment, and trade during a selected period ; and finally (4) whether the last two questions lead to a target set of developing countries for this research.

1) Time Period Targeted

This research delimits its target period between 1970 and 1989 which covers a transition from the post-Second World War, to the Cold War and to the end of the Cold War periods. Since the early 1970s when the Bretton Woods System broke down and the first oil shock occurred, the Japanese economy has been incorporated into growing global interdependence through its corporate activities, especially in the areas of trade and direct investment. The government also has rapidly increased its aid and lending and has globalized these activities. Concurrently, the United States has gradually experienced a relative decline in the economic multipolar world, and has suffered from the decline of hegemonic power. On the other hand, Japan has become the second largest market economy in the same period. In 1989, the United States was replaced by Japan as the largest bilateral aid donor.

The 1970–89 period, therefore, is characterized by the structural changes of the overall U. S. and Japanese development approaches involving aid, public lending,

14) For detail comparisons, see, Matsumura, *op. cit.*, pp. 16–31.

Focuses of U. S. and Japanese Aid Polilies

	U. S.	Japan
Philosophy	charity	self-help
Polilical Objective	economic assistance	economic cooperation
Policy Priority	basic human needs	infrastructure building
Implementation style	uni-sectoral development	multi-sectoral development
	socio-economic software building	socio-economic hardware building
	conditionality for aid	request-based aid
	adversarial government-private sector relationship	collaborative government-private sector relationship
	untied aid	tied aid

direct investment, and trade. In particular, the 1980s, heralded by the debt crisis, saw "aid fatigue" among all OECD countries except Japan. This opened opportunities for the private sector of Japan and the United States as well as other developed nations to take broader development initiatives through direct investment and trade. In this situation, a systematic analysis of the impact on the two nations' competitiveness by their public and private sectors is necessary.

2) Developing Nations Targeted

This research focuses on major middle income developing nations because they have central importance to the examination of impact of Japanese and U. S. economic involvement upon their competitiveness. The industrialization process of these developing nations presents the most important opportunities for developed nations to expand profit-making and enhance commercial interests. In the age of growing global interdependence, Japanese and U. S. approaches to these developing nations involve active participation of their public and private sectors through independent or combined uses of aid, public lending, direct investment, and trade.

This study includes Egypt, India, Indonesia, Malaysia, Mexico, Pakistan, the Philippines, Thailand, and Turkey. The criteria for selection are (1) a developing nation's ranking position as aid recipient in relation to Japan and the United States, (2) the strength of economic linkages (public lending, direct investment, and trade) between a developing nation and the two nations, (3) geographic diversity, and (4) a degree of other political and economic concerns of the two nations.

Table 1 : Major Recipients of Japanese and U. S. ODA, 1988–89
(percent of total ODA donor country ; gross disbursement)

Japan		*The United States*	
**Indonesia	13.1	Israel	12.5
China	7.4	**Egypt	9.5
**Philippines	5.4	**Pakistan	3.9
*Thailand	4.9	El Salvador	3.3
Bangladesh	3.9	**India	1.9
**India	3.1	**Philippines	1.8
**Pakistan	2.8	Pacific Ilis	1.6
S. Korea	2.2	Guatemala	1.5
Sri Lanka	2.0	Bangladesh	1.4
Burma	1.8	Honduras	1.4
*Malaysia	1.5	Costa Rica	1.4
Kenya	1.5	Sudan	1.1
**Egypt	1.4	Morocco	1.0
*Turkey	1.2	**Indonesia	0.9
Other	47.8	Other	56.8

*A country belongs to one of the two groups
**A country belongs to both groups.
Source: OECD, *Development Cooperation: 1990 Report.*

Table 1 captures traditional Japanese and U. S. aid focuses for the past decade. It is shown that five out of the nine countries (Egypt, India, Indonesia, Pakistan, and the Philippines) occupy ranking positions as aid recipient for Japan and the United States.

The other four countries are included because they have critical importance in comparing Japanese and U. S. approaches. Malaysia is a major recipient of Japanese aid but not of U. S. aid. Our statistical data set shows that Malaysia has had significant and expanding trade relations with both Japan and the United States. Mexico is not a major aid recipient. However, the United States has an overwhelming direct investment and trade relationship with Mexico ; Japan has extended larger public lending and aid to this country than the United States. Thailand and Turkey are major recipients of Japanese aid, although not of similar importance for the United States. However, Turkey has stronger trade ties with the United States than Japan, and U. S. trade ties with Thailand also have been considerable.

The following discussion shows the selection is also relevant to other political and economic concerns of Japan and the United States. The discussion is necessary to make clear that there are countries where Japanese government is actively involved in aid and public lending, where the U. S. government is active, where U. S. government presses the Japanese counterpart to be active.

Finally, the above choice of nine developing nations make sense because the set also has a global coverage over different geographic regions. Therefore, it is important to discuss the political and economic factors of each country as broken down by region :

(1) Middle East

Egypt occupies a critical strategic position in the Middle East. Its economic development and political stability are crucial for regional security because it is the most populated Arab country with a very heavy political and strategic weight, particularly in Arab-Israel conflict. The peace achieved between Israel and Egypt, amidst other prevailing regional hostilities, has promoted some level of regional security and stability. In addition, its large armed forces and control over the Suez Canal are crucial. In other words, Egypt is a strategically important country in sustaining an uninterrupted oil supply. Consequently, Egypt is a major aid target of Japan and the United States.

Egypt is a major focus of U. S. aid policy. U. S. economic aid to Egypt and Israel reached 22% of its total aid in 1988-89. Egypt is also essential for U. S. national security, both in context of its global military security and stable oil supply from the region. The United States also has a strong and growing trade relationship with this country, especially in exports.

Japan has become involved in this economy since the late 1970s, increasingly in aid and trade. Middle Eastern stability and peace are critically important for Japan because it relies on this region for 70% of it crude oil imports. After the two oil shocks, Japan has used economic aid as a foreign policy instrument to establish stable economic relations with Egypt.

(2) South Asia

India still has an agrarian social structure and a huge impoverished population, and yet has played a leadership role in the developing world. India has occupied an important position in international politics. India's development performance inevitably influences prospect whether other developing nations will follow a path based on a democratic regime because India is the most populated developing democracy. Japan and the United States have strong interests to prevent the emergence of an aggressive, authoritarian state in the developing world.

India is a major aid target of Japan and the United States. Japan has provided more and more aid, while U. S. aid has diminished over time. India has a steadily growing trade with both countries. The two nations' direct investment has only shown a modest growth because India's government has followed an internal-oriented development strategy. This is in part because India has been a "quasi-socialist" state receiving massive aid from the Soviet Union for the past decade.

Pakistan occupies a central strategic position in South Asia. Its economic development and political stability are not only key factors for the balance of power game with India, Pakistan's traditionally hostile neighbor, but also for the conflict-ridden regional security related to Iran and Afghanistan. As a result, Pakistan is also a major aid target of Japan and the United States.

The two nations have deepened their involvement in Pakistan through aid and trade. U. S. trade relations with Pakistan have been roughly as strong as Japan's. On the other hand, Japanese involvement in public lending and direct investment has been marginal, while the United States has constantly kept a modest presence. Because of increasing burdens, the United States, since the early 1980s, has pressed Japan to provide aid to Pakistan and to supplement U. S. efforts. This means that the Unites States has not reduced its traditional involvement in aid to Pakistan.

(3) Southeast Asia

Indonesia is one of the largest developing economies where major international security problems do not exist and commercial competitiveness concerns prevail. Indonesia is a major oil producing country outside the unstable Middle East, and a major supplier of oil and other natural resources to Japan. The countuy has much heavier involvement in Indonesia through aid, public lending, direct investment and trade than the United States does.

Indonesia is a primary Japanese aid recipient and a major U. S. aid recipient. Japanese aid and public leanding have become larger and larger over time, while the same U. S. linkages have diminished rapidly. U. S.- Indonesia trade has remained one third of the size of Japan-Indonesia trade, even though the absolute size has increased steadily.

Indonesia is a case in which Japanese involvement has prevailed over its U. S. counterpart. Deepening Japanese involvement has been driven by both the public and private sectors, while the growing presence of the U. S. private sector has not been accompanied by that of the public sector. It is natural that Americans would perceive Japanese involvement as negatively affecting U. S. competitiveness in relation to Indonesia.

Malaysia has approached the level of economic development of the so-called newly industrializing countries. Japan and the United States see no major international security problem in Malaysia and instead their commercial competitiveness concerns prevail. A recent upsurge of Japanese direct investment has turned Malaysia into a major Japanese overseas manufacturing base.

Malaysia is also a typical case in which Japanese private sector presence (trade and direct investment) has paralleled the public sector involvement (aid), while U. S. private sector (trade and direct investment) has not. Both Japanese and

U. S. trade relations with Malaysia have experienced almost linear expansion in exports and imports. In addition, U. S. imports from Malaysia have outperformed exports, and its imbalance has been sharper than the Japanese counterpart. This situation has caused the American concern that the Japanese have used Malaysia as an export platform to U. S. domestic markets.

The Philippines is a strategic cornerstone for both Japan and the United States. This is because the United States had two major military bases there and because the Philippines is located in the midst of a major sea lane for international trade. Its economic development and political stability are crucial for regional security.

The United States and Japan have kept an influential presence in the economy, especially through aid, trade and direct investment. Japanese aid has long superseded its U. S. counterpart. Both countries have been heavily involved with the seriously indebted Filipino economy while extending substantial aid.

Sharing such cross-interests, there is no wonder that a major U. S.- Japan cooperation in aid first took place for the Philippines, and will most likely work as a model for future U. S.-Japanese cooperative efforts.

Thailand has successfully carried out a major industrialization drive, while retaining large agricultural and agro-business sectors. Thus, the Japanese and Americans perceive keen commercial competitiveness concerns, particularly in their trade relations with Thailand that have experienced linear expansion over time. Japanese exports have outperformed its imports, while the opposite is the case for the United States. Given a recent rise of Japanese direct investment, there exists a strong possibility that Japan has used Thailand as an export platform to U. S. domestic markets.

The Japanese presence has long been predominant in Thailand through aid, public lending, and direct investment. Contrarily, U. S. involvement in these areas has been very limited. Japan has already established economic hegemony in Thailand.

(4) Latin America

Mexico is an established middle income country but not a major aid recipient. Mexico is an exemplar of developing nations which took an import substitution industrialization strategy and achieved substantial development in the 1950s and 1960s. It is very important to include Mexico in this study because it has confronted major economic stagnancy and depression in the 1980s and has become the leading example of heavily indebted Latin American nations.

Mexican foreign economic relations have traditionally been dominated by the United States, especially through its trade and direct investment. Sharing a border, the United States has a large stake in Mexico's economic development and political stability, the lack of which inescapably produces illegal Mexican immigrants to the United States.

In the 1970s when Mexico followed an import substitution strategy, Japan assisted Mexican capital projects, such as steel production ; it imported oil and other natural resources from Mexico. Japan restarted its serious involvement in Mexico after the debt crisis in the early 1980s. The United States, short of adequate capital surplus, virtually invited Japan into the crisis management. Since then, Japan has a large financial stake in perennial Mexican insolvency because it needs to secure the original public and commercial loans extended to Mexico. Besides, Japan is the second largest trade partner of Mexico, both in exports and imports.

The United States remains dominant in Mexico. However, the Japanese have already become an active player in U. S.-Mexico economic relations as a major *de facto* insider of the North American Free Trade Agreement area through their subsidiaries in the United States and Mexico.

V. "Patterns" of Japanese and U. S. Approaches

Table 2-1 presents that ten independent variables, both Japanese and U. S., can be reduced to four "factors". The four "factors" account for 76.7% of the total

Table 2-1: General "Patterns"of Japanese and U. S. Involvement
Principal Component Analysis

Initial Statistics:

Variables	Commonality	Factor	Eigenvalue	Pct of Var*	Cum Pat**
JAODA (Japanese official development assistance)	1.00000	1	3.39173	33.9	33.9
JAOOF (Japanese other official flows)	1.00000	2	2.06060	20.6	54.5
JAEX (Japanese export)	1.00000	3	1.19841	12.0	66.5
JAIM (Japanese import)	1.00000	4	1.02170	10.2	76.7
JADI (Japanese direct investment)	1.00000	5	.85403	8.5	85.3
USODA (U. S. official development assistance)	1.00000	6	.59880	6.0	91.3
USOOF (U. S. other official flows)	1.00000	7	.40663	4.1	95.3
USEX (U. S. export)	1.00000	8	.24594	2.5	97.8
USIM (U. S. import)	1.00000	9	.19956	2.0	99.8
USID (U. S. direct investment)	1.00000	10	.02289	.2	100.0

Final Statistics

Variables	Commonality	Factor	Eigenvalue	Pct of Var	Cum Pat
JAODA (Japanese official development assistance)	.81437	1	3.39173	33.9	33.9
JAOOF (Japanese other official flows)	.84681	2	2.06060	20.6	54.5
JAEX (Japanese export)	.76055	3	1.19841	12.0	66.5
JAIM (Japanese import)	.83119	4	1.02170	10.2	76.7
JADI (Japanese direct investment)	.72454				
USODA (U. S. official development assistance)	.65624				
USOOF (U. S. other official flows)	.56102				
USEX (U. S. export)	.95191				
USIM (U. S. import)	.90092				
USDI (U. S. direct investment)	.62488				

*Pct of Var: Percentage of Variance.
**Cum Pat: Cumulative Percentage.

Table 2-2: General "Patterns" of Japanese and U. S. Approaches: Highlights

Rotated Factor Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
JAODA (Japanese official development assistance)	.68551	−.17231	.55696	.06738
JAOOF (Japanese other official flows)	.18496	.23957	.86902	.00376
JAEX (Japanese export)	.83985	.13865	.16421	−.09498
JAIM (Japanese import)	.89629	.10027	.11343	−.07026
JADI (Japanese direct invetsment)	.84380	.09347	−.05010	−.03602
USODA (U. S. official development assistance)	−.05757	−.11879	−.13506	.78777
USOOF (U. S. other official flows)	−.04846	.11310	.14431	.72461
USEX (U. S. export)	−.07928	.95531	.17407	.05202
USIM (U. S. import)	.12733	.90409	.25048	−.06773
USDI (U. S. direct investment)	.29877	.65506	−.32606	.01431

Highlightened Rotated Factor Matrix: (loading>.55)

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
	Japanese Government & Private Sector Collaboration (JAPRGV)	U. S. Private Sector (USPR)	Japanese Government Sector (JAGV)	U. S. Government Sector (USGV)
JAIM (Japanese import)	.89629			
JADI (Japanese direct investment)	.84380			
JAEX (Japanese export)	.83985			
JAODA (Japanese official development assistance)	.68551		.55696	
USEX (U. S. export)		.95531		
USIM (U. S. import)		.90409		
USDI (U. S. direct investment)		.65506		
JAOOF (Japanese other official flows)			.86902	
USODA (U. S. official development assistance)				.78777
USOOF (U. S. other official flows)				.72461

variance. *Final Statistics* shows that the first "factor" explains 33.9% of the variance, the second "factor" 20.6%, the third "factor" 12.0%, and the fourth "factor" 10.2%. Computed by orthogonal rotation, these "factors" are statistically independent without any overlap among them in the explained variance, and, therefore, the size of each explained variance is uniquely ascribed to each "factor".

According to Table 2-2 (Highlights), the first "factor" includes JAODA (Japan's official development assistance to the selected developing nations), JAEX (Japan's export to the selected developing nations), JAIM (Japan's import from the selected developing nations), and JADI (Japan's direct investment in the selected developing nations). The loading values demonstrates that JAEX (.84), JAIM (.90), and JADI (.84) have a very high positive correlation with the "factor", and, to a lesser extent, JAODA (.69).

The second "factor" is composed of USEX (U. S. export to the selected developing nations), USIM (U. S. import from the selected developing nations), and USID (U. S. direct investment in the selected developing nations). The loading values suggest that USEX (.95) and USIM (.90) have a very high positive correlation with the "factor", and to a lesser extent, USDI (.66).

The third "factor" is constituted by JAODA and JAOOF (Japan's other official flows to the selected developing nations). The loading values show that JAODA (.87) has a very high positive correlation with the "factor", while JAOOF has a reasonably strong positive correlation (.56).

The fourth "factor" includes USODA (U. S. official development assistance to the selected developing nations) and USOOF (U. S. other official flows). The loading values indicates that USODA (.79) and USOOF (.72) have a strong positive correlation with the "factor".

Analyzing these four "factors", the public-private sector relationships between Japan and the United States can be identified. The four "factors", from the first to fourth, respectively represents the (1) Japanese private sector-government collaboration (JAPRGV), (2) U. S. private sector (USPR), (3) Japanese government (JAGV), and (4) U. S. government approaches (USGV).

These clusters suggest that there exists a hyper-interaction within the private as well as the public sector in both Japanese and U. S. cases. The "patterns" of export, import, and direct investment follow a similar trajectory; they are intertwined. This means that trade and investment cannot be treated separately in the contemporary international market economy. Also, it is observed that the aid (ODA) "pattern" parallels the public lending (OOF) counterpart, implying that the Japanese and U. S. governments coordinate their own aid and lending policies.

The four "factors" are unique and independent "patterns" that represent the development approaches of Japan and the United States. The split between JAPRGV and USPR demonstrates that the two nations' private sectors follow uniquely different approaches to the nine selected developing countries. On the other hand, the bifurcation of Japanese (JAGV) and U. S. government (USGV) approaches suggests that two governments pursue different policy objectives. Assuming that the difference of "patterns", deeply embedded in their approaches over the last twenty years, is endurable, Japan and the United States will not be able to achieve global policy cooperation in aid and development. In other words, the structural necessity for such a cooperation does not exist. However, this does not eliminate the possibilities that two nations cooperate in aid and development policies toward a particular developing nation.

These four "factors" also reveal the nature of the public-private sectors relationship between Japan and the United States. The fact that the U. S. public and private sectors constitute their own clusters demonstrates that they behave independently, pursue diverging objectives, and lack any systematic collaborative relationship. This holds a general understanding among development policymakers, professionals, and scholars that Americans tend to view the government-business relationship as adversarial, do not emphasize the importance of trade promotion by the government, and lack a strong tying practice of aid with trade as a matter of public policy. This approach also makes it feasible to focus on basic human needs program in aid. On the other hand, the Japanese public and private sectors behave jointly (JAPRGV), and, most likely, share objectives, while the public sector also pursues its own policy objectives (JAGV). This supports an understanding that the Japanese public and private sectors form a collaborative relationship involving the tying practice of aid with trade and investment; such a practice is most likely seen in capital-intensive infrastructure projects.

The U. S. case is a classical situation in which the private sector operates solely according to the market mechanism and the government acts exclusively on the basis of non-commercial policy considerations. Contrarily, the Japanese case lacks a clear demarcation between the public and private sectors; the government does not have immediate commercial concerns but becomes involved in commercial activities, intervenes in the market, and actively promotes commercial interests. This is construed that the Japanese government sees a great political meaning in promoting the commercial interests of the private sector, while the U. S. government does not at all.

Ⅵ. The Impact on Global Competitiveness

Table 3 shows that the two models of regression analysis have a very high F value and, as a result, a zero value or a near zero value of the significance level of F value, given the number of observations. It is clear that the first model on the Japanese balance of payment with the nine selected developing nations (JABOP) explains almost 60% of the total variance. This result demonstrates that the variance of JABOP are greatly determined by the four "factors" of Japanese and U. S. involvement rather than other exogenous factors. There are some outliers related to Indonesia, the Philippines, and Turkey, but they do not have any systematic tendency of deviation.

The Japanese government-private sector collaboration "factor" exerts the largest negative impact on the Japanese balance of payment with a very large effectiveness

Table 3: Impact of Japanese and U. S. Involvement On Their Competitiveness

Dependent Variable	Signifi. F	Adjusted R Square	JAPRGV		JAGV		USPR		USGV		Outliers
			b	t	b	t	b	t	b	t	
JABOP t−1*	56.6	.570	−1624	−14.91	−315	−2.95	−122	−1.08	68	.68	Indonesia(79, 81, 85, 86, 88) Philippines (89) Turkey (88, 89)
USBOP t−1*	41.0	.500	−919	−8.67	−662	−6.37	−700	−6.35	425	.44	Mexico (80, 81, 83, 84, 85, 87) Indonesia(80, 88, 89) Turkey (89)

*One year lag is used.

(t=−14.91) and efficiency (b=−1624), followed by the Japanese government "factor" (t=−2.95, b=−315). The U. S. private and government "factors" produce negligible impact (USPR: t=−1.08, b=−122) (USGV: t=.68, b=68).

Given the fact that the JAPRGV "factor" includes Japanese export, import, direct investment, and official development assistance, it is evident that Japanese private sector actors place their subsidiaries overseas and imports their locally produced goods to Japanese domestic markets: these goods are most likely raw and semi-processed materials necessary for high value-added production in Japan. It is needless to say that this investment style accompanies export of Japanese capital goods such as machinery and equipments essential for local manufacturing facilities. Most probably, the Japanese government supports this process by building collective goods necessary for the economic activities of Japanese private sector actors such as infrastructure. The fact that the Japanese government "factor" exerts a modest negative impact on the Japanese balance of payment suggests that the government operates in ways to hinder exports or promote imports when it pursues non-commercial, strategic and political objectives. This process is shown by Figure 1. Neither U. S. government nor its private sector actors influence over the Japanese profit-making with the selected developing nations.

The second model on the U. S. balance of payment with the nine selected develop-

Figure 1 Japanese Approach

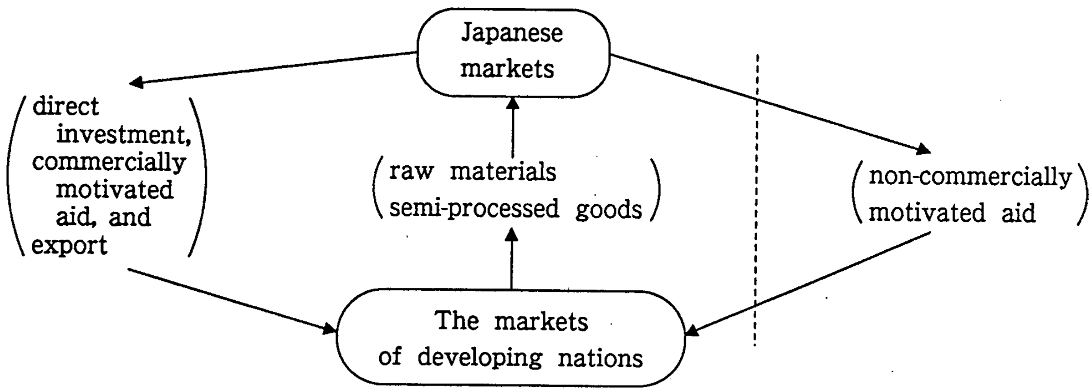
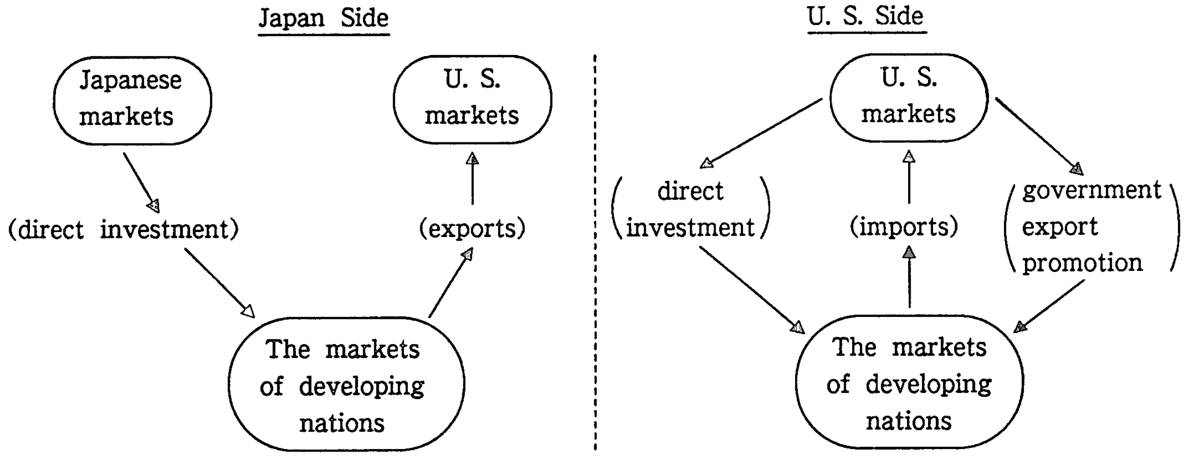


Figure 2 Japanese and U. S. Approaches



ing nations (USBOP) accounts for 50% of the total variance. It is shown that the four "factors" of Japanese and U. S. involvement possess a large explanatory power of the variance of USBOP. Some outliers related to Mexico, Indonesia, and Turkey, and Mexican cases in the 1980s present a weak tendency of deviation, most probably, due to the debt crisis.

Here again, the Japanese government-private sector collaboration "factor" generates a largest negative impact on the U. S. balance of payment with a very large effectiveness (t=−8.67) and efficiency (b=−919), followed by the Japanese government (t=−6.37, b=−662) and U. S. private sector (t=−6.35, b=−700) "factors". On the other hand, only the U. S. government "factor" produces a positive impact on the U. S. balance of payment with a very small effectiveness and modest efficiency (t=.44, b=425).

As shown in Figure 2, it is evident that Japanese government and private sectors generate a consequence through an operation pattern in which they use the nine selected developing nations as an export platform to U. S. domestic markets. This conclusion is drawn from the fact that the Japanese government-private sector collaboration "factor" exerts a large negative impact on the U. S. balance of payment with a very large effectiveness and efficiency. Given the previous finding that the "factor" includes Japanese export, import, direct investment, and official development assistance, the fact is construed that Japanese private sector actors, supported by the Japanese government, makes direct investment in the selected developing nations, exporting capital goods such as machinery and equipments, and that their overseas manufacturing subsidiaries export their locally produced goods and services to U. S. domestic markets. In addition, even when the Japanese government operates independent of commercial considerations, its behavior generates a large impact inimical to U. S. commercial interests. Surprisingly, the Japanese approach results in a net loss of U. S. profit-making in relation to the selected developing nations, which rejects the idea that the Japanese approach constitutes a simple export promotion case. In order to understand the Japanese practice, it is necessary to capture overall economic relationships between Japan, the United States, and the selected developing nations.

In the second model, it is clear that U. S. private sector operates in ways to generate a negative impact on the U. S. balance of payment. This conclusion is drawn from the fact that the U. S. private sector "factor" produces a large negative impact with a high effectiveness and efficiency. Given the previous finding that the "factor" includes U. S. export, import, and direct investment, this finding is interpreted that the private sector actors place their subsidiaries in manufacturing overseas and import their locally produced goods and services to U. S. domestic markets. On the other hand, the result demonstrates that the U. S. government operates in ways to generate a positive impact on the U. S. balance of payment with a moderate efficiency and a very small effectiveness. The U. S. government approach produces the effect of simple export promotion, regardless of its expressed aid policy goals and implementation style evolving around the asserted nature of being untied.

The above discussions suggest that the U. S. government faces a very strong motive to withdraw from the existing level of policy commitment in aid and development with focus on strategic purposes and basic human needs. It has been shown that the Japanese enjoy a one-sided "win-win" situation in which its approach is systematically inimical to U. S. commercial interests. However, as my previous work demonstrates, the very existing "patterns" of Japanese and U. S. involvement generate overall beneficial development effects on developing nations.[15] The same conclusion is also drawn from this statistical analysis because the identified overall economic relationships between Japan, the United States, and the selected developing nations form a chain of supply-side (Japan), manufacturing production (the developing nations), and demand-side (the United States) requirements through the process of which the developing nations achieve their growth and development. It goes without saying that both Japan and the United States as global economic superpowers share a common interest in maintaining and strengthening the development and global stability. It is critically important to sustain such a beneficial impact generated by the structure which cannot be viable on an enlightened self-interest basis.

Ⅶ. Conclusion: political implications

Hitherto, this research has measured the impact of Japanese and U. S. economic involvement in the nine selected developing nations upon the two nations' global competitiveness. Their involvement consists of aid, public lending, direct investment, and trade. The study covers Egypt, India, Indonesia, Malaysia, Mexico, Pakistan, the Philippines, Thailand, and Turkey, for the period from 1970 to 1989. Factor analysis has identified the "patterns" of involvement, and regression analysis has measured linear relation between these "patterns" and the balance of payment as impact on competitiveness. The study has provided a systemic level of analysis by pooling cross-sectional and time-series data to identify general "patterns" and impact across country and

15) Matsumura, *op.cit.*, pp. 86–88.

time.

This empirical study has a serious limit because of the number of observations, or sample countries and time period. The study has only identified the relations between Japanese and U. S. economic involvement and their impact on the two nations' competitiveness, for the period from 1970 to 1989. Nonetheless, because of the core nature of the target period and countries, it is contended that the fundamental characteristics of the identified relations would be an important source of information to understand the general nature and impact of Japanese and U. S. development approaches. This contention is based on the fact that these two nations are the prime aid donors, public loan granters, direct investors, and trading partners *vis-à-vis* the developing world, and the fact the nine selected developing nations have various political, economic, and cultural backgrounds, representing diverse geographic regions globally. Also, the fact that this 1970-89 period offers a pivotal vantage point from which to view a transition process from the post-Second World War, to the Cold War, and finally to the end of the Cold War periods.

Given these limits, this research has produced some important contributions to the study of U. S.-Japan politics in aid and development. This study has identified differences in the public-private sectors relationships between Japan and the United States. These are based on: (1) Japanese public-private sectors collaboration, (2) U. S. private sector, (3) Japanese government, and (4) U. S. government approaches. The U. S. case is a classical situation in which the private sector operates solely according to the market mechanism and the government acts exclusively on the basis of non-commercial policy considerations. Contrarily, the Japanese case lacks a clear demarcation between the public and private sectors; the government does not have immediate commercial concerns but becomes involved in commercial activities in the market, and actively promotes commercial interests. This is construed that the Japanese government sees a great political meaning in promoting the commercial interests, while the U. S. government does not.

The fact that our analysis has identified four independent "factors" essentially means that overall U.S. -Japan cooperation in aid and development is impossible as long as the "patterns" of the two nations' approaches remain the same. These "patterns" have evolved over the last twenty years (1970-1989), and the actual practice which have shaped the "patterns" are embedded in the values, political-economic institutions, policy preferences, and international behaviors of the two nations. Thus, both Japan and the United States cannot alter the approaches of government and private sector actors systematically as a matter of temporal political and/or commercial expediency, although this does not deny a possibility that these actors can cooperate and coordinate their policy action in a particular case.

U. S. -Japan cooperation in aid and development will become possible only when government and private sector actors alter their bahavior "patterns" in response to the sea changes of the post-Cold War environment. This conclusion remain valid as far as the structure of international relations and its political-economic realities which this research presupposes are kept constant. Based on this understanding, it is evident that a series of international conferences and seminars over the last several years, organizing the public and private sector leaders from Japan and the United States in an attempt to promote bilateral cooperation in aid and development and to enhance the plus-sum nature of their competing commercial interests, are simply a utopian undertaking because these gatherings naively assume it possible to articulate the behavior "patterns" of various actors that are statistically independent. An intellectual approach to be pursued needs to undergo a revolution from utopian to scientific modes of thinking.

The necessity to alter the "patterns" of Japanese and U. S. approaches in aid and development is now of paramount importance, on the ground that the existing "patterns" generate beneficial development impact essential for developing nations; in particular, collaboration of public and private sectors plays an integral role in promoting development. The failure to do so will inevitably enhance the possibility of being entrapped in a downward spiral of bilateral competition and conflict, and of disengagement from aid and development and global destability. In order to avoid such a development of bilateral relations:

(1) The Japanese government should strengthen strategic and political-diplomatic uses of aid independent of the promotion of commercial interests, while sharing and rearticulating these non-commercial interests with those of the United States; and

(2) The U. S. government should collaborate with its own private sector in aid and development, while overcoming the traditional adversarial relationship.