Does Korea Follow Japan in Foreign Aid? Relationships between Aid and FDI
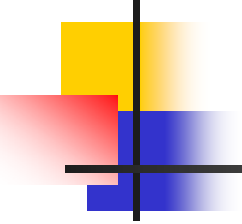
Japan and the World Economy (Forthcoming)

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- Korea and Japan are similar in term of foreign aid?
- Does Korea's aid follow the Japan's path?

Introduction

- Korea is a new emerging donor country of aid
- Joined the DAC in 2010 as 24th member country
    - Funding started in 1987, framework established in 1991
    - Now the 2nd recognized Asian donor, following Japan
- Disputes on "which direction or what goals Korea's aid should go?"
    - More complex and multi-faceted
    - Help alleviate poverty in developing countries, but at the same time, it is undoubtedly a way for donor countries to advance their national interests

Introduction

- Most donors face difficulties reconciling these two seemingly conflicting motivations
    - The combination will be determined by donor nation's internal socio-political factors, international standing, external strategy, geographical calculations, and so forth
- To predict what Korea's foreign aid policy in the future
    - It is very interesting to examine *whether Korea will follow the path of its Asian predecessor,* Japan

Introduction

- Korea follows the Japanese experience in foreign aid as a reference
  - Japan International Cooperation Agency (JICA)
    => Korea International Cooperation Agency (KOICA)
  - Overseas Economic Development Fund (OEDF)
   => Economic Development Cooperation Fund (EDCF)

Introduction

- Question: Does Korea's aid follow the Japan's path?
    - In macro level: distribution of aggregate aid between two countries by type, region, sector, recipients' income level
    - In micro level: relationship between aid and FDI

A Macro Comparison: Aid distribution of Korea and Japan

Evolution of Korea's ODA   unit: mil. US$, %
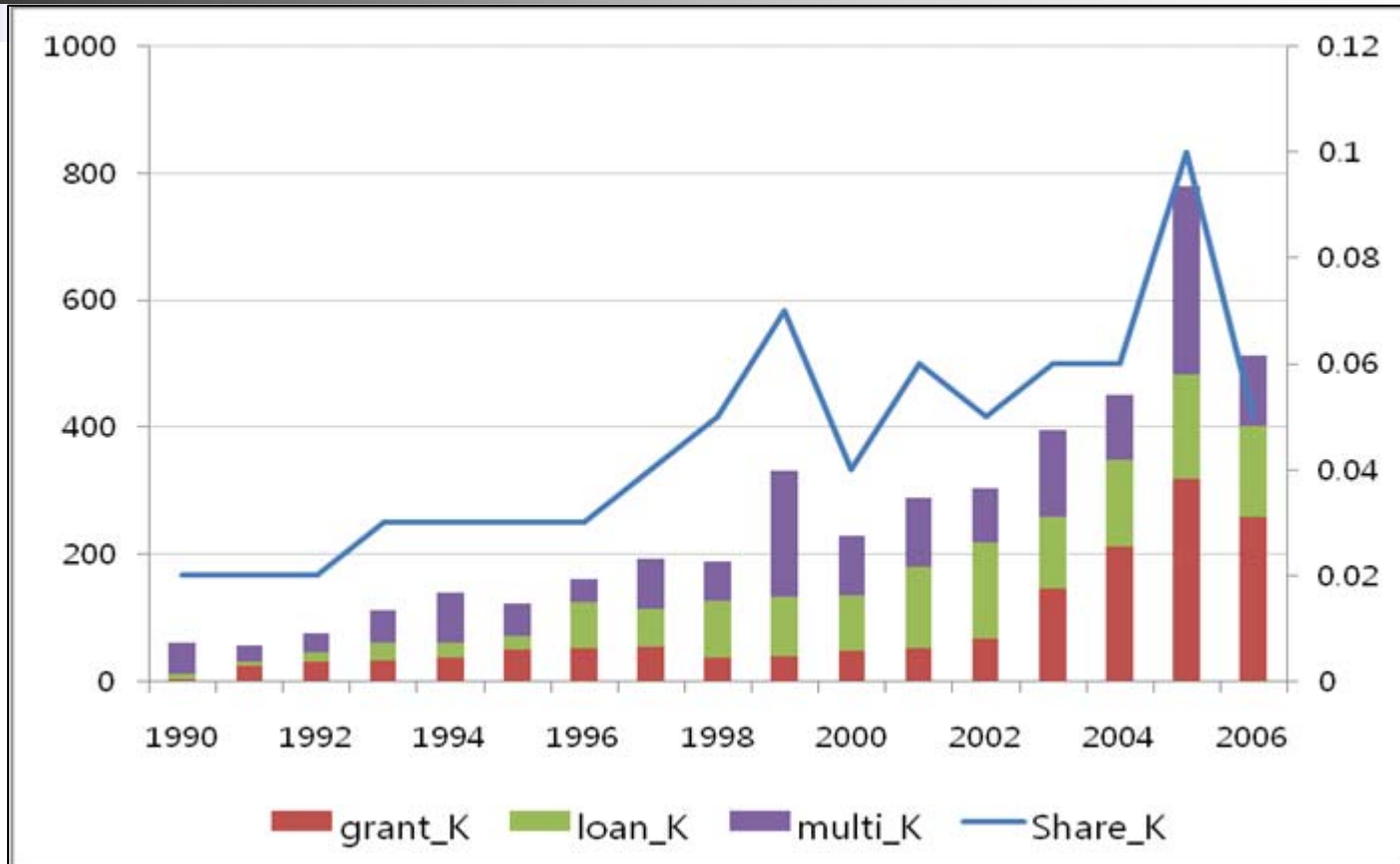
Sources: OECD.dat.

Basic comparison between Kor and Jap's Aid

- Different **Size**: Korea's aid is tiny compared to Japan's
    - one twentieth in total ($0.5 bil. vs. $11.2 bil.)
    - one fourth as share of GNI (0.06% vs. 0.25%)
- Similar **Allocations** : Korea as of now and Japan as of the 1980s
    - type: high proportion of loans in bilateral aid
    - region: concentration in Asia
    - income: high share of middle income recipients
    - sector: emphasis on economic infrastructure

Comparisons between Kor and Jap in aid allocation

|		Korea	Japan		DAC Average
		2002-2006*	1985-1986	2002-2006	2002-2006
Size	Total (US$ mil.)	488	7,892	15,426	4,294
	Share in GNI	0.06	0.3	0.23	0.28
Type	Grants	59 (31)	37	53	87
	Loans	41 (69)	63	47	13
By region	Europe	4	2	1	4
	Africa	8	16	10	29
	America	5	8	7	9
	Asia	76	67	60	33
	unspecified	7	7	22	25
By income	LDCs	24	21	16	26
	other LICs	14	12	19	10
	LMIC	52	53	39	30
	UMICs	3	6	4	3
	unallocated	7	8	22	30
By sector	Social Infra	63 (45)	23	36	58
	Economic Infra	29 (46)	51	45	21
	Others	8 (9)	26	19	21
Tying	Share of tying	97	32	8	8

*Values in parenthesis indicate the average of the years from 1998 to 2001. These are presented to correct a shock arising from a temporary rise in the aid to Afghanistan and Iraq after 2002.
Sources: OECD.stat.

Comparison between Kor and Jap's Aid

- Except for size
- Korea's aid has a close similarity to Japan's aid of the late 1980s in many respects
  - such as aid allocation by type, sector, region, and income
- The similarities between the two countries' aid include
  - a high proportion of loans
  - the regional concentration in Asia
  - a high share of aid to the middle-income countries
  - the emphasis on the economic infrastructure sector
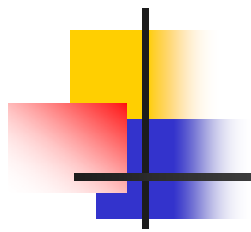
A Micro Comparison: The Relationship between Aid and Foreign Investment

A Micro Comparison: Aid and FDI

- Further explore whether additional similarity between Korea and Japan can be found in regard to the relationship between aid and foreign investment
    - Does aid catalyze private FDI?
    - Does Korea's aid create foreign investment like Japan's?
    - If yes, is it different from other donors?

Previous Works

- The relationships between official flows and private flows have continuously been a concern in development economics

  - For instance, international financial organizations such as World Bank and IMF have been very interested in whether multinational lending has a catalytic effect or a crowding-out effect on private capital flow

  - Regarding the issue, some theoretical and empirical studies were suggested and World Bank (2002, p.98) provides a brief survey of those studies

Previous Works

- Scarce studies and inconsistent results
    - Berthelemy and Tichit (2004): no relations in most of the donor countries
    - Harms and Lutz (2006): generally no, only in regulatory countries yes
    - Selaya and Sunesen (2008): infrastructure aid yes, non-infrastructure aid no
- Based on the analysis of total aid and total private flows of each recipient

Previous Works

- Based on more micro-level data are being attempted by using data of donor-recipient pairs instead of the total values of each recipient

  - Mayer (2006): examines the catalyzing effect of bilateral aid to bilateral foreign investment => yes only year fixed effect, but no with the country fixed effect

  - Blaise (2005): yes for Japan's aid to China (by province)

  - Kimura and Todo (2010): yes for Japan's aid, but no for other 4 donors'

Configuration of Aid and FDI in Kor and Jap

Fluctuation of Overseas Investment Flows From Korea and Japan
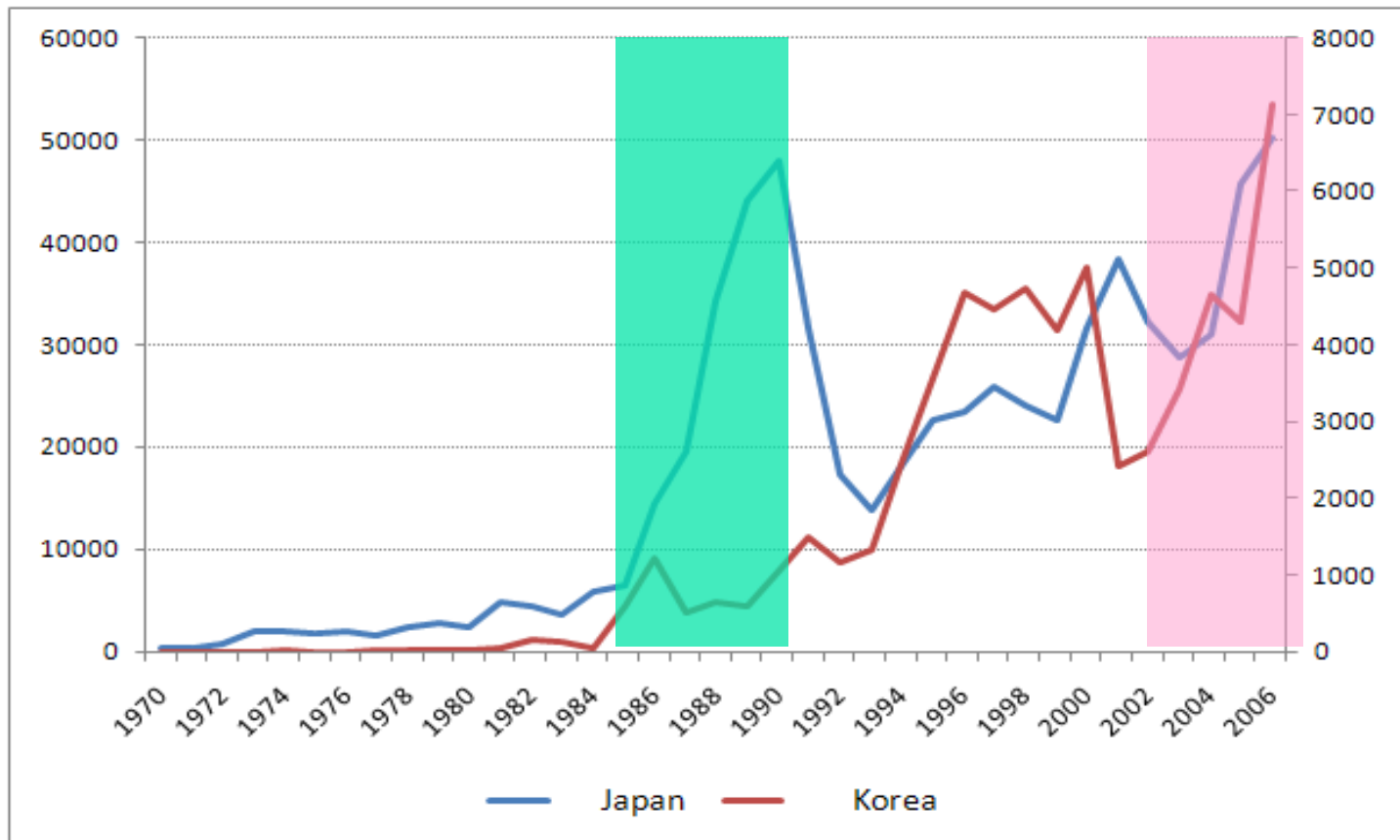
Top 10 recipients of FDI and Aid from Japan and Korea

Japan				Korea	
1989		2004		2004	
FDI	**Aid**	**FDI**	**Aid**	**FDI**	**Aid**
Thailand	**Indonesia**	**China**	**China**	**China**	Iraq
Malaysia	**China**	Thailand	Iraq	**Vietnam**	**Vietnam**
Indonesia	**Thailand**	Korea	Vietnam	Slovakia	**China**
Korea	**Philippines**	Taiwan	**Malaysia**	Peru	Cambodia
Taiwan	Bangladesh	Mexico	**Philippines**	**Indonesia**	Afghanistan
China	India	**Philippines**	Sri Lanka	Thailand	Bangladesh
Brazil	Sri Lanka	Indonesia	Afghanistan	India	**Indonesia**
Myanmar	**Pakistan**	Brazil	Kazakhstan	Malaysia	Sri Lanka
Philippines	Nigeria	Czech	Pakistan	Poland	Philippines
Pakistan	Kenya	**Malaysia**	Uzbekistan	Libya	Albania

Model

- Whether aid in general has a catalyzing effect on foreign investment

- Whether aid from Korea or Japan in particular has such an effect as distinguished from aid by other donors

- For this estimation, we employ the gravity model of FDI and bilateral country pair data instead of aggregate data of recipients

Model

- Knowledge-capital model developed by Carr et. al. (2001)

$$f_{it} = \alpha_1 + (\alpha_2 - 1)F_{it-1} + \beta'X_{it} + \eta_i + \omega_t + v_{it},$$

f_{ij}: bilateral FDI flow, F_{ij}: accumulated stock of FDI
X: vector of independent variables
η_i: country specific effect, ω_t: time specific effect
v_{it}: stochastic error

Model

- Traditional studies on FDI decisions: four main factors

  - Agglomeration effects
  - Institution effects
  - Production cost effects
  - Market access effects

Model

- **Control variables**
  - GDP of recipient countries
  - Difference of per capita GDP between source and recipient countries
  - Lagged value of accumulated FDI
  - *DISTij* is the geographic distance between i and j
  - *TARi* is the average tariff rate for the country
  - Corruption indices of recipient countries
  - Bilateral exports between source and recipient countries

Econometric issues

- Potential endogeneity
- Issue of reverse causality
- Following Holtz-Eakin et al. (1988), Arellano and Bond (1991), Arellano and Bover (1995), and Blundell and Bond (1998), the above-mentioned econometric issues under system GMM framework are considered

$$\Delta F_{it} = \alpha_2 \Delta F_{it-1} + \beta' \Delta X_{it} + \Delta u_{it}, \ i = 1, 2, ..., N, t = 1, 2, ..., T,$$

Data

- 7 donors : US. UK, Japan, Germany, France, Netherlands, Korea

- 24 recipients (Appendix Table 1)

- Period from 1980 to 2003

Data

- Bilateral FDI flows : UNCTAD, 1968 ~ 2003
  - Stock values and flow values
- Foreign aid data : OECD.dat database
  - Two -types of bilateral foreign aids: total amount of foreign aid and loans => in this paper, total amount of foreign aid
- Other independent variables are taken from the World Bank: GDP, per capita GDP, exports, and mean tariffs

Data

- Distance between two countries :geographical distance between the capital cities :Jon Haveman's website

- For institutional environment variable : corruption indices, constructed by the International Country Risk Guide (ICRG)

Data description

Variable	Description	Mean	Std. Dev.
FDI stock ij	Log of real FDI stock from country j to i	1.36	2.79
ODA stockij	Log of real ODA stock from country j to i	5.64	4.18
ODA flow ij	Log of real ODA flow from country j to i	3.74	4.05
GDP_j	Log of real GDP of donor country j	27.79	1.07
GDP_i	Log of real GDP of recipient country i	24.05	1.65
Diff GDP_ij	Difference in log of Per capita GDP between i and j	9.55	0.77
TAR_i	Log of tariff rates in recipient country i	2.56	0.69
EXP_ij	Log of real export from country j to i	20.85	4.59
ENV_i	Log of Corruption index in recipient country i	1.24	0.43

Results

	(1) Fixed	(2) Random	(3) GMM	(4) GMM
Lagged Real FDI stock_ij	0.838***	0.940***	0.954***	0.947***
	(0.024)	(0.008)	(0.00009)	(0.0001)
Real ODA stock_ij	-0.004	-0.003	0.027***	0.020***
	(0.035)	(0.018)	(0.0001)	(0.001)
Real GDP_i	0.063	-0.014	0.052***	0.003***
	(0.145)	(0.015)	(0.0004)	(0.001)
Diff. Per Capita GDP_ij	-0.209*	-0.066**	-0.008***	-0.025***
	(0.106)	(0.031)	(0.0004)	(0.001)
TAR_i	0.001	0.099***	0.224***	
	(0.085)	(0.025)	(0.001)	
Real Export_ij	0.044	0.022	-0.015***	-0.010***
	(0.034)	(0.024)	(0.0001)	(0.001)
ENV_i	0.234***	0.118***	0.183***	0.255***
	(0.072)	(0.037)	(0.001)	(0.001)
DIS_ij		0.012		
		(0.034)		
Constant	-0.922	-0.091	-1.685***	0.107
	(3.573)	(0.566)	(0.010)	()
Observations	3120	3120	3120	3120
R-squared	0.795	0.792		
p-value of AR(1) test			0.0044	0.0044
p-value of AR(2) test			0.1392	0.1292
p-value of Sargan test			0.8146	0.7932

Note1: i denotes a recipient, while j denotes a donor.
Note2: ***, **, and * denote to be significant at 1%, 5%, and 10%, respectively
Note3: dependent variable is FDI stock.
Note4: Standard errors are in parentheses.
Note5: Year dummies are included all estimations.

Results

- Considering possible endogeneity of independent variables,
  - The foreign aid is positively and significantly correlated with FDI flows. This means foreign aid plays a positive role in attracting FDI
  - Accumulated Stock FDI (+)
  - GDP (+)
  - Per capita GDP (-) : support the horizontal FDI
  - Tariff (+) : tariff jumping
  - Export (-) : substitution between local production and exports
  - Institution environment (+)

Results

- So far, suggest that foreign aid creates FDI

- This analysis can present different impact of foreign aid on FDI flows by each of seven donor countries

- Therefore, we further investigate whether foreign aid from each of donor countries actually promotes FDI

	GMM	AR(1)	AR(2)	Sargan test	Obs.
ODA_Stock_ij					
Germany	-0.003 (0.039)	0.0069	0.9016	0.4390	479
France	0.036 (0.030)	0.0483	0.8953	1.0000	465
United Kingdom	0.093 (0.090)	0.0850	0.2165	0.7182	440
Japan	0.178*** (0.028)	0.1080	0.3258	1.0000	445
Korea	0.114*** (0.020)	0.0544	0.1209	1.0000	459
Netherlands	0.024 (0.034)	0.0070	0.4790	0.1747	462
United States	-0.010 (0.025)	0.0425	0.2576	0.8628	385

Note1: Standard errors are in parentheses.
Note2: ***, **, and * denote to be significant at 1%, 5%, and 10%, respectively.
Note3: dependent variable is FDI stock

Results

- On a theoretical basis, it is not obvious whether foreign aid increases or reduces countries' attractiveness for foreign investors

- There are different impacts for each donor country according to foreign aid types

- Japanese and Korean foreign aid increase bilateral FDI flows

Conclusions

- Korea's current foreign aid have strong similarity to Japan's aid practices of the 1980s: in the macro level and micro level

- Using pooled data of different donors, generally no positive effect of aid on FDI

- In contrast, only Korea's and Japan's aid lead to increased FDI

- The effect was stronger for Korea's aid than Japan's

Conclusions

- This vanguard effect of Korean aid seems to reflect its practices in aid allocation
    - In selecting recipient countries for preferential loans, Korea's Fund Management Committee considers their economic ties with Korea to be an important factor, in addition to their economic conditions, needs, and governance
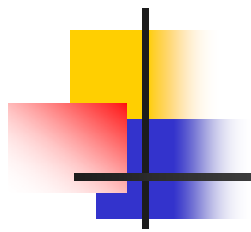   - Particularly candidate countries' investment and trade relations with Korea are taken into account

Conclusions

- **In 2008, the Korean government designated eighteen core assistance countries**
    - The selection of those countries largely considers bilateral economic relations to be an important factor (Korean Government, 2008)
    - There is little doubt that how large of a potential candidate country has of becoming a host of Korea's FDI is one of the important economic factors that are considered
    - These practices regarding aid allocation in Korea confirm our statistical outcome on the vanguard effect

Conclusions

- The vanguard effect found in aid from Korea and Japan should not necessarily be criticized for using aid as a means to seek investment interests
  - If aid paves the way for private investment to recipient countries, it is a desirable effect for development finance
- If the effect works only for investment from the donor and crowds out investments from others, however, it is undoubtedly not desirable

Thank you very much