

Japanese ODA to China and Indonesia: An Ex Post Facto Evaluation of its Effectiveness (Summary)

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Most studies of the effects of ODA have dealt only with its direct impact on the macroeconomy without considering the indirect effect of FDI (foreign direct investment) induced by ODA through sectoral analysis. This article is based on a more detailed report on Japanese ODA published by an English-language academic journal published by ERINA (JESNA Vol. 4, No. 2, 2003)

This article analyses the overall impacts of Japanese ODA to China and Indonesia, the two biggest recipients of aid from Japan, taking into account both the direct and indirect effects of ODA, by using dynamic multisector econometric models for these countries in the context of the EITF, a global model originally constructed by ERINA in 1995.

The impact is greater than is suggested by conventional

research into Japanese studies of Japanese ODA, as these tend to neglect or completely disregard the indirect effects of induced the FDI stimulated by Japanese ODA, which generally places greater emphasis on the infrastructure of recipient countries than does aid from other donor countries. In a global simulation, it was found that Japanese ODA to both China and Indonesia had a significant positive impact on GDP, increasing it by 7 to 15% in the case of China, 1 to 4% for Indonesia, 0.6% for Singapore, 0.5% for Thailand, 0.4% for Japan, 0.3% for Malaysia, 0.2% for the UK, 0.15% for Canada, and 0.14% for the USA. The article concludes with a discussion of the policy implications of a Northeast Asian development program covering alternative strategies in the context of Japan's ODA and FDI.

Table 1 China: Joint Effects

		1980 prices, billion yuan									
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Investment (I)	a	408.3	533.4	604.6	676.3	758.9	884.2	1,080.7	1,078.4	1,397.9	1,413.2
	b	481.7	643	777.1	885.8	1,016.8	1,169.1	1,358.2	1,287.4	1,673.7	1,631.2
	difference	-73.5	-109.5	-172.5	-209.5	-257.8	-284.9	-277.5	-209.0	-275.9	-218.1
	(%)	-15.2%	-17.0%	-22.2%	-23.7%	-25.4%	-24.4%	-20.4%	-16.2%	-16.5%	-13.4%
GDP (VD)	a	991.0	1,236.4	1,374.2	1,452.3	1,584.6	1,767.1	2,157.4	1,919.4	2,511.2	2,458.9
	b	1,057.8	1,366.7	1,549.6	1,679.0	1,860.6	2,094.9	2,480.5	2,142.1	2,859.8	2,721.2
	difference	-66.8	-130.3	-175.4	-226.8	-276.0	-327.8	-323.1	-222.7	-348.6	-262.3
	(%)	-6.3%	-9.5%	-11.3%	-13.5%	-14.8%	-15.6%	-13.0%	-10.4%	-12.2%	-9.6%
Private Consumption (C)	a	459.1	554.7	611.9	643.0	694.8	766.0	917.0	826.2	1,054.9	1,035.5
	b	484.8	604.9	679.4	730.3	801.0	892.2	1,041.4	911.9	1,189.1	1,136.5
	difference	-25.7	-50.2	-67.6	-87.3	-106.3	-126.2	-124.4	-85.7	-134.2	-101
	(%)	-5.3%	-8.3%	-9.9%	-12.0%	-13.3%	-14.1%	-11.9%	-9.4%	-11.3%	-8.9%
Exports (E)	a	202.3	199	230.3	286.6	301.7	321.3	353	400.5	391.4	417.8
	b	204.7	201	234.7	290.0	305.7	323.0	354.3	397.6	388.5	415.9
	difference	-2.4	-2.1	-4.4	-3.4	-4.0	-1.7	-1.4	2.8	2.9	1.9
	(%)	-1.2%	-1.0%	-1.9%	-1.2%	-1.3%	-0.5%	-0.4%	0.7%	0.7%	0.5%
Imports (M)	a	152.8	191.3	239.0	275.4	309.4	356.1	521.9	507.2	616.5	640.3
	b	163.0	212.3	273.5	321.8	367.4	425.4	609.4	573.8	700.9	712.7
	difference	-10.2	-20.9	-34.5	-46.5	-58.0	-69.2	-87.4	-66.6	-84.4	-72.4
	(%)	-6.2%	-9.9%	-12.6%	-14.4%	-15.8%	-16.3%	-14.3%	-11.6%	-12.0%	-10.2%
GDP deflator (P)	a	155.8	149.7	156.7	165.9	166.8	171.4	184.5	192.8	191.1	193.7
	b	159.9	153.6	163.3	170.1	171.4	173.9	186.4	191	189.1	192.5
	difference	-4.2	-3.9	-6.6	-4.2	-4.6	-2.5	-1.9	1.8	2.0	1.2
	(%)	-2.6%	-2.5%	-4.0%	-2.5%	-2.7%	-1.4%	-1.0%	0.9%	1.1%	0.6%
Capacity GDP (XBAR) 1	a	55380	57466	57294	59620	62806	67466	74081	85661	96474	107664
	b	55928	59859	61918	65811	71168	77747	87872	101462	113481	125251
	difference	-548.0	-2393.0	-4624.0	-6191.0	-8362.0	-10281.0	-13791.0	-15801.0	-17007.0	-17587.0
	(%)	-1.0%	-4.0%	-7.5%	-9.4%	-11.7%	-13.2%	-15.7%	-15.6%	-15.0%	-14.0%
Employment (10,000) 2	a	53433	54861	55401	56930	56362	56325	56774	58992	59598	60887
	b	53433	54861	55776	57259	57684	58087	59248	61659	62648	63985
	difference	0.0	0.0	-375.0	-329.1	-1322.5	-1762.0	-2473.3	-2666.9	-3050.6	-3097.8
	(%)	0.0%	0.0%	-0.7%	-0.6%	-2.3%	-3.0%	-4.2%	-4.3%	-4.9%	-4.8%

Note: 1. 1990 prices, 2. 1000 persons.

Table 2 Indonesia: Joint Effects

1980 prices, billion yuan

		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Investment (I)	a	11402	12240	12122	13219	14270	14358	15321	12872	13977	15394
	b	11403	12894	13159	14097	15056	15814	16571	17339	18143	18968
	difference	-2	-653	-1037	-878	-786	-1456	-1250	-4467	-4166	-3574
	(%)	0.0%	-5.1%	-7.9%	-6.2%	-5.2%	-9.2%	-7.5%	-25.8%	-23.0%	-18.8%
GDP (VD)	a	61446	63998	66476	69390	71723	73491	75934	75471	77768	80181
	b	61447	64544	67444	70410	72755	75099	77473	79959	82512	85177
	difference	-1	-545	-968	-1020	-1032	-1608	-1540	-4489	-4744	-4996
	(%)	0.0%	-0.8%	-1.4%	-1.4%	-1.4%	-2.1%	-2.0%	-5.6%	-5.7%	-5.9%
Private Consumption (C)	a	42863	44409	46078	47954	49707	51430	53305	54545	56021	57703
	b	42864	44550	46433	48482	50366	52335	54376	56498	58698	60984
	difference	0	-141	-355	-529	-660	-905	-1071	-1954	-2677	-3281
	(%)	0.0%	-0.3%	-0.8%	-1.1%	-1.3%	-1.7%	-2.0%	-3.5%	-4.6%	-5.4%
Exports (E)	a	12455	9253	9664	9781	9888	9757	10132	10356	8479	9339
	b	12455	11818	11770	11780	11829	11873	11946	12043	12155	12281
	difference	0	-2565	-2106	-1998	-1941	-2117	-1814	-1687	-3676	-2942
	(%)	0.0%	-21.7%	-17.9%	-17.0%	-16.4%	-17.8%	-15.2%	-14.0%	-30.2%	-24.0%
Imports (M)	a	12127	12083	12319	13030	13761	14219	14963	14677	15429	16380
	b	12127	12288	12666	13359	14075	14746	15464	16234	17062	17948
	difference	-1	-206	-346	-329	-314	-528	-502	-1557	-1632	-1569
	(%)	0.0%	-1.7%	-2.7%	-2.5%	-2.2%	-3.6%	-3.2%	-9.6%	-9.6%	-8.7%
GDP deflator (P)	a	235.1	281.7	293.9	311.3	323.6	337.3	353	361.2	377.3	394.7
	b	235.1	283	295.9	312.7	325	340.4	355.8	370.8	385.8	400.5
	difference	0	-1.3	-2	-1.4	-1.4	-3.2	-2.8	-9.7	-8.5	-5.8
	(%)	0.0%	-0.4%	-0.7%	-0.5%	-0.4%	-0.9%	-0.8%	-2.6%	-2.2%	-1.4%
Capacity GDP (XBAR) 1	a	377381	406803	442807	439704	478693	529028	576182	600255	673740	769058
	b	388605	416464	459276	512559	551592	605556	658625	727835	798365	908948
	difference	-11224	-9661	-16469	-72855	-72899	-76528	-82443	-127580	-124625	-139890
	(%)	-2.9%	-2.3%	-3.6%	-14.2%	-13.2%	-12.6%	-12.5%	-17.5%	-15.6%	-15.4%
Employment (10,000) 2	a	74811	74329	77116	78794	81170	82449	83243	83087	85466	88961
	b	74811	74329	77175	78924	81390	82742	83611	83732	86460	90370
	difference	0	0	-58.6	-130.3	-219.3	-292.8	-367.9	-645.2	-993.9	-1408.4
	(%)	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%	-0.8%	-1.1%	-1.6%

Note: 1. 1990 prices, 2. 1000 persons.

Table 3 Global Simulation

(%)

	1990	1991	1992	1993	1994	1995	1996	1997
Japan	-0.07%	-0.15%	-0.24%	-0.33%	-0.36%	-0.39%	-0.39%	-0.39%
USA	-0.01%	-0.04%	-0.04%	-0.14%	-0.09%	-0.02%	-0.09%	-0.09%
Canada	-0.04%	-0.08%	-0.12%	-0.15%	-0.15%	-0.15%	-0.15%	-0.14%
UK	-0.03%	-0.08%	-0.11%	-0.14%	-0.18%	-0.19%	-0.23%	-0.27%
France	-0.02%	-0.03%	-0.04%	-0.05%	-0.06%	-0.06%	-0.08%	-0.09%
Germany	-0.01%	-0.02%	-0.03%	-0.03%	-0.03%	-0.04%	-0.05%	-0.05%
Italy	-0.04%	-0.07%	-0.09%	-0.08%	-0.07%	-0.07%	-0.09%	-0.10%
ROK	-0.03%	-0.07%	-0.12%	-0.14%	-0.15%	-0.11%	-0.09%	-0.05%
Taiwan	-0.01%	-0.02%	-0.03%	-0.03%	-0.04%	-0.08%	-0.07%	-0.08%
Hong Kong	-0.26%	-0.62%	-0.87%	-1.09%	-1.07%	-0.98%	-0.97%	-0.93%
Singapore	-0.13%	-0.27%	-0.39%	-0.50%	-0.52%	-0.54%	-0.56%	-0.57%
Philippines	-0.01%	0.00%	-0.01%	0.00%	-0.01%	-0.01%	-0.03%	-0.03%
Indonesia	-0.89%	-0.81%	-0.83%	-1.36%	-1.25%	-3.80%	-3.84%	-4.02%
Thailand	-0.10%	-0.30%	-0.37%	-0.56%	-0.52%	-0.40%	-0.44%	-0.42%
Malaysia	-0.01%	-0.09%	-0.15%	-0.26%	-0.30%	-0.29%	-0.32%	-0.32%
China	-7.32%	-13.40%	-14.08%	-15.11%	-11.46%	-10.20%	-10.63%	-10.16%