

Economic Recovery Plan for Japan

Bank of Japan (BOJ) Compounded Monetary Intermediation Cost to Economy 1956 to 2011¹

M1 Money Stock Basis

Assumptions

(a)-Net GDP Productivity Growth Rate to economy (GDP Growth Rate (c) minus Intermediation Cost (b)) - (r _i)	4.16%
(b)-Intermediation Cost Percentage ²	3.29%
(c)-GDP Growth Rate (Net GDP + Intermediation Percentage) ²	7.46%

GDP EARNINGS WITH FED INTERMEDIATION EXPENSE INCLUDED										
(N)	(A)	(B) = (A) x (c)	(C) = (A) x (b)	(D) = (A)+(B)+(C)	(E)=Σ (C) Compounded					
Period	Year	Net GDP ³ Yr(Begin) (¥ Billions)	Productivity Growth (Net) (¥ Billions)	BOJ Intermediation Expense	Net GDP Year (End) (¥ Billions)	Compounded Intermediation Expense ⁴	%			
1 ³	1956	¥8,355.9	¥623.3	-¥275.3	¥8,703.9	¥275.3	3.1%			
2	1957	¥8,703.9	¥649.3	-¥286.8	¥9,066.4	¥582.6	6.0%			
3	1958	¥9,066.4	¥676.3	-¥298.7	¥9,443.9	¥924.8	8.9%			
4	1959	¥9,443.9	¥704.5	-¥311.2	¥9,837.2	¥1,305.0	11.7%			
5	1960	¥9,837.2	¥733.8	-¥324.1	¥10,246.9	¥1,726.4	14.4%			
6	1961	¥10,246.9	¥764.4	-¥337.6	¥10,673.7	¥2,192.8	17.0%			
7	1962	¥10,673.7	¥796.2	-¥351.7	¥11,118.2	¥2,708.1	19.6%			
8	1963	¥11,118.2	¥829.3	-¥366.3	¥11,581.2	¥3,276.4	22.1%			
9	1964	¥11,581.2	¥863.9	-¥381.6	¥12,063.5	¥3,902.4	24.4%			
10	1965	¥12,063.5	¥899.9	-¥397.5	¥12,565.9	¥4,590.9	26.8%			
11	1966	¥12,565.9	¥937.3	-¥414.0	¥13,089.2	¥5,347.4	29.0%			
12	1967	¥13,089.2	¥976.4	-¥431.3	¥13,634.3	¥6,177.6	31.2%			
13	1968	¥13,634.3	¥1,017.0	-¥449.2	¥14,202.1	¥7,087.6	33.3%			
14	1969	¥14,202.1	¥1,059.4	-¥467.9	¥14,793.6	¥8,084.2	35.3%			
15	1970	¥14,793.6	¥1,103.5	-¥487.4	¥15,409.7	¥9,174.7	37.3%			
16	1971	¥15,409.7	¥1,149.5	-¥507.7	¥16,051.4	¥10,366.8	39.2%			
17	1972	¥16,051.4	¥1,197.3	-¥528.9	¥16,719.9	¥11,668.9	41.1%			
18	1973	¥16,719.9	¥1,247.2	-¥550.9	¥17,416.2	¥13,090.3	42.9%			
19	1974	¥17,416.2	¥1,299.1	-¥573.8	¥18,141.5	¥14,640.5	44.7%			
20	1975	¥18,141.5	¥1,353.2	-¥597.7	¥18,897.0	¥16,330.4	46.4%			
21	1976	¥18,897.0	¥1,409.6	-¥622.6	¥19,684.0	¥18,171.1	48.0%			
22	1977	¥19,684.0	¥1,468.3	-¥648.6	¥20,503.7	¥20,175.2	49.6%			
23	1978	¥20,503.7	¥1,529.5	-¥675.6	¥21,357.6	¥22,355.7	51.1%			
24	1979	¥21,357.6	¥1,593.1	-¥703.7	¥22,247.1	¥24,726.9	52.6%			
25	1980	¥22,247.1	¥1,659.5	-¥733.0	¥23,173.6	¥27,304.4	54.1%			
26	1981	¥23,173.6	¥1,728.6	-¥763.5	¥24,138.6	¥30,104.7	55.5%			
27	1982	¥24,138.6	¥1,800.6	-¥795.3	¥25,143.9	¥33,145.7	56.9%			
28	1983	¥25,143.9	¥1,875.6	-¥828.4	¥26,191.1	¥36,446.6	58.2%			
29	1984	¥26,191.1	¥1,953.7	-¥862.9	¥27,281.8	¥40,028.2	59.5%			
30	1985	¥27,281.8	¥2,035.1	-¥898.9	¥28,418.0	¥43,912.9	60.7%			
31	1986	¥28,418.0	¥2,119.8	-¥936.3	¥29,601.4	¥48,124.9	61.9%			
32	1987	¥29,601.4	¥2,208.1	-¥975.3	¥30,834.2	¥52,690.0	63.1%			
33	1988	¥30,834.2	¥2,300.0	-¥1,015.9	¥32,118.3	¥57,636.3	64.2%			
34	1989	¥32,118.3	¥2,395.8	-¥1,058.2	¥33,455.9	¥62,993.9	65.3%			
35	1990	¥33,455.9	¥2,495.6	-¥1,102.3	¥34,849.2	¥68,795.2	66.4%			
36	1991	¥34,849.2	¥2,599.5	-¥1,148.2	¥36,300.5	¥75,075.1	67.4%			
37	1992	¥36,300.5	¥2,707.8	-¥1,196.0	¥37,812.3	¥81,871.3	68.4%			
38	1993	¥37,812.3	¥2,820.6	-¥1,245.8	¥39,387.0	¥89,224.2	69.4%			
39	1994	¥39,387.0	¥2,938.0	-¥1,297.7	¥41,027.3	¥97,177.5	70.3%			
40	1995	¥41,027.3	¥3,060.4	-¥1,351.8	¥42,735.9	¥105,778.1	71.2%			
41	1996	¥42,735.9	¥3,187.8	-¥1,408.1	¥44,515.7	¥115,076.6	72.1%			
42	1997	¥44,515.7	¥3,320.6	-¥1,466.7	¥46,369.5	¥125,127.3	73.0%			
43	1998	¥46,369.5	¥3,458.9	-¥1,527.8	¥48,300.6	¥135,988.9	73.8%			
44	1999	¥48,300.6	¥3,602.9	-¥1,591.4	¥50,312.1	¥147,724.2	74.6%			
45	2000	¥50,312.1	¥3,753.0	-¥1,657.7	¥52,407.4	¥160,401.2	75.4%			
46	2001	¥52,407.4	¥3,909.3	-¥1,726.7	¥54,590.0	¥174,092.9	76.1%			
47	2002	¥54,590.0	¥4,072.1	-¥1,798.6	¥56,863.4	¥188,877.8	76.9%			
48	2003	¥56,863.4	¥4,241.7	-¥1,873.5	¥59,231.5	¥204,840.5	77.6%			
49	2004	¥59,231.5	¥4,418.3	-¥1,951.6	¥61,698.2	¥222,071.9	78.3%			
50	2005	¥61,698.2	¥4,602.3	-¥2,032.8	¥64,267.7	¥240,670.0	78.9%			
51	2006	¥64,267.7	¥4,794.0	-¥2,117.5	¥66,944.2	¥260,740.0	79.6%			
52	2007	¥66,944.2	¥4,993.6	-¥2,205.7	¥69,732.1	¥282,395.3	80.2%			
53	2008	¥69,732.1	¥5,201.6	-¥2,297.6	¥72,636.1	¥305,757.8	80.8%			
54	2009	¥72,636.1	¥5,418.2	-¥2,393.2	¥75,661.1	¥330,958.7	81.4%			
55	2010	¥75,661.1	¥5,643.9	-¥2,492.9	¥78,812.1	¥358,139.1	82.0%			
56	2011	¥78,812.1	¥5,878.9	-¥2,596.7	¥82,094.2	¥387,450.8	82.5%			
Compound Growth Rates		4.16%	4.16%		4.16%	13.82%				
Count (Years)		56	56		56	56				

GDP EARNINGS WITH FED INTERMEDIATION EXPENSE REMOVED									
(N)	(A)	(B) = (A) x (c)	(C) = (A) x (b)	(D) = (A)+(B)+(C)					
Period	Year	GDP ³ Year(Begin) (¥ Billions)	Productivity Growth(Total) (¥ Billions)	BOJ Intermediation Expense	GDP Year (End) (¥ Billions)				
1 ³	1956	¥8,355.9	¥623.3	¥0.0	¥8,979.2				
2	1957	¥8,979.2	¥669.8	¥0.0	¥9,649.0				
3	1958	¥9,649.0	¥719.8	¥0.0	¥10,368.7				
4	1959	¥10,368.7	¥773.4	¥0.0	¥11,142.2				
5	1960	¥11,142.2	¥831.1	¥0.0	¥11,973.3				
6	1961	¥11,973.3	¥893.1	¥0.0	¥12,866.5				
7	1962	¥12,866.5	¥959.8	¥0.0	¥13,826.2				
8	1963	¥13,826.2	¥1,031.4	¥0.0	¥14,857.6				
9	1964	¥14,857.6	¥1,108.3	¥0.0	¥15,965.9				
10	1965	¥15,965.9	¥1,191.0	¥0.0	¥17,156.8				
11	1966	¥17,156.8	¥1,279.8	¥0.0	¥18,436.6				
12	1967	¥18,436.6	¥1,375.3	¥0.0	¥19,811.9				
13	1968	¥19,811.9	¥1,477.8	¥0.0	¥21,289.7				
14	1969	¥21,289.7	¥1,588.1	¥0.0	¥22,877.8				
15	1970	¥22,877.8	¥1,706.5	¥0.0	¥24,584.3				
16	1971	¥24,584.3	¥1,833.8	¥0.0	¥26,418.2				
17	1972	¥26,418.2	¥1,970.6	¥0.0	¥28,388.8				
18	1973	¥28,388.8	¥2,117.6	¥0.0	¥30,506.4				
19	1974	¥30,506.4	¥2,275.6	¥0.0	¥32,782.0				
20	1975	¥32,782.0	¥2,445.3	¥0.0	¥35,227.4				
21	1976	¥35,227.4	¥2,627.7	¥0.0	¥37,855.1				
22	1977	¥37,855.1	¥2,823.8	¥0.0	¥40,678.9				
23	1978	¥40,678.9	¥3,034.4	¥0.0	¥43,713.3				
24	1979	¥43,713.3	¥3,260.7	¥0.0	¥46,974.0				
25	1980	¥46,974.0	¥3,504.0	¥0.0	¥50,478.0				
26	1981	¥50,478.0	¥3,765.3	¥0.0	¥54,243.4				
27	1982	¥54,243.4	¥4,046.2	¥0.0	¥58,289.6				
28	1983	¥58,289.6	¥4,348.0	¥0.0	¥62,637.6				
29	1984	¥62,637.6	¥4,672.4	¥0.0	¥67,310.0				
30	1985	¥67,310.0	¥5,020.9	¥0.0	¥72,330.9				
31	1986	¥72,330.9	¥5,395.4	¥0.0	¥77,726.4				
32	1987	¥77,726.4	¥5,797.9	¥0.0	¥83,524.3				
33	1988	¥83,524.3	¥6,230.4	¥0.0	¥89,754.7				
34	1989	¥89,754.7	¥6,695.1	¥0.0	¥96,449.8				
35	1990	¥96,449.8	¥7,194.6	¥0.0	¥103,644.4				
36	1991	¥103,644.4	¥7,731.2	¥0.0	¥111,375.6				
37	1992	¥111,375.6	¥8,307.9	¥0.0	¥119,683.5				
38	1993	¥119,683.5	¥8,927.7	¥0.0	¥128,611.2				
39	1994	¥128,611.2	¥9,593.6	¥0.0	¥138,204.8				
40	1995	¥138,204.8	¥10,309.2	¥0.0	¥148,514.0				
41	1996	¥148,514.0	¥11,078.2	¥0.0	¥159,592.3				
42	1997	¥159,592.3	¥11,904.6	¥0.0	¥171,496.9				
43	1998	¥171,496.9	¥12,792.6	¥0.0	¥184,289.5				
44	1999	¥184,289.5	¥13,746.9	¥0.0	¥198,036.4				
45	2000	¥198,036.4	¥14,772.3	¥0.0	¥212,808.7				
46	2001	¥212,808.7	¥15,874.2	¥0.0	¥228,682.9				
47	2002	¥228,682.9	¥17,058.3	¥0.0	¥245,741.2				
48	2003	¥245,741.2	¥18,330.8	¥0.0	¥264,072.0				
49	2004	¥264,072.0	¥19,698.2	¥0.0	¥283,770.2				
50	2005	¥283,770.2	¥21,167.5	¥0.0	¥304,937.7				
51	2006	¥304,937.7	¥22,746.5	¥0.0	¥327,684.2				
52	2007	¥327,684.2	¥24,443.2	¥0.0	¥352,127.4				
53	2008	¥352,127.4	¥26,266.5	¥0.0	¥378,393.9				
54	2009	¥378,393.9	¥28,225.9	¥0.0	¥406,619.8				
55	2010	¥406,619.8	¥30,331.3	¥0.0	¥436,951.1				
56	2011	¥436,951.1	¥32,593.9	¥0.0	¥469,545.0				
Growth Rates		7.46%	7.46%	N.A.	7.46%				
Count (Years)		56	56	56	56				

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Notes/Sources:

- 1-Format adapted from "The Tyranny of Compounding Costs" at <http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html>
- 2-Intermediation and GDP growth rate estimates from Attachment 7.
- 3-Initial GDP from Attachment 7 via MeasuringWorth, 2011 website at <http://www.measuringworth.com/datasets/japandata/>
- 4-BOJ M1 Monetary Intermediation expense compounded at total growth rate.

BOJ Monetary Intermediation Cost 1956-2011	¥ Billions	% Percent
Economic (GDP) earnings 2011 w/o BOJ intermediation expense	¥469,545.0	100.0%
Economy earnings with BOJ Intermediation expense deducted	¥82,094.2	17.5%
BOJ Intermediation Expense to Non Bank Economy since 1956	¥387,450.8	82.5%

Bank of Japan Intermediation costs estimated to have wealth transferred approximately 82.5% of economic system returns to banking sector from 1956 to 2011.