

Attachment 9

Bank of Japan Monetary Intermediation Cost

Monetary Intermediation Cost Impact on Economy and Jobs

Assumptions

a-BOJ Reserve Requirement (From Attachment 1)	1.30%
b-Bank Note Rate Est.(Risk Free Rate(r_f) [Not less than zero] + Risk Premium est. at 25bp)	0.25%
c-Economic Growth Rate (Est.) for Cap Rate	4.00%
d-Capital Value per Job (Est. \$1.0M US Equivalent)	¥111,434,385
Exchange Rate \$1 U.S. Dollar to Yen ⁷	3/31/2017 ¥111.43
New York Times 7/6/2009 Estimated Job Creation Cost (\$)	\$31,169
8-New York Times 7/6/2009 article \$31,169 job creation cost converted to Yen (¥)	¥3,473,298

Step 1. Estimate Monetary Intermediation Cost

I. Historical Average (2007-2016, 10-years)

	(¥ Billions)
1. BOJ Operations (Ave Last 10 Years (2007-2016)) ¹	¥509.2
2. New Money (M1) Issued times (1 - reserve requirement) ^{1,a}	¥17,433.6
Total Annual Intermediation	¥17,942.8
Intermediation Capitalized ^{2,c}	¥448,569.1

II. Fiscal 2016 Actual

	(¥ Billions)
1. BOJ Operations (Fiscal 2016 Actual Net) ¹	¥497.3
2. New Money (M1) Issued times (1 - reserve requirement) ^{1,a}	¥42,792.7
Total Annual Intermediation	¥43,289.9
Intermediation Capitalized ^{2,c}	¥1,082,248.6

III. Monetary Debt Impact^{1,2,3 Notes}

	(¥ Billions)
Bank note to Gov't to cover fractional reserve deposit cash shortage ^{3,b}	¥59,573.9
Commercial Bank Federal Gov.t Securities Holdings Retired ³	¥79,991.7
Bank of Japan Gov't Securities Holdings Retired ³	¥417,711.5
Intermediation Capitalized	¥557,277.1

Step 2. Estimate Monetary Intermediation Cost Impact on Japanese Economy and Jobs

There is no economic reward for monetary leverage from M&M Theorem (Corollary, risk free rate (r_f) should be GDP growth rate, not gov't debt rate.)

Japanese Economic Indicators (as of 3/31/2017)

GDP Fiscal 2016 (¥ Billions) ⁴	¥539,254.3
Total Central Government Debt (¥ Billions) ⁵	¥1,071,559.5
Unemployment, 2017-3 [une_nb_m] ⁶	1,880,000

Risk Free Rate (r_f) for bank note, not less than 0%

[GDP] - [Monetary Intermediation] (Net % GDP)	
1995 to 2016 (22 Years)	-4.04%
2007 to 2016 (10 Years)	-3.28%
2012 to 2016 (5 Years)	-3.77%
Last Year 2016	-7.03%

Source: Attachment 4

Bank of Japan Monetary Intermediation Cost Economic Impact Estimates

Estimation Basis	(A)		(B)	(C)	(D)	(E)	(F)	(G)	(H)
	Intermediation Cost		Jobs Impact Estimates			Unemployment Reduction %	GDP % Improvement	Federal Debt Reduction %	
	Annual	Capitalized	Annual	Capitalized	Average				
I. Last 10 Ave ('07-'16)	¥17,942.8	¥448,569.1	5,165,915	4,025,410	4,595,663	244.5%	3.3%		
II. Fiscal 2016 Actual	¥43,289.9	¥1,082,248.6	12,463,642	9,711,981	11,087,811	589.8%	8.0%		
III. Monetary Debt Est.	¥22,291.1	¥557,277.1	6,417,843	5,000,944	5,709,394	303.7%	4.1%	52.0%	
Averages	¥27,841.3	¥696,031.6	8,015,800	6,246,112	7,130,956	379.3%	5.2%	52.0%	

The BOJ fractional reserve monetary system has an average 98.7% (1 - RR) intermediation cost (wealth transfer effect) of new money creation. This is a loss of capital from the other sectors of the economy to the banking sector. Assuming ¥80,000,000 Yen of capital value per job creation, the average ¥549.7 trillion capitalized cost represents an estimated 6,871,000 private sector jobs. Per NY Times estimate the ¥22.0 trillion annual cost would be approximately 8,512,000 jobs. These estimates indicate the approximate cost of monetary intermediation is on the order of 7.7 million jobs.

Notes

- 1-Japanese government debt holdings by commercial banks expected to be credited and retired for use in funding full reserve deposits.
- 2-Bank debt to Japanese government estimated to be first lien at the same interest rate for all banks based on the risk free rate (r_f) for Japan, but not less than zero + a risk premium estimated at 25 basis points (0.25%).
- 3-Ignores potential interest rate manipulation intermediation costs.

Sources

- 1-BOJ Operations and M1 increases from Attachment 4 BOJ Annual Monetary Intermediation Cost 1995 to 2016 using M1 Money Stock.
- 2-Intermediation Capitalized = [Annual Intermediation] ÷ [Economic Growth est. for Cap Rate (c)]
- 3-Bank Note amounts from Attachment 6(a) Japanese Commercial Banks Consolidated Conversion Estimate and Attachment 6(c) Bank of Japan (BOJ) Conversion Estimate.
- 3-GDP data from Cabinet Office, Government of Japan, Time Series Data, Annual Nominal, Fiscal Year GDP at http://www.esri.cao.go.jp/en/sna/sokuhou/sokuhou_top.html
- 5-Total Central Government debt from Attachment 7 Japanese Central Government Debt.
- 6-Unemployment data from European Commission eurostat, Harmonised unemployment by gender - total (teilm010) at http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une_nb_m&lang=en
- 7-Historical exchange rate for U.S. Dollar (\$) to Yen (¥) from x-rates.com at <http://www.x-rates.com/historical/>
- 8-New York Times 7-6-2009 article "The Costs of Entrepreneurial Job Creation" estimated at \$31,169 per job at <http://boss.blogs.nytimes.com/2009/07/06/how-much-does-it-cost-to-create-a-job-by-encouraging-entrepreneurship/>

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