

## Attachment 11

## Economic Recovery Plan for Japan

## Bank of Japan 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. (Adjustable)	¥80,000,000
Exchange Rate \$1 U.S. Dollar to Yen <sup>7</sup>	3/31/2012 ¥82.87
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 (¥)	¥2,582,975

## Step 1. Estimate Monetary Intermediation Cost

## I. Historical Average (1984-2011, 28-years)

	(¥ Billions)
1. BOJ Operations (Fiscal 2011 Actual Net) <sup>1</sup>	¥286.8
2. New Money (M1) Issued times ( 1 - reserve requirement) <sup>1,a</sup>	¥15,989.5
Total Annual Intermediation	¥16,276.3
Intermediation Capitalized <sup>2,c</sup>	¥406,907.5

## II. Fiscal 2011 Actual

	(¥ Billions)
1. BOJ Operations (Fiscal 2011 Actual Net) <sup>1</sup>	¥286.8
2. New Money (M1) Issued times ( 1 - reserve requirement) <sup>1,a</sup>	¥19,688.3
Total Annual Intermediation	¥19,975.2
Intermediation Capitalized <sup>2,c</sup>	¥499,379.2

III. Monetary Debt Impact<sup>1,2,3 Notes</sup>

	(¥ Billions)
Bank note to Gov't to cover fractional reserve deposit cash shortage <sup>3,b</sup>	¥488,660.2
Commercial Bank Federal Gov.t Securities Holdings Retired <sup>3</sup>	¥166,881.2
Bank of Japan Gov't Securities Holdings Retired <sup>3</sup>	¥87,247.2
Intermediation Capitalized	¥742,788.6

## 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 3/31/2012)

GDP Fiscal 2011 (¥ Billions) <sup>4</sup>	¥469,545.0
Total Central Government Debt (¥ Billions) <sup>5</sup>	¥959,950.3
Unemployment, 2012-3 [une_nb_m] <sup>6</sup>	3,070,000

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

[GDP] - [Monetary Intermediation] (Net % GDP)	
1956 to 2011 ( 56 Years)	4.04%
1984 to 2011 ( 28 Years)	-1.72%
2002 to 2011 (10 Years)	-5.98%
Last Year 2011	-6.25%

Sources: Attachments 5 &amp; 7

## Bank of Japan Monetary Intermediation Cost Economic Impact Estimates

Estimation Basis	(A)		(B)		(C)	(D)	(E)	(F)	(G)	(H)
	Intermediation Cost		Jobs Impact Estimates		Annual	Capitalized	Average	Unemployment Reduction %	GDP % Improvement	Federal Debt Reduction %
	Annual	Capitalized	Annual	Capitalized						
I. Historical Average	¥16,276.3	¥406,907.5	6,301,377	5,086,343	5,693,860	185.5%	3.5%			
II. Fiscal 2011 Actual	¥19,975.2	¥499,379.2	7,733,396	6,242,240	6,987,818	227.6%	4.3%			
III. Monetary Debt Est.	¥29,711.5	¥742,788.6	11,502,839	9,284,858	10,393,848	338.6%	6.3%	77.4%		
<b>Averages</b>	<b>¥21,987.7</b>	<b>¥549,691.8</b>	<b>8,512,537</b>	<b>6,871,147</b>	<b>7,691,842</b>	<b>250.5%</b>	<b>4.7%</b>	<b>77.4%</b>		

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 5 BOJ Annual Monetary Intermediation Cost 1984 to 2011 using M1 Money Stock.
- 2-Intermediation Capitalized = [Annual Intermediation] ÷ [Economic Growth est. for Cap Rate (c)]
- 3-Bank Note amounts from Attachment 9(a) Japanese Commercial Banks Consolidated Conversion Estimate and Attachment 9(c) Bank of Japan (BOJ) Conversion Estimate.
- 4-GDP from "What Was the Japan GDP or CPI Then?" MeasuringWorth at <http://www.measuringworth.com/datasets/japandata/>
- 5-Total Central Government debt from Attachment 10 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](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/> Lookup Date 10/3/2012
- 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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December 8, 2012