

Bank of Japan Monetary Intermediation Cost

BOJ Annual Monetary Intermediation Cost 1995 to 2016 using M1 Money Stock¹

Assumptions

Bank of Japan Reserve Requirement (RR) **1.3%**

(N)	(A)	(B) = (A _N) - (A _{N-1})	(C) = (B ³) x (1-RR)	(D)	(E) = (C) + (D)	(F)	(G) = (F _N - F _{N-1})/F _{N-1}	(H) = (E) / (F)	(I)	(J) = (G) - (H)	(K) = (G) - (I)	(L) = (J) - (K)
#	Year (End 12/31)	MoneyStock M1-NS ¹ (¥ Billions)	¥ Increase Prior Year (¥ Billions)	Money Stock Change Intermediation Cost (¥ Billions)	Actual (Net) Operations ² (¥ Billions)	Total Annual Intermediation Cost (¥ Billions)	GDP ³ (¥ Billions)					
0	1994	¥165,930.0					¥502,636.2					
1	1995	¥179,475.7	¥13,545.7	¥13,369.61		¥13,369.61	¥516,406.5	2.740%	2.589%	-0.293%	0.151%	3.033%
2	1996	¥204,092.4	¥24,616.7	¥24,296.68		¥24,296.68	¥528,766.4	2.393%	4.595%	0.000%	-2.202%	2.393%
3	1997	¥221,886.4	¥17,794.0	¥17,562.68		¥17,562.68	¥533,338.2	0.865%	3.293%	1.567%	-2.428%	-0.702%
4	1998	¥240,855.0	¥18,968.6	¥18,722.01		¥18,722.01	¥526,013.4	-1.373%	3.559%	0.675%	-4.933%	-2.048%
5	1999	¥266,201.4	¥25,346.4	¥25,016.90		¥25,016.90	¥521,988.3	-0.765%	4.793%	-0.383%	-5.558%	-0.382%
6	2000	¥287,979.0	¥21,777.6	¥21,494.49		¥21,494.49	¥528,512.7	1.250%	4.067%	-0.865%	-2.817%	2.115%
7	2001	¥312,504.8	¥24,525.8	¥24,206.96		¥24,206.96	¥519,073.5	-1.786%	4.663%	-0.873%	-6.449%	-0.913%
8	2002	¥398,448.1	¥85,943.3	¥84,826.04		¥84,826.04	¥514,764.4	-0.830%	16.479%	-1.174%	-17.309%	0.344%
9	2003	¥430,543.8	¥32,095.7	¥31,678.46		¥31,678.46	¥517,930.6	0.615%	6.116%	-0.297%	-5.501%	0.912%
10	2004	¥448,447.4	¥17,903.6	¥17,670.85	¥212.50	¥17,883.36	¥521,180.2	0.627%	3.431%	0.000%	-2.804%	0.627%
11	2005	¥469,326.8	¥20,879.4	¥20,607.97	¥215.63	¥20,823.60	¥525,692.2	0.866%	3.961%	-0.397%	-3.095%	1.263%
12	2006	¥483,207.6	¥13,880.8	¥13,700.35	¥247.99	¥13,948.34	¥529,076.6	0.644%	2.636%	0.299%	-1.993%	0.345%
13	2007	¥482,837.3	¥-370.3	¥-365.49	¥877.47	¥511.98	¥530,997.3	0.363%	0.096%	0.099%	-0.267%	0.264%
14	2008	¥480,386.7	¥-2,450.6	¥-2,418.74	¥780.86	¥-1,637.88	¥509,465.8	-4.055%	-0.321%	1.589%	-3.733%	-5.644%
15	2009	¥482,867.0	¥2,480.3	¥2,448.06	¥415.01	¥2,863.07	¥492,070.4	-3.414%	0.582%	-1.466%	-3.996%	-1.948%
16	2010	¥492,396.0	¥9,529.0	¥9,405.12	¥669.69	¥10,074.81	¥499,281.0	1.465%	2.018%	-0.794%	-0.553%	2.259%
17	2011	¥515,772.0	¥23,376.0	¥23,072.11	¥286.84	¥23,358.95	¥494,017.2	-1.054%	4.728%	-0.300%	-5.783%	-0.754%
18	2012	¥534,532.8	¥18,760.8	¥18,516.91	¥218.25	¥18,735.16	¥494,478.0	0.093%	3.789%	0.000%	-3.696%	0.093%
19	2013	¥560,220.8	¥25,688.0	¥25,354.06	¥250.75	¥25,604.80	¥507,246.0	2.582%	5.048%	0.502%	-2.466%	2.081%
20	2014	¥586,543.9	¥26,323.1	¥25,980.90	¥313.04	¥26,293.94	¥518,468.5	2.212%	5.071%	3.393%	-2.859%	-1.181%
21	2015	¥616,483.1	¥29,939.2	¥29,549.99	¥782.88	¥30,332.87	¥533,904.4	2.977%	5.681%	0.965%	-2.704%	2.012%
22	2016	¥659,839.4	¥43,356.3	¥42,792.67	¥497.28	¥43,289.95	¥539,254.3	1.002%	8.028%	-0.191%	-7.026%	1.193%
TOTALS		¥659,839.4	¥493,909.4	¥487,488.58	¥5,768.18	¥493,256.76	Growth Rates	0.32%	4.26%	0.09%	-4.04%	0.23%
Averages (1994-2016)			¥22,450.43	¥22,158.57	¥509.21	¥22,420.76	Count(Years)	22	22	22	22	22
Ave Last 10 Years (2007-2016)			¥17,663.18	¥17,433.56	¥509.21	¥17,942.76	Last 10 Yrs	0.19%	3.44%	0.37%	-3.28%	-0.19%
							Count(Years)	10	10	10	10	10
							Last 5 Yrs Annual	1.77%	5.51%	0.93%	-3.77%	0.83%
							Count(Years)	5	5	5	5	5
							2016 Economy to 2012 (Last 5 Compounded)	109.2%	130.8%	104.7%	82.5%	104.2%
							Change since 2007 (Last 5 Compounded Net Change)	9.2%	30.8%	4.7%	-17.5%	4.2%
												-21.0%

Monetary Intermediation Cost Bank of Japan (% Est.)				Comparison Analysis	
GDP ³ (% Growth)	Intermediation (% GDP Cost)	Inflation % CPI (EOY) ⁴	GDP-Intermediation Net (% GDP) (r _i)	GDP-Inflation Net (% GDP)	Real r _f GDP - Nominal GDP
2.740%	2.589%	-0.293%	0.151%	3.033%	-2.882%
2.393%	4.595%	0.000%	-2.202%	2.393%	-4.595%
0.865%	3.293%	1.567%	-2.428%	-0.702%	-1.726%
-1.373%	3.559%	0.675%	-4.933%	-2.048%	-2.884%
-0.765%	4.793%	-0.383%	-5.558%	-0.382%	-5.176%
1.250%	4.067%	-0.865%	-2.817%	2.115%	-4.932%
-1.786%	4.663%	-0.873%	-6.449%	-0.913%	-5.536%
-0.830%	16.479%	-1.174%	-17.309%	0.344%	-17.653%
0.615%	6.116%	-0.297%	-5.501%	0.912%	-6.413%
0.627%	3.431%	0.000%	-2.804%	0.627%	-3.431%
0.866%	3.961%	-0.397%	-3.095%	1.263%	-4.358%
0.644%	2.636%	0.299%	-1.993%	0.345%	-2.337%
0.363%	0.096%	0.099%	-0.267%	0.264%	0.003%
-4.055%	-0.321%	1.589%	-3.733%	-5.644%	1.910%
-3.414%	0.582%	-1.466%	-3.996%	-1.948%	-2.048%
1.465%	2.018%	-0.794%	-0.553%	2.259%	-2.812%
-1.054%	4.728%	-0.300%	-5.783%	-0.754%	-5.028%
0.093%	3.789%	0.000%	-3.696%	0.093%	-3.789%
2.582%	5.048%	0.502%	-2.466%	2.081%	-4.546%
2.212%	5.071%	3.393%	-2.859%	-1.181%	-1.678%
2.977%	5.681%	0.965%	-2.704%	2.012%	-4.716%
1.002%	8.028%	-0.191%	-7.026%	1.193%	-8.219%
0.32%	4.26%	0.09%	-4.04%	0.23%	-4.29%
22	22	22	22	22	22
0.19%	3.44%	0.37%	-3.28%	-0.19%	-3.13%
10	10	10	10	10	10
1.77%	5.51%	0.93%	-3.77%	0.83%	-4.61%
5	5	5	5	5	5
109.2%	130.8%	104.7%	82.5%	104.2%	79.0%
9.2%	30.8%	4.7%	-17.5%	4.2%	-21.0%
Nominal GDP Growth w/Inflation	Compounded Intermediation	Compounded Inflation	Real r _f GDP Growth	Nominal GDP - Inflation	Real r _f GDP - Nominal GDP

Difference between reported nominal GDP and real r_f GDP.

Bank of Japan Monetary Intermediation Cost Estimate
Intermediation cost percentage estimated as [(M1 Money Stock growth in ¥) times (1- Reserve Requirement) + BOJ net operating cost] divided by [GDP (¥)].

2016 Economy to 2012 (Last 5 Compounded)
Change since 2007 (Last 5 Compounded Net Change)

SOURCES:

- 1-M1 Money Stock data Annual Calendar (Not Seasonally Adjusted) from Federal Reserve Bank of St. Louis at <https://fred.stlouisfed.org/series/MANMM101JPA189S> Last Update: **10/17/2017**
- 2-BOJ operating costs from Attachment 3 via Bank of Japan Annual Reviews at <http://www.boj.or.jp/en/about/activities/act/index.htm/>
- 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 Download Date: **1/12/2018**
- 4-Inflation CPI data from Statistics Japan CPI data 2010-Base, All Japan Annual Average at <http://www.stat.go.jp/english/data/cpi/1588.htm#his> Last Update: **1/27/2017**

Notes

For last five years, [GDP-Inflation] shows misleading higher growth rate than real r_f. First use new money creation wealth transfer to banks hides economy's contracting GDP.

- 1-M1 comprises notes and coins in circulation outside banking corporations and demand and savings deposits of households, nonfinancial corporations, local governments, securities companies, Tanshi companies, and some other financial corporations such as securities finance companies with banking corporations in national currency.
- 2-BOJ operating expenses from Attachment 3 BOJ Operating Costs.

a-Ignores potential interest rate manipulation intermediation costs.