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20141205 - Referential JPY based on CPI (2013e)

[Technology]

[[Normal page](#)] [**PEREZGONZALEZ Jose D (2013)**. *Referential JPY based on CPI (2013e)*³. Knowledge (ISSN 2324-1624), 2014, pages 12-14.] [[DOI](#)]

Referential JPY

Referential Japanese yen (rJPY, r¥) is the real value of the Japanese yen (JPY, ¥) back in 2010, which is used here as [referential currency](#) for better understanding the value of money overtime. The referential yen is based on the average annual CPI (Consumer Price Index) for Japan (*Rate Inflation, 2013*²). It is calculated by updating the nominal value of the yen with the appropriate multiplier. The formula for transforming JPY into rJPY follows, while Table 1 provides the correct multiplier (an inflator/deflator multiplier) for the formula.

Formula
rJPY = nominal JPY + (nominal JPY * multiplier)

Table 1. CPI for Japan and rJPY multiplier

Year	CPI A.Avg	Base 2010	multiplier
1970	32.7	100.0	2.0581
1971	34.8	100.0	1.8736
1972	36.4	100.0	1.7473
1973	40.7	100.0	1.4570
1974	50.1	100.0	0.9960
1975	56.0	100.0	0.7857
1976	61.3	100.0	0.6313
1977	66.2	100.0	0.5106
1978	69.0	100.0	0.4493
1979	71.6	100.0	0.3966
1980	77.2	100.0	0.2953
1981	81.0	100.0	0.2346
1982	83.2	100.0	0.2019
1983	84.7	100.0	0.1806
1984	86.7	100.0	0.1534
1985	88.4	100.0	0.1312
1986	89.0	100.0	0.1236
1987	89.1	100.0	0.1223
1988	89.7	100.0	0.1148

1989	91.7	100.0	0.0905
1990	94.5	100.0	0.0582
1991	97.6	100.0	0.0246
1992	99.3	100.0	0.0070
1993	100.5	100.0	-0.0050
1994	101.2	100.0	-0.0119
1995	101.1	100.0	-0.0109
1996	101.2	100.0	-0.0119
1997	103.0	100.0	-0.0291
1998	103.7	100.0	-0.0357
1999	103.4	100.0	-0.0329
2000	102.7	100.0	-0.0263
2001	101.9	100.0	-0.0186
2002	101.0	100.0	-0.0099
2003	100.7	100.0	-0.0070
2004	100.7	100.0	-0.0070
2005	100.4	100.0	-0.0040
2006	100.7	100.0	-0.0070
2007	100.7	100.0	-0.0070
2008	102.1	100.0	-0.0206
2009	100.7	100.0	-0.0070
2010	100.0	100.0	0.0000
2011	99.7	100.0	0.0030
2012	99.7	100.0	0.0030
2013	100.0	100.0	0.0000
2014*	103.0	100.0	-0.0291
2015*	106.1	100.0	-0.0574
2016*	109.3	100.0	-0.0849
2017*	112.6	100.0	-0.1115
2018*	115.9	100.0	-0.1374
2019*	119.4	100.0	-0.1625
2020*	123.0	100.0	-0.1869
2021*	126.7	100.0	-0.2106

(*Assuming a 3% accumulated inflation rate.)

References

1. **PEREZGONALEZ Jose D (2012).** [Referential JPY based on CPI \(2012e\)](#). Knowledge (ISSN 2324-1624), 2013, pages 124-126, [doi:10.6084/m9.figshare.743696](#)
2. **RATE INFLATION (2013).** Japanese Consumer Price Index (CPI) history. Retrieved from [Rate Inflation](#) on 12 December 2014.

+++ Footnotes +++

3. The 2013 edition updates the 2012 edition¹ with the official CPI values for that year.

Want to know more?

[MeasuringWorth - Japanese calculator](#)

A handy website to learn about different inflation indexes and calculate the value of Japanese money according to those indexes, although it stops at year 2009.

[WikiofScience - Referential currency \(list of topics\)](#)

This WikiofScience page provides a list of topics related to referential currencies.

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