

20141208 - Referential NZD based on CPI (2013e)

[Technology] [[<Normal page](#)] [**PEREZGONZALEZ Jose D (2013)**. *Referential NZD based on CPI (2013e)*³. Knowledge (ISSN 2324-1624), 2014, pages 15-19.] [[DOI](#)]

Referential NZD

Referential New Zealand dollars (rNZD, r\$) is the real value of the New Zealand dollar (NZD, \$) back in 2010, which is used here as [referential currency](#) for better understanding the value of money overtime. The referential dollar is based on the average annual CPI for all groups (estimated from quarter inflation index values provided by the Reserve Bank of New Zealand²). It is calculated by updating the nominal value of the dollar with the appropriate multiplier. The formula for transforming NZD into rNZD follows, while Table 1 provides the correct multiplier (an inflator/deflator multiplier) for the formula.

Formula
$rNZD = \text{nominal NZD} + (\text{nominal NZD} * \text{multiplier})$

Year	CPI A.Avg	Base 2010	multiplier
1900	13.3	1111.0	82.8491
1901	13.7	1111.0	80.3919
1902	14.0	1111.0	78.2157
1903	14.1	1111.0	77.7943
1904	14.0	1111.0	78.2157
1905	14.4	1111.0	76.0191
1906	14.9	1111.0	73.4389
1907	14.9	1111.0	73.4389
1908	14.9	1111.0	73.5638
1909	14.7	1111.0	74.4499
1910	14.8	1111.0	74.0676
1911	14.8	1111.0	74.3220
1912	15.0	1111.0	73.0667
1913	15.4	1111.0	71.1429
1914	15.9	1111.0	68.7645
1915	17.0	1111.0	64.5457
1916	18.3	1111.0	59.8767
1917	20.0	1111.0	54.5500

1918	22.4	1111.0	48.5982
1919	24.8	1111.0	43.8436
1920	28.1	1111.0	38.5022
1921	28.3	1111.0	38.2233
1922	25.4	1111.0	42.8264
1923	25.0	1111.0	43.4845
1924	25.4	1111.0	42.7833
1925	25.5	1111.0	42.5260
1926	25.7	1111.0	42.2296
1927	25.5	1111.0	42.6114
1928	25.6	1111.0	42.4834
1929	25.5	1111.0	42.6542
1930	24.9	1111.0	43.5737
1931	23.0	1111.0	47.3043
1932	21.2	1111.0	51.4057
1933	20.2	1111.0	53.9320
1934	20.5	1111.0	53.1291
1935	21.3	1111.0	51.1596
1936	21.9	1111.0	49.7886
1937	23.4	1111.0	46.4786
1938	24.1	1111.0	45.0996
1939	25.2	1111.0	43.0436
1940	26.3	1111.0	41.2835
1941	27.2	1111.0	39.8081
1942	28.1	1111.0	38.5022
1943	28.8	1111.0	37.5429
1944	29.3	1111.0	36.8858
1945	29.7	1111.0	36.4074
1946	30.0	1111.0	36.0952
1947	30.9	1111.0	34.9256
1948	33.3	1111.0	32.3383
1949	33.9	1111.0	31.7729
1950	35.8	1111.0	30.0119
1951	39.8	1111.0	26.9146
1952	42.9	1111.0	24.9125
1953	44.8	1111.0	23.8130
1954	46.9	1111.0	22.7140
1955	48.1	1111.0	22.1217
1956	49.7	1111.0	21.3429

1957	50.8	1111.0	20.8808
1958	53.1	1111.0	19.9425
1959	55.1	1111.0	19.1633
1960	55.5	1111.0	19.0361
1961	56.5	1111.0	18.6724
1962	58.0	1111.0	18.1717
1963	59.1	1111.0	17.7907
1964	61.2	1111.0	17.1610
1965	63.3	1111.0	16.5583
1966	65.0	1111.0	16.0989
1967	69.0	1111.0	15.1131
1968	71.9	1111.0	14.4466
1969	75.5	1111.0	13.7201
1970	80.4	1111.0	12.8227
1971	88.7	1111.0	11.5289
1972	94.9	1111.0	10.7101
1973	102.6	1111.0	9.8285
1974	114.0	1111.0	8.7456
1975	130.8	1111.0	7.4971
1976	152.9	1111.0	6.2686
1977	174.9	1111.0	5.3540
1978	195.8	1111.0	4.6756
1979	222.6	1111.0	3.9916
1980	260.7	1111.0	3.2612
1981	300.8	1111.0	2.6935
1982	349.4	1111.0	2.1800
1983	375.1	1111.0	1.9623
1984	398.2	1111.0	1.7899
1985	459.6	1111.0	1.4173
1986	520.3	1111.0	1.1352
1987	602.2	1111.0	0.8448
1988	640.6	1111.0	0.7342
1989	677.3	1111.0	0.6405
1990	718.6	1111.0	0.5461
1991	737.3	1111.0	0.5070
1992	744.7	1111.0	0.4918
1993	754.3	1111.0	0.4728
1994	767.5	1111.0	0.4476
1995	796.3	1111.0	0.3952

1996	814.5	1111.0	0.3640
1997	824.2	1111.0	0.3480
1998	834.6	1111.0	0.3312
1999	833.7	1111.0	0.3327
2000	855.5	1111.0	0.2987
2001	877.9	1111.0	0.2655
2002	901.4	1111.0	0.2325
2003	917.2	1111.0	0.2113
2004	938.2	1111.0	0.1842
2005	966.7	1111.0	0.1492
2006	999.3	1111.0	0.1118
2007	1023.0	1111.0	0.0860
2008	1063.5	1111.0	0.0447
2009	1086.0	1111.0	0.0230
2010	1111.0	1111.0	0.0000
2011	1155.8	1111.0	-0.0388
2012	1168.0	1111.0	-0.0488
2013	1181.3	1111.0	-0.0595
2014*	1216.7	1111.0	-0.0869
2015*	1253.2	1111.0	-0.1135
2016*	1290.8	1111.0	-0.1393
2017*	1329.6	1111.0	-0.1644
2018*	1369.5	1111.0	-0.1887
2019*	1410.5	1111.0	-0.2124
2020*	1452.8	1111.0	-0.2353
2021*	1496.4	1111.0	-0.2576

(*Assuming a 3% accumulated inflation rate.)

References

1. **PEREZGONZALEZ Jose D (2012)**. *Referential NZD based on CPI (2012e)*. Knowledge ([ISSN 2324-1624](#)), 2013, pages 69-73, [doi:10.6084/m9.figshare.706828](#)
2. **RESERVE BANK OF NEW ZEALAND (2013)**. *New Zealand inflation calculator*. Retrieved from the [Reserve Bank of New Zealand](#) 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](#)

A handy website to learn about different inflation indexes and calculate the value of money according to those indexes.

[New Zealand inflation calculator](#)

A handy calculator for estimating the cost of money over time. It allows for calculating inflation per quarter. If you use 2010 as base year, you could interpret the result as referential New Zealand dollars (rNZD, r\$).

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

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

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