

THE HANKE-KRUS HYPERINFLATION TABLE

LOCATION	START DATE	END DATE	MONTH WITH HIGHEST INFLATION RATE	HIGHEST MONTHLY INFLATION RATE	EQUIVALENT DAILY INFLATION RATE	TIME REQUIRED FOR PRICES TO DOUBLE	CURRENCY	TYPE OF PRICE INDEX
Hungary ¹	Aug. 1945	Jul. 1946	Jul. 1946	$4.19 \times 10^{16}\%$	207%	15.0 hours	Pengő	Consumer
Zimbabwe ²	Mar. 2007	Mid-Nov. 2008	Mid-Nov. 2008	$7.96 \times 10^{10}\%$	98.0%	24.7 hours	Dollar	Implied Exchange Rate*
Yugoslavia ³	Apr. 1992	Jan. 1994	Jan. 1994	313,000,000%	64.6%	1.41 days	Dinar	Consumer
Republika Srpska† ⁴	Apr. 1992	Jan. 1994	Jan. 1994	297,000,000%	64.3%	1.41 days	Dinar	Consumer
Germany ⁵	Aug. 1922	Dec. 1923	Oct. 1923	29,500%	20.9%	3.70 days	Papiermark	Wholesale
Greece ⁶	May. 1941	Dec. 1945	Oct. 1944	13,800%	17.9%	4.27 days	Drachma	Exchange Rate‡
China§ ⁷	Oct. 1947	Mid-May 1949	Apr. 1949	5,070%	14.1%	5.34 days	Yuan	Wholesale for Shanghai
Free City of Danzig ⁸	Aug. 1922	Mid-Oct. 1923	Sep. 1923	2,440%	11.4%	6.52 days	German Papiermark	Exchange Rate**
Armenia ⁹	Oct. 1993	Dec. 1994	Nov. 1993	438%	5.77%	12.5 days	Dram & Russian Ruble	Consumer
Turkmenistan†† ¹⁰	Jan. 1992	Nov. 1993	Nov. 1993	429%	5.71%	12.7 days	Manat	Consumer
Taiwan ¹¹	Aug. 1945	Sep. 1945	Aug. 1945	399%	5.50%	13.1 days	Yen	Wholesale for Taipei
Peru ¹²	Jul. 1990	Aug. 1990	Aug. 1990	397%	5.49%	13.1 days	Inti	Consumer
Bosnia and Herzegovina ¹³	Apr. 1992	Jun. 1993	Jun. 1992	322%	4.92%	14.6 days	Dinar	Consumer
France ¹⁴	May 1795	Nov. 1796	Mid-Aug. 1796	304%	4.77%	15.1 days	Mandat	Exchange Rate
China ¹⁵	Jul. 1943	Aug. 1945	Jun. 1945	302%	4.75%	15.2 days	Yuan	Wholesale for Shanghai
Ukraine ¹⁶	Jan. 1992	Nov. 1994	Jan. 1992	285%	4.60%	15.6 days	Russian Ruble	Consumer
Poland ¹⁷	Jan. 1923	Jan. 1924	Oct. 1923	275%	4.50%	16.0 days	Marka	Wholesale
Nicaragua ¹⁸	Jun. 1986	Mar. 1991	Mar. 1991	261%	4.37%	16.4 days	Córdoba	Consumer
Congo (Zaire) ¹⁹	Nov. 1993	Sep. 1994	Nov. 1993	250%	4.26%	16.8 days	Zaire	Consumer
Russia†† ²⁰	Jan. 1992	Jan. 1992	Jan. 1992	245%	4.22%	17.0 days	Ruble	Consumer
Bulgaria ²¹	Feb. 1997	Feb. 1997	Feb. 1997	242%	4.19%	17.1 days	Lev	Consumer
Moldova ²²	Jan. 1992	Dec. 1993	Jan. 1992	240%	4.16%	17.2 days	Russian Ruble	Consumer
Russia / USSR ²³	Jan. 1922	Feb. 1924	Feb. 1924	212%	3.86%	18.5 days	Ruble	Consumer
Georgia ²⁴	Sep. 1993	Sep. 1994	Sep. 1994	211%	3.86%	18.6 days	Coupon	Consumer
Tajikistan†† ²⁵	Jan. 1992	Oct. 1993	Jan. 1992	201%	3.74%	19.1 days	Russian Ruble	Consumer
Georgia ²⁶	Mar. 1992	Apr. 1992	Mar. 1992	198%	3.70%	19.3 days	Russian Ruble	Consumer
Argentina ²⁷	May 1989	Mar. 1990	Jul. 1989	197%	3.69%	19.4 days	Austral	Consumer
Bolivia ²⁸	Apr. 1984	Sep. 1985	Feb. 1985	183%	3.53%	20.3 days	Boliviano	Consumer
Belarus†† ²⁹	Jan. 1992	Feb. 1992	Jan. 1992	159%	3.22%	22.2 days	Russian Ruble	Consumer
Kyrgyzstan†† ³⁰	Jan. 1992	Jan. 1992	Jan. 1992	157%	3.20%	22.3 days	Russian Ruble	Consumer
Kazakhstan†† ³¹	Jan. 1992	Jan. 1992	Jan. 1992	141%	2.97%	24.0 days	Russian Ruble	Consumer
Austria ³²	Oct. 1921	Sep. 1922	Aug. 1922	129%	2.80%	25.5 days	Crown	Consumer
Bulgaria ³³	Feb. 1991	Mar. 1991	Feb. 1991	123%	2.71%	26.3 days	Lev	Consumer
Uzbekistan†† ³⁴	Jan. 1992	Feb. 1992	Jan. 1992	118%	2.64%	27.0 days	Russian Ruble	Consumer
Azerbaijan ³⁵	Jan. 1992	Dec. 1994	Jan. 1992	118%	2.63%	27.0 days	Russian Ruble	Consumer
Congo (Zaire) ³⁶	Oct. 1991	Sep. 1992	Nov. 1991	114%	2.57%	27.7 days	Zaire	Consumer
Peru ³⁷	Sep. 1988	Sep. 1988	Sep. 1988	114%	2.57%	27.7 days	Inti	Consumer
Taiwan ³⁸	Oct. 1948	May 1949	Oct. 1948	108%	2.46%	28.9 days	Taipei	Wholesale for Taipei
Hungary ³⁹	Mar. 1923	Feb. 1924	Jul. 1923	97.9%	2.30%	30.9 days	Crown	Consumer
Chile ⁴⁰	Oct. 1973	Oct. 1973	Oct. 1973	87.6%	2.12%	33.5 days	Escudo	Consumer
Estonia†† ⁴¹	Jan. 1992	Feb. 1992	Jan. 1992	87.2%	2.11%	33.6 days	Russian Ruble	Consumer
Angola ⁴²	Dec. 1994	Jan. 1997	May 1996	84.1%	2.06%	34.5 days	Kwanza	Consumer
Brazil ⁴³	Dec. 1989	Mar. 1990	Mar. 1990	82.4%	2.02%	35.1 days	Cruzado & Cruzeiro	Consumer
Democratic Republic of Congo ⁴⁴	Aug. 1998	Aug. 1998	Aug. 1998	78.5%	1.95%	36.4 days	Franc	Consumer
Poland ⁴⁵	Oct. 1989	Jan. 1990	Jan. 1990	77.3%	1.93%	36.8 days	Zloty	Consumer
Armenia†† ⁴⁶	Jan. 1992	Feb. 1992	Jan. 1992	73.1%	1.85%	38.4 days	Russian Ruble	Wholesale
Tajikistan ⁴⁷	Oct. 1995	Nov. 1995	Nov. 1995	65.2%	1.69%	42.0 days	Tajikistani Ruble	Wholesale
Latvia ⁴⁸	Jan. 1992	Jan. 1992	Jan. 1992	64.4%	1.67%	42.4 days	Russian Ruble	Consumer
Turkmenistan†† ⁴⁹	Nov. 1995	Jan. 1996	Jan. 1996	62.5%	1.63%	43.4 days	Manat	Consumer
Philippines ⁵⁰	Jan. 1944	Dec. 1944	Jan. 1944	60.0%	1.58%	44.9 days	Japanese War Notes	Consumer
Yugoslavia ⁵¹	Sep. 1989	Dec. 1989	Dec. 1989	59.7%	1.57%	45.1 days	Dinar	Consumer
Germany ⁵²	Jan. 1920	Jan. 1920	Jan. 1920	56.9%	1.51%	46.8 days	Papiermark	Wholesale
Kazakhstan ⁵³	Nov. 1993	Nov. 1993	Nov. 1993	55.5%	1.48%	47.8 days	Tenge & Russian Ruble	Consumer
Lithuania ⁵⁴	Jan. 1992	Jan. 1992	Jan. 1992	54.0%	1.45%	48.8 days	Russian Ruble	Consumer
Belarus ⁵⁵	Aug. 1994	Aug. 1994	Aug. 1994	53.4%	1.44%	49.3 days	Belarusian Ruble	Consumer
Taiwan ⁵⁶	Feb. 1947	Feb. 1947	Feb. 1947	50.8%	1.38%	51.4 days	Taipei	Wholesale for Taipei

Source: Steve H. Hanke and Nicholas Krus (2012) "World Hyperinflations", Cato Working Paper no. 8, August 15. *Forthcoming in*: Randall Parker and Robert Whaples (eds.) (2013) *The Handbook of Major Events in Economic History*, London: Routledge Publishing. (expected publication date: Summer 2013).

Notes:

- When a country experiences periods of hyperinflation that are broken up by 12 or more consecutive months with a monthly inflation rate below 50%, the periods are defined as separate episodes of hyperinflation.

- The currency listed in the chart is the one that, in a particular location, is associated with the highest monthly rate of inflation. The currency may not have been the only one that was in circulation, in that location, during the episode.

- We are aware of one other case of hyperinflation: North Korea. We reached this conclusion after calculating inflation rates using data from the foreign exchange black market, and also by observing changes in the price of rice. Based on our estimates, this episode of hyperinflation most likely occurred from December 2009 to mid-January 2011. Using black-market exchange-rate data, and calculations based on purchasing power parity, we determined that the North Korean hyperinflation peaked in early March 2010, with a monthly rate of 496% (implying a 6.13% daily inflation rate and a price-doubling time of 11.8 days). When we used rice price data, we calculated the peak month to be mid-January 2010, with a monthly rate of 348% (implying a 5.12% daily inflation rate and a price-doubling time of 14.1 days). All of these data were obtained August 13, 2012 from Daily NK, an online newspaper that focuses on issues relating to North Korea (<http://www.dailynk.com/english/market.php>). We also acknowledge that our investigation was aided by reports from Good Friends USA, a Korean-American advocacy and research organization, as well as from Marcus Noland at the Peterson Institute for International Economics.

(*) The authors calculated Zimbabwe's inflation rate, from August to November 2008, using changes in the price of the stock, Old Mutual, which was traded both on the Harare and London stock exchanges. The stock prices yielded an implied exchange rate for Zimbabwe dollars, under purchasing power parity.

(†) The Republika Srpska is a Serb-majority, semi-autonomous entity within Bosnia and Herzegovina. From 1992 until early 1994, the National Bank of Republika Srpska issued its own unique currency, the Republika Srpska dinar.

(‡) Greece's inflation rate was estimated by calculating the drachma / gold sovereign exchange rate.

(§) The peak monthly inflation rate listed for China in the table differs from that presented in one of the authors' previous pieces on hyperinflation (Hanke and Kwok, 2009). This revision is based on new data from a number of sources, which were recently obtained from the Library of Congress in Washington, D.C.

(**) We calculated the Free City of Danzig's inflation rate using German inflation data, since the German papiermark was in circulation in Danzig during this time. It is worth noting that Germany and Danzig experienced different peak months of hyperinflation. This is case because the last full month in which the German papiermark circulated in the Free City of Danzig was September 1923. Germany continued to circulate the papiermark beyond this point, and subsequently experienced its peak month of hyperinflation (October 1923).

(††) The data for many of the post-Soviet countries were only available in the World Bank's Statistical Handbook: States of the Former USSR. In this publication, the authors stated that the data should be viewed with an extra degree of caution because the statistics were taken from the corresponding official internal government source and not independently reviewed by the World Bank. However, these statistics are official and are the only source of data available for the corresponding time periods for each country.