

Inflation by the Decades: 1990s

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About the Series

Inflation by the Decades is the most comprehensive free-to-use inflation database. It provides inflation data in digestible formats for countries across the world. These data are provided over each decade from 1950 to 2000. Along with annualized inflation over the decade, we find the cumulative inflation, value of one monetary unit at the end of the decade, and the change in inflation. The dataset used for all reports can be downloaded as an Excel file on the Cato Institute website.

This series repackages the work previously published in 2014 by Prof. Steve H. Hanke and Nicholas Krus¹ to include choropleths, digitized data, and a basic discussion and analysis of trends.

About the Authors²

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Methodology

We obtained the data presented in this report from three sources. We used the IMF's International Financial Statistics (IFS) most often. If data were not available via the IFS, we used the World Bank Development Indicators (WBDI). Finally, if data were not available via the IFS or the WBDI, we used data from the Economist Intelligence Unit's Online Database (EIU).

Utilizing these data, we calculated the cumulative inflation rate, the annualized inflation rate, the value of the monetary unit, and the change in the annualized inflation rate. We did so using the following formulas:

i_x = the annual inflation rate for the xth year in the decade

1. Cumulative inflation rate = $[(1 + i_1) * (1 + i_2) * \dots * (1 + i_{10})] - 1$
2. Annualized inflation rate = $(\text{cumulative inflation rate} + 1)^{1/10} - 1$
3. Change in annualized inflation rate = $(\text{annualized inflation rate in the current decade} - \text{annualized inflation rate in the previous decade})$
4. Value of 1 monetary unit at the end of the decade = $1 / (1 + \text{cumulative inflation rate})$

Plotly was then used to create the choropleths.

Only countries that had inflation data available for the entire decade were included in this study to remove any confusion or bias in the table.

¹ See Steve H. Hanke and Nicholas Krus *Inflation by the Decades*, Cato, 2014. Available on the Hanke-Krus "World Inflation and Hyperinflation Table" page on the Cato Institute website (<https://www.cato.org/research/world-inflation-and-hyperinflation-table>).

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Introduction

Key Findings

For the 1990s, we recorded inflation data for 144 countries and territories.

Unlike other decades, in the 1990s, countries in almost every region suffered from hyperinflation.

Multiple post-Soviet states hyperinflated following the fall of the Soviet Union and the breakup of Yugoslavia, including the 3rd and 4th largest hyperinflations ever.³

The Democratic Republic of Congo hyperinflated the most in the 1990s out of countries for which we have data, with a peak monthly inflation rate of 78.5%.

Latin American countries such as Argentina, Nicaragua, and Bolivia, improved upon their high inflation in the 1980s. However, Argentina and Nicaragua still were the 12th and 3rd most inflationary countries in the world, respectively.

Throughout the decade, 32 countries had annualized inflation rates of over 20%, and 56 countries had a rate over 10%.

World Inflation Choropleth

Figure 1 below shows the annualized inflation in the 1990s of every country and territory for which we recorded data. Note that we removed the Democratic Republic of the Congo from this choropleth because its annualized inflation of about 830% distorts the colorscale. This is almost three times as high as the next most inflationary country, Brazil. Therefore, we decided to exclude the Democratic Republic of the Congo from the choropleth.

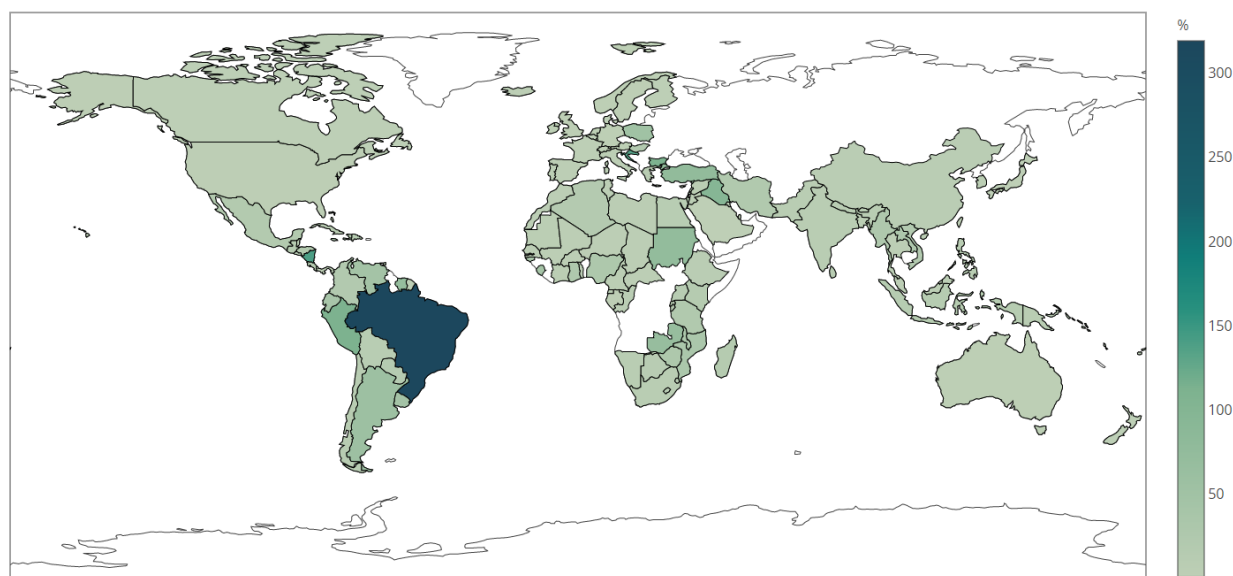


Figure 1. World annualized inflation in the 1990s.

³ See the latest World Hyperinflation Table. Steve H. Hanke and Erik Bostrom *Zimbabwe Hyperinflates Again: The 58th Episode of Hyperinflation in History*, working paper no. 90 in Johns Hopkins University's "Studies in Applied Economics" working paper series.

Africa

Summary

In Africa, we measured the inflation for 44 countries. The average inflation for the entire continent was 33.67%. Excluding the Democratic Republic of the Congo's hyperinflation, the average inflation for the entire continent was 15.15%. The continent's annualized inflation had a standard deviation of 123.93%. No other country aside from the Democratic Republic of the Congo saw annualized inflation greater than 100% in the decade. The two most inflationary countries after the Democratic Republic of the Congo were Sudan and Zambia, which inflated at 75.18% annually and 68.13% annually, respectively. These inflation rates ranked 9th and 11th in the world for the decade.

Choropleth of African Inflation

Figure 2 below shows the annualized inflation of countries in Africa.⁴

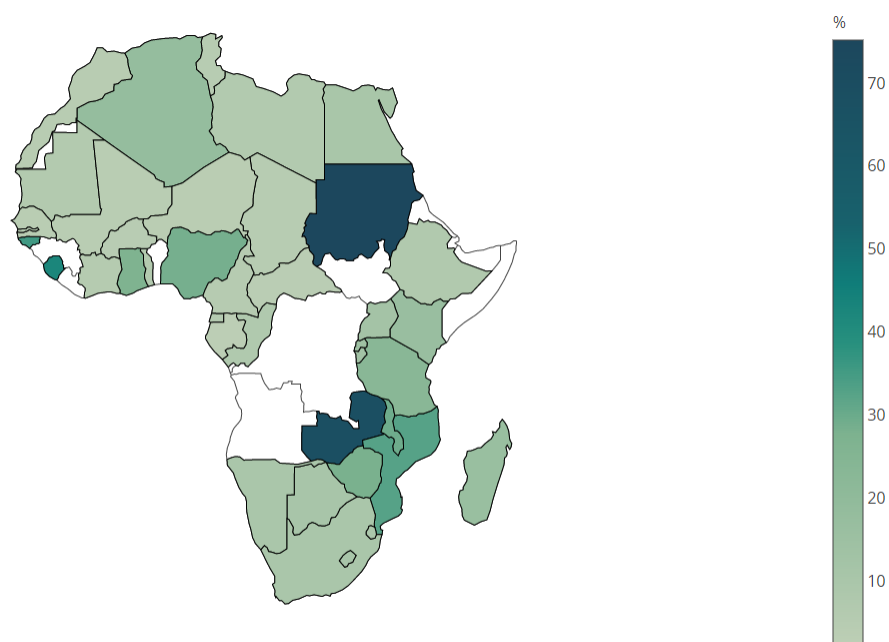


Figure 2. Africa annualized inflation in the 1990s.

Democratic Republic of the Congo's Hyperinflation Summary

The Democratic Republic of the Congo hyperinflated twice during this period, specifically between 1993 and 1994, and in August 1998. Overall in the decade, its annualized inflation was 830.38%, about 3 times more than the second most inflationary country during this period.

Several countries inflated at higher rates in this period, but they had incomplete data, as they were created with the fall of the Soviet Union in 1993. Many of the most severe cases of hyperinflation ever recorded were in the mid-1990s, but because their data is incomplete, the Democratic Republic of the Congo is the most inflationary country in the period. This was the 19th most severe episode of hyperinflation ever recorded.

⁴ Like in the world inflation choropleth, we removed the Democratic Republic of the Congo in this figure for clarity.

South America

Summary

In South America, we measured inflation for 11 of the 12 countries in the continent. The average inflation was 68.18% (the highest of any continent in this decade), with a standard deviation of 88.51%. Annualized inflation ranged from a high of 319.19% in Brazil to a low of 10.28% in Bolivia. The countries highest in our world rankings were Brazil (2nd), Peru (5th), and Suriname (10th).

South America struggled with high inflation in this period. This was caused by unstable economies in the region and after-effects of hyperinflation in the 1980s.

For example, Brazil hyperinflated from 1989 to 1990; this economic instability likely affected them throughout the 1990s. Similarly, Peru hyperinflated in both 1988 and 1990, and Argentina hyperinflated between 1989 and 1990.

Most of these cases of economic instability were caused by political issues in the period including Communist influence and military coups. These factors combined with various debt crises fostered high inflation in South America in the period.

Choropleth of South American Inflation

Figure 3 below shows the annualized inflation of 11 of the 12 countries in South America. Guyana was the only country for which we did not have inflation data for the entire decade. Our inflation data for Guyana starts in 1995.⁵

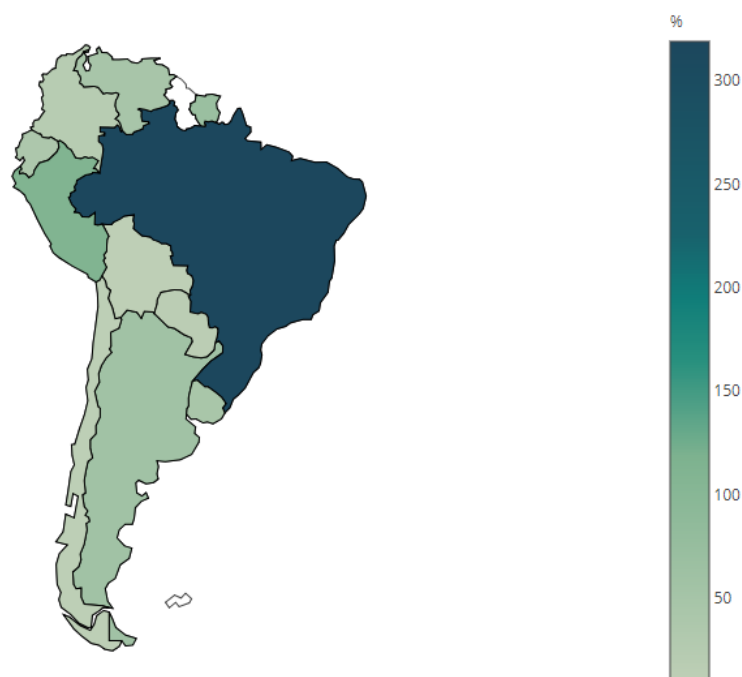


Figure 3. South America annualized inflation in the 1990s.

⁵ To see the full dataset and yearly inflation data for individual countries, download the full dataset available on the Cato website.

North America (including Central/Caribbean)

Summary

In North America, we measured inflation for 22 out of the continent's 23 countries. The average inflation for the entire continent was 14.77%, with a standard deviation of 28.93%. Annualized inflation ranged from a high of 139.62% in Nicaragua to a low of 1.09% in Panama. In the 2000s, most of North America had stable economies with subdued inflation; the most inflationary North American countries were not even in the 20 most inflation countries in the world.

In the 1990s, this trend largely continued with the exception of Nicaragua. Nicaragua had the 3rd highest inflation in the period, followed by Jamaica and Haiti at 26th and 31st, respectively.

Visualizations of North American Inflation

Because North America is a large continent, with most of its land mass composed of the United States, Canada, and Mexico, it is difficult to see the inflation of Central American and Caribbean countries. So, we have split these up into two different figures. First, we have a choropleth of all of North America. To visualize inflation in Latin America and the Caribbean, we have a color coded dataset according to the severity of the country's inflation.

Figure 4 below is a choropleth of mainland North America's inflation in this decade.



Figure 4. North America annualized inflation in the 1990s.

Figure 5 on the following page is the colorscale of Latin American and Caribbean inflation. The colorscale goes from white for the lowest inflation, light green for the middle inflation, and a darker green for the most inflationary countries.

The US, Canada, and Mexico are excluded from this visualization given that its primary focus is Latin America and the Caribbean

Country	Annualized Inflation
Nicaragua	139.62%
Jamaica	26.27%
Haiti	21.01%
Honduras	19.47%
Costa Rica	16.70%
Guatemala	14.24%
Dominican Republic	14.19%
El Salvador	10.40%
Cuba	8.25%
Trinidad and Tobago	6.18%
Saint Kitts and Nevis	3.50%
Saint Lucia	3.23%
Saint Vincent and the Grenadines	3.14%
Barbados	2.85%
Bahamas	2.80%
Dominica	2.33%
Grenada	2.28%
Belize	2.22%
Panama	1.09%

Figure 5. Latin America and the Caribbean annualized inflation in the 1990s.

Europe

Summary

In Europe, we measured inflation for 24 countries. The average inflation for the entire continent was 16.14%, with a standard deviation of 34.72%. Annualized inflation ranged from a high of 134.53% in Croatia to a low of 1.88% in France.

Though these are not included in the dataset because they did not have data for the full decade, there were notable hyperinflations with the fall of the Soviet Union and the breakup of Yugoslavia. These include the 3rd and 4th most severe cases of hyperinflation ever recorded, occurring in Yugoslavia and Republika Srpska, respectively.

Croatia had the 4th highest inflation in the world, followed by Bulgaria with the 6th highest inflation. Bulgaria hyperinflated near the end of the decade for one month in 1997.

Choropleth of European Inflation

Figure 6 on the following page is a choropleth of Europe's annualized inflation in this decade.

Unfortunately, there is no data for Russia until after the fall of the Soviet Union. Because Russia does not have data for the full decade, it is not included in the analysis.

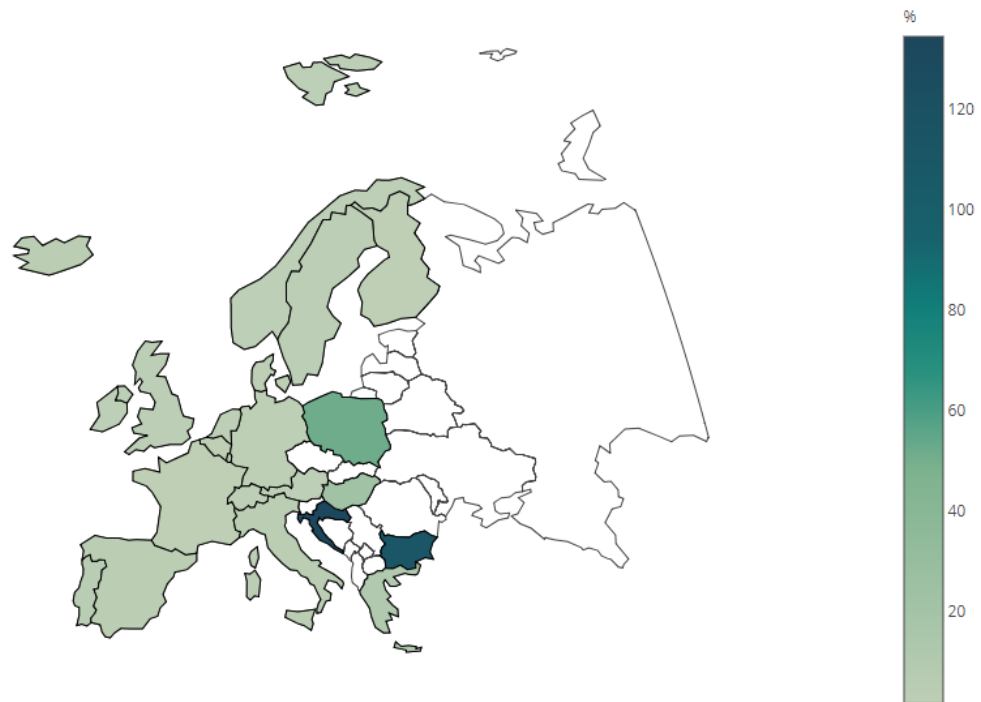


Figure 6. Europe annualized inflation in the 1990s.

Asia

Summary

In Asia, we measured inflation for 30 countries. The average inflation for the entire continent was 14.46%, with a standard deviation of 21.13%. Annualized inflation ranged from a high of 96.49% in Iraq to a low of 0.78% in Bahrain.

Not included in these averages are the numerous hyperinflations in the countries formed by the collapse of the Soviet Union, including Turkmenistan, Kazakhstan, Georgia, and Kyrgyzstan. This hyperinflation was largely caused by a lack of fiscal and monetary control, which resulted in a rough transition from a communist economy to a market economy.⁶

These hyperinflations include Turkmenistan's hyperinflation from January 1992 to November 1993 (the 10th worst case of hyperinflation ever recorded) and Russia's hyperinflation in January 1992 (the 20th worst case of hyperinflation ever recorded).

Because these countries are not included in the decade's dataset, the most inflationary country in Asia was Iraq, which had only the 7th highest inflation in the world. The next most inflationary countries were Turkey, the 8th most inflationary country in the world, and Laos, the 20th most inflationary country.

Choropleth of Asian Inflation

Figure 7 on the following page is a choropleth of Asia's annualized inflation in this decade.

⁶ See Steve H. Hanke and Nicholas Krus "World Hyperinflations," *The Routledge Handbook of Major Events in Economic History*, Routledge Publishing, Summer 2013 (available [here](#)).



Figure 7. Asia annualized inflation in the 1990s.

Australia

Summary

In Australia, we measured inflation for 8 countries. There is some debate over whether the continent of Australia has only 3 countries⁷ (Australia, New Zealand, and Papua New Guinea) or about 11-14 (if islands such as Fiji are included).⁸ Because we found data for these small island nations, we decided to include them in our analysis for Australia.

The average inflation for the entire continent was 5.04%, with a standard deviation of 3.03%, both the lowest out of any continent. Annualized inflation ranged from a high of 10.66% in the Solomon Islands to a low of 2.13% in New Zealand. The countries highest in our world rankings were the Solomon Islands (53rd), Papua New Guinea (65th) and Samoa (91st).

Visualization of Australian Inflation

Because most of the countries in Australia are very small, it would be almost impossible to see them on a choropleth. So, we have used the same method we used for the Latin American and Caribbean countries in North America.

We created a color scale of the data. The countries with the lowest inflation are in white. The middle countries are marked in a light green, and the light green turns darker for the countries as the countries have higher inflation.

Figure 8 on the following page is the annualized inflation for Australia on a three-color scale.

⁷ Some who believe Australia is composed of very few countries consider it to be four countries; the three listed along with Indonesia.

⁸ According to Worldometers.info, a website offering various data on many countries in the world, Australia is composed of 14 countries. We consider there to be 11 countries, which are listed in the colorscale on the following page. Inflation data for territories is available in the full Inflation by the Decades dataset on the Cato website.

Country	Annualized Inflation
Solomon Islands	10.66%
Papua New Guinea	8.63%
Samoa	4.65%
Tonga	4.40%
Fiji	4.16%
Vanuatu	3.23%
Australia	2.48%
New Zealand	2.13%

Figure 8. Australia annualized inflation in the 1990s.

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