



Hyperinflations Are Rare, but a Breakup of the Euro Area Could Prompt One

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Hyperinflation is one of the most misused words in the English language. Two years ago, I heard a prominent American investor say that we were about to get hyperinflation, “not 15 percent a year as under Jimmy Carter but perhaps 5 percent a year.” Hyperinflation is usually 1,000 percent or more a year. The standard definition by Philip Cagan (1956) is that hyperinflation starts when inflation reaches 50 percent a month, and then the economy is in hyperinflation for one year until monthly inflation falls and stays below 50 percent.

The difference between hyperinflation and high inflation is huge. An old joke bears this out. A thief steals a bag of money. When inflation is high, he leaves the bag and takes the money. When hyperinflation has erupted, he takes the

bag and leaves the money. Under high inflation, people and enterprises continue to work normally, trying to index their payments, as in Brazil in the 1980s. But when hyperinflation starts, monetary chaos ensues. Most people try to salvage their assets in the short term, while some privileged players make fortunes on hyperinflation, by buying up foreign currency, raw materials, or other underpriced assets. Output usually plummets during hyperinflation, as nobody cares about production when asset preservation or speculation is the only profitable game in town.

Until recently, we did not have a proper record of hyperinflations, but admirably Steve Hanke and Nicholas Krus (2012) have produced such a study. They have done the research community a great service, and their work seems meticulous and accurate.

Hanke and Krus have done a few simple, orthodox things. They used Cagan's (1956) definition strictly without exceptions: An economy enters hyperinflation when inflation exceeds 50 percent a month and stays in hyperinflation as long as monthly inflation remains over 50 percent for one year. No hyperinflation episode has lasted much more than one year, because hyperinflation is truly unbearable.

A first consequence of their strict definition is that they do not qualify why hyperinflation occurs. Initial price liberalizations have often been excluded, but since Hanke and Krus do not make such exceptions, they reckon that Russia, Kyrgyzstan, Latvia, Lithuania, and Estonia had hyperinflation in January 1992. Their strict criterion substantially increases the number of recorded hyperinflations.

A second revision is that Hanke and Krus have checked when a hyperinflation episode stopped and started again, which in their count doubles the hyperinflations in seven post-Soviet nations and Bulgaria in the period 1991–94. The same is true of Germany, China, Taiwan, and Peru. Suddenly the number of countries that have had hyperinflation twice has risen to 14 countries. Taiwan and Congo¹ lead the league with three hyperinflation episodes each.

1. Known as Zaire until 1997 and the Democratic Republic of the Congo since then.

Finally, Hanke and Krus have detected a number of hyperinflations that have been overlooked. They have also checked the data and recorded the peak month of hyperinflation. As a consequence of these three revisions, they have driven up the number of historically recorded hyperinflations from fewer than 40 to 56. Their revision makes perfect sense since it strictly applies Cagan's definition, and they use the best available statistics.

Two recent hyperinflations should be added to the list. One is North Korea in December 2009 and January 2010 after a flawed currency reform (Haggard and Noland 2010). The other is the current hyperinflation in Iran, which erupted in September 2012 (Hanke 2012). These two take the total to 58.

HISTORICAL RECORD OF HYPERINFLATION

This list of hyperinflations does not offer any major new revelations, but its orderly and complete presentation offers food for thought. Hyperinflations are rare and occur only under a few extreme circumstances. The episodes can be classified by time, region, and cause.

Cagan's fundamental insight was that hyperinflation is a modern phenomenon. It requires excessive emission of fiat money. Otherwise it cannot arise. If categorized by time and region, an orderly grouping of six waves of hyperinflation emerges. They are summarized in table 1.

...the biggest eruption of hyperinflation the world has ever seen occurred at the end of communism from 1989 to 1997 in the former Soviet Union, Yugoslavia, Bulgaria, and Poland.

The first hyperinflation episode took place in 1796 during the Directory era (1795–99) of the French Revolution, when "the supreme instrument of government...was the army" (Doyle 1989, 322), while taxes "payable in cash, practically dried up for a time" (*ibid.*, 333). This was a classical revolutionary war regime that preferred to print money rather than impose taxes.

The horrors of the French hyperinflation were so great, that more than one century passed before the world revisited these dreads. It happened in the wake of the greatest war the world had ever seen, World War I. Hyperinflation occurred in six countries, Germany (2), Free City Danzig, Poland, Hungary, Austria, and Russia, and reflected the collapse

of three big empires, the Austrian-Hungarian Empire, the German Empire, and the Russian Empire. In the Austrian-Hungarian Empire, competition in currency issue aggravated the situation (Pasvolsky 1928, Sargent 1986, Dornbusch 1992). In Germany, hyperinflation seemed a way to escape the war reparations imposed by the Treaty of Versailles, and in Russia civil war prevailed.

The third bout of hyperinflation erupted during and after World War II in China (2), Taiwan (3), the Philippines, Greece, and Hungary. All these episodes were connected to the war. China and Taiwan (not yet semi-independent) were involved in civil war and war with Japan. Hyperinflation in the Philippines was a result of the war with Japan (Hanke and Krus 2012). Greece suffered badly from World War II. Hungary reflected extreme mismanagement at the Soviet take-over of power.

The fourth and biggest eruption of hyperinflation the world has ever seen occurred at the end of communism from 1989 to 1997 in the former Soviet Union (21), Yugoslavia (4), Bulgaria (2), and Poland. These 28 hyperinflations comprise half of all occurrences. All possible causes were combined—the breakup of currency zones in the Soviet Union and Yugoslavia with competitive currency issue, revolutions, systemic change, and major macroeconomic destabilization (Åslund 2012a).

Latin America accounts for the fifth group of seven hyperinflation episodes: Chile (1973), Bolivia (1984), Nicaragua (1986), Peru (1988 and 1990), Argentina (1989), and Brazil (1989). To Americans, these episodes may represent the typical hyperinflations, but in fact they were the first of their kind. They all represented populism, the idea that a government could print money instead of paying for its expenditures (Dornbusch and Edwards 1991). A certain distinction can be made between the sheer populist madness of Salvador Allende's Chile, Bolivia, Daniel Ortega's Nicaragua, and Alan Garcia's Peru, on the one hand, and the elaborate indexation of Argentina and Brazil, on the other, that just got out of hand, but hyperinflation in all these countries was caused by outrageous populism.

Sixth, curiously the poorest continent, Africa, has proven the greatest fiscal conservatism. To date, Africa has recorded only three countries with hyperinflations, Congo (3), Angola, and Zimbabwe. Congo does not arouse any surprise as a huge and completely mismanaged country with massive resources and persistent civil wars. It would fit any prediction of hyperinflation. Angola, as a country with prolonged civil war, does not arouse any surprise either, while Zimbabwe, which primarily lives on farming, is a complete anomaly and its hyperinflation was caused by spectacular mismanagement.

North Korea and Iran stand out as odd, isolated incidents.

Table 1 Hyperinflations in history

Country	Number of episodes	Start date	Country	Number of episodes	Start date
First hyperinflation			In Latin America		
France	1	1795	Peru	2	1988 & 1990
From 1920 to 1923, World War I			Argentina	1	1989
Austria	1	1921	Bolivia	1	1984
Danzig	1	1922	Brazil	1	1989
Germany	2	1920 & 1922	Chile	1	1973
Hungary	1	1923	Nicaragua	1	1986
Poland	1	1923	Total	7	
Russia/USSR	1	1922	In Africa		
Total	7		Angola	1	1994
From 1941 to 1948, World War II			Congo (Zaire)	2	1991 & 1993
China	2	1943 & 1947	Democratic Republic of the Congo	1	1998
Greece	1	1941	Zimbabwe	1	2007
Hungary	1	1945	Total	5	
Philippines	1	1944	<i>Source: Hanke and Krus (2012).</i>		
Taiwan	3	1945, 1947 & 1948	FIVE CAUSES OF HYPERINFLATION		
Total	8		It is striking how few the causes of hyperinflation were. They were connected with either war/revolution/collapse of a state or utter irresponsibility. Responsible countries with reasonable governance may default, but they do not have hyperinflation. Hyperinflation does not happen by accident but because of serious dysfunction. It reflects that something is profoundly wrong in a country and very difficult to fix. The circumstances are almost always extreme. These observations lead to five causes of hyperinflation.		
From 1989 to 1997, postcommunist			1. The most common cause is the <i>collapse of a multinational currency union with competitive currency issue and large uncleared payments balances</i> . No less than half (28) of the hyperinflations pertain to this category, notably to the collapse of the Soviet Union, Yugoslavia, and Austria-Hungary. The fact that collapse of a large currency union with substantial imbalances usually causes hyperinflation raises concerns for the Economic and Monetary Union (EMU) (Åslund 2012b).		
Yugoslavia	2	1989 & 1992	2. The second most common and the most natural cause is <i>war or civil war</i> , resulting in profound state dysfunction. Many hyperinflations have occurred during or more commonly in the wake of a war with unclear consequences, notably World War I, World War II, the Yugoslav wars, and Congo's civil war. Iran is suffering from hyperinflation because of rigorous international sanctions, which amount to a kind of warfare.		
Armenia	2	1992 & 1993			
Azerbaijan	1	1992			
Belarus	2	1992 & 1994			
Bosnia and Herzegovina	1	1992			
Bulgaria	2	1991 & 1997			
Estonia	1	1992			
Georgia	2	1992 & 1993			
Kazakhstan	2	1992 & 1993			
Kyrgyzstan	1	1992			
Latvia	1	1992			
Lithuania	1	1992			
Moldova	1	1992			
Poland	1	1989			
Republika Srpska	1	1992			
Russia	1	1992			
Tajikistan	2	1992 & 1995			
Turkmenistan	2	1992 & 1995			
Ukraine	1	1992			
Uzbekistan	1	1992			
Total	28				

3. Another economic dysfunction is *revolution*—a time when any ordinary laws, whether of economics or gravity, are considered irrelevant. Those were the times of the French Revolution, the Russian Revolution (Mau and Starodubrovskaya 2001), Salvador Allende's Chile, and Daniel Ortega's Nicaragua. This problem is not likely to reappear any time soon. Leaving the odd case of North Korea aside, ours is not the time of revolutionary ideology.

4. A peculiar folly was the *populism in Latin America*, primarily in the 1980s. The outstanding example was the indexation to very high rates of inflation as in Brazil in the latter half of the 1980s, when average annual inflation was 516 percent (Rabello de Castro and Ronci 1991, 156). This indexation to ever higher inflation and eventually to hyperinflation clarified that indexation was a bad idea. The lessons were so evident that Latin America's monetary and fiscal populism of the 1980s seems to have been defeated for good, with the best evidence being Alan Garcia returning as new conservative president of Peru. This kind of populism with large-scale indexation is not likely to be repeated.

5. Finally, there is the odd case of hyperinflation that started due to the *sheer madness of an authoritarian ruler*. Zimbabwe's hyperinflation in 2007–08 stands out as such. North Korea is arguably another case.

Strangely, these five causes fully explain all hyperinflations that have occurred in history.

No incumbent politician seems to have benefited from hyperinflation. Most political leaders guilty of causing hyperinflation have been ousted, but surprisingly many have survived. In the former Soviet Union, the staunchest dictators persisted in Azerbaijan, Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan, reflecting partly the severity of their dictatorship and partly that they were not perceived as guilty. Nor was Poland's interwar President Marshal Pilsudski blamed. In Zimbabwe, Robert Mugabe remains an authoritarian president, though considerably weakened. In Peru, Alan Garcia has returned to the presidency, but much later and with a completely different political program. In Nicaragua, Daniel Ortega has done the same. He has altered his macroeconomic policy, but that country is largely captured by the president's family, so the vote says little about the quality of his policy.

To sum up, hyperinflations are rare events. By and large, they occur only under very special circumstances—in a disorderly breakup of a currency zone; after wars or revolutions, when monetary or fiscal authorities lack control; and when wild populism prevails. The salient observation is that hyperinflation is not caused by a minor mistake. Major political disorder or serious economic madness is prerequisite.

HYPERINFLATION DOES NOT OCCUR IN RECESSIONS

In popular debate, the worry is often expressed that the current massive monetary emission could lead to hyperinflation. Wolfgang Münchau (2012) has captured the present German mood: "The consensus view among German commentators is that the ECB has lost its independence... and that hyperinflation is around the corner."² But there is no reason to believe so, because there is neither historical precedence nor logical reason. We live in a period of deleveraging after a major boom, and hyperinflations do not occur after major recessions or depressions, when inflation is low. For example, no hyperinflation occurred in the miserable period 1930–40. The explanation is that emission of base money results in extremely little money supply (M2 or M3) because the monetary multiplier and the velocity of money tend to contract.

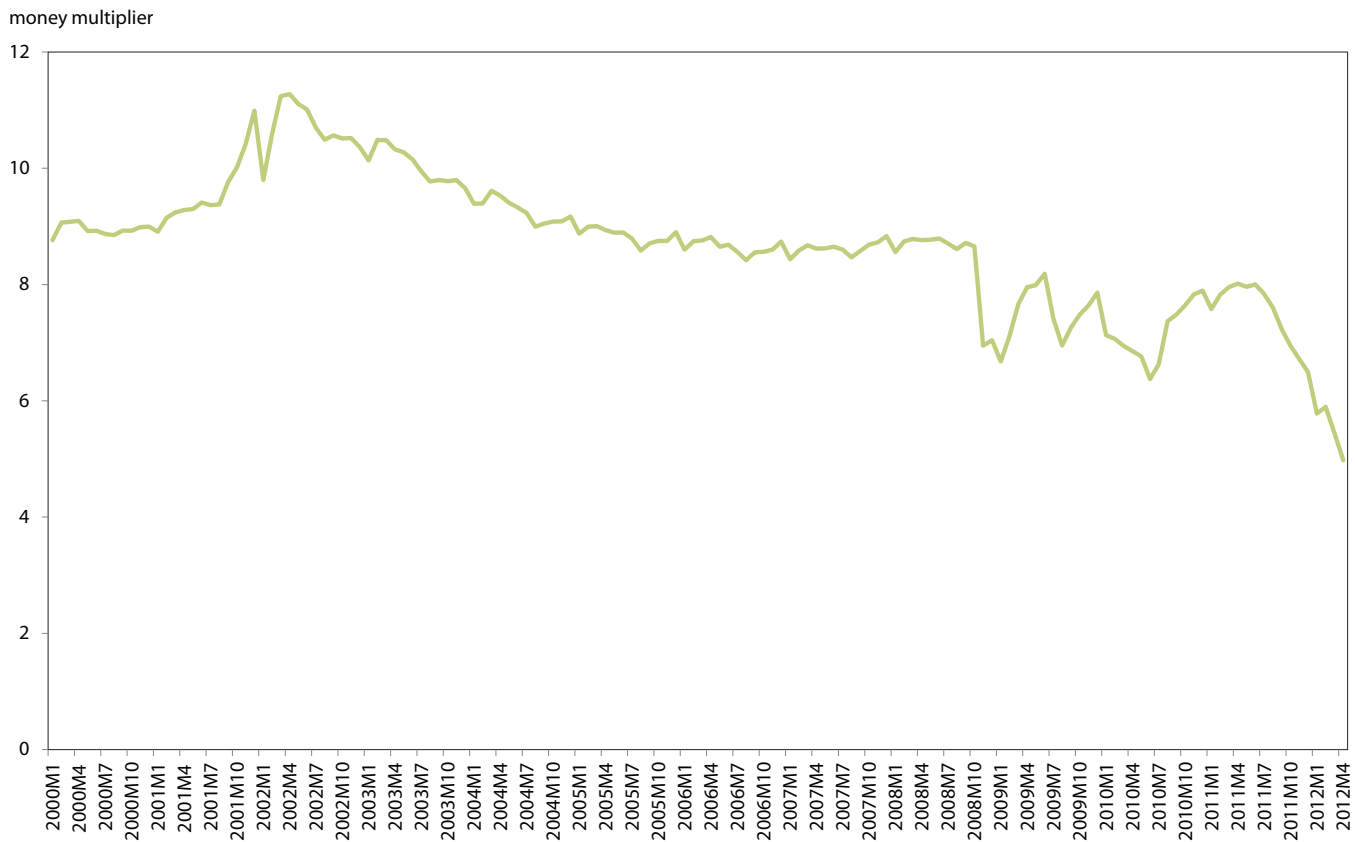
In their classical study, *A Monetary History of the United States 1867-1960*, Milton Friedman and Anna Schwartz (1963) blame the Federal Reserve for having allowed the money supply to contract during the Great Depression, which severely aggravated the output fall. Their conclusion was that the Federal Reserve should have pursued a much more expansionary monetary policy, as is the current dominant view.

From the outbreak of the acute financial crisis in September 2008 until April 2012, the European Central Bank (ECB) increased base money by a total of 95 percent, while M2 expanded by as little as 11 percent, that is, less than 3 percent a year. A larger expansion of M2 would have been desirable, but it did not materialize because the money multiplier (the relationship between M2 and base money) shrank from 8.7 to 5.0 (figure 1).

As we have seen from the historical record, hyperinflation does not arise by mistake but because of major mismanagement. Moreover, if inflation does rise, the US Federal Reserve and other central banks have ample opportunities to react with sufficient speed. Thus, we should forget the risk of hyperinflation as an irrelevant concern for ordinary monetary policy.

Yet, in one case hyperinflation could be a real risk. It would be if the EMU collapsed. As I have explained elsewhere (Åslund 2012b), the euro area faces the risk of a disorderly collapse because large uncleared payments balances have accumulated between the member countries as the private interbank market has stopped functioning. On the one hand, the uncleared balances continue to grow and, on the other, the creditor countries demand that balances be capped, which means disruption of the currency zone.

2. Wolfgang Münchau, "Why Weidmann Is Winning the Debate on Policy," *Financial Times*, September 10, 2012, 9.

Figure 1 Money multiplier for the euro area, January 2000 to April 2012

Note: Money multiplier is calculated as M2/M0.

Sources: Base money (M0): European Central Bank Statistical Data Warehouse (accessed on September 9, 2012); M2: IMF, *International Financial Statistics Database* (accessed on September 9, 2012).

If the euro area were to break up, four dangers would be apparent: (1) The uncleared balances would be monetized; (2) the velocity of money would rise sharply in countries whose new currencies failed to arouse confidence; (3) a new currency would not be used but spontaneous dollarization would ensue; and (4) competitive issuance of currency would be a possibility, which historically has been the most common cause of hyperinflation.

POLICY CONCLUSIONS FOR THE EMU

This cursory overview of hyperinflation tells us quite a lot about what policies are advisable in the current macroeconomic situation in Europe. Three big policy lessons emerge.

First, there is little reason to worry about excessive issue of central bank money in the EMU. There is no historical evidence of monetary easing or even quantitative easing

leading to hyperinflation. In fact, monetary expansion seems desirable. The questions are what forms of monetary expansion are possible and most effective and how the collapse of the money multiplier can be avoided.

Second, the big monetary concern is instead that sufficient monetary flows are being emitted so that the EMU can be maintained. Excessive monetary emission would not undermine the EMU, but it is vital that the monetary conditions are evened out, because the only serious threat of hyperinflation comes from disruption of the EMU. This means that the ECB should indeed do what is necessary to guarantee the permanence of the euro area and ensure that no country departs from the EMU. The ECB should also pursue a policy of limiting interest rate differentiation within the EMU.

Third, in comparison with hyperinflation, sovereign default is quite a common phenomenon in world history, and unlike hyperinflations many defaults have been acci-

dental (Reinhart and Rogoff 2009). This is a real threat facing European countries in crisis. While there is no reason to expel a country that defaults on its sovereign debt from the EMU, such defaults do impose strains on the EMU, since fiscally sound countries are requested to bail out the failing ones. Therefore, a very expansionary monetary policy should be combined with strict fiscal austerity.

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The current debate over the euro crisis is characterized by considerable confusion. In public discourse, a double-dip recession is widely regarded as a greater concern than default or the collapse of the euro area. Obviously, this is not the case. A double-dip recession may just be a minor blip of a contraction of a percent or two. A default is likely to be accompanied by double-digit contraction, while disorderly collapses of major currency zones have led to more substantial output plunges.

To conclude, the EMU should be maintained at almost any price, and the most obvious measure is vigorous monetary expansion, even more so than at present. The second measure should be more rigorous fiscal austerity in the troubled countries. The three Baltic countries, Latvia, Estonia, and Lithuania, and Bulgaria have set an example of internal devaluation to be followed by the EMU crisis countries (Åslund and Dombrovskis 2011). In some cases, as already in Greece, default may not be avoidable, but austerity is preferable to default both for the nation in question and its creditors.

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