Zimbabwe[1]

We now turn our attention to Zimbabwe, a developing economy that suffered from one of history's worst hyperinflations in 2008. This scenario represents a complete failure of monetary policy. We begin with some background on the political and economic forces affecting this country:

Prior to 1980, Zimbabwe was known as Rhodesia. A white minority ran an apartheid government oppressed the black majority. By aggregate measures, the economy was among the best performers in Sub-Saharan Africa with an especially strong agricultural sector. There was also tremendous social, political, and economic inequality. The white minority owned most of the country's best land, an especially important situation.

After a long civil-war, a peace agreement was reached in 1980. The country was renamed Zimbabwe and apartheid was ended. Robert Mugabe became president. He initially governed based on Marxist rhetoric as head of a one-party system. In time, his government became entirely autocratic and he governed until being forced out in a military coup at the age of 93 in November 2017. In examining the policies of the Reserve Bank of Zimbabwe, the country's

[1] These are undergraduate lecture notes. They do not represent academic work. Expect typos, sloppy formatting, and occasional (possibly stupefying) errors.

Central Bank, keep in mind that this was a Central Bank with minimal independence. In some sense, Mugabe was really the country's monetary authority.

Sources of Macroeconomic Trouble

As with most hyperinflations, the mass printing of money was carried out only when there were no other good options. Mugabe carried out several polices which badly damaged the economy:

1. Land reform. We have already examined the development strategy of export-driven growth which most economists think has proven to be the most successful policy at fundamentally changing a country's income level. Another popular strategy is land reform which seeks to re-allocate land, often in order to reduce inequality as much to promote growth. Land reform has, at best, a mixed record as a development strategy. A government carrying it out has to try to mitigate two major concerns:

i. Loss of Property Rights. Preservation of property rights is among a government's core responsibilities. If firms and households fear that their property might be expropriated by the government, then there is little incentive to invest or innovate. A government might work to convince its populace that an expropriation is only a one-time event. But this is a tough sell.

Expropriation concerns have historically been an important issue in developing economies. Expropriations were fairly common when governments aligned with Marxist philosophies took power. investors had to carefully consider these risks.

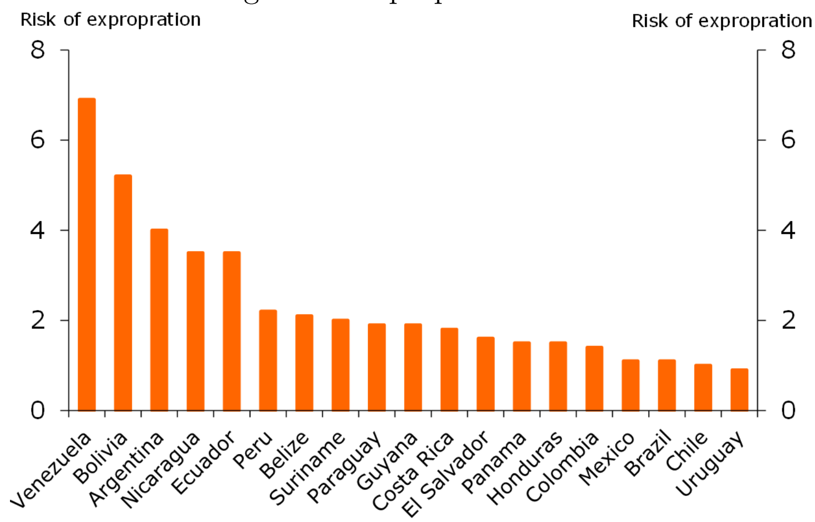
For comparison, Jurriaan Kalf of Rabobank estimates expropriation by country for Latin America:[2]

I couldn't find good estimates for Zimbabwe. But Mugabe had a history of threatening to seize foreign owned assets. This means that even if there is a good investment opportunity, it will be very hard to find financing.

ii. Reduced productivity. It isn't obvious that they new owners of the land will be able to use it as productively as the previous owners. This is most likely if they are not as experienced managing land as the prior owners.

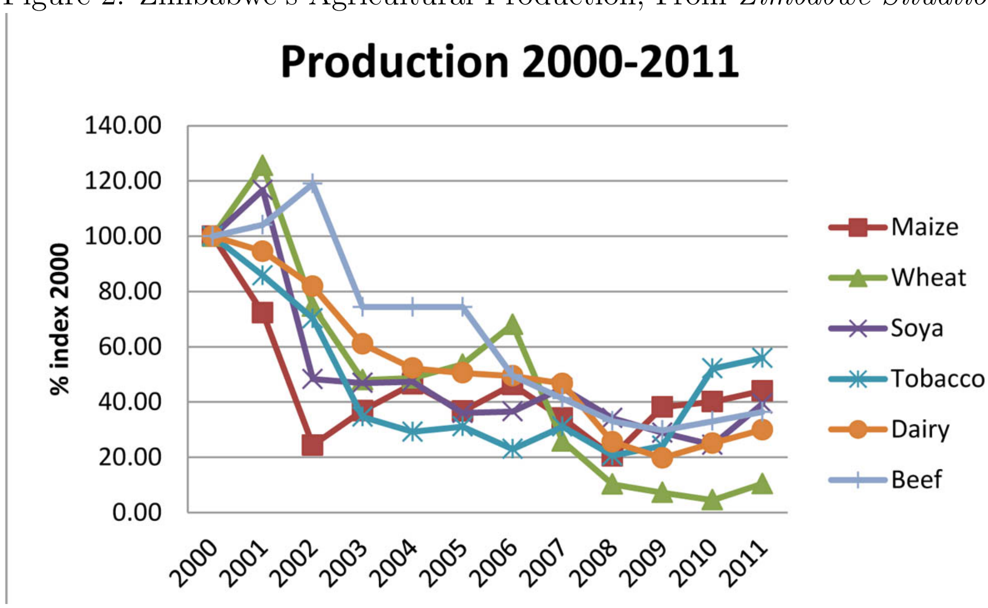
[2] See: Kalf, J. 9/28/15. "Latin America: progress through populist policies? A mixed picture." *Rabobank Research*

Figure 1: Expropriation Risk



Zimbabwe expropriated much of the white-owned land in 2000 and re-allocated it. The land reform was poorly done, however, and little was done mitigate these concerns. Agricultural productivity plummeted and because agricultural is such a large part of Zimbabwe's economy, so did it GDP. The new owners of the land did not manage it nearly as efficiently as the evicted owners, most of whom then left the country.

Figure 2: Zimbabwe's Agricultural Production, From *Zimbabwe Situation*



2. Military expenditures and warfare. As an autocratic regime, Mugabe had a strong interest in keeping his military happy. He thus awarded and maintained relatively high pensions for

veterans of the civil war that ended apartheid.

In 1998, Mugabe also chose to intervene in a civil war in the Democratic Republic of the Congo. This was an expensive intervention.

Zimbabwe did not have a stable, well-developed tax system that could be used to finance these expenditures. It also did not have a large set of other government expenditures that it could cut. So ordinary fiscal policy was not an option to pay for its spending. In some ways, this is similar to the Weimer Republic's (Germany) dilemma in the 1920s. It had considerable expenses, including benefits to war veterans, but political constraints prevented it from financing its spending through taxation.

3. Foreign debts. Zimbabwe had significant foreign debts, including to the IMF, that required payments.

Hyperinflation and its Impacts

Insistent on financing its expenditures, and unable to raise taxes, the only remaining option was to print money. The Reserve Bank of Zimbabwe issued notes in increasing denominations, ending with the now famous 100 trillion dollar bill. Philip Cagan has a specific definition of a hyperinflation as *monthly* inflation of at least 50%. Zimbabwe not only cleared this threshold, but by some measures was the second worst hyperinflation in history (behind only Hungary in 1946).

Zimbabweans increasingly turned to the use of foreign currency which was more stable as a a store of value. The government officially outlawed this, but it was hard to enforce. The Reserve Bank of Zimbabwe tried to re-denominate (*e.g.* declaring 1 new dollar equal to 1000 old dollars), but this did not change the reality that prices were rising at an exceptional rate. Businesses conducting transactions in Zimbabwean dollars would convert their currency to something else (often foreign currency) several times a day to minimize the loss of value that would occur between transactions.Many notes were literally more valuable as toilet paper than as money.

Briefly consider the U.S. inflation of the 1970s, in the range of 10%, dwarfed by Zimbabwe's inflation. Nominal interest rates are the sum of real interest rates and inflation. So if inflation jumps by 10%, banks can start offering 10% higher in interest to offset inflation. This is risky, because high inflation is almost always volatile and difficult to predict. But 10% inflation did not lead to the breakdown of the U.S. banking system.

Figure 3: Cato Institute Estimates of Zimbabwe's Inflation

TABLE 1

ZIMBABWE'S HYPERINFLATION

Date	Month-over-month inflation rate (%)	Year-over-year inflation rate (%)
March 2007	50.54	2,200.20
April 2007	100.70	3,713.90
May 2007	55.40	4,530.00
June 2007	86.20	7,251.10
July 2007	31.60	7,634.80
August 2007	11.80	6,592.80
September 2007	38.70	7,982.10
October 2007	135.62	14,840.65
November 2007	131.42	26,470.78
December 2007	240.06	66,212.30
January 2008	120.83	100,580.16
February 2008	125.86	164,900.29
March 2008	281.29	417,823.13
April 2008	212.54	650,599.00
May 2008	433.40	2,233,713.43
June 2008	839.30	11,268,758.90
July 2008	2,600.24	231,150,888.87
August 2008	3,190.00	9,690,000,000.00
September 2008	12,400.00	471,000,000,000.00
October 2008	690,000,000.00	3,840,000,000,000,000,000.00
14 November 2008	79,600,000,000.00	89,700,000,000,000,000,000,000.00

NOTES: The Reserve Bank of Zimbabwe reported inflation rates for March 2007–July 2008. The authors calculated rates for August 2008–14 November 2008.
SOURCES: Reserve Bank of Zimbabwe (2008a) and authors' calculations.

Figure 4: Was it Two-Ply at Least?

This analogy does not extend to 1,000,000% inflation. Banks would never offer nominal interest rates in this ballpark, even a small error would wipe them out. So during a hyperinflation, the only rational strategy is to get as much of your money out of banks as possible (there are often capital controls capping how much you can withdraw). Thus in Zimbabwe, as in all hyperinflations, the banking and financial systems collapse. Credit and investment evaporate.

Hyperinflations work as an expropriation of a country's savings. Unless you are able to quickly convert your deposits into something else, they will lose all of their purchasing power. These savings are thus indirectly being used to finance the government's expenditures. But as the real value of savings are drawn down, the government has to allow prices to rise even faster to raise revenue. This then adds more fuel to the hyperinflation.

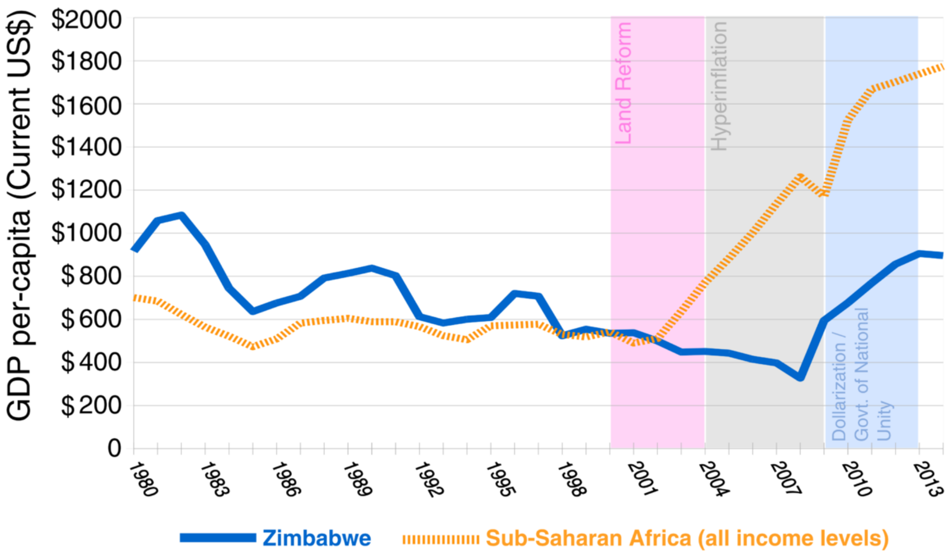
The real (GDP, unemployment, etc.) effects of a hyper inflation are clear:

i. With no incentive to save, investment dries up and the capital stock declines.

ii. As wealth evaporates, consumption inevitably declines.

iii. The losers from a hyperinflation are usually not happy about it. This leads to further geo-political stability which then makes matters even worse.

Figure 5: Graph of Zimbabwe's GDP I found on Wikipedia



Adopting the U.S. Dollar and More Hyperinflation

Zimbabwe's case is extreme and their only real option for ending the hyperinflation was to adopt a foreign currency for use. Zimbabwe chose the U.S dollar although other currencies such as South Africa's and the Euro are also traded. Ordinarily, adopting another country's currency is problematic because you are also adopting their monetary policy, which might not be what fits your country's macroeconomic conditions. But for Zimbabwe, this is a trivial concern. Any other country's monetary policy would be preferable to the preceding hyperinflation.

There have been a few significant costs, however. First, seigniorage, revenue from printing money, had become Zimbabwe's main source of revenue. Denied this, and with a weak tax system and weakened tax base, the government has been forced into austerity. Second, Zimbabwe has struggled to obtain enough U.S. currency. Even something as simple as making change is problematic when there are not enough coins to go around. This makes small transactions hard.

As of November 2017, Zimbabwe has once again entered hyperinflation. Currently, Zimbabwe only allows its citizens to withdraw a small amount of their deposits (now in U,S, dollars) each day, a form of capital control. Also, to ease the shortage of U.S. currency, the Reserve Bank of Zimbabwe has started issuing its own bond notes. Technically, these are not a new currency. They are denominated in U.S. dollars but are backed by Zimbabwe's Central Bank and supported through international loans. This is similar to a pegged exchange rate. But Zimbabweans do not trust them, and merchants insist on higher payments using bond notes than U.S. dollars. This has allowed the price of goods in Zimbabwe, measured in U.S. dollars, to again rise fast enough to meet the definition of hyperinflation.

An Aside: Measuring the Hyperinflation

During the hyperinflation, neither the Reserve Bank of Zimbabwe, nor any other agency, reported reliable data on prices in the country. Foreign exchange markets had also broken down, making exchange rates unavailable as well. To measure inflation, economists found one stick, Old Mutual, that was traded on both the London and Zimbabwean stock exchanges. The change in the ratio of its prices on each stock exchange was then used as an approximate inflation rate. This method has again been used to measure the 2017 hyperinflation.

Aftermath

Misrule and hyperinflation have destroyed Zimbabwe's economy. It is now in the neighborhood of subsistence level and is no longer among the wealthier economies in the region.

Dissatisfaction with Mugabe's rule led his military to stage a coup in November 2017. He is expected to go into exile and it seems that his former deputy will head the new government.