1 Introduction

Monetary policy in Zambia, especially over the last twenty years, is as captivating as it is grievous. Many economists around the world working in developing countries would consider Zambia a case study in the "*Curse of the Resources*" due to the unfortunate management of natural resources, particularly copper. Drawing comparisons between the U.S. financial system and its Zambian equivalent requires an understanding of this mismanagement in order to realize why results from the same set of policies have vast differences in outcome. Applying this understanding to development of monetary policy, organization of the financial system, and the roles it plays in the economy is crucial to dissuade similar policy practice in the future. In addition, the importance of fiscal framework to support the monetary practices is shown when considering current and future policy reform, such as an inflation targeting strategy. Finally, it should be noted that the impact of Covid-19 has severely hurt Zambia's financial system, almost doubling exchange rates as well as increasing joblessness and poverty rates in a country already plagued by these metrics.

2 A short history of copper mining and development

To understand the Zambian financial framework is to understand twenty years of natural resource mismanagement and government fraud pertaining to copper mining in the region. In the 1990's, Zambia carried significant debt to the International Monetary Fund (IMF) from past loans for infrastructure projects, mainly due to decreasing copper prices and lack of investment. The president at the time was Chiluba, who would be later found guilty of corruption and negligent of his fiduciary duties, claimed that the IMF would only support future loans to the government if they privatized the copper mines. Members of the IMF later explained this claim was false, that they were only trying to recover the initial debt. Due to the severity of the debt burden, the later realized corruption of Chiluba, and the need for international investment, virtually all of Zambia's copper mines were sold to (mainly) foreign investors for less than they were worth, because they were never properly valued. It has been suggested however that real value was manipulated in order to incentivize foreign investment. This is the point when large international investment begins, and where the influence of the copper industry on monetary policy becomes evident.[1]

Copper mining covers almost 80% of Zambia's exports, with less than 10% of the

[1] Indoda Oliver et al. Feb. 2013. URL: https://topdocumentaryfilms.com/stealing-africa/.

Zambian work force employed in the industry. Although the literacy rate in the country is high ($\sim 87\%$) the agricultural sector employs more than 80% of the work force but makes up less than 20% of GDP.[2] The disenfranchisement of Zambian citizens in relation to copper mining in their own country became evident early on. It's clear that an economy whose chief commodity export is susceptible to price changes, will also potentially face rapid changes in GDP. This was the case in the 1990's and again in the early 2010's. Economic diversification is key to developing a country, and this is the most striking difference between the U.S. and Zambian economies.

However, price shocks are not as nearly detrimental to the economy or as influential on monetary policy as the business practices from those foreign investors that came in the early 2000's. Although outside the scope of this paper, it's important to summarize this topic because it gives insight to how Zambia's GDP can be higher than most developing countries while maintaining such low employment and extreme poverty. It's been shown time and time again that Glencore, which owns the largest supply of copper mines in Zambia, engaged in *transfer pricing*, and Mark Rich (the head of the company at the time) was indicted in the U.S. in what is known as the largest tax fraud case up until 2014. In 2006, independent Norwegian economists assessed the contracts between Glencore and the Zambian government, with upsetting results. They found that although Glencore had exported $3 billion in copper in 2005, they paid only $50 million in taxes in Zambia. In addition, the contracts require that the Zambian government provide energy to the copper plants, which was estimated at $150 million that year.[3] The government sold copper resources at a loss in 2000, and made energy contracts that had long term inefficiencies. When copper prices increased in the early 2000's, the energy needs of the plants increased and further pushed Zambia into extreme debt. When the contracts were to be renegotiated, Glencore used it's influence to persuade the president at the time, Banda, that it was in the country's best interest not to change the contract for fear of losing the copper industry all together.

Finally, it's important to note Zambia's struggle to garner more international investment as an effect of their long-term mismanagement. In the mid-2000's when copper prices were starting to increase, the primary goal of the central bank was to reduce unemployment and increase foreign investment using *supply-side* economics with appealing tax rates. However, new investors thought that the inability of Zambia to capitalize on it's existing

[2] *The World Factbook: Zambia.* Feb. 2018. URL: `https://www.cia.gov/library/publications/the-world-factbook/geos/za.html`.

[3] Oliver et al.,

resources meant that they would be unable to capitalize on additional ones. Seeing a decline in the ability to secure foreign loans, one would think that Zambia would increase it's official reserves, however they did not. At this point, renegotiating the copper contracts, focusing on long term price stability, and using exchange rate targeting monetary policy became the new goals of the central bank.

3 Exchange rate and monetary targeting

Given that Zambia's economy is dependent on foreign trade through the export of copper, stability and competitiveness in the foreign exchange markets have been, historically, a primary goal of monetary policy in the region.[4] A volatile exchange rate can mean undesirable changes in the aggregate price level and foreign investment flows. Zambia's economy heavily relies on imports given the make-up of employment and lack of specialized industry. Zambia has had a negative trade balance over most of the last twenty years, and this has led to low levels of official reserves with an increased need for borrowing, which has contributed to the indebtedness of the country.[5] Furthermore, given the extreme poverty of the region, most of the population does not interact with the formal financial system, making the cost of money high.[6] Of those that do interact with banks, the savings rate is believed to be below 20 percent of GDP. This rate is actually near to the United States, however, it's obvious that a higher percentage of citizens in the U.S. interact with the banking system than do in Zambia. Perceived volatility in the exchange rate then could be caused by interest rates, a lack of money supply, and insecurity about changes in the floating system.

Zambia has had a free-float exchange rate since the 90's, which is contrary to the U.S. managed float system, and the Zambian finance minister has insisted on keeping this framework.[7] However, there is an observed inability of the central bank to conduct independent monetary policy under the exchange rate targeting goal.[8] "The Zambian foreign

[4] Jonathan Mpundu Chipili. "Central Bank intervention and exchange rate volatility in Zambia". In: (2014).

[5] Peter Zgambo and Patrick M Chileshe. *Empirical analysis of the effectiveness of monetary policy in Zambia*. 2014.

[6] Shamu Malilwe. "Individual savings as a means of poverty alleviation in Zambia. A case study of the Kafue District". In: (2018).

[7] *Zambia to keep free floating exchange rate: finance minister*. Oct. 2015. URL: `https://fr.reuters.com/article/ozabs-uk-zambia-currency-idAFKCN0RW0RD20151002`.

[8] Caesar Cheelo and Thulani Banda. "Towards An Inflation Targeting Regime in Zambia". In: (2017).

exchange market has seen significant evolution following revisions to its foreign exchange trading rules which could be morphing the copper producers exchange rate regime to a managed float."[9] The central bank's main sources of intervention funds are largely from foreign exchange purchases from the open market. It's been concluded that there was a persistence in exchange rate volatility between 1996-2010 and that although central bank interventions did reduce volatility, the impact was weak.[10] Thus the need to shift to a set of polices that doesn't have exchange rate targeting as it's focal point is needed in order to spur long-term growth. All of this is undermined[11] by the lack of revenue from copper mining affecting the money supply and unemployment rate. Furthermore, the balance of trades has caused a low foreign currency reserve, limiting exchange rate targeting options as well. Finally, the loss of monetary policy independence due to exchange rate targeting causes vulnerabilities in the economy, like changing prices of the export their GDP relies on.

4 Moving forward with inflation targeting

There are numerous pre-conditions that need to be met in order to effectively implement inflation targeting policy.[12] Mishkin (2002) summarizes the framework as including central bank independence and accountability, a firm commitment to price stability, and an inclusive policy framework that relies on many variables, not just monetary aggregates like the exchange rate.[13] Starting in 2012, the central bank of Zambia implemented a *Policy Rate* to institute a credible anchor to set market interest rates.[14] Furthermore, the central bank has adopted an independent monetary strategy similar to the United States, although some government representation does exist on the board for the bank. In terms of the *policy trilemma*, the two states align in their goals. Cheelo and Banda (2017) find that Zambia does not meet the preconditions for implementing inflation targeting as the primary goal, stating a lack of "specific text" making price stability the central banks overriding objective. The central bank has since clarified with much literature, the true intentions for price

[9] *Could Zambia's foreign exchange market be morphing into a managed float?* Aug. 2020. URL: `https://thebusinesstelegraph.com/2020/08/16/could-zambias-foreign-exchange-market-be-morphing-into-a-managed-float/`.

[10] Chipili, "Central Bank intervention and exchange rate volatility in Zambia".

[11] Pun intended

[12] Cheelo and Banda, "Towards An Inflation Targeting Regime in Zambia".

[13] Frederic S Mishkin. *The economics of money, banking, and financial markets*. Pearson education, 2007.

[14] *Bank of Zambia*. Jan. 2016. URL: `https://www.boz.zm/monitory-policy-framework.htm`.

control.[15] Moreover, they find that the policy target differences arising from government representation on the board complicates, if not nullifies the pre-conditions. Finally, fiscal policy is fueling inflationary pressure and "clearly influences the monetary policy transmission mechanism".[16] The central bank has worked towards greater independence and clarity with the public, it may be that changes over the last four years would strengthen the argument for continuation of inflation targeting strategies.

5 Conclusion

The copper industry, coupled with high unemployment, extreme poverty, and government corruption are directly to blame for ongoing issues in fiscal policy which undermines monetary policy in Zambia. Greater independence of the central bank is needed to be more aligned with the U.S. policy framework, and reevaluation of the impacts of copper mining agreements made twenty years ago are needed to spur long-term investment and growth. A change in policy towards inflation targeting in 2012 has helped control prices *and* exchange rates up until this year due to the Covid-19 crisis.

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[15] *Bank of Zambia*.
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