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*“Was the Decline in Export Performance in Zimbabwe Caused
by Bad Governance or Western Influence?”*

Abstract

Zimbabwe has become infamous for its record breaking hyper inflation, as of July 2008 a five billion dollar bill has been put into circulation that can only buy two cups of coffee. Unemployment is at 80% and it is estimated that at least 30% of the population has fled the country in search of a means to survive and provide for their families. The back bone of the Zimbabwean economy was its export market, which accounted for 50% of the country's gross domestic product. There are two main theories that have been attributed to the collapse of export performance in Zimbabwe, the first is bad governance by the Mugabe regime and the second is the loss of lines of credit from the International Monetary Fund, claimed by the Mugabe regime to be the reason the export performance declined and the economy collapsed. Econometric analysis was used to measure the effect of both governance factors and the loss of lines of credit to Zimbabwe on export performance. Fixed effect was the specification used on the model, the model was derived using two reduced form equations from which the quantity and price of exports were determined simultaneously by setting the supply of exports and the demand of exports equal to each other. The results were surprising in that both the loss of lines of credit and bad governance had t-statistics that were significant. The variable for the lines of credit was 2.23, while that for bad governance was -2.48. Both these factors turned out to be important, implying that it was a combination of factors that led to the decline in export performance in Zimbabwe, which ultimately led to the collapse of the economy. A more effective solution could possibly be engineered with the results in mind; such a solution would take both factors into consideration

Introduction

In 2008 the Zimbabwean economy lies in ruins, its destruction has been abrupt and devastating. Approximately four out of five people currently in the country are out of workⁱ. It is estimated that roughly 30% of the population have left in desperation, in search of a means to survive or provide for their families and now live in neighboring countries or abroadⁱⁱ. Ironically less than a decade ago, this same country was called 'the bread basket of Africa'. It was the agricultural hub of Southern Africa and

had an economy that was growing at a steady rate but in less than a decade the economy was crippled and has lost its comparative advantage in the export market. The analytical frame work of this paper seeks to test weather governance factors or the loss of credit lines to Zimbabwe are to blame for the collapse of the export performance.

The greatest portion of Zimbabwe's revenue was generated from the export of its goods. Exports during the 1990's averaged out to be roughly 50% of Zimbabwe's gross domestic product, with agricultural exports accounting for 47.2% of the total 50%, while manufacturing and mining were 23% and 10% respectivelyⁱⁱⁱ. It was no wonder that the economy began to free fall when export performance began to plunge during the late 90's. Exports were the most important factor that gave vitality to the Zimbabwean economy.

Main stream economists have attributed the decline in Zimbabwe to bad political policies by the regime of Robert Mugabe; these policies include the violent land redistribution program. The Mugabe regime rejects this theory and attributes the decline to external influence by the West, which suspended lines of credit to Zimbabwe bringing the economy to its knees. The Mugabe regime has categorically denied any wrong doing and rejects claims that its policies led to the decline in the export performance of the country and the country's economy. Instead they claim that external influence by Western entities such as the International Monetary Fund, the British and American governments are the cause of the decline and they accuse these entities of trying to undermine their efforts to empower Zimbabwean people. The regime claims that the vast majority of developing nations in the world all run persistent deficits and as a result without external funding and lines of credit these economies would not survive. The regime points to the sanctions imposed on the country by the European Union, the British and the United States. They highlight the Zimbabwe democracy bill signed by President Bush in December 2001. The bill is a set of ordinances that instructed American officials in the IMF and multilateral development banks – including the International Bank for Reconstruction and Development, the International Development Association, the International Finance Corporation, the

Inter-American Development Bank, the Asian Development Bank, the Inter-American Investment Corporation, the African Development Bank, the African Development Fund, the European Bank for Reconstruction and Development, and the Multilateral Investment Guaranty Agency – to "oppose and vote against any extension by the respective institution of any loan, credit, or guarantee to the government of Zimbabwe," and to vote against any reduction or cancellation of "indebtedness owed by the government of Zimbabwe." The banks mentioned in the bill were in essence all the banks that Zimbabwe could borrow from, even including several African banks that could no longer engage in transactions with Zimbabwe. News of this caused fears of a ballooning budget deficit in Zimbabwe and the foreign exchange rate of the Zimbabwe dollar against most major countries plummeted causing additional problems. According to the regime, this was the real reason behind the economic difficulty.

Main stream economists believe that bad governance and destructive political policy were in fact the root cause of the difficulties faced in Zimbabwe, contrary to what the regime claimed. These policies included the violent land redistribution program, irrational fiscal policy and corruption. The land redistribution program was a process by which the President violently took land belonging to the rich white commercial farmers, who made up less than 10% of the population but owned 90% of the land, and redistributed it to the poor landless people in Zimbabwe. The program started in the year 2000 and was carried out in a violent haphazard fashion; many believe that the disruption to the agricultural industry was devastating. The agricultural production index was 106.6 points in the year 2000, just two years later it had fallen to 80.6 and by 2004 it was 72.8,^{iv} a level lower than what it had been nearly two decades earlier. Six out of ten Zimbabweans in the labor force are in some way involved in the agricultural sector, at the end of the year 2000 some 800,000^v farms workers were estimated to be out of work and displaced from the farms on which they resided. This figure did not include their families that depended on them for support or resided on the farms with them. The program had far reaching effects into every sector of the economy, affecting manufacturing, tourism and even mining. Due to the lack of supply of once abundant goods produced in Zimbabwe, many faced starvation.

By 2005 the lack of performance in the export sector meant that Zimbabwe no longer generated the foreign currency needed to buy basic commodities such as fuel and electricity. This affected the production in manufacturing and mining industries which needed foreign exchange for inputs and other capital goods. Due to the high elasticity in the tourism industry, tourism to Zimbabwe was drastically cut back. Owing to the bad publicity that Zimbabwe was receiving around the globe, many went to other destinations in the region. This meant further loss of foreign exchange revenue and additional loss of jobs.

Objective

So what did affect the export performance in Zimbabwe and cause it to decline so rapidly? This paper will analyze the effect of the loss of lines of credit from the International Monetary Fund to Zimbabwe to measure its effect, if any, on the export performance of the country. In addition the claim of bad governance and destructive political policy will also be analyzed to bring to light its effect on the export performance of the country.

Loss of export performance is extremely important and must be explained as exports were the corner stone in the Zimbabwean economy and similarly the vast majority of developing African countries rely heavily on exports for the majority of their revenue. Just like Zimbabwe, many of these countries are relatively young and were colonized by another country. These ex-colonial countries are now attempting to move forward and develop and become economically viable; but will have to deal with the spin off and effects caused by years of colonization. Issues such as land redistribution will resurface again, issues such as empowerment of the poor and reconciliation between groups will need to be addressed. A classic example is that of South Africa, the country gained independence in 1991; however it will have to find effective and non destructive policy to deal with the effects of apartheid. As recently as early 2008, the country was hit by a wave of xenophobic attacks against foreigners. These attacks are a cry of frustration from those still not seeing the benefits of the new, independent and free

South Africa, those still waiting for the promised change and hope of a new life. Zimbabwe only 28 years old can serve as a stern warning and learning curve for all its African counterparts as to how to deal or not to deal with certain delicate and important issues. Western countries and organizations like the International Monetary Fund may also need to learn from their experience with Zimbabwe and find more constructive ways to handle issues that involve colonization and have cultural connotations.

This analysis thus becomes important because not only will it shed light on the effect of the Mugabe regime's policies and the loss of lines of credit on the export performance in Zimbabwe, but it may also provide a lesson for other African countries with similar colonial histories. If influence by the West was a factor, then a possible plan of action could be drawn up to educate all parties involved and find mutual solutions. Conversely if bad political policy was to blame, then other countries contemplating similar policies could learn from the failure in Zimbabwe and augment their policies. Most importantly, Zimbabwe must learn from this experience and find ways to regain the export advantage that it had in order to turn its economy round and get back on a path of stable growth.

Literature Review

Moss (2007) dismisses the idea that such a rapid decline in the Zimbabwe economy can be attributed to Western influence or to the suspension of lines of credit. He attributes the whole crisis in the country to mismanagement and bad policy by the government of Robert Gabrielle Mugabe; pointing to the land redistribution program that essentially destroyed the agricultural sector as one of the greatest policy blunders made. He proposes that no change can occur in Zimbabwe until the policies of the Mugabe regime are stopped because they are the root cause of the down turn. Moss (2007) also suggests that Mugabe's motivation for implementing the Land Reform Program was simply political and came about as a way for the regime to lure votes away from the opposition party which had started to gain momentum and popularity. He highlights the fact that it took the regime nearly three decades to come up

with a program and implement it. He supports this argument by pointing to the fact that the United Nations, the International Monetary Fund and the British government had pledged amounts totaling to \$2 billion to fund a land redistribution program in 1997. There was however a condition attached to this pledge the donors insisted the program was to be transparent, fair and have international oversight. The Mugabe regime declined the offer, even though their program would require extensive resources that the government did not have. The arguments and theory suggested by Todd Moss have merit and could indeed be accurate in the case of Zimbabwe; however his arguments and theory are not truly empirical and would carry greater weight if they were. A more empirical analysis could possibly discredit the Mugabe regimes claim that external factors had a large role in the collapse of Zimbabwe's export performance and economy.

However, studies have shown that external forces could be extremely influential in destabilizing a regime, one such study is one done by Kaempfer, Lowenberg (1986). They showed that sanctions could have been a powerful tool in removing the apartheid regime in South Africa, as they raised the cost of apartheid to those who benefited from it the most. These sanctions would have an impact on international capital flows and asset prices, affecting the white electorate. Small business in South Africa at the time relied on capital inflows from abroad to expand and keep viable and a disinvestment policy would undoubtedly impact the political cost of maintaining apartheid institutions. One may argue that this is the case in Zimbabwe; the impact of the removal of credit lines could in fact have crippling effects on the economy.

Studies done on the Iranian parallel exchange market by Valadkhani (2003) have shown that the over valuation of the currency had major adverse effects on major macro economic variables such as private investment, global competitiveness of the countries goods on the world market which would affect the demand for their goods and GDP growth.

Frenkel and Khan (1990), through their empirical work, showed that real exchange rate misalignment is negatively related to a countries exports and economic growth. This is especially the case in developing countries that obtain the majority of their revenue from exporting raw materials and other commodities. Reference to economic theory on the value of exports for a given country shows that even with world prices, the exchange rate of the country affects what is received and paid for goods and services. The exchange rate could affect the demand and supply of goods and services for export.

Specific to Zimbabwe, Muñoz (2006) found the misalignment of the real exchange rate to be negatively related to economic growth and exports. Misalignment of the real exchange rate takes on the form of domestic currency over valuation which hurts tradable activities and lowers profitability in the sectors whose major source of revenue comes from exports. This is because output price would be lowered relative to prices in other sectors. However, her research on the effect of the parallel market on the export performance of Zimbabwean products showed that the sharp swings in the real black market exchange rate since 2000 were met with a relatively muted export response. The fluctuation of the black market foreign exchange rate did not have the kind of effect that theory suggested; a large and positive effect was expected so that as the currency was devalued the exports would increase. The implication of this was that additional factors may actually be influencing the export levels and value. Munoz (2007) concluded that a variable needed to be included to measure ethnic tension and she found it to be significant. However such a variable is not representative of the situation in Zimbabwe. Ethnic tension could not be the cause of the turmoil, people from both ethnics groups were being targeted by the Mugabe regime. These included people who were of the same ethnic group as Robert Gabriel Mugabe himself. A variable such as the rule of law governance variable developed by the World Bank would be a better representation of the developments in Zimbabwe during the period of analysis.

The Mugabe regime when asked why agricultural production was declining at alarming rates stated that it was drought. Richardson (2005) using rainfall data from Zimbabwe's Department of Meteorology found that the drought in 2000 – 2001 rainfall seasons was only 22% below the average

rainfall and was less severe than twelve other droughts that the country had experienced since the 1960's. Richardson suggests that drought as an explanation of the large drop in output in 2001 is inadequate and that additional factors are at play.

From the literature, the possibility arises that a combination of factors could have caused the export performance to decline. The exchange rate as mentioned by Munoz (2007) and Frenkel and Khan (1990) theoretically would affect export performance. Western influence was also shown by Kaempfer, Lowenberg (1986) to have indirect effect on the export performance of South Africa backing the claim made by the Mugabe regime. Moss (2007) was adamant that governance policies were the root cause, as history and theory clearly show the negative effect of policy issues that lead to the loss of property rights. The decline of Zimbabwe's export performance occurred at a time when many other events were occurring simultaneously; this may cause difficulty in analysis as it may not be absolutely clear what factor caused what or the extent of their true effect on the export performance.

Theory

The underlying theory that provides the basis for the economic analysis of this project is that of the value of exports. The value of exports for any country is determined by the demand and supply of exports. The factors that can affect the demand for exports are income, price, preference, the price of substitutes and the price of complements. Gross domestic product per capita will be used as a proxy for national income. In the case of Zimbabwe, the country does not hold a major market share for any of the goods they export, thus they are price takers and are subject to world prices. Devaluation of the Zimbabwe dollar will mean that it will be cheaper for other countries to import goods from Zimbabwe as their purchasing power would have increased, hence the importance of the parallel real exchange rate. The parallel exchange rate was the rate at which foreign currency is exchanged in an informal setting. It has come about due to the shortage of supply in the formal setting. The normal avenues of supply such as banks could not keep up with demand due to the decrease in supply and as a result foreign exchange was traded in an informal setting for a stiff premium. Munoz (2007) centered her analysis on the effect of the

parallel exchange rate on the export performance of Zimbabwe due to the importance of this factor. In her model, she included variables for the parallel exchange rate, industrial production index which served as a proxy for foreign income and a variable for ethnic tension.

The supply of exports would be affected by world prices, the exchange rate and lines of Credit from World institutions to Zimbabwe, droughts and political policy that affect factors such as property rights. The exchange rate is important to the supply of exports as it is used in obtaining the inputs needed to produce the export goods. Several of these inputs may be imported from abroad and include capital goods. The exchange rate also affects the price that the firms and entities receive for the goods and services that they have produced. Theoretically the loss of lines of credit could cause fears of a ballooning budget deficit causing the value of the currency to plummet. This would affect agriculture, mining and manufacturing as the cost of obtaining capital goods and other inputs needed in the production process would increase.

Property rights are also important to export performance because if they are respected and enforced, the incentive for long term investment in capital for production of goods and services will be created, increasing the capacity to produce.

Methodology

In order to identify the effect of the loss of lines of credit on the exports from Zimbabwe, a function must be derived that includes both the supply and demand variables that will affect the value and quantity of exports. In order to obtain such a function two equations are needed one for the supply of exports and another for the demand for exports. The quantity and price of the exports from Zimbabwe will be determined simultaneously by the intersection of the supply and demand equations. The price variable is endogenous although it represents world prices it is modified by the parallel exchange rate. The endogenous variables are then represented as a function of the exogenous variables. Two reduced

form equations are derived from the demand and supply equations and these represent the quantity of exports as a function of a set of variables and the price of exports as a function a set of variables.

$$\text{Supply} = \alpha_1 + \beta_1 \text{Price} + \beta_2 \text{Credit} + \beta_3 \text{Rain} + \beta_4 \text{Rule_Law} + e$$

$$\text{Demand} = \alpha_2 + \beta_7 \text{pcGDP} + \beta_8 \text{Price} + e$$

The two reduced equations are:

1. Quantity = $\pi_0 \text{GDP} + \pi_1 \text{Credit} + \pi_2 \text{Rule_Law} + \pi_3 \text{Rain} + e_q$
2. Price = $\pi_{10} \text{GDP} + \pi_{11} \text{Credit} + \pi_{12} \text{Rule_Law} + \pi_{13} \text{Rain} + e_p$

Exports: Real exports in millions of U.S. \$ from Zimbabwe to the i^{th} country. This variable measures the export performance of Zimbabwe.

Credit: This variable measures the amount in millions of U.S. dollars that Zimbabwe receives in lines of credit. This model will assist in measuring the effect of the ‘loss of lines of credit as claimed by the Mugabe regime to see if the claims are substantiate. Theoretically a decrease in the lines of credit would have a negative effect on the value of exports as it would cause the supply of exports to shift to the left, causing the amount of exports to decrease. The converse is also true; an increase in the lines of credit would cause a rightward shift in the export supply curve increasing the value of exports keeping all other things constant.

Rain: This variable measures the fluctuation in the average yearly rainfall in Zimbabwe and is used to measure the effect of drought on the export performance in Zimbabwe. The Mugabe regime refers to drought as an explanation of the decline in agricultural production. Theoretically rain is expected to have a positive sign. As the amount of rain fall increases up to a certain point this will be translated to an increase in an essential input in the production of agricultural goods, causing a rightward shift in the export supply resulting in increased production for the export market, keeping all other things equal.

Rule Law: Rule of Law is a variable developed by the world bank that is intended to represent and measure the extent to which individuals have confidence in and abide by the rules of society, in particular the quality of contract enforcement, the police, and the courts. It also included the likelihood of crime, violence and loss of respect for property rights. This variable will measure the effect of the policies of the Mugabe regime, including the violent and controversial land redistribution program. The loss of rule of law is theoretically expected to be negative, as it will impact the supply of goods produced for export. Causing a leftward shift in the export supply equation reducing the amount of goods produced for export. In addition this variable would also causes a leftward shift in the export demand in the tourism and manufacturing sectors meaning that the value of exports would decrease as less of these goods would be in demand.

pcGDP: Per capita gross domestic product is used as a proxy for foreign income, to measure the effect of foreign income on the quantity of exports consumed. The per capita G.D.P versus G.D.P is used in order to control for Heteroskedasticity. Theoretically the sign of this variable is expected to be positive, as the per capita gross domestic product of one of Zimbabwe's major trading partner increases, the more goods it will demand from Zimbabwe. The export demand curve would see a shift to the right meaning an increase in the amount of goods demanded, keeping all other factors constant.

It is important to note that the reduced form equations are of interest as the analysis attempts to measure the significance of particular variables in the reduced form equation. Hence the structural equations are not of interest to the analysis. Of the two equations the quantity equation is of greater interest as the price equation represents more of the effect of the different variables and not a cause.

The model will be estimated using the fixed effect specification due to the nature of the panel and time series data obtained for the analysis. The error term may not be correlated across countries but may be correlated within different time periods for the same country. This would be a violation of the basic assumptions of the Ordinary least Squares estimation, hence fixed effect is a better estimator. The fixed effect model examines country differences in intercepts, assuming the same slopes and constant variance across groups. Fixed effect allows the intercept to change for each country, while O.L.S

assumes that the intercepts for each country are the same. The model is a semi log model due to the theoretical nature of the law of diminishing marginal returns. As the independent variables become larger or smaller, their effect on exports will decrease.

Thus the improved model is as follows:

$$\text{Exports}_{i,t} = \alpha_i + \beta_1 \log(\text{pcGDP}_{i,t}) + \beta_2 (\log \text{Credit}_{i,t}) + \beta_3 (\log \text{Rain}_{i,t}) + \beta_4 (\log \text{Rule_Law}_{i,t})$$

Analysis will focus on exports to Zimbabwe's eleven major trading partners which are; United States, Germany, South Africa, United Kingdom, Japan, France, Italy, Netherlands, Canada, Switzerland and China for the period 1995 -2003. One observation will be the export of goods from Zimbabwe to the i th country during year t . The exports are measured in millions of U.S \$. The years 1995 -2003 were chosen for analysis because the objective of the empirical work is to pinpoint the cause of the decline in export performance; it thus becomes logical to choose a time frame for which the export performance began to decline. The eleven major trading partners were chosen because it was from transaction with these countries that the country collected the greatest portion of its revenue.

Table 1 - Description of Variables

<i>Variable</i>	<i>Description</i>	<i>Theoretical Effect</i>	<i>Unit</i>
Exports	Amount in Millions of U.S.\$ of goods exported to i th country.	N/A	Millions of U.S. \$
pcGDP	Per Capita Gross Domestic Product of i th country. Used as a proxy for national income	Positive (+)	U.S. \$
Rule_Law	Risk measure of the rule of law in Zimbabwe. Includes: violence, respect of property rights. Ability of police force to enforce constitution	Negative (-)	Measure values from negative 2.5 to positive 2.5. The more positive index represent poor rule of law.
Credit	Credit line made available to the government of Zimbabwe by the I.M.F, World Bank.	Positive(+)	Millions of U.S. \$
Rain	Percentage of rainfall received compared to the average yearly rainfall. Measured at Buhera Weather Station in Zimbabwe	Positive (+)	% of average yearly rainfall

Data

The data for the empirical work was obtained primarily from two sources, the International Monetary Fund and the United Nations Statistical division common data base. The black market foreign currency nominal rates were obtained from Sonia Munoz. E-Mail Address: smunoz@imf.org. The

governance variable for the rule of law was obtained from the World Bank data and resource data base and the data on the weather variable for drought was obtained from the Zimbabwe department of meteorology. A more in-depth description of the data can be found in the Appendix.

Empirical Results

According to the estimation results, the termination of lines of credit to Zimbabwe and the rule of law both had an impact on the decline of the export performance. The results suggest that it was not a single factor that attributed to the decline, the decline in Zimbabwe was caused by a combination of factors rather than one specific factor. The model had an r squared of .3934, explaining just approximately 40 % of the variation in the data. The mean value for the exports was U.S. \$ 110.32 million with a root mean squared error of U.S. \$79.96 million which seemed to be relatively large.

Table 1 - Fixed Effect Results

<u>Variable</u>	<u>Predicted Sign</u>	<u>Actual Sign</u>	<u>Parameter Estimate</u>	<u>Standard Error</u>	<u>T-Statistic</u>
intercept			-715.30	413.96	-1.73
Log pcGDP	+	+	85.52	12.27	6.97***
Log Credit	+	+	174.56	74.85	2.23**
Log Rule_Law	-	-	-39.70	16.01	-2.48***
Log Rain	+	+	39.36	35.17	1.12

Table 1a – Summary Statistics

Summary Statistics	
N	92
Adjusted R Squared	.389
Root MSE	80.12
Export Mean	110.32
F Statistic	11.16
F-Test – fixed effect Model	12.26

Credit, which measured lines of credit from the International Monetary Fund and Rule of Law which measured the loss of the rule of law and property rights, were the variables of interest and were both significant. From this we can conclude that both variables had some degree of importance in contributing to the decline in the export performance in Zimbabwe. A one percent decrease in lines of credit would be associated with a US\$1.76 million decrease in the quantity of goods exported. A one percent decrease in the measure for the rule of law was estimated to cause a US\$439,000 decrease in the quantity of goods exported. Both the rule of law variable and the loans variable were significant at the 95% confidence level and the rule of law variable was significant at the 99% confidence level and at the 99.5% confidence level. The signs that the estimated variables took on were consistent with the predictions economic theory and what it would predict. The drought variable was not significant and at face value this seems to go against the economic theory relating to supply, but it is important to remember that the analysis was over all sectors which took part in the export market. Thus the effect of droughts may have been muted. If time and data are available, it may be of interest to run separate regressions for the four major sectors which are; agriculture, mining, manufacturing and tourism to see if the effects of

drought would change across the different sectors. An F – Test was performed on the fixed effect model specification to see whether any of the coefficients estimated were equal to zero and the result showed that the null hypothesis was false and that at least one of the coefficients in the estimation was not equal to zero. The F – statistic of 12.26 strongly supports the proposition that the fixed effect model will give unbiased estimates.

Conclusion

This study attempted to analyze the effects of the loss of lines of credit from the International Monetary fund on the export performance of Zimbabwe. In essence two conflicting theories were under analysis, the first put forth by the main stream economic thought that the political policies of the Mugabe regime had in essence destroyed Zimbabwe’s ability to produce and export goods as they had previously done. The second theory was put forth by the Mugabe regime in defense, against its critics; it stated that it was the loss of lines of credit and Western influence that had caused the export performance and the Zimbabwean economy to falter.

Interestingly the results show that neither party was wrong. The decline in the export performance and ultimately the economy came about as a result of a combination of both the loss of lines of credit and the decrease in the rule of law and the loss of property rights in Zimbabwe. The Mugabe regime must also take responsibility for policies that have hurt their own people.

African leaders as a whole can also learn from the whole experience and endeavor to take tougher stances on leaders who implement policies that are destructive. In the case of Zimbabwe had South Africa’s Thabo Mbeki addressed the situation firmly and early, perhaps there would not be the deterioration that can currently be seen. The Mugabe regime would have reacted differently to the African leader, than it did with Western leaders. It becomes important for African leaders to unite and come together to help Africa move forward.

As Kaempfer, Lowenberg (1986) had stated in their research on South Africa, Western influence did play a significant role, by removing lines of credit to Zimbabwe the impact on the export performance has been very significant. However, it is important to note that the West suspended the lines of credit to Zimbabwe due to the loss of rule of law and basic human rights. The controversial land redistribution program was at the center of the suspension.

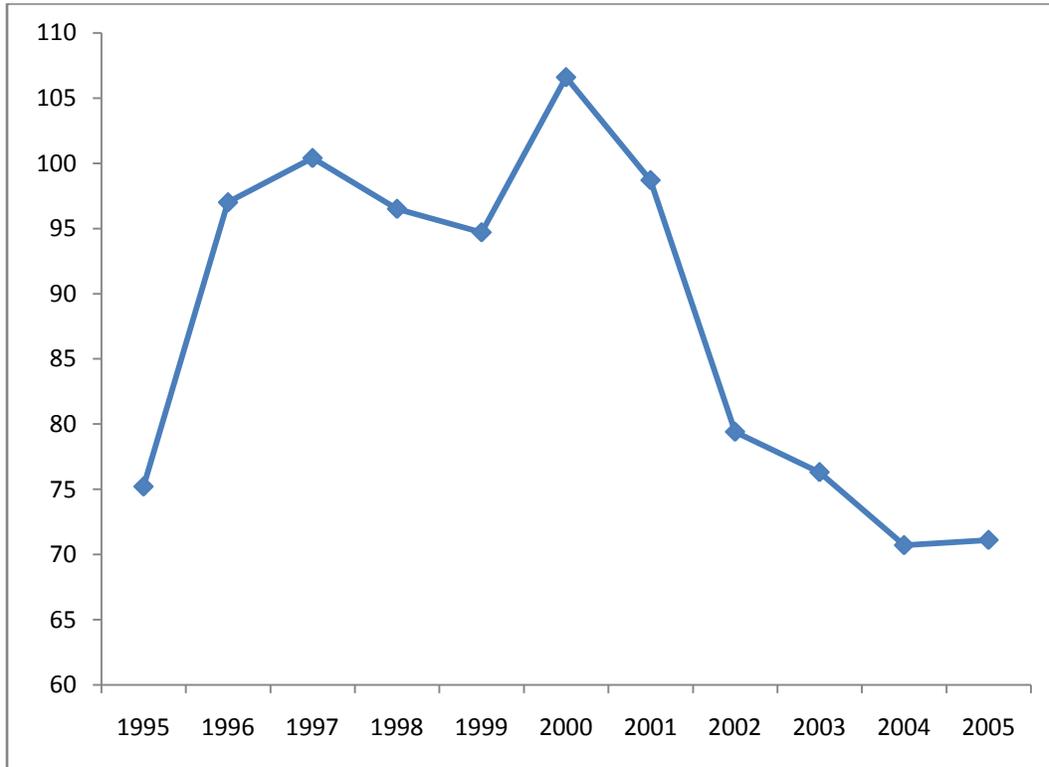
Future analysis could specifically estimate the effects of the variables individual industries in Zimbabwe, mainly the agricultural, mining, manufacturing and tourism to see how the estimations would vary for the different industries. It is however important to note the extent of the difficulty in obtaining data for Zimbabwe, since the Mugabe regime has withdrawn from the Common Wealth and become more isolated it is difficult to find accurate and consistent data. In addition institutional variables for corruption and bad governance could be extended and used in cross country analysis to see how such variables have impacted the different regions and countries in Africa. Nigeria is a good example, a country rich with oil and other natural resources, analysis could be used to measure the effect of governance factors on its growth. Another example would be the democratic republic of Congo, a country full of priceless resources but plagued by war, miss management and bad governance. Such analysis could be important as it could bring to light policies to alleviate poverty in Africa.

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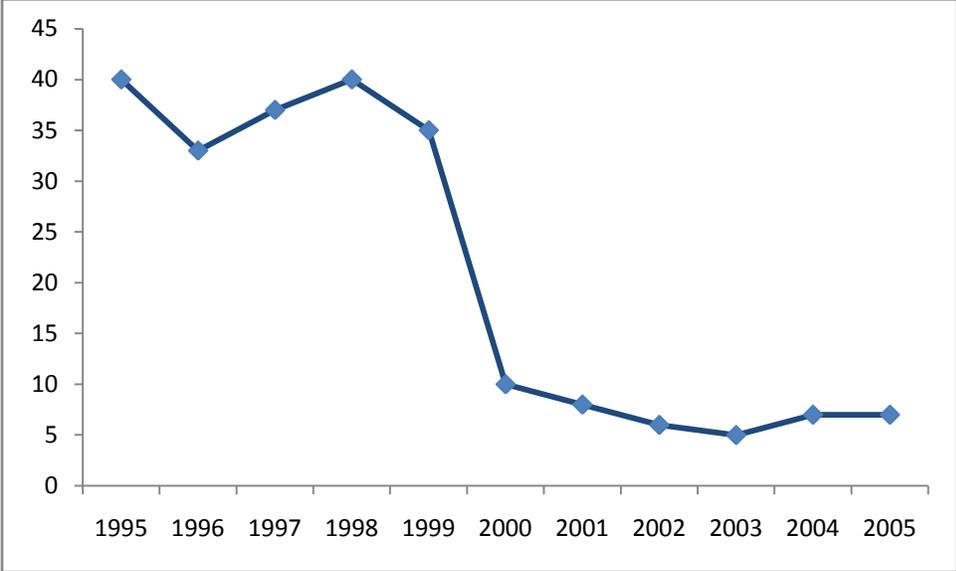
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Appendix 1

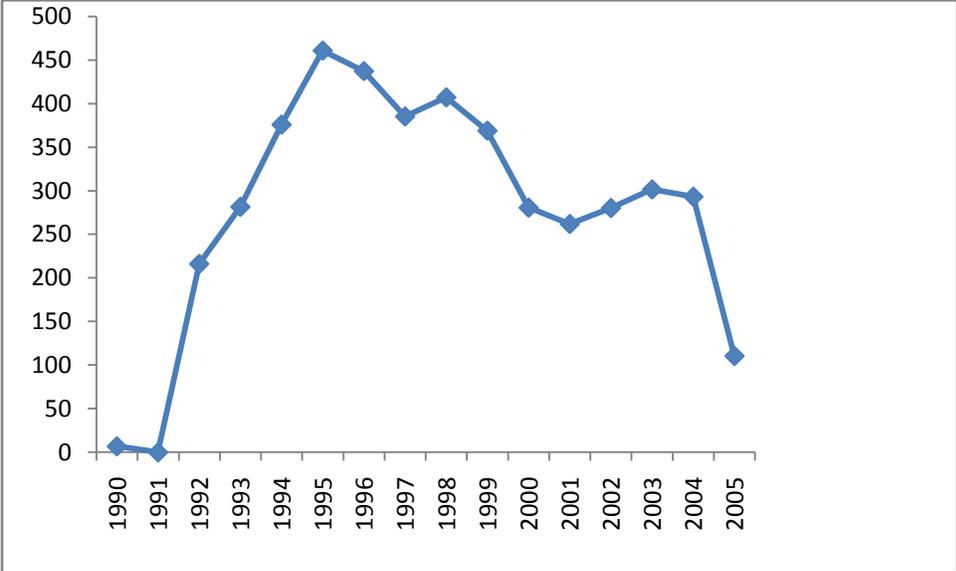
Zimbabwe's Agricultural Production Index: 1995 - 2005



Zimbabwe: Percentile Rank ~ Rule of Law (0-100)



Lines of Credit from I.M.F. to Zimbabwe in Millions of U.S. \$: 1990 - 2005



Appendix 2

Description of Data and Sources

Variable	Source
<u>Exports</u>	International Monetary Fund -Direction of Trade Statistics
<u>pcGDP</u>	http://unstats.un.org/unsd/cdb/cdb_series_xrxx.asp?series_code=19510
<u>Credit</u>	http://unstats.un.org/unsd/cdb/cdb_series_xrxx.asp?series_code=5990
<u>Rule Law</u>	http://info.worldbank.org/governance/wgi/sc_country.asp
<u>Rain</u>	Zimbabwe Department of Meteorology

End Notes:

ⁱ <http://news.sky.com/skynews/article/0,,91289-1310820,00.html> - date accessed April 19 - 2008

ⁱⁱ <http://news.sky.com/skynews/article/0,,30200-1311640,00.html> - data accessed April 19 - 2008.

ⁱⁱⁱ info.worldbank.org/etools/tradeindicators/CountryReports/report209.pdf - date accessed April 19 2008 - page 2

^{iv} United Nations Statistical Division Common Data Base: Country Zimbabwe : Agricultural Production Index

^v Todd Moss, “Zimbabwe’s Melt down: Anatomy of a Peace Time Economic Collapse”, (The Fletcher Forum of World Affairs) 2007