

[Field Research]

# Exchange Rate Volatility: Empirical Evidence from Somalia in 2010

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## Abstract

**Purpose** - The objective of this study was to examine the volatility of the exchange rate of the Somali shilling (SoSh) during 2010, especially the exchange rate between the Somali shilling and US dollar.

**Research design, data, and methodology** - The study employed a quantitative research design; the data was analyzed using content analysis for the data pertaining to the exchange rate between the US dollar and Somali Shilling in 2010.

**Results** - The main findings were that the exchange rate was very volatile during 2010 because of three sources: (1) Imbalance of demand and supply in the money market, (2) People adopting the US dollar as the medium of exchange for goods and services, thereby reducing the circulation of the SoSh, and (3) Lack of a strong central bank.

**Conclusions** - The study suggested three possible remedies: the establishment of an effective central bank that matches the demand and supply of the currencies, adoption of the Somali shilling as the official currency base for the prices of commodities, and minimizing the imports into the country and maximizing its exports, to support the strengthening of the Somali shilling.

**Keywords:** Exchange Rate, Somali Shilling, US dollar, Mogadishu, Somalia.

**JEL Classifications:** G12, F00.

## 1. Introduction

Exchange rate volatility is defined as the risk associated with unexpected movements in the exchange rate (Zozturk, 2006). This definition is adopted as the definition of the exchange rate volatility because it provides a concise and precise concept.

Economic fundamentals such as the inflation rate, interest

rate and the balance of payments, which have become more volatile in the 1980s and early 1990s, by themselves, are sources of exchange rate volatility. More recently, increase in cross-border flows that have been facilitated by the trend towards liberalization of the capital account, the advancement in technology, and currency speculation have also caused exchange rate to fluctuate (Hook and Boon, 2000).

The high degree of volatility and uncertainty of exchange rate movements since the beginning of the generalized floating in 1973 have led policy makers and researchers to investigate the nature and extent of the impact of such movements on the volume of trade. Since the breakdown of the Bretton Woods system of fixed exchange rates, both real and nominal exchange rates have fluctuated widely (Zozturk, 2006).

In Somalia hundreds of vendors deal in currency transactions, setting daily the exchange rate on the basis of localized contingent factors. Remittances have constituted the major source of foreign exchange earnings for the last ten years. The flow of remittances to and from abroad therefore significantly affects the exchange rate in Somalia. The regular or monthly flow of remittance to provide support for family members affects the fluctuation of the exchange rate incrementally (Omer, 2002).

The value of the Somali shilling before the collapse of Somali central government in 1991 seemed stronger because of the administration that being interfered the exchange market. Fixed exchange rate was adapted during that period, and the government has the power to balance the market using physical policy (Leeson, 2007).

The Somali Shilling was the official currency of pre-1991 Somalia. Post-1991 there was no government to mandate its usage; however the Somali Shilling continued to trade on the market. Today the Somali Shilling, along with the US\$, is the basis of Somalia's private monetary system. There is no central bank or treasury in Somalia which matches the demand and the supply of the local and foreign currencies that cause private parts to print new currencies which in turn accelerates the volatility of the exchange rate especially the exchange rate between the US dollar and Somali Shillings (Ibid).

With regard to that statement mentioned above this paper attempts to examine the exchange rate impulsiveness of Somalia, especially 2010 and the possible remedies of Somali exchange rate volatility.

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After the study present the volatility made by the exchange rate, it will be easier to compare different years, especially longitudinal studies. Likewise the society will understand how the exchange rate changed during 2010 to at least use when predicting the same king of year because some Academician belief that history repeats by itself. Lastly other studies could be used as a reference for their studies.

## 2. Literature Review

Over the last two decades many developing countries have undergone economic reforms, including trade liberalizations that have lowered tariff and non-tariff barriers. At the same time, these countries have continued to experience significant macro-economic shocks, including exchange rate crises, sudden stops in capital inflows and foreign debt defaults (Fuentes and Ibararán, 2009).

### 2.1. The importance of exchange rate

The exchange rate is simply the price of one country's currency expressed in another country's currency. In other words, the rate at which one currency can be exchanged for another. For example, the exchange rate between the U.S. dollar and Somali Shilling is US\$1 = 18,000 SoSh, the rate at which you could exchange (sell) your dollars for Somali Shilling is 1:18,000 (i.e., for each dollar you exchange, you receive 18,000 SoSh). Likewise the exchange rate between the dollar and the euro is US\$1 = 0.75 euro (i.e., for each dollar you exchange, you receive 0.75 euro). It should be noted that these exchange rates change on a daily basis; therefore, the rates used here are only for illustrative purposes (Evans, 2012).

The exchange rate is important because it allows for the conversion of one country's currency into that of another, thereby facilitating international trade for purchases of goods and services and/or transfer of funds between countries and it allows price comparison of similar goods in different countries. In general, the price difference between similar goods determines which goods are traded and where they are shipped or sourced. Hence, the exchange rate is a significant factor influencing the competitiveness of agricultural commodities and the profitability of farming enterprises (Ibid).

### 2.2. The effect of the exchange rate volatility on the trade

The volatility of exchange rates is the source of exchange rates risk and has certain implications on the volume of international trade, consequently on the balance of payments. Theoretical analyses of the relationship between higher exchange-rate volatility and international trade transactions have been conducted by Hooper and Kohlhagen (1978) and some other economists. The argument is as follows: Higher ex-

change-rate volatility leads to higher cost for risk-averse traders and to less foreign trade. This is because the exchange rate is agreed on at the time of the trade contract, but payment is not made until the future delivery actually takes place.

If changes in exchange rates become unpredictable, this creates uncertainty about the profits to be made and, hence, reduces the benefits of international trade. Exchange-rate risk for the all country is generally not hedged because forward markets are not accessible to all traders. Even if hedging in the forward markets were possible, there are limitations and costs. For example, the size of the contracts is generally large, the maturity is relatively short, and it is difficult to plan the magnitude and timing of all international transactions to take (Zozturk, 2006).

Advantage of the forward markets on the other hand, recent theoretical developments suggest that there are situations in which the volatility of exchange rates could be expected to have either negative or positive effects on trade volume. De Grauwe (1988) stressed that the dominance of income effects over substitution effects can lead to a positive relationship between trade and exchange-rate volatility. This is because, if exporters are sufficiently risk averse, an increase in exchange-rate volatility raises the expected marginal utility of export revenue and therefore induces them to increase exports. De Grauwe(1988) suggested that the effects of exchange-rate uncertainty on exports should depend on the degree of risk aversion. Recently, theoretical models of hysteresis in international trade haveshown that increased uncertainty from high volatility in exchange rates can also influence foreign trade, in particular if significant sunk costs are involved in international transactions. It is difficult, however, to identify how trade will be affected (Ibid).

### 2.3. The Impact of exchange rate volatility on Somali remittance companies

Somali remittance operations and money exchangers have sprung up both at home and abroad. In Somalia hundreds of vendors deal in currency transactions, setting daily the exchange rate on the basis of localized contingent factors. Remittances have constituted the major source of foreign exchange earnings for the last ten years. The flow of remittances to and from abroad therefore significantly affects the exchange rate in Somalia (Abdisalan, 2002).

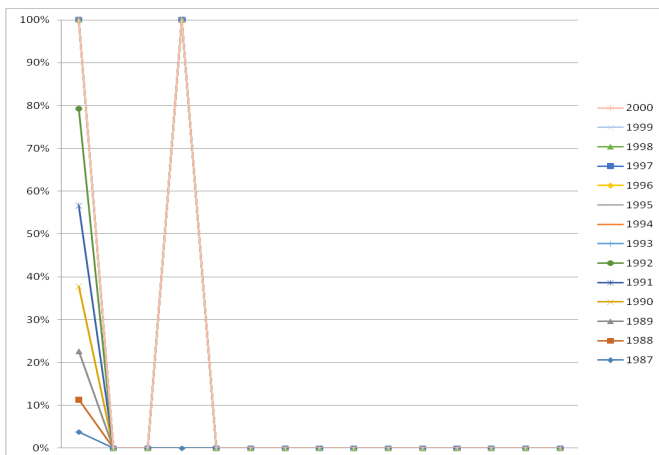
The regular or monthly flow of remittance to provide support for family members affects the fluctuation of the exchange rate incrementally. However, the exchange rate is most commonly influenced by the large remittances intended for trade, businesses and investment (Ibid)

Since the foreign exchange rate in Somalia is market driven, a greater inflow of remittances lowers the exchange rate, while a lesser inflow causes it to rise. At present there are at least three foreign exchange regimes in Somalia corresponding to different administrations and locations. The three principal currency markets are Bakaraha in Mogadishu, Hargeisa in Somaliland, and Bosasso in Puntland. The Bakaraha exchange rate is the

pace setter rate that influences the other regional rates, although in Somaliland the authorities regulate the foreign exchange market to some degree (Ibid).

## 2.4. Comparison of exchange rate volatility in Somalia from 1986 up to 2000

The SoSh was the official currency of pre-1991 Somalia. Post-1991 there was no government to mandate its usage; however the SoSh continued to trade on the world market. Today the SoSh, along with the US\$, is the basis of Somalia's private monetary system. There is no central bank or treasury in Somalia. This means that primarily old notes circulate, though in some cases discussed below private parties have printed new currency, adding to the Supply.



Source: (Leeson, 2007) cited in little (2003).

<Figure 1> Comparison of exchange rate volatility in Somalia from 1986 up to 2000

The first dashed line in 1991 indicates the emergence of anarchy. Under Barre's predatory regime the exchange rate soared. Steep depreciation drove the SoSh from SoSh 110 per \$1 in 1986 to SoSh 5700 per \$1 by 1991. Following the coup the exchange rate fell precipitously to SoSh 4200/US\$ despite the fact that Somalia was in the throes of civil war. Under statelessness, the SoSh has shown significantly greater stability. It lost significant value against the dollar twice during this period—first around 1996, and then after March of 1999. These dates, indicated by the second and third dashed lines, mark two monetary increases.

The first was instigated by the Mogadishu-based warlord, Hussein Aideed, who imported new shillings he had printed abroad to fund his faction's activities. The second was instigated by the fledgling Transitional National Government in the spring of 1999. In an attempt to establish the TNG as a formal authority, its supporters imported SoSh 30 billion they had printed in Canada. Since 2000, TNG supporters have further added to Somalia's money supply leading to additional depreciation

against the dollar. Nevertheless, the average annual rate of depreciation under anarchy is still only a fraction of its size under government. In just the last four years under government (1986–1990), average annual depreciation of the SoSh was nearly 120 percent. In the first nine years of statelessness (1991–2000), average annual depreciation of the SoSh was just over six percent. The 2000 monetary injection of TNG supporters boosted the 1991–2001 average to around 14.7 percent, and more recent injections promise to depreciate the currency further.

Still, money appears to be more stable under Somali anarchy than it was under the last years of government. The SoSh's improved stability is also reflected by the fact that, at least until several years ago, in parts of neighboring Ethiopia the SoSh was used more extensively than Ethiopia's own currency (Little, 2003, p. 144). In fact, prior to the large monetary injections in Somalia in March of 1999 and then in 2000, the SoSh showed greater stability than the national currencies of both Ethiopia and Kenya. From 1996 to February 1999 the SoSh depreciated against the US\$ only 12.14 percent. Between 1996 and 1999 the Kenyan shilling lost 32.55 percent against the US\$ and the Ethiopian birr depreciated against the dollar 26.58 percent (Leeson, 2007).

## 2.5. The effect of Somali piracy on the exchange rate

The Somali Shilling is neither backed by a government, nor is there any monetary authority. Many transactions are conducted in US\$, but the Somali Shilling continues to circulate and is used in transactions locally. It appears to be simply upheld by "common assent" and remittances from abroad. We evaluate the effect of piracy on the average exchange rate across markets to examine the macro-economic effects of the development of a new industry generating foreign exchange. We compare the effects of piracy on the exchange rate to other export sectors to gauge how much of the ransom payments find their way into local currency transactions. Because the exchange rate is trending upwards we analyze the percentage depreciation in the month-on-month SSh / US\$ rate. Hook, (2011) indicate that piracy works exactly in the same way as the cattle export sector by supplying additional US\$, raising the price of the Somali Shilling. However, it seems to take some time (5 months) before successful hijackings translate into increased demand for Somali shillings. Given that ransom negotiations generally take between 2-4 months, this suggests that pirates conduct their transactions in a parallel US\$ economy.<sup>48</sup> The effects of piracy on the exchange rate are only in the second round of spending as those paid by pirates in US\$ exchange this into local currency. About 35% Appreciation of the Somali shillings was attributed to Somali piracy in 2010 only (Hook, 2011).<sup>1</sup>

### 3. Data and Methodology

#### 3.1. Data Description

A daily exchange rate between US dollar and Somali Shillings is utilized in the analysis of the subject under study. The data used in this analysis starts from January, 2010 up to December, 2010. Because 2010 the exchange rate volatility reached the highest point for ever and the depreciation of Somali shilling led the old Somali shilling to be refused to buy goods or somewhere in the market the rough money has been exchanged less than 50% of its value, later on, society uprising an Islamist group ALSHABAB interference of the market forced business people to accept the rough or old Somali shilling at the end of the 2010.

#### 3.2. Methodology

Quantitative research was used to present the data. Quantitative research design is predominantly used as a synonym for any data collection technique such as questionnaire or any data analysis procedure such as graphs or statistics that generates or uses mathematical data (Sounders et al., 2008).

Content analysis utilized to analyze the data. Content analysis is a research method used data and interpreting documents graphs or images that have been collected for other purpose as a secondary source Hook (2011). The data of daily exchange rate between US dollar and Somali Shillings in 2010 is demonstrated below.

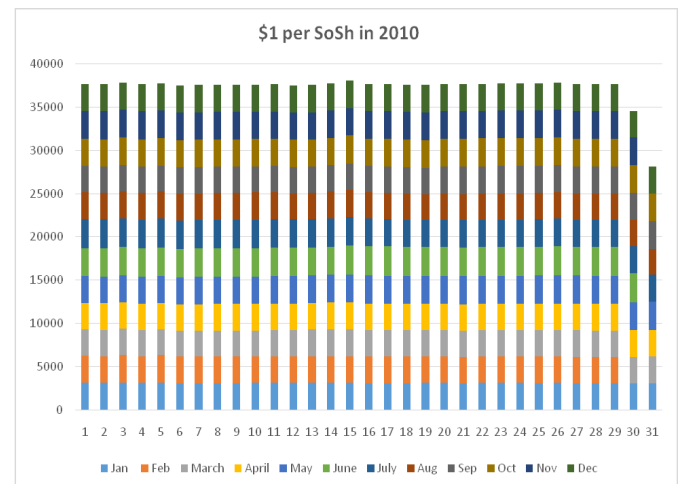
### 4. Results

As portrayed above the exchange rate fluctuates over time because of the market factors namely supply and demand, although the exchange rate of the Somali is nothing to do with the government, its price determined by some individuals or some time the market factors. On 17th June 2010 the exchange rate between the US dollar and Somali Shilling reached the highest price that was attributable to the depreciation of the Somali Shilling or the appreciation of the US dollar.

On January, 2010 seemed the exchange rate to increase or decrease smoothly by no more than 2% increase or decrease each day 1\$ was exchanged at that time an average 30,000 SoSh. But on February, 2010 the exchange rate made slightly sharp compared to January it reached an average of SoSh/\$ 31,000. But on March, 2010 Somali Shilling appreciated against the US dollar and the price down in SoSh/\$ 30,000 average.

April, 2010 the exchange rate made no considerable increase or decrease, but May, 2010 jumped an average of SoSh/\$ 32,000 that is 6.67% depreciation of the Somali Shilling and same percentage of appreciation of the US dollar. On June,

2010 the depreciation of the Somali shilling continued and the exchange rate between the US dollar and Somali Shilling reached the highest price during that year as can be seen in the pink line of the above graph during June. The price of 1\$ was an average of 33,000 SoSh this indicates 3.125% above the price of the May, 2010 that means the exchange rate increase 9.80% within two months.



<Figure 2> Exchange rate volatility: ShSh/US dollar in 2010

At the beginning of July, 2010 the exchange rate between the US dollar and SoSh was indifferent but at the end of the July there was a somewhat decrease of the exchange rate. But at the beginning of August the Somali Shilling appreciated against the US dollar and the price of 1\$ decreased in to an average of 31,000 SoSh which means 6% decrease of the US dollar price according to June and July, 2010.

September, 2010 the depreciation of the US dollar against the Somali Shilling continued and the price of 1\$ became an average of 30,000 SoSh, that means 3.2% father decrease of the exchange rate. In October, 2010 the was in different according to September and the exchange rate between the US dollar and Somali Shilling remained unchanged and it was an average of SoSh/\$ 30, 000.

As the above graph indicates during November the price of the US appreciated against the Somali Shilling and went as the price of August, 2010 which was SoSh/\$ 31,000, that means an average increase of 3.33%. At the end of the year December, 2010 the exchange rate between the US dollar and Somali Shilling mad no considerable change and remained an average of SoSh/\$ 31,000.

As the above graph indicates the Somali exchange rate is unstable and unpredictable. And the exchange rate of 2010 or the other is unstable; this requires father research to indicate factors that contributes the volatility of the exchange rate or the determinant of the exchange rate.

## 5. Conclusion

The exchange rate volatility of Somalia is high, this study especially focus on 2010. This year exchange rate volatility reached the highest point for ever and the depreciation of Somali shilling led the old Somali shilling to be refused to buy goods or somewhere in the market the rough money has been exchanged less than 50% of its value, until the end of 2010 the volatility of exchange rate between the US dollar and Somali shilling continued and all goods doubled their prices, till an Islamism militant ALSHABAB who was controlled the largest market of Somali (Bakoro market) interfered the marked and imposed fixed exchange rules.

## 6. Recommendations

- Effective central bank that matches the demands and the supply of the currencies.
- Adoption of the Somali shilling as official currency base for the prices of the commodities.
- Minimizing the import of the county and maximizing its export the support the strengthening of the Somali Shilling.

## 7. Limitations

The followings are the main limitations

- The first limitation is that study used secondary data only for the data analysis (secondary data is primary data that was collected by someone else or for a purpose other than the current one (Steve, 2004)).

- The study presents the volatility made by the exchange rate during one year only.

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