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THE VIABILITY OF THE INTRODUCTION OF SPAHN TAX IN SOUTH AFRICA

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ABSTRACT

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With respect to foreign currency exchange markets, most governments would favour a stable exchange rate over a volatile exchange rate. This is also true for South Africa where volatile movements in the South African Rand pose challenges to industries, businesses and Government alike. There are a multitude of factors that affect the volatility of the South African Rand. These factors are difficult to identify, manage individually and measure. There are several tools that are available to manipulate and control foreign exchange rates in an attempt to reduce volatility; one such tool is the currency transaction tax. Spahn tax is one such form of currency transaction tax. The precursor to Spahn tax is Tobin tax. As a result of many criticisms levelled against Tobin tax, Spahn expanded on this original idea and made a few modifications to address some of the concerns. Spahn focused on creating a two-tier tax base where transactions falling within a normal and reasonable trading range would be taxed at a nominal amount and transactions that fall outside of the band would be taxed at a higher punitive rate. The trading band, or range, would be adjustable though market dynamics on a daily basis using a moving average. No country has implemented Spahn tax yet. The implementation of such a tax would have strong revenue-generating potential. A modification of such a tax with only a punitive rate and a wide trading band could be considered for South Africa. However, in being prudent South Africa does not appear to be in a position to be the first country to implement Spahn tax. There are too many market risks associated with the introduction Spahn tax that cannot be ignored.

KEY WORDS:

Spahn Tax	Foreign Currency Volatility	Tobin Tax
South African Rand	Foreign Currency Exchange	

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Wat buitelandse valutamarkte betref, verkies meeste regerings 'n stabiele wisselkoers bo 'n volatiele wisselkoers. Dit is ook die geval in Suid-Afrika waar fluktuerende bewegings in die Suid-Afrikaanse Rand dieselfde uitdagings vir nywerhede, besighede en die regering inhou. Daar is 'n menigte faktore wat die volaliteit van die Suid-Afrikaanse Rand beïnvloed. Hierdie faktore is moeilik om te indentifiseer, afsonderlik te bestuur en te meet. Veskeie tipes gereedskap is beskikbaar om buitelandse wisselkoerse te manipuleer en te beheer in 'n poging om dit te verminder; een stuk gereedskap is die valutatransaksiebelasting. Spahn-belasting is een tipe valutatransaksiebelasting. Die voorganger van Spahn-belasting is Tobin-belasting. As gevolg van die groot mate van kritiek wat teenoor die Tobin-belasting gerig is, het Spahn die oorspronklike idee uitgebrei en 'n aantaal aanpassings gemaak ten einde sekere van die voorbehoude uit die weg te ruim. Spahn het sy aandag gespits op die stigting van 'n dubbelvlak belastingbasis waar transaksies wat binne 'n normale en redelike handelreeks val, teen 'n nominale bedrag belas sal word en dat transaksies wat buite dié reeks val, teen 'n hoër bestraffende koers belas sal word. Die handelreeks sal deur markdinamika op 'n daaglikse basis aanpasbaar gemaak word deur middel van 'n bewegende gemiddelde. Tot dusver het nog geen land die Spahn-belasting geïmplementeer nie. Die implementering van so 'n belasting het groot potensiaal om inkomste te genereer. 'n Aanpassing van so 'n belasting met slegs 'n bestraffende koers en 'n breë handelsreeks kan ten opsigte van Suid-Afrika in aanmerking geneem word. As omsigtigheid aan die dag gelê word, blyk dit egter dat Suid-Afrika nie in 'n posisie is om die eerste land te wees om Spahn-belasting te implementer nie. Die aantaal markrisiko's betrokke by die invoering van Spahn-belasting kan nie geïgnoreer word nie.

Sleutelwoorde:

Spahn-belasting	Buitelandse valutavolaliteit	Tobin-belasting
Suid-Afrikaanse Rand	Buitelandse valuta	

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

James Tobin (1974), a Nobel Laureate, proposed a financial transaction tax that would be a tax on all currency transactions. The purpose of the tax was an attempt to limit the volatility of foreign currency exchange rates. His proposal came shortly after the collapse of the Bretton Woods monetary management system in 1971 which obliged countries to link their currency to the United States Dollar (USD) (Eichengreen, 2004:7–20).

Tobin (1978) suggested a currency transaction tax whereby each transaction on converting one currency into another would carry an additional cost. This form of currency transaction tax would cushion the large and volatile exchange rate swings that posed a great deal of risk to the economies of the world. These risks would include the threat of economic instability.

Without the majority of the currencies in the world being backed by any promise of convertibility into a hard physical assets and being backed only by a government's promise to pay, this resulted in a high degree of volatility in exchange rates.

According to Spahn (1995:6–17) the Tobin tax would not be appropriate to curb volatility in exchange rates as it would impair financial operations, create liquidity problems and would be unlikely to deter speculation.

Spahn (1995) proposed an alternative whereby currency transaction exchanges would be taxed at a two-tier rate. One rate for transactions deemed to be speculative attacks and another for vanilla exchanges.

The proposed Spahn tax is meant to have a soothing effect on the noise created by speculators in the present day foreign exchange rate markets. This type of tax would be a softer approach to limiting speculative attacks rather than implementing a hard approach of outlawing speculation in foreign currency.

1.2   PROBLEM STATEMENT

Even though there are several arguments to support a Spahn tax, this tax has not been implemented in any country. Arguments supporting the taxation have been focused around limiting speculative attacks on foreign currency markets by using the tax as a punitive measure, driving profitability out of the foreign exchange (FX) markets especially for speculators. It is difficult to measure whether the objective of the tax will be achieved or whether the speculative traders will still manage to cause high levels of volatility in the markets albeit forsaking some profit.

In 2012 high levels of volatility were seen in the South African Rand (ZAR) (Fin24, 2012a). The South African Reserve Bank (SARB) does not appear to have enough firepower and foreign reserves to quell any volatile speculative uprising.

The main question is, would the introduction of a Spahn tax in South Africa add another effective arrow in the quiver of the South African Government's arsenal that will allow it to fight off currency attacks on the ZAR and in order to cushion the volatility of the ZAR? SARB governor, Gill Marcus, has said that it is costly to fight the volatility of the ZAR through direct intervention (Fin24, 2012b).

Would such a currency transaction tax charge even be viable, especially considering the fact that there is no country in the world that has implemented a Spahn tax charge to date?

1.3   PURPOSE STATEMENT

The purpose of this study is to examine the viability of introducing a form of Spahn tax in South Africa. Various qualitative factors will need to be considered and assessed in this

process and a conclusion drawn upon. The conclusion will take into account both the drawbacks and benefits of the model from a South African perspective.

The volatility of the ZAR has far-reaching consequences for both Government and companies involved in the export and import sectors.

Therefore it is worthwhile and with merit to investigate and evaluate means and methods, whether hard or soft, of limiting and curbing the volatility of the ZAR.

1.4   RESEARCH OBJECTIVES

The study will be guided by the following specific research objectives

- To evaluate the factors influencing the volatility of the ZAR.

- To investigate the benefits and drawbacks of the qualitative characteristics of Spahn tax from a South African perspective.

- To assess whether Spahn tax could stabilise the volatility of the ZAR.

- To evaluate the possible tax revenue that could be generated from Spahn tax.

1.5   DESCRIPTION OF INQUIRY STRATEGY AND BROAD RESEARCH DESIGN

Due to the fact that no country in the world has implemented Spahn tax, or an equivalent thereof, it will not be possible to study the quantitative effect that the tax will have on the volatility of exchange rates.

As such Spahn tax is presently only a theoretical tax. There is very little information available as to how exactly in quantitative terms the markets will react to such a tax and this would be very difficult to predict. In order to assess the viability of implementing Spahn tax in South Africa, it will be necessary to first analyse the qualitative characteristics thereof. It has been concluded that a non-empirical research methodology would be appropriate.

Mouton (2001: 175–180) identified four non-empirical research designs as conceptual analysis, theory-building studies, philosophical analysis and, literature reviews.

A combination of philosophical analysis and literature reviews will be used in the research design in order to determine whether Spahn tax would reduce volatility in the exchange rate of the ZAR.

Negative impacts on the economy would also need to be considered. Recently some interesting discussions have taken place over the currency transaction tax in the wake of the financial crisis. However, the concept of currency transaction taxes was also considered lately, even before the outbreak of the financial crisis (Nerudová, 2011:3).

After reviewing the most recent literature on the subject, a discussion about the positive and negative attributes of the Spahn tax from a South African context will be presented.

Based on the findings and conclusions of the discussion a conclusion will be reached as to the viability of the implementation of such a tax in South Africa based on the inherent qualities of the tax alone.

The potential tax revenue will also be calculated by estimating the value of ZAR FX transactions for a year multiplied by the proposed tax rate documented by Spahn. Even though the main reason for the tax is to be punitive in nature in order to discourage speculation, there will be an inherent spin off in terms of tax revenue.

The possibility of ring-fencing these tax proceeds to be used in fighting volatility directly in the FX markets will also be considered based upon the results of the non-empirical study.

1.6   DEFINITION OF KEY TERMS

This study involves a number of key concepts, namely, currency transactions tax, financial transactions tax, Spahn tax and Tobin tax. The manner in which these key terms are defined for the purpose of this study is considered below.

Currency transactions tax: A proportional or percentage tax on individual foreign exchange transactions, assessed on dealers in the foreign exchange market and collected by financial clearing or settlement systems (Schmidt, 2008:1).

Fiat money: Paper money or coins of little or no intrinsic value in themselves and not convertible into gold or silver, but made legal tender by fiat (order) of the government (Financial Times, 2012).

Financial transactions tax: A financial transaction tax is a tax placed on a specific type of financial transaction for a specific purpose. This term has been commonly associated with the financial sector, as opposed to consumption taxes paid by consumers (Capital Account, 2011).

Spahn tax: A low-rate financial transactions tax. It has a two-tier rate structure. Spahn tax is levied on currency transactions. The concept of Spahn tax was developed by Paul Bernard Spahn in 1995. It is developed and used for the purpose of controlling exchange rate volatility. Spahn tax was evolved as an alternative to Tobin tax (US Legal, 2012).

Tobin tax: A means of taxing spot currency conversions that was originally suggested by American economist James Tobin. The Tobin tax was developed with the intention of penalizing short-term currency speculation, and to place a tax on all spot conversions of currency. Rather than a consumption tax paid by consumers, the Tobin tax was meant to apply to financial sector participants as a means of controlling the stability of a given country's currency (Investopedia, 2012).

The abbreviations used in this specific document have been summarised in Table 1 below:

Table 1:   **Abbreviations used in this document**

Abbreviation	Meaning
BIS	Bank for International Settlements
BRICS	Brazil, Russia, India, China and South Africa
CBOE	Chicago Board Options Exchange
CIA	Central Intelligence Agency

ECB	European Central Bank
EMU	Economic and Monetary Union
EU	European Union
EUR	Euro
EVZ	CBOE Euro-currency volatility index
FX	Foreign exchange
GBP	British Pound
GDP	Gross domestic product
IMF	International Monetary Fund
JSE	Johannesburg Stock Exchange
MXN	Mexican Peso
R	South African Rand currency symbol
REPO	Repurchase
SARB	South African Reserve Bank
SARS	South African Revenue Service
UK	United Kingdom
US	United States of America
USD	United States Dollar
VIX	CBOE volatility index
ZAR	South African Rand
$	United States Dollar currency symbol
€	Euro currency symbol

1.7 DELIMITATIONS

The study has several delimitations related to the context, constructs and theoretical perspectives of the study. The possible introduction of Spahn tax will be assessed only from a South African perspective.

Due to the fact that no country in the world has implemented the Spahn tax or similar form of taxation, there are no statistical data available on the impact of the introduction and execution thereof. As such only the qualitative characteristics (benefits and drawbacks) of this form of taxation will be considered in terms of reducing the volatility of the ZAR.

1.8 ASSUMPTIONS

An assumption is a condition that is taken for granted, without which the research project would be pointless (Leedy & Ormrod, 2005:5). Several basic assumptions underlie the proposed research study. As such, it is assumed that:

- Inflation will remain fairly constant in South Africa for the foreseeable future.

- The SARB will maintain the repurchase (REPO) rate at current levels.

- The basic principles of Spahn tax should remain the same, however, small adjustments can be made to suit the South African economic environment.

1.9 OVERVIEW OF THE CHAPTERS

This dissertation contains an additional five chapters following this one. In chapter two, various aspects relating to the volatility of the ZAR are addressed. Chapter three looks at the recent history of global currency markets and considers how currencies became free-floating after the collapse of the Bretton Woods monetary management system.

Chapter four delves into Tobin tax which is a precursor to Spahn tax and chapter five will address Spahn tax. Both chapters four and five will look at shortcomings and benefits of the two different types of financial transaction taxes as well as some history of the taxes.

Chapter six will conclude on the preceding chapters and tie in the research objectives to the findings.

CHAPTER 2

THE VOLATILITY OF THE SOUTH AFRICAN RAND

This chapter will address FX rate volatility, looking at some of the contributing factors and the correlation to global sentiment and volatility. The focus is then narrowed down to a South African perspective looking at the importance of having a stable ZAR, the factors influencing the stability of the ZAR and the current methods used in an attempt to stabilise the ZAR.

2.1   CURRENCY VOLATILITY ON A GLOBAL SCALE

In a free market system volatility is inherent. There are many factors that are taken into account when a willing buyer and willing seller agree on a price for which items are exchanged. Free markets are supposed to function openly on the dynamics of pricing the equilibrium of supply and demand at a given point in time.

In the FX markets of the world, the basic dynamics are no different. There are a multitude of players in the FX markets. According to the Bank for International Settlements (BIS) (2010:6) the average daily turnover in April 2010 for the FX market was $4 trillion per day.

Buyers and sellers of foreign currency are also taking into account a multitude of factors in deciding on whether to buy or sell foreign currency. These include, amongst a plethora of others

- open orders in foreign currency;
- planned foreign receipts and payments;
- yield of foreign and local government bonds;
- issuing of new foreign and local government bonds;
- planned foreign capital expenditure;
- price of commodities priced in USD;
- political instability;
- interest rates;

- market sentiment;
- market analysis;
- currency risk and volatility; and
- local and foreign inflation.

Given the seemingly endless number of variables that are factored into the FX markets on a daily basis and with volumes of roughly $4 trillion per day, there is inherently a degree of volatility that results from this. The FX markets are collectively a melting pot of voluminous variables that never reach a constant boiling point.

The Chicago Board Options Exchange (CBOE) (2012) has a number of volatility indices. According to the CBOE the volatility index (VIX) has been considered by many to be the world's premier barometer of investor sentiment and market volatility. The CBOE also has another index that measures the United States Dollar (USD) to Euro (EUR) exchange rate volatility. This is called the Euro-currency volatility index (EVZ).

According to the BIS (2010:12) the USD and the EUR are the two currencies that account for the highest value of foreign currency transactions in relation to the currency pairings.

Accordingly, in the Graph 1 the VIX index was mapped against the EVZ index in order to see if there is any correlation between global market volatility and FX currency volatility.

Graph 1:   VIX/EVZ correlation
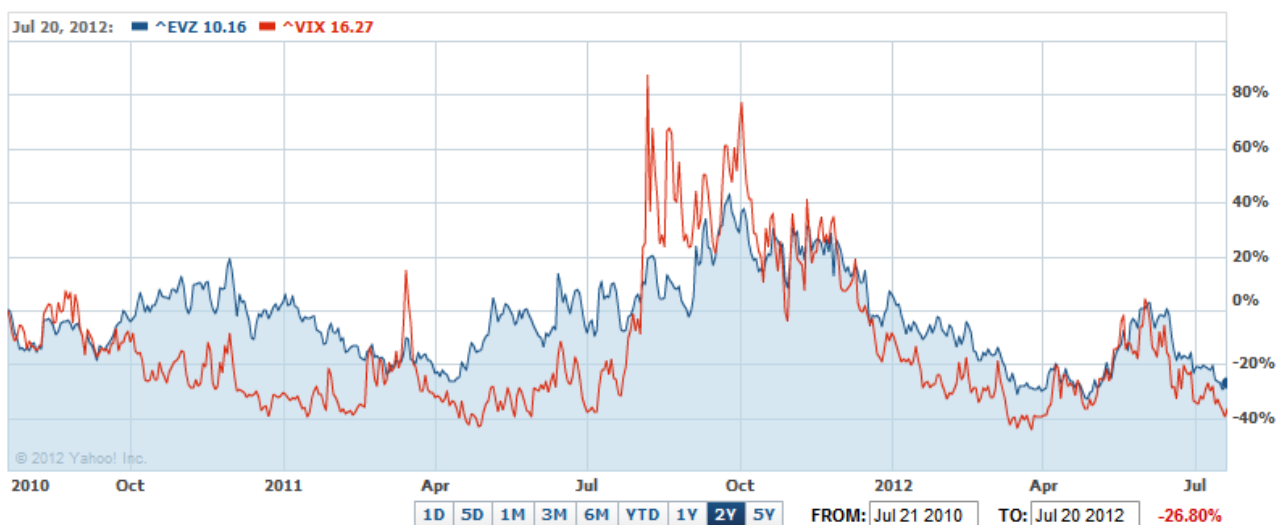
Source: Yahoo finance (2012).

From Graph 1 it is clear to see that the volatility of the bulk of the FX markets do indeed have a strong correlation to investor and market sentiment and that the markets are indeed rather volatile in a global sense.

It has been stated by both Tobin (1974) and Spahn (1995) that speculation in the FX markets is likely to increase volatility. This is elaborated upon in chapters four and five.

Very recently we have seen the massive problems that were created by speculators in the US markets in general. In 2008 speculators cashed in billions of USD in profits from credit default swaps that were triggered to pay out by the collapse of the sub-prime mortgage bond business (Lewis, 2010). The US Government had to step in and spend billions of USD of US taxpayer money in order to save the so-called "too big to fail" banks and insurance companies. Many speculators bought credit default swaps without even owning the underlying insured asset. On the other side insurance companies were selling multiple insurance contacts on the same asset (Lewis, 2010).

What happened with the sub-prime mortgage meltdown in 2008 is a good lesson to take in terms of understanding the damage and destruction that intelligent speculators, armed with large and powerful derivatives, can do.

2.2   THE IMPORTANCE OF HAVING A STABLE RAND

Being exporters and importers of goods and services, South African companies need to stay competitive in order to remain profitable and sustainable. Profitability, sustainability and growth of South African companies leads to an increase in gross domestic product (GDP), tax revenue and job creation.

In times of fluctuating exchange rates it is very difficult to remain competitive and to plan and budget in a global market where, in the case of exporters, the sales price in ZAR terms is constantly changing. This point is driven home by Derby (2011). For the

importers, their input costs are constantly changing assuming the goods are invoiced in a foreign currency.

Sekantsi (2012) concluded that the negative long-run elasticity of real exchange rate volatility implies that a rise in real exchange rate volatility has an adverse effect on exports. She concludes that detrimental effects of exchange rate volatility on exports imply that the government of South Africa has to look for intervention policies targeting minimising the excessive volatility of the ZAR.

A counterargument has been presented that states that volatility is not harmful in all cases (Organisation for Economic Co-operation and Development, 2002:191).

It is interesting to note that 60% of South Africa's exports come from the mining sector (Anon., 2011). Accordingly, South Africa is heavily dependent upon the income generated from mining activities especially gold and platinum, both of which are priced in USD while expenses are incurred in ZAR and include a high proportion of fixed salaries and wages.

Baxter (2011) outlined the following key performance statistics of the South African mining sector in 2010:

- It creates 1 million jobs, split evenly between direct and indirect jobs.

- It accounts for about 18% of GDP (8% direct, 10% indirect & induced).

- It accounts for 18% of investment (9% direct).

- It attracts significant foreign savings greater than 30% of value of the Johannesburg Stock Exchange (JSE).

- It accounts of 18.5% of corporate tax receipts.

One cannot expect the mines to pay fair wages and remain competitive in an environment of heavily fluctuating income as they will always have to build a margin of safety into their input costs. Mines have very little control over their sales price which is dictated by the global commodity markets, futures paper markets and the USD/ZAR exchange rate.

In 2001 the ZAR crashed unexpectedly and heavily from a rate of 8.01 at the start of July to over 12 to the US Dollar by December 2001. There were no radical changes in the political or economic climate and to this day there has been no conclusive evidence as to why there was this more than 50% movement in six months that led to the ZAR being one of the most undervalued currencies at the end of 2001 (Dieter, 2002:30).

The volatility of the ZAR has far-reaching consequences for both government and companies involved in the export and import sectors. Indirectly, the problems caused by these volatile exchange rate movements have the potential to affect everyone in South Africa to some degree or another. For the most part this potential effect would be negative.

2.3   THE MAIN FACTORS INFLUENCING THE VOLATILITY OF THE RAND

Dieter (2002:28–31) tried to analyse what the cause of the quick and rapid decline of the ZAR against the USD during the last half of 2001 was. He argued that even the macroeconomic data for this period did not provide even a partial explanation of the sudden devaluation. He totally agreed with Thabo Mbeki, the President of South Africa at the time, that the sudden devaluation of the ZAR had nothing to do with the strength of the economy at the time.

Dieter (2002:28–31) further argues that the South African Reserve Bank (SARB) tried to limit speculation in the markets in October 2001 and by doing so may have driven liquidity out of the FX markets which resulted in the collapse. However, at the end of the saga no one has come to a conclusive answer as to why this sudden devaluation occurred.

There are just too many factors to take into account and too many market players with different objectives in their trading strategies, if they even have a strategy, to be able to siphon out the main contributing factors.

As a result of the crash of the ZAR in 2001, the Myburgh Commission of Inquiry into the Rapid Depreciation of the Exchange Rate of the ZAR and Related Matters was set up. The final report was released in August 2002.

Bhundia and Gottschalk (2003), in a document prepared for the International Monetary Fund (IMF), summarised the findings of the Myburgh commission. According to the summary of the report the main factors contributing towards the sudden depreciation of the ZAR were:

- The slowdown in global economic activity during this time period that weakened the ZAR in at least two ways – by reduced foreign currency availability in the ZAR market and, by leading to reduced capital inflows to emerging markets, including South Africa.
- The deepening crisis in Argentina led to a rise in global risk aversion toward emerging markets, and events in Zimbabwe amplified this trend.
- The SARB policy, at that time, of non-intervention in the foreign exchange market as having contributed to the depreciation pressures by creating the impression that the ZAR was a one-way bet.

Bhundia and Gottschalk (2003) then set about trying to explain the sudden devaluation by using a framework which uses an empirical structural vector auto-regression methodology with a theoretical exchange rate model.

In their conclusion Bhundia and Gottschalk (2003) stated that the most likely source of the depreciation stemmed from market developments, but that the exact cause remains unclear.

There are some aspects of the economy which, if logic prevails, should be able to give us an indication as to which way the currency should move. One of these factors would be the settling of interest rates by the SARB. One can hypothesise that if the SARB cuts interest rates that the retail and investment banks would also need to cut their rates. This means that foreign investors would withdraw some cash to seek a better return on money market products elsewhere, especially traders using the carry trade strategy.

A carry trade strategy is where investors borrow money from a jurisdiction with low borrowing costs and invest these funds in a jurisdiction with high borrowing costs. The jurisdiction with high borrowing costs would generally also have high yields for money

market products and interest earning securities. The investors would then seek to profiteer from this interest rate arbitrage opportunity.

However, this is not pure arbitrage as there will always be the chance that the exchange rate may move against the investor. If the currency of the investment jurisdiction depreciated rapidly, the interest earned on the foreign investment may not cover the interest payment required be made on the loan in local currency after conversion. Many investors would try to hedge this risk with the use of currency derivatives, but hedging is expensive and this may wipe out the benefits of the interest rate differential.

Graph 2:   USD/ZAR 19 July 2012 FX movement
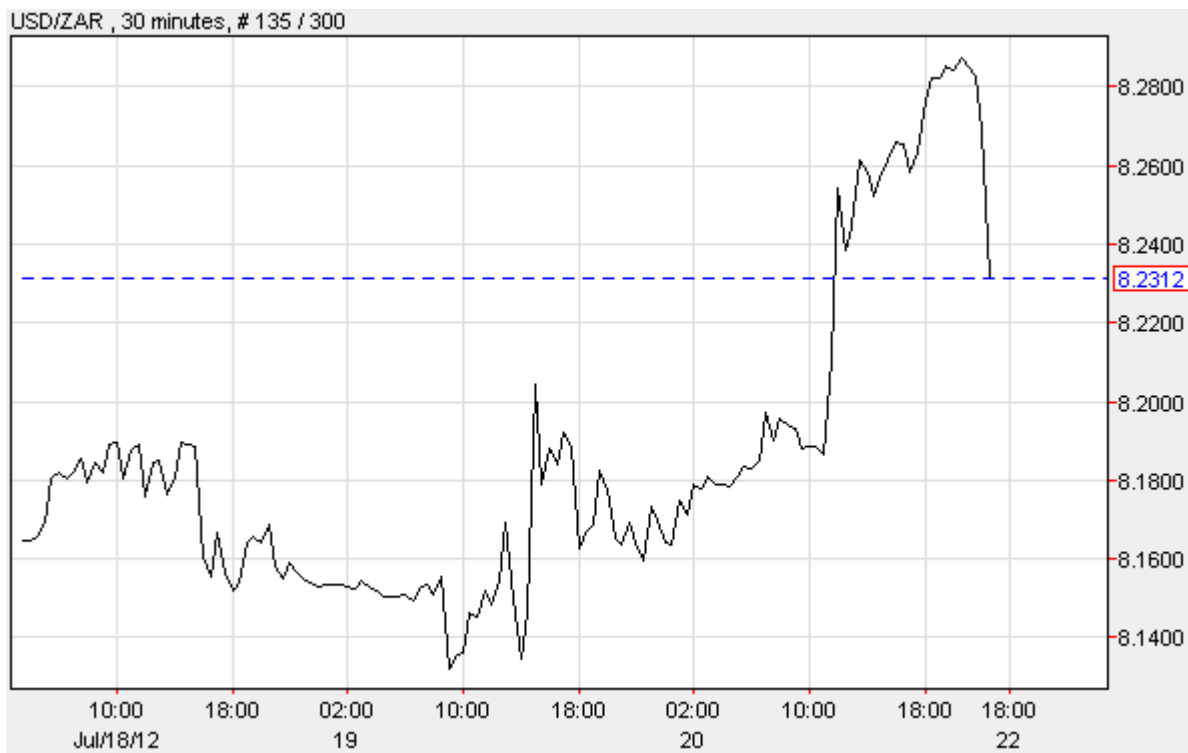
Source: DailyFX.com (2012).

One can see from Graph 2 that after the SARB took a decision to lower interest rates on 19 July 2012 there was indeed a decrease in the strength of the ZAR. This however, is a very short term movement and some of the market participants would have anticipated that this would have been the action of the SARB and as such movements for these traders would have been reflected in the rate before the announcement by the SARB.

There are many theories that attempt to explain the movements in the free market. At the end of the day if everyone were able to predict market movements with flawless accuracy then there would be almost no market to begin with.

What has been hypothesised is that a strong correlation exists between the level of market activity, measured in trading volumes, and volatility in the FX markets (Carlson & Osler, 2000:231–253). The increase in the number of trades in a market would suggest the presence of speculators in the market using techniques such as high frequency trading, wash sales and other computer-based algorithmic trading techniques.

Carlson and Osler (2000:231–253) have argued that rational speculators in the market can influence FX rate volatility in the currency markets. This was explained through the magnification influence that additional volume in the markets can have on what would otherwise be smaller movements. Speculators would not necessarily have a magnification effect on all shocks in the market and in some cases the effect may be smoothing. From the information analysed by Carlson and Osler (2000:231–253) they concluded that an increase in the activities of speculators can give rise to the increase in the volatility in FX markets. However, they stated that in times of depressed speculation that a slight increase in speculation may decrease volatility up to some point but after that "some point" volatility would then have the potential to increase.

Cheung and Wong (2000:416–418) sought to obtain the opinions of practitioners in the interbank foreign exchange markets in Singapore, Tokyo and Hong Kong. They concluded that in terms of the opinions of the practitioners that there are wide-ranging views on the impact of speculation and central bank intervention on the volatility on the FX markets. Speculation and central bank intervention are perceived to increase market volatility, however, some respondents are of the opinion that speculators in the market create liquidity and intervention by central banks promotes equilibrium.

There is little doubt that the political, economic and market psychology landscapes do indeed have an effect on global FX markets which in turn affect the value of the ZAR. Trading in the ZAR is not only limited to South African parties. In fact, in terms of speculation, it is quite possible in today's complex, global and sophisticated markets that a

United States of America (US) managed hedge fund registered in the Cayman Islands could go long on EUR/ZAR futures where net settlement takes place in British Pounds (GBP) through a German bank. This transaction would to some degree impact on the EUR/ZAR spot rate going forward, yet there is no South African party even involved in the transaction.

Graph 3:   USD/ZAR Historical spot price

Source: Yahoo finance (2012)

As shown in Graph 3 there is no doubt that the ZAR has been rather unstable during the last decade or so. Graph 3 reflects the ZAR/USD FX rate for the period 19 July 1999 to 16 July 2012. The highest point on the graph is on 17 December 2001 at 12.66 and the lowest on 27 December 2004 at 5.65.

The graph starts at a point of 6.16 in the middle of 1999. In two and a half years the value of the ZAR was halved against the USD and in only 3 years it had recovered to a healthier level. This behaviour and volatility in the exchange rate is something which no one could have predicted. From 2004 onwards the USD/ZAR rate has continued to behave erratically and with high degree of volatility and unpredictability

One can rationalise and argue that certain factors influence the value and volatility of the ZAR, but at the end of the day due to the global complexity of the FX markets it is impossible to individually isolate any one factor and measure the impact thereof. In one sense this is the beauty of the free market.

2.4 PRESENT-DAY METHODS EMPLOYED BY THE SOUTH AFRICAN RESERVE BANK TO QUELL THE VOLATILITY OF THE RAND

The SARB, which was established by an Act of Parliament in 1920 and is, surprisingly, privately owned, has been shouldered with the responsibility of maintaining stability in the economy of South Africa.

One of the primary functions of the SARB is to ensure that the inflation rate of South Africa lies between 3% and 6% (South African Reserve Bank, 2009). This is what has been determined by the SARB and Minister of Finance as being the optimal inflation range to promote stability so as to avoid boom and bust cycles and is in line with South Africa's major trading partners (Morar, 2011).

The SARB can try to manage this inflation figure by attempting to control money supply by limiting or encouraging spending through lending or credit. The SARB achieves this by assessing and adjusting the REPO rates on a quarterly basis at the Monetary Policy Committee meetings.

If inflation is seen as being too high or it is anticipated that inflation may increase rapidly in the short term then interest rates are increased in order to deter spending in the economy which should lower inflation.

The converse is also true; if inflation is too low and the economy is stagnating then the SARB will decrease interest rates in order to encourage spending and borrowing and stimulate growth.

In the US and the United Kingdom (UK) borrowing rates are at excessively low levels. In Germany negative borrowing rates have been observed in the wake of the financial crisis (NPR Berlin, 2012). This means that investors are actually paying the German government a small margin to hold their cash in safekeeping.

With interest rates being incredibly low in the US and the UK and with growth in these two countries being rather subdued at the moment due to the financial crisis, these two countries have reached a point where the central banks cannot cut interest rates any further in order to stimulate much needed growth. Where there are increasing unemployment figures and where inflation is on the rise this has commonly been referred to as stagflation. The US Federal Reserve Bank has now resorted to quantitative easing in order to address problems faced in the US economy.

As seen from the examples above, the tools available to central banks of the world to use in order to achieve their primary objectives are sometimes inadequate. The same is true for the tools available to central banks and particular the SARB in terms of stabilising the ZAR FX rate.

In an extreme example of central bank intervention, the central bank of Sweden raised its lending interest rates up to 500% in 1992 in an attempt to stem the flow of currency out of the country. Local banks were lending cash from the central bank and shorting the Swedish Krona (Redburn, 1992).

The SARB does have exchange controls at its disposal. This places limits on the amount of foreign currency that an individual living in South Africa can invest overseas in foreign currency. This seeks to limit the situation where South Africans, in the time of a crisis, may sell off liquid assets being converted into cash and invest the proceeds in another base currency offshore. This would result in a severe devaluation of the ZAR.

The foreign investment allowance for South African individuals at this stage stands at R4 million per annum. This is a rather generous allowance considering that the average GDP per capita in South Africa is only $11,000 (Central Intelligence Agency (CIA), 2012). It is highly unlikely that the restriction on foreign investment for individuals is holding back any significant sum of money that an individual would rather have offshore.

The SARB also has the ability to directly influence the markets by using some of its own foreign currency reserves to enter the market and to try and alter sentiment or to try and attempt to stop a rapid one-sided movement. If there are a large number of ZAR sellers in

the market weakening the currency then the SARB could step in and purchase some of the ZAR on sale with its own reserves of USD, GBP or EUR. The SARB could also sell off ZAR in times where the ZAR is seen as being too strong and if affecting exports.

Presently, the SARB does not have a policy of direct market intervention in order to promote stability of the ZAR, but to rather accumulate reserves (De Jager, 2012:4). However, it appears from media articles reviewed below that perceived intervention does indeed take place and does come at a heavy price.

In one such article it was reported that the SARB will continue intervention on the ZAR through the management of capital inflows through the accumulation of reserves (South African Government News Agency, 2011). This appears to be in conflict with the official policy as mentioned above.

In another instance it was reported that the SARB made a loss of $60 million due to the costs of FX market intervention from the period 1 April 2011 to 31 March 2012 (CentralBanking.com, 2012). Even despite the perceived intervention the ZAR depreciated against the USD by 15% over the same period. As a result one would have to question whether this perceived intervention can be deemed to be effective or if it is rather just a form of wasteful expenditure. One could also argue, however, that had there been no perceived intervention, that the ZAR would have depreciated even further but it is not possible to deduce with certainty.

On the other hand, these losses incurred could be seen as a result of the normal trading losses on the transactions related to the foreign reserves of the bank as the SARB does not have an official policy of direct market intervention.

Creamer (2010) reported that Trevor Manual, who was previously the Minister of Finance of South Africa and presently serves as a Minister in the Presidency, said that attempts at intervention had resulted in a costly $27 billion net open forward position, "because somebody in the Reserve Bank thought that you could peg the currency against the dollar." A net open forward position is the total risk exposure that a party has that will fluctuate in value until the position is settled or closed. The position can be settled at the

forward date or closed but by reducing the net position to zero by buying or selling opposite yet matching (in terms of absolute value and maturity) forward contracts.

Trevor Manual was also quoted by Creamer (2010) as saying that "Those who continually ask for us to peg [the ZAR] against the USD are asking us to moor our ship against a bit of floating timber."

Referring to the power to the SARB to influence the FX markets, Trevor Manual stated that: "If you don't have the firepower, then I think you whisper." He also warned of the potential expensive consequences of intervention by stating that, "[If China] loses a couple of hundred million, it's neither here nor there – it's a rounding error. A country like South Africa, to lose a few hundred million dollars is a vast number." (Creamer, 2010).

Whether intentional or not, the buying or selling or large foreign reserves by the SARB would have an impact on exchange rates even if the policy is related to accumulation of reserves.

2.5 CONCLUSION

As seen from the sections above the stability of the ZAR is very important to the economy of South Africa. There are many free market dynamics that impact on the volatility of the ZAR. The SARB does not appear to have the necessary tools available or the firepower to be able to quell the volatility on the ZAR completely in order to create stability in the ZAR FX market.

The free global FX market has been structured in such a way that there are speculators in the market. This can be argued to be a good thing as speculators should in theory create a more free and efficient market. The more players in the market, the fairer the prices should be. Speculators can also be seen as market makers, bringing liquidity into the market by being counterparties to transactions for parties that have a genuine need to transact in the FX markets.

On the other hand speculators can also be seen as potential market manipulators with a strong profit motive and a myriad of complex financial instruments at their disposal. It is plausible that these speculators can create severe volatility and instability in the markets.

There was a time, however, when currencies were not free floating and volatility was not as much of an issue as it is nowadays. That was during the days of Bretton Woods monetary management system.

CHAPTER 3

FREE FLOATING CURRENCIES

In the context of this study it is of relevance to look at the differences between a fixed rate currency system and a free floating system. In order to understand the differences between the two systems the reader needs to understand how the majority of the countries in the world have moved from a fixed rate system to a free floating system.

3.1   THE BRETTON WOODS MONETARY MANAGEMENT SYSTEM

Shortly after World War II in 1944 the Bretton Woods monetary management system was developed. The main feature of this monetary management system was that the central banks of each country who were members of the IMF and International Bank for Reconstruction and Development (now the World Bank) would have to maintain their exchange rates by tying their currencies to the USD (Eichengreen, 2004:7).

According to Eichengreen (2004:7) the USD was then convertible into gold at $35/ounce. This was a fixed rate of conversion extended only to foreign creditors and not private market participants. Countries that had adopted the Bretton Woods monetary management system were now accumulating USD to back their own currencies in circulation. There was always a concern, however, that the USD would lose value.

The majority of countries of the world were now backing their currencies with a combination of USD and gold instead of just gold. In retrospect, it was logical for many counties to follow this route as not all counties in the world were gold producers and had unproblematic access to supplies of gold. After all, the USD was easier to transport and eventually this was done electronically. In addition, these countries thought they had security in the USD based on the fact that they could always convert their USD into gold at $35/ounce and take delivery thereof.

The Nixon shock changed this situation.

3.2 THE COLLAPSE OF THE BRETTON WOODS MONETARY MANAGEMENT SYSTEM

Ultimately the Bretton Woods monetary management system started to show some chinks in its armour that ultimately led to the unwinding and failure of the system. As the US presidential race heated up in 1959, the price of gold shot up briefly to $40/ounce on the markets in London on fears that the leader in the race, J.F. Kennedy, would raise the gold price convertibility rate up from $35/ounce essentially weakening the dollar (Eichengreen, 2004).

Banks began to buy gold at $35/once and sell this gold back on the market for $40/ounce. The arbitrage of the gold price ensued and the central banks had to intervene in order to bring the market price down to below $40/ounce (Eichengreen, 2004).

As the US current account deficit and inflation grew in the 1960s the writing was on the wall and the effects of arbitrage in the market were taking their toll. A gold pool was established in 1961 where central banks sought to share the cost of maintaining the gold price.

In reality, according to Eichengreen (2004:15), most of the costs were borne by the US because other banks could always offset their sales that they had to make at below market value, but above $35/ounce, with purchases from the US at $35/ounce. In this manner they actually could profiteer by maintaining the gold price and, in effect, it was the US that could have potentially borne all of the costs.

France was the most blatant case of using this situation to its best advantage when it cashed in $884 million in exchange for gold from the US in 1965 while running a balance of payment surplus of only $619 million (Eichengreen, 2004).

Table 2, shows the gold price from 1944 to 1983. One can clearly see how the price was maintained at around $35/ounce until the wheels started coming off during the 1960s.

During the late 1960s it was costing the US a fortune to maintain the price of gold and the US was honouring large conversions of USD into gold by central banks.

Table 2:   **Average gold price each year**

Year	Gold Price	Year	Gold Price	Year	Gold Price	Year	Gold Price
1944	33.85	1954	35.04	1964	35.10	1974	154
1945	34.71	1955	35.03	1965	35.12	1975	160
1946	34.71	1956	34.99	1966	35.13	1976	125
1947	34.71	1957	34.95	1967	34.95	1977	148
1948	34.71	1958	35.10	1968	39.31	1978	193
1949	31.69	1959	35.10	1969	41.28	1979	306
1950	34.72	1960	35.27	1970	36.02	1980	615
1951	34.72	1961	35.25	1971	40.62	1981	460
1952	34.60	1962	35.23	1972	58.42	1982	376
1953	34.84	1963	35.09	1973	97.39	1983	424
Prices taken from Timothy Green's Historical Gold Price Table , London prices converted to USD/ounce							

Source: National Mining Association (2012).

The collapse began on 13 August 1971 when Britain requested gold in exchange for USD from the US. At this point, on 15 August 1971, President Nixon terminated the USD convertibility into Gold (Eichengreen, 2004). This is what is commonly known as the Nixon shock.

At that point the gold window was closed and the USD, still the reserve currency of the world, had become essentially fiat money. It was at that point in time that the majority of the currencies around the world also became free floating currencies with exposure to volatile swings in reaction to market conditions and speculation.

Below is a summary in a brief and simple manner, outlining the progression towards fiat money which in turn results in free floating currencies (Financial Times, 2012):

- Originally, money itself was a valuable object, for example gold, spices or lumber.
- Following advancements in the global economic environment, paper money and coinage were circulated. This money was backed up by holdings of gold, and indeed could be converted into gold at a fixed price at any time.

- Third, paper money circulated, but it was not backed up by anything other than the government's promise that it will refrain from printing too much money so as to make it worthless. Since Bretton Woods, almost all paper money is of this type.

3.3 FIXED FOREIGN EXCHANGE RATES COMPARED TO FREE FLOATING FOREIGN EXCHANGE RATES

Caramazza and Aziz (1998) have asserted that analysts agree that getting the exchange rate right is essential for economic growth and stability in developing countries. After the fall of Bretton Woods many countries still persisted with a fixed rate system by pegging their currencies to the USD or French Franc. This was done in an effort to promote price stability.

Under the current monetary system, if countries would like to peg their exchange rates against another currency, the central bank would have to have very strong foreign reserves. For example, if a country like South Africa would like to maintain a fixed exchange rate of R4 to $1 then in times where there are market participants who have large amounts of ZAR to sell the SARB would need to have enough USD to exchange to support the price at R4 to $1. Should the SARB run out of foreign reserves, it would then need to buy more USD in the markets with ZAR or another currency from reserves to try and support the pegged price. This can result is huge losses in times when the USD is appreciating in a global market.

Caramazza and Aziz (1998) concluded that when inflation is high, a fixed rate exchange system may be a key factor in stabilising an economy but that over the long term a move towards flexible exchange rates may be unavoidable especially in current times of global capital markets with large capital movements. These large capital movements would make it unfeasible to maintain a fixed rate of exchange.

Kenen (2000:109–113) has stated that a single country cannot fix its exchange rate without all the other countries in the world also having done the same. He stated further that a country cannot respond to global shocks in the currency markets without having a flexible exchange rate to smooth and manage these shocks.

According to Frankel (2003:61-88) preventing excessive money supply growth and inflation are the principal positive points of having a fixed exchange rate system. The negative points centre on the freedom of the central bank to manage downturns in the economy.

With a strict fixed rate in place the central bank would not be able to depreciate the currency in depressed times in an effort to mitigate some of the effects of the downturn. Furthermore, if there are fluctuations and volatility in the base currency that is used as the peg, the knock-on effect to the pegged currency would be inevitable.

For a precious metals export country like South Africa that is dependent upon the revenue generated from these mining activities, it would be favourable for the ZAR to depreciate when demand for precious metals is low in order to make foreign investment and exports of other goods cheaper and more attractive. This desired effect would be nullified if there was a fixed rate regime in place.

3.4 CONCLUSION

As demonstrated by Flood and Rose (1998:7) the USD exchange rate volatility has increased dramatically since the collapse of the Bretton Woods monetary management system.

FX volatility continues to persist in our present day environment largely due to the fact that currencies are now free-floating in a hugely complex and global market with a multitude of market participants. Besides various forms of interventions or solutions that have been proposed by several parties, the volatility in the FX markets continues to plague many countries.

Tobin tax and Spahn tax are examples of two such solutions that have been proposed, looking at creating stability through the use of a punitive deterrent tax mechanism.

CHAPTER 4

TOBIN TAX

The foundations laid by Tobin (1974) are the basis from which the currency transaction tax concept has been debated and developed. Spahn tax is a derivative of Tobin tax and, therefore, an understanding of this basis from which the currency transaction tax was developed is required.

4.1   HISTORY OF TOBIN TAX

Tobin (1974) identified a number of problems shortly after the collapse of the Bretton Woods monetary management system relating to the free floating exchange rates and the threat to a stable economic environment and the growth of economies of the world.

Firstly, Tobin (1978) identified that due to the size, mobility and sophistication of financial markets, national governments did not have the capability to respond to large movements of funds in order to stabilise exchange rates.

Secondly, speculation in the exchange rate markets created further unpredictability in the movement of exchange rates.

Thirdly, he identified that, all things being equal, the market balances of supply and demand should present a fair and stable exchange rate. However, due to the fact that labour and goods move in response to international price signals at a far slower rate in comparison to liquid funds, this creates a mismatch and the result is volatility.

The solution to quell the instability caused by these factors was to "throw some sand into the wheels" (Tobin, 1996:495) of these excessively efficient financial markets. This would be achieved by increasing the cost of short trip excursions into another currency by taxing such transactions.

Tobin (1996:496) further elaborated on how vast funds are prepared to arbitrate away differences in national interest rates and to speculate on exchange rates. Arbitrage or speculative transactions in FX are so large that even the smallest percentile movement (a fraction of a basis point) would result in massive gains with transaction costs being almost negligible in relation to the profits earned. This would, however, have an effect on the volatility of exchange rates over the long term.

Tobin (1996:496) further stated that vast intellectual and entrepreneurial resources are wasted in playing zero sum games in the financial markets. These resources could be better used elsewhere.

Tobin tax was originally conceived as an incentive/deterrent tax only but under present-day trading volumes of $470 billion, just on spot transactions, according to the Foreign Exchange Committee (2009), there would also be a serious case to generate some solid tax revenue off this tax base. Revenue from a currency transaction tax in the European time-zone at a tax rate of 0.01% would result in between 16–18 billion Euros (Wahl, 2005:21).

4.2   THE MECHANICS OF TOBIN TAX

In 1974 Tobin stated that his proposed taxation was to be an internationally uniform financial transaction tax on spot conversions from one currency to another. The tax would particularly deter short-term financial round trip transactions. For investors wishing to take advantage of short term arbitration opportunities in national interest rates on bonds would need to factor in this additional cost. The rate used as an example by Tobin (1974) was a 1% flat rate. The impact of the taxation, annualised, would be less for long-term investments than short-term speculative transactions based on the fact that it is a flat rate of taxation.

Collections of taxation would be channelled to the World Bank to fund development (Tobin, 1974).

Tobin (1996) further elaborated that such a tax should apply to retail spot, swap and forward exchange contracts and he then used an example of 0.25% per transaction resulting in an annualised rate of 1% for a 3 month round trip transaction. This would only be the case where a single leg of the transaction was taxed at the full 1%.

4.3   CRITICISMS OF TOBIN TAX

The main objective of Tobin tax would be to reduce volatility in the FX markets by discouraging speculation. However there is research, as documented below that suggests that this main objective of Tobin tax may not be achieved by the introduction thereof. The question also needs to be asked, "does the source of increased volatility indeed stem from short-term trading and speculation?"

In a study done by Aliber, Chowdhry and Yan (2002:13-14) they documented that there is in fact a positive correlation between volatility and transaction costs. Therefore the introduction of Tobin tax would drive up transaction cost and in turn, potentially, volatility.

Furthermore, it was documented by Aliber *et al.* (2002) that a negative correlation exists between the volume of transactions and transaction costs. With a decreased volume being traded this may in fact have a negative impact on liquidity and price discovery.

Aliber *et al.* (2002) concluded that their results suggest that an increase in transaction costs would decrease the volume of transactions as expected but that the increase in transactions costs may have the opposite effect of that desired in terms of volatility by implementation of Tobin tax.

Haberer (2003) looked critically at the assumptions which the advocates of Tobin tax use in the process of defending the tax. He concluded that the validity of the assumptions when put into practice, may be rather dubious. He went about assessing the following assumptions on which Tobin tax is built:

- Short-term trading is destabilising and speculative and causes the volatility to increase.

- The Tobin tax does discourage FX speculation.
- The Tobin tax causes market participants to be navigated more by macroeconomic fundamentals.

In terms of short-term trading having a destabilising effect, Haberer (2003) states that there is research that supports this assumption but there are several papers that have been written that do not support this assumption.

De Grauwe (in Haberer, 2003:13–14) analysed markets from 1973 through to 1996. He hypothesised that due to the increasing complexity of global markets and the progression towards a 24-hour day trading environment that the number of short term traders in the markets would increase. However, over this period the volatility of the markets was basically unchanged; in fact during the 1990s there was a slight decrease in the volatility for the period observed. De Grauwe (in Haberer, 2003:13–14) concluded that the assumption that short-term trades are destabilising is false.

When assessing whether Tobin tax discourages short-term speculation Lyons (in Haberer, 2003:13–14) states that because the transaction costs of market-makers (dealers) will increase with Tobin tax that there will be a higher risk to execute trades and that an increased volatility level will be the result. It would be cheaper to be a speculator in the market than it would be to be a dealer. The market-makers or dealers, on taking up a large position, would have to execute multiple transactions in order to hedge their position back to equilibrium. Therefore, Tobin tax would not deter speculation but rather increase the costs of risk-lowering hedging.

The following example demonstrates how the transaction tax would favour speculators and have a negative effect on market makers, which bring liquidity to the FX markets.

For short-term speculators they would pay, for example, only 0.5% per transaction. For a company receiving a large amount of FX from a contract, the parties in the market may need to trade portions of the FX multiple times in order to hedge their risks and reach equilibrium. For example, if a South African company receives $100 million from a

contract, the South African company would seek to hedge some of this currency risk by selling off, say, 90% of the USD received to a South African bank.

The South African bank on receipt of the $90 million would then need to sell some of this position off in order to hedge its risk and get back to a boundary of risk equilibrium. The bank may sell, say, 90% of the amount on to a UK bank. The UK bank would then also have an unbalanced position and would need to sell some of this $81 million off, say 50%, to another bank.

Thus the original single transaction would set off a chain of multiple transactions in order to allow all parties to be in balance with their risk appetites. Each of these transactions would incur a Tobin tax charge of 0.5%.

Thus, according to Lyons (in Haberer, 2003:13–14), the hedging of currency risk would be more expensive than speculation and a Tobin tax would have a greater effect or deterring the hedging of currency risk than the desired effect of deterring speculation.

In terms of trading psychology, Haberer (2003:18–21) states that there are some signals developing that indicate that the Tobin tax could move market participants to trade more on fundamentals but there are also strong counterarguments to this case.

Haberer (2003) advocates that before the Tobin tax could be considered for implementation, the root causes of instability in the FX markets should be investigated and that the effects of implementation of the tax should be fully understood and explained.

In an article published by Tobin (1996:496–498) he himself summarised the criticisms that have been levelled at Tobin tax.

Firstly, should all countries not institute this form of taxation then companies may move their trading operations to offshore tax havens. Tobin (1996:497) countered this argument by stating that the costs involved in this relocation operation and the operational costs of running the offshore centre would outweigh the benefits of the tax savings. Should such a

tax haven not institute this taxation while all other countries are required to comply with it, then they should be excluded from IMF funding.

Secondly, some are of the view that the markets generate optimal results and therefore governments and international institutions should not be meddling in their affairs. Tobin's counterargument to this is that there is already a heavy burden of regulation in the market and that the introduction of a modest tax would not have a great impact on the efficiency and effectiveness of the market but may deter short-term speculative attacks on currencies.

In the study completed by Aliber *et al.* (2002) they used a smaller transaction (tax) cost other than the one that had been proposed by Tobin (1974) and yet still concluded that the increase in transaction costs would drive up volatility.

From the research reviewed, it would appear that the two main points of criticism summarised by Tobin (1996:496–498) could hardly be described as being complete and that the desired effects on volatility and market behaviour are in question.

In looking at how the US, which is seen as a market leader by many, has reacted to Tobin tax, Schirm (2004:10) has documented that the US rejects all versions of a Tobin Tax as detrimental to growth and efficiency. With such a large economic power taking such a pessimistic view on Tobin tax, it is difficult for other counties to be contrarian to this.

Frankel, (1996:40–41), amongst others, has also cited a concern over the collectability and enforcement of the taxation. As explained earlier, the global markets are so complex nowadays that a currency could be traded between two external parties on an external trading platform. For such a transaction to be discovered by a local revenue or enforcement agency would be difficult. Such an agency may not even have jurisdiction over such a transaction to tax it in the first place.

Criticisms by bankers and banks have also been cited but this is to be expected as they would be the parties covering the payment of this tax and naturally their profitability could

be affected. These bankers also extend their arms of influence into the central banker's plans and operations (Tobin, 1996:498).

In addition Spahn (1995) had his own reservations and these are elaborated upon in chapter five.

4.4   PRAISE FOR TOBIN TAX

Frankel (1996:40–41) has concluded that he would not be willing to endorse Tobin tax based on the fact that he feels that enforceability may be problematic. He does however state that disregarding the principals of Tobin tax in its entirety would be short-sighted. He points out the following factors which should be considered:

- There is evidence to suggest that the FX markets are not running as optimally as some advocates of the free market would have us believe.
- There is some marginal evidence to indicate that Tobin tax could impact the destabilisation of short term speculation more than the stabilisation of long term speculation.
- Tobin tax could raise a fair amount of tax revenue.
- This Tobin tax revenue could be used for worthwhile projects.

Summers and Summers (1989:285) also lent some support to Tobin tax based on the fact that even if the tax did not generate the desired effects in terms of stabilising FX markets, the tax would generate a substantial amount of revenue. At the time the paper was written, this was estimated conservatively at being $10 billion. They also noted that the tax would ultimately impact the holders of corporate stock so, in this sense, the tax would be progressive, which is accepted as being a positive attribute if one looks at the number of countries presently running progressive tax systems.

Palley (1999:113–125) supports Tobin tax stating that it is still a discretionary taxation that allows market participants to choose when and where to invest. The tax is part of the landscape of the market game and participants can choose how to navigate these rules. The ultimate effect should be to deter speculation. One drawback that he mentions is that

the tax may stop fundamental market participants from executing trades that they would otherwise have executed because of the tax.

4.5   A COMPARISION BETWEEN SECURITIES TRANSACTION TAX AND TOBIN TAX

What is an interesting exercise to undertake is to compare securities transaction tax to Tobin tax. Securities transaction taxes are small fees that are levied by a governmental agent on all share transactions on the stock markets of some countries (Verma, 2008).

In terms of mechanics, Tobin tax and securities transaction tax are not entirety dissimilar. The chief difference lies in the fact that securities transaction taxes are levied in the equities market and Tobin tax would be levied in the currency market. One may also look at the intent of Tobin tax as being to reduce speculation and thereby volatility in the FX markets. In contrast, according to Lokeshwarri (2012), the main objective of a securities transaction tax would be to generate revenue. This would lead to targeting those wealthy enough to own securities in the first place.

South Africa does presently have a securities transaction tax for securities traded on the JSE. Presently the tax is referred to as securities transfer tax. This tax is levied on the purchaser of securities at a rate of 0.25%. Intriguingly, the tax net does not include derivatives (South African Revenue Service, 2012).

There are various other countries that have successfully implemented a securities transaction tax already. Included in this list are India, China, Italy and the UK (Lokeshwarri, 2012).

Bearing the similarities between currency transaction taxes and security transaction taxes in mind it is of great interest to analyse how markets have reacted, in terms of volatility, to the introduction of a securities transaction tax.

Gao (2012) has come to the conclusion that with respect to securities transaction taxes, it is far from clear that such a tax reduced volatility in capital markets. Phylaktis and Aristidou (2007:1455–1467) analysed the Athens stock exchange with securities transaction taxes

in relation to volatility and found that in times of bull market activity (times of increasing market prices) the volatility increased and was decreased in times of bear market activity (decreasing market prices).

Song and Zhang (2005:1103–1120) found that both the traditional view on securities transaction taxes reducing volatility and the opposing view can be held to be true under changing conditions of supply and fundamental risk. To put this another way, the securities transaction tax can have both a negative and positive effect on volatility under different circumstances and therefore the introduction of a securities transaction tax and market volatility would not be highly correlated.

In order to function efficiently and effectively capital markets need to display other characteristics in order to be successful. Habermeier and Kirilenko (2003:165–180) have also argued that the introduction of a securities transaction tax reduced market efficiency by having a negative impact on liquidity and price discovery. Therefore in addition to not reducing volatility, securities transaction taxes could impair other positive fundamental characteristics of a free and open market.

FX markets function and behave in a very similar fashion to capital markets. If the FX markets were to react to the Tobin tax in the same way that the capital markets reacted to securities transaction taxes, it is unlikely that the tax would result in a decrease in the volatility of the FX markets and the desired effects of such a tax would be unsatisfied.

4.6   CONCLUSION

From the opinions and research reviewed it seems highly unlikely that Tobin tax will ever be implemented anywhere in the world. There are just too many unknown variables as to how the market will react and if the desired effects would be achieved. What cannot be disputed is that the tax would generate substantial tax revenue on a global scale. Nevertheless, this is not the main aspiration of the tax. The main aim of the tax is to reduce noise in the FX markets created by speculators that is cited (Tobin,1974) as creating disturbances and instability in the markets.

On reading the material presented by Tobin (1974, 1978 & 1996) a convincing argument is presented. In spite of this, on closer inspection and analysis there appear to be gaping holes in the original Tobin tax theory. Modern research has even, in some cases, shown that the actual effect may be opposite to the desired effect (Aliber *et al.,* 2002:13–14).

With the basic principal of Tobin tax sounding plausible but with much criticism levelled against it and with the persistence of FX volatility causing instability in global markets, some experts have looked at addressing some of the shortcomings of Tobin tax through modifications of the original model. Spahn tax is one such example and has attracted much attention and reignited a debate focusing on currency transaction taxes.

CHAPTER 5

SPAHN TAX

This chapter addresses the history and mechanics of Spahn tax. There has also been one country in the world which has adopted, but not yet implemented, Spahn tax. This country is Belgium (Quaghebeur, 2004). This chapter addresses this adoption by Belgium. Furthermore, the chapter delves into both the positive and negative attributes of Spahn tax from a South African perspective.

5.1   HISTORY OF SPAHN TAX

In order to get a better understanding of Spahn tax, one needs to understand the history and development of the tax, and how it came into being.

5.1.1   The Mexican economic crisis of 1994

In 1994 there was an economic crisis in Mexico which was the result of the sudden devaluation of the Mexican Peso (MXN). According to Gil-Diaz (1998) the financial crisis stemmed chiefly from the fact that cheap and easy credit was lent out by the private banks. Other factors mentioned by Gil-Diaz (1998) included a semi-fixed exchange rate policy, rising interest rates in the US and an increasing current account deficit.

According to Gil-Diaz (1998) the crash was triggered by political instability followed by a fall in the demand for MXN assets equivalent to a loss in international reserves equal to the loss in bank deposits. This fall in demand was followed by an almost simultaneous credit increase from the national bank.

In 1994 the Mexican government, according to economists Hufbauer and Schott (2005), had issued Tesobonos to cover their 7% GDP to current account deficit. These bonds were denominated in MXN but indexed to USD. With the crash of the MXN the Mexican government was unable to service this debt and had to take on a loan of $50 billion from

the US. This also had the effect of converting the semi-fixed exchange rate to a free floating rate.

5.1.2   The introduction of the Spahn tax

Following the disaster in Mexico, much discussion erupted around how to limit or prevent volatility in exchange rates and the impeding disasters that followed periods of high volatility. The Tobin tax was again brought up for discussion in many circles.

Spahn (1995) came up with some modifications to the Tobin tax that, in his opinion, would be an improvement thereon and address some of its major shortcomings. In his opinion there were some shortcomings of the Tobin tax that needed to be addressed if it was to become a viable option to implement.

Firstly, Spahn (1995) addressed the tax base, saying that this should be as broad and as all-encompassing as possible and also to include all instruments that would have an effect on the exchange rate markets. Markets were highly sophisticated in 1995 and continue to be in the present day. New derivative instruments are being introduced all of the time. The tax base should be wide enough to include all these instruments, all taxpayers and market participants including governments.

Secondly, the taxation rate would be a contentious issue. The higher the tax rate the lower the tax base will become. This is known as the Laffer effect. There would need to be a fine balance struck for the tax to have the desired effects. Some commentaries have even stated that the introduction of this type of tax could result in increased volatility. (Haberer, 2003).

Thirdly, the taxation revenue would be a topic of heated discussion. Spahn (1995) estimated that the tax base for taxable transactions could be as high as $1 trillion per day in 1995. This included all spot and derivative transactions. Based on a taxation rate of 2 basis points this would result in revenue of $50 billion per year assuming a 250 day year. The main reason for the tax should be to act as a deterrent to speculation but as seen from the above calculation this would also generate a large amount of tax revenue.

Lastly the assignment of tax is a controversial and political issue. To implement this taxation would take a monumental amount of planning and co-ordination on an international scale. There also arises the question as to who will be entitled to the proceeds of the taxation. Tobin (1996) suggested that some of the poorer counties would be allowed to keep their collections while some of the stronger countries should pay these proceeds over to the World Bank. This may result in some serious resentment and infighting.

Spahn (1995) states that the problems encountered could largely be addressed by a two-tier taxation scale. This is the main difference between Tobin tax and Spahn tax.

5.2 MECHANICS OF SPAHN TAX

Spahn (1995:31-35) suggested the following attributes to be incorporated into what is now known as Spahn tax:

- Foreign exchange rate transactions would be taxed on a two-tier taxation rate system. There would be one rate for transactions falling within the normal trading levels and another transaction rate for what would be seen as speculative attacks falling outside of the "crawling peg" exchange rate band.

- The first rate would be at a minimal charge, say one basis point on the value of the transaction. This tax would need to be paid over before the transaction could be executed.

- The second rate would be a rate charged on what would be deemed speculative attacks being transactions concluded at a rate outside of, say the 20-day moving average (crawling peg) rate, plus and minus a safety margin of say, 0.5%.

- The second rate would be set at an extremely high rate of, say, 60% in order to discourage speculative trading.

- Countries that choose not to adopt the tax would be penalised by having the greater tax rate charged on conversions into their currencies by residents of member states. Over time this should dry up the number of non-cooperative states.

- The tax could also be activated in times where it is seen that there is high volatility in the markets and at other times the base rate of taxation could be set to 0%.

- Transaction costs for derivatives could also be set at a lower level, say, half a basis point to still keep the costs of derivative trading down.

Essentially, the first rate of taxation would function in a similar fashion to a securities transaction tax. The second rate would be the punitive rate that would be used to discourage speculation. This rate would attempt to keep the exchange rate within a reasonable trading price window. Any rapid movement in the FX rate would carry a suppressive cost. The Spahn tax would still allow for normal price discovery mechanisms to take place, however, the rate at which violent swings could move the market would be discouraged by the increased costs.

According to Yamamoto (2008:121) proceeds from the tax could be used to solve problems such as environmental pollution, poverty, population explosion and security. In addition, proceeds could be used to promote peace.

There are variations on the Spahn tax already. These variations mostly differ in terms of the rates and the crawling pegs that have been adjusted. For example, Wahl (2005) and Kapoor (2005) have both documented variations on the rates of taxation to be used.

5.3   ADOPTION OF SPAHN TAX

In order to assess the viability and effectiveness of Spahn tax, one would need to investigate and analyse the success of the tax in a country that has implemented Spahn tax.

5.3.1   The adoption of Spahn tax in Belgium

According to Quaghebeur (2004) the Belgium Parliament adopted a form of Spahn tax on 15 July 2004. The tax affects all exchanges of foreign currency, notes and coins and

includes currency futures. The tax is applicable only to transactions taking place in Belgium.

The taxation rate was set at 0.02% for transactions falling within the fluctuation margin. The rate for transactions concluded outside of the fluctuation margin would be taxed at a rate of no greater than 80%. The margin would be determined using the 20-day moving average of exchange rates and a margin to be determined by Royal Decree. Transactions by individuals of less than €10,000 per year are exempted from this taxation. The liability for the taxation is split in half between the person selling the foreign currency and the person buying it (Quaghebeur, 2004).

One matter that is of great relevance is the fact that the taxation will not come into operation until such time that all European Monetary Union (EMU) states of the European Union (EU) have adopted similar taxation legislation. This is to protect the Belgian markets to insure that they are competitive on a European scale. This is one of the drawbacks that were discussed in relation to Tobin tax. Should all countries not adopt this form of taxation, the result will be an unfair advantage for tax havens and other non-adopting countries.

5.3.2   Opinion of the ECB on the adoption of Spahn tax in Belgium

The European Central Bank (ECB) held the following negative opinions in relation to the Spahn taxation adopted by Belgium (European Central Bank, 2004):

- There is very little literature that provides evidence that such a tax would reduce volatility.

- Such a tax will increase costs and could in actual fact increase volatility especially in the short term.

- The functioning risk-sharing benefits of derivative markets may be hampered by this tax by increasing the costs on a large volume of transactions.

- Strong empirical evidence that exchange rate volatility has a negative impact on trade is lacking.

- Market participants are likely to find a way to circumvent the tax.

- A small levy is unlikely to deter speculators who make large profits in any case albeit with in a limited range. Speculation is likely to remain profitable for some market players.

- Variable taxation rates may create price uncertainty.

- The introduction of such a tax would be expensive and would be difficult to implement.

- The introduction of Spahn tax may encourage market participant to move to off-shore tax havens.

- There would be difficulty in agreeing on the universal implementation of such a tax.

The opinion of the ECB in relation to the adoption of Spahn tax by Belgium has not changed since the release of the first opinion document (European Central Bank, 2004).

5.4   CRITISIMS OF SPAHN TAX IN A SOUTH AFRICAN CONTEXT

Many of the criticisms relating to Tobin tax that have been discussed already would also be applicable to Spahn tax.

Naturally, as seen from the approach adopted by Belgium in the section above, it would be difficult for any one country to take the lead alone in the adoption of Spahn tax as this would put the adopting country at a disadvantage in comparison to non-adopting countries.

In the case of Belgium, they have a currency, being the EUR, which is used by other countries in the EU. Kapoor (2005:61) has stated that Spahn tax would not need to be implemented universally in order for the tax to work in the UK as all transactions in GBP have to be settled through the UK. On the other hand, this would not stop parties from circumventing the GBP and concluding transactions in a third external currency and maintaining offshore bank accounts to facilitate this. International banks in other jurisdictions outside of the UK could also deal with the GBP currency and not be subjected to the tax.

In all likelihood it would be unlikely that South Africa could look at implementing Spahn tax alone. Plausibly, South Africa would need to have the support of at least some other adopters of Spahn tax whose currencies play a major role in the FX markets. South Africa still needs to remain competitive and needs to continue to attract foreign investment in order to facilitate growth (Asafo-Adjei, 2007:117–119). South Africa does have a policy of attracting foreign direct investment and the implementation of Spahn tax may scare foreign investors away even if they do not understand the full implications thereof. Generally, foreign investors would favour lower tax regimes with fewer administrative burdens which would imply fewer types of taxes.

One possible solution would be to assess whether Brazil, Russia India, China and South Africa (BRICS) could implement Spahn tax together after sufficient research and consideration has been given to the implementation thereof. Should the main objective of the tax be met, this would lend stability to the currencies of the most influential emerging markets of the world.

Jetin and Denys (2005) have put forward a very convincing proposal for implementation of a currency transactions tax, based on Spahn tax, in the EU. This coupled with the decision by Belgium (Quaghebeur, 2004) to go ahead with Spahn tax would indicate that the EU would most likely be the prime candidate to achieve implementation before any other country. Should this be the case, the results of implementation would provide clear evidence of the success of the tax that could then be considered for implementation in South Africa.

One of the main criticisms that can be levelled at the Spahn tax is the questionable ability of the tax to dampen speculation and therefore volatility. One could produce theoretical models and hypothesise as to how the markets will react to the tax but until the implementation of the tax has taken place in a real market, one would not be able to measure the effectiveness thereof.

From a South African perspective it would be wise to see what reaction of the market to the implementation of Spahn tax would be in another country first before considering implementation itself. South Africa, being a developing country, has many more serious

issues to address like poverty and a crumbling health system. Rationally resources should be allocated to these more urgent priorities first before experimenting with a new innovative tax that may or may not produce the desired effects thereof.

Another major problem levelled against currency transaction taxes has centred on enforcement of the tax. South Africa would be hard pressed to enforce Spahn tax adopted in South Africa on two market participants trading in the FX market in two countries outside of South Africa. The jurisdiction of one single country cannot cover the entire globe. Should logic prevail then this may also prompt South African companies to move treasury functions offshore and hold additional reserves in foreign currency. This would, in turn, have a negative impact on the number of jobs in South Africa and revenue generated by local banks.

There are many derivatives that one could use to mimic the speculative results of trading in the actual currency. Presently some of the different types of derivatives include (amongst others):

- forwards
- put and call options
- currency swaps
- futures
- binary options
- caps, collars and floors

The legislation and the South African Revenue Service (SARS) would need to be highly progressive in order to keep up with sophisticated markets and derivative products.

Should South Africa implement a form of Spahn tax and decide to go it alone there could be problems created in the liquidity of the ZAR FX market and this could lead to increased volatility. Although a finger has been pointed towards speculators as being noise-makers in the market, driving up volatility with their profit motives, one could also argue that if there were no speculators in the market, then there would be no market-makers which create

liquidity. Once liquidity in a market dries up the spread between the bid and ask prices increases which increases volatility.

As seen from some of the criticisms levelled at Tobin tax, when a transaction tax has been introduced into a market the expected result of decreased volatility has not necessarily been the outcome. If the goal of the implementation of the tax was primarily to curb volatility and not to earn revenue then the first tax tier of Spahn tax would need to be set at zero so as not to disrupt markets and to still promote foreign investment and free market dynamics.

5.5   COMMENDATION OF SPAHN TAX IN A SOUTH AFRICAN CONTEXT

The main objective of the Spahn tax is to limit speculative attacks on a currency in the FX markets that drives up volatility which generally has negative effects on the economy of a country (Jetin & Denys, 2005:26–36).

If the Spahn tax is successful in achieving this goal, then this would be of great benefit to the South African economy. Stability would most certainly be welcomed.

One of the natural spinoff benefits would be the potential to generate revenue off Spahn tax. The ZAR had an average of 27,595 million USD of net FX turnover per day in April 2010 (Bank of International Settlements, 2010:49). If one were to use the base Spahn tax rate proposed by Spahn (1995:32) of 1 basis point then this would generate on average 27 million USD per trading day just from the base rate if South Africa was able to tax all parties and instruments (including derivatives).

This is an incredible potential source of revenue. The tax would also be rather progressive as generally only companies or wealthy individuals would be transacting in FX.

The revenue could be allocated to the SARB to help the bank further stabilise the ZAR if an official policy was put into place to do so. The funding could also be allocated to general spending to decrease the budget deficit or alternatively be used to pay off foreign debt.

Should the Spahn tax first-tier base rate be set at zero and the punitive second tier rate be set at an extreme amount it is plausible that this type of tax could work in a South African context to decrease volatility. The natural risks that result from this is the discouragement of foreign investment and the chance that parties may move to offshore centres and transact in other currencies.

In some ways the Spahn tax could be seen as rather progressive since, generally, lower income groups would not be trading in FX.

5.6   CONCLUSION

Spahn tax builds on the Tobin tax. It is a very innovative approach to addressing FX market volatility. The two-tier system has definite advantages by only targeting trades that fall outside of an exchange band that is considered to be normal.

Initially, so as not to cause unknown market reactions, it may be appropriate to set the first-tier transaction tax at zero and just implement the second tier for South Africa.

There are some issues surrounding enforcement of the tax that would need to be addressed. If only the second-tier rate is introduced, the cost of enforcement of the tax may exceed the revenue benefits. Naturally, the hypothesised resultant stabilising effect of the ZAR FX markets would be difficult to quantify.

In this case the cost of implementing the tax may outweigh the benefit, but this could be assessed during a trial period of operation. If the tax were to be successful initially, the government could begin narrowing the second-tier tax band and that would hopefully tighten the noose on volatility for local enforceable transactions. Adjustments would need to be slow and considered.

South Africa may have some difficulty in taking the lead in the implementation of such a tax and at this stage the countries within the EU seem better poised to take the first step forward.

CHAPTER 6

CONCLUSION

6.1 EPILOGUE

There is a wealth of information available pertaining to currency transaction taxes. Some of the information reviewed had conflicting views as to the effect of implementation of these types of taxes. This has made the subject a very interesting one to research.

6.2 REVIEW OF RESEARCH FINDINGS

In looking at volatility on a global scale, we have seen that there are many factors influencing volatility. With markets being so interconnected nowadays it is very difficult for any one country to isolate itself from global happenings. One only need observe the fallout of the US housing crash in 2008 to conclude that the saying, "If the US sneezes we all catch a cold," does hold water to a large degree.

In general economists and governments of the world favour stability and try to manage through central banking boom and bust cycles. In assessing the factors which influence the volatility of the ZAR, these are difficult to isolate due the magnitude and interconnectedness of the markets and also due to the number of players in the markets with different objectives.

The SARB, through its indirect actions of managing FX reserves and interest rates, does have the ability to affect the FX rate of the ZAR but an official policy of intervention is not maintained. In general the exchange rate of the ZAR is left to the devices of the free market and in turn is exposed to general market volatility.

The factors that influence the volatility of the ZAR are too numerous to mention. In addition, any to attempt to quantify the impact of each of the perceived influencing factors would be a close to impossible task. The completion of such an exercise is likely to be fruitless.

The size, complexity, interconnectedness, and globalisation of FX markets are such that volatility of the ZAR is affected by too many factors (some seemingly unrelated) to form any blanket conclusion of value that would explain the volatility of the ZAR.

After critically assessing Tobin tax, one would have to conclude that in terms of the ability of the tax to meet its primary objective, of reducing speculation, that this is unknown and would not be a credible form of tax that South Africa should look to implement.

Spahn tax on the other hand, with its two tier approach to taxing FX transactions, does indeed seem like a plausible solution, at least in terms of the qualitative characteristics thereof.

For South Africa to consider such a tax the base rate of the first tier should be set to zero so as not to affect the normal trading operations initially, as the reaction of the market would be unknown. By driving an estimated 27 million USD per trading day out of the profitability of the FX markets this may cause traders and market-makers to shy away from the ZAR to focus instead on more profitable currency trading combinations. As a result the ZAR could become illiquid and drive up volatility. The potential revenue to be gained from setting the base rate above zero would hardly be worthwhile if one considers running the risks of unknown market reactions.

The second tier of Spahn tax could be set a low punitive rate initially. This initial introduction could be done in conjunction with a very wide trading band or crawling peg. This would allow the market to be largely unaffected for the most part, barring violent swings in the currency that would attract the tax. Over time the wide trading band could be narrowed gradually in an attempt to slowly constrict the life out of volatility.

The difficulty, as most commentaries have alluded to, would be the enforcement of the tax. South Africa would, in all likelihood, only be able to tax transactions, falling outside of the crawling peg bands, concluded on home soil.

The proceeds of the tax could first be used to offset the costs of implementation and if one does harbour any faith in the fiscal process, any excess could be advanced to the state

coffers. An estimated 27 million USD per trading day is a large amount of money to extract out of the FX markets that could be used productively by the fiscus.

For South Africa to be the first country in the world to implement such a tax would be a bold step forward with some risks involved. The above proposal would be seen as a rather aggressive and perilous approach by South Africa to quash volatility. This may not be well received by all interested parties. If South Africa were to be prudent it would look to some other country to complete the first ground-breaking implementation and to assess the outcome thereof. A country in Europe, especially Belgium, appears to be in the best position to be such a candidate.

One could also argue that a country with a small trading volume in FX may serve as a petri dish for this experiment. This however may have a compounded negative effect on a small and fragile economy if outcomes are not as expected.

Once a country in the world has implemented Spahn tax, further research should be done to determine whether the objectives of the tax have been met. If successful, implementation on a more global scale could be considered.

At this stage it may to wise for South Africa to consider exploring other methods to attempt to reduce the volatility of the rand albeit that of Spahn tax would be a workable solution on the face of the qualitative characteristics thereof. Research needs to be done into other methods that can be used by the SARB to drive down the volatility of the ZAR.

6.3   CONCLUDING REMARKS

The completion of this dissertation has resulted in a fascinating journey into the dynamic, global, progressive and interrelated FX markets. The size of the markets is quite breathtakingly colossal and the mind boggles as to the number of factors that affect the market movements on a daily basis. To think that it is plausible that something as comparatively simple as Spahn tax could quell the volatility of this beast is quite simply remarkable.

However, as they say, "the proof is in the pudding", and only once a country in the world has taken this first pioneering step forward by implementing Spahn tax will one be able to determine the true effect that such a tax has on the markets and if the desired outcomes are indeed achieved.

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