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*Andre has extensive experience in the application of advanced risk management practices. At Absa, he was leading the group's Basel II and IFRS risk implementation as well many other frameworks – stress testing, risk appetite, economic capital, credit rating systems, market risk VaR measurement, risk-reward pricing*

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## **Market risk management in Nigeria**

### **INTRODUCTION**

Market risk is the risk of loss in the value of a financial institution's proprietary trading holdings in equity, debt, FX or commodity instruments, due to fluctuations in market prices. Market risk can also arise with the management of client's moneys where financial institutions provide unhedged guaranteed minimum returns. A form of market risk also arises where banks accept financial instruments exposed to market price volatility as collateral for loans. Poor market risk management practises can lead to significant losses very quickly in volatile market conditions and also complete institutional collapse in severe situations.

The most spectacular recent case of market risk management failure was the bankruptcy of Bear Sterns, a US investment bank with substantial proprietary trading activities, at the start of the global financial crisis in 2008. During the 1998 emerging market crisis, LTCM a large US hedge fund made massive losses on so called zero risk arbitrage derivative contracts and the US Fed had to step in to prevent a systemic disruption. However, the most famous case was probably the collapse of Barings Bank, a 100 year old British bank (and bankers to the royal family) in 1995 due to inadequate oversight of equity futures proprietary trading activities in the Asian operations.

The global financial crisis has shown that financial markets are becoming more integrated, more complex and more volatile, than what was previously commonly believed. The importance of market risk management will thus increase going forward.

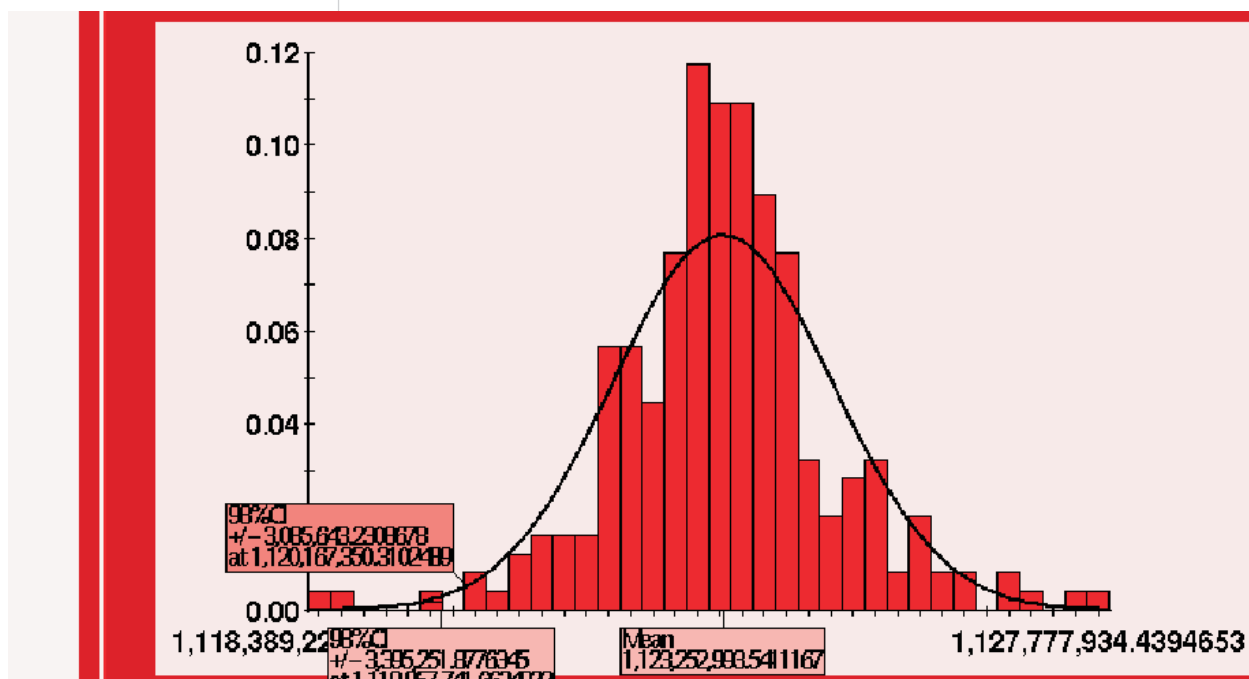
### **MARKET RISK MANAGEMENT**

The management of market risk is highly complex. To limit the size of market risk exposures it should allow traders to take to achieve profit targets, a bank needs to have an understanding of the size of potential loss that can be incurred under extreme market volatility. As nobody has a crystal ball, we can only rely on statistics to provide us with an estimate of downside market volatility. Deriving variance/co-variance parameters from historical market rates data, we can estimate for a given statistical confidence limit what the maximum potential loss

tools, etc. He was also a member of the Barclays Group Risk Technical committee, the oversight body in the Barclays group for all technical risk management frameworks implementation. During the 4 years of Basel II implementation in South Africa he served as the chairman of the credit risk task group of the accord implementation structure, lead by the SA central bank.

in a downside scenario could be. For example, using the so called value at risk (VaR) approach, we can estimate the maximum loss on a trading portfolio at a 99% statistical confidence limit to be no more than say N1bn. This means that there is only a 1% likelihood that the actual loss, if realised, will be more than N1bn. We can now set a VaR limit of N1bn capping the loss at that level with daily market risk monitoring and control.

Of course, historical volatility might not hold in the future and for this reason we need to stress test historical parameters to ensure robustness of maximum loss estimates. This is best done using a simulation approach whereby we run the portfolio through a large number of potential market scenarios, covering normal, stress conditions, market disruptions, etc. Figure 1 depicts the results of such a simulation process.



Simulation based market risk measurement

Andre has been a regular presenter at conferences and international risk industry events. The World Bank invited him on two occasions to share his experience of Basel II implementation in South Africa with the central banks of other emerging markets at Basel II implementation planning events in Colombia and Turkey.

At UBA, we have commenced with the implementation of volatility (VaR) based limits that will automatically adjust the size of position limits, based on changing market volatility, to ensure we can cap any losses at a pre-defined level, based on our risk appetite.

### BASEL I AND II MARKET RISK FRAMEWORK

When the Basel 1 accord was concluded in 1988, no capital requirements were defined for market risk. However, regulators soon thereafter recognised the risks to a banking system if insufficient capital is held to absorb the large sudden losses from huge exposures in capital markets. During the mid 90's proposals were tabled for an amendment to the 1988 accord, requiring additional capital,

over and above the minimum required for credit risk. Finally a market risk capital adequacy framework was adopted for implementation in 1998.

The 1998 Basel I accord amendment provides a menu of approaches for determining market risk capital requirements, ranging from a simple, to intermediate and advanced approaches. Under the advanced approach (the internal model approach), banks are allowed to calculate the capital requirement for market risk using their internal models.

The Basel II framework implemented globally in 2008 enhanced the requirements for market risk management by including oversight rules, disclosure, management of counterparty risk in trading portfolios, etc.

## THE SOUTH AFRICAN EXPERIENCE

South Africa was one of the early adopters of the 1998 market risk amendment to the 1988 Basel 1 capital accord. Banks started to invest heavily in market risk expertise and systems from the late 90's. Regulators took a consolidated supervision approach to the regulation of market risk. Banks, their subsidiaries, asset managers and stock brokers were all subject to the same market risk capital requirements, irrespective of the legal form of the entity.

Development of strong market risk capabilities greatly contributed to the development of the South African capital markets. Moody's recently attributed the resilience of the South African financial system during the current global financial crisis to the depth of the country's capital markets. Whilst the South African economy is the 20th largest in the world, the Johannesburg Stock Exchange with a market capitalisation of around \$400bn is ranked 14th largest in the world. In contrast the market capitalisation of the stock exchange of SSA's second largest economy is only around \$40bn.

## REGULATORY REQUIREMENTS FOR MARKET RISK IN NIGERIA

Sadly, the 1998 amendment to the 1988 Basel 1 accord for market risk has not been implemented yet in Nigeria. As a result, there is no explicit regulatory capital requirement for market risk taken in banks' proprietary trading activities. Other than in other countries, stockbrokers' capital requirements are not presentative of risks they take in proprietary trading. Market risk capital requirements in other countries have promoted the development of the derivative markets. Limited market risk management practises in Nigeria has also limited growth in derivatives, key instruments in mitigating market risk.

Overall, market risk management practises in Nigeria is under-developed and lagging other emerging markets.

## CONCLUSION

Developing the depth in Nigeria's capital markets is key to the future growth of the economy and achieving the 2020 aspirations. Existence of sound market risk management practises is crucial to promote investors confidence required for capital market development. Regulators of the Nigerian financial system should therefore take a lead role and adopt the Basel I and II market risk management requirements for implementation by banks and other financial institutions as a national priority.