

The Users of Borrowed Securities

Who they are and what they use it for?

MAY 2002

Contact details:

Jarred Glansbeek +27 21 683 7111

Ian Chaplin +27 21 683 7111



good **thinking**

TABLE OF CONTENTS

1. INTRODUCTION	1
2. RATIONALE	1
3. BACKGROUND	1
3.1 THE MECHANICS OF A SHORT	2
3.2 OVERVIEW OF THE INDUSTRY	4
3.3 INDUSTRY GROWTH	5
3.4 FINDINGS OF THE GENESIS REPORT	5
4. THE MOTIVATION FOR BORROWING SECURITIES	6
4.1 SETTLEMENT BORROWING	6
4.2 STRATEGY BORROWING	7
4.2.1.1 HEDGING	7
4.2.1.2 TYPES OF ARBITRAGE	8
a) INDEX ARBITRAGE	8
b) EQUITY MARKET-NEUTRAL/STATISTICAL ARBITRAGE	8
c) MERGER ARBITRAGE	9
d) CONVERTIBLE ARBITRAGE	10
e) EVENT-DRIVEN	10
f) EQUITY-HEDGE	11
g) MACRO ARBITRAGE/GLOBAL ASSET ALLOCATORS	11
4.2.1.3 SHORT SELLING	12
4.2.1.4 BORROWING TO FACILITATE STRUCTURING	13
5. HEDGE FUNDS (INCLUDING PRIME BROKERAGE)	15
6. SECURITIES LENDING TO CIRCUMVENT ASSET SWAP REQUIREMENTS	17
7. EFFECTS OF CHANGES IN FOREIGN COLLATERAL HOLDINGS	20
8. DO FOREIGNERS USE SECURITIES LENDING TO SPECULATE AGAINST THE RAND?	20
9. ANALYSIS	21
10. EXCHANGE CONTROL	24
11. RISKS OF SHORT SELLING	26
12. RECOMMENDATIONS	26
13. CONCLUDING REMARKS	27
14. APPENDIX 1	29

1. Introduction

This report has been commissioned by the South African Securities Lending Association to provide independent insight into the role of securities lending in South Africa, with particular reference to typical uses and users of borrowed South African securities. The paper also looks at the impact of cross-border lending/borrowing of securities on the exchange rate. Details of RisCura Solutions are attached in Appendix 1.

2. Rationale

The report has been requested in part to clear up the role of securities lending in the rapid depreciation of the Rand (ZAR) in late 2001.

It is argued that securities lending may have enabled certain transactions to be effected, which although “legal” in their components, were exercised as part of larger and more complex structures. These structures were possibly not in the spirit of exchange controls or the preservation of the value of the Rand, and were possibly detrimental to the currency and the country as a whole.

On the other hand it is felt that much of the criticism directed towards shorting and securities lending, as well as their use as a scapegoat, often results from misconceptions, unsubstantiated assumptions and a generally poor understanding of this investment tool. The lack of transparency in this industry, due in part to the sensitive nature of short selling data, compounds such allegations.

3. Background

South Africa’s first securities lending transaction took place in 1988 (effected by Rand Merchant Bank), but the local industry only started in 1992. South Africa’s return to the international financial arena in 1994 provided the opportunity for several domestic companies to raise capital offshore. They achieved this by issuing offshore convertible bonds (bonds convertible into the underlying equity). This gave rise to arbitrage opportunities between the two instruments – the convertible bond and the underlying equities. Additional opportunities arose due to the introduction of the ALSI 40, and subsequently other indices, which local traders could also arbitrage, as well as through the increased use of futures-based hedging by pension funds.

3.1 The Mechanics of a Short

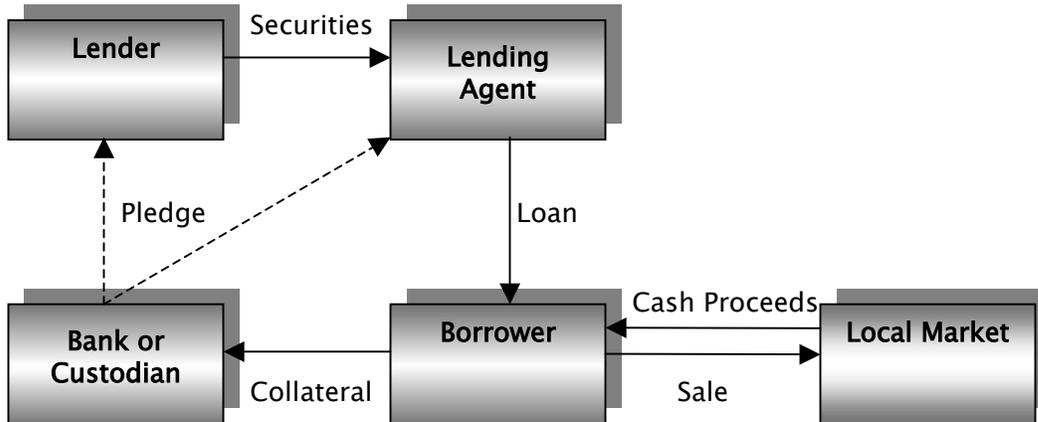
Simply put, a short sale enables a party to deliver a security that it does not currently possess. This may be used to facilitate settlement or a strategic trade. The ability to borrow a security from a lender (typically a long-term holder of a security, such as a pension fund or life assurance fund) enables the borrower to sell a security it believes to be overpriced. When borrowing the security, the borrower posts collateral as a guarantee that they will return equivalent securities at a future date along with any other economic benefits foregone during the loan period. This ensures that the after-tax amounts remitted to the lender are the same as if they had not loaned the securities in the first place. The borrower also pays the lender a fee (typically based on the price of the loan at trade date and calculated over the period that the loan was in effect).

The profit motive is clearly optimization of the logic of “buying low and selling high”. Selling a stock short enables one to sell it at a higher price now, in the hope of buying the stock back later at a lower price, thus realizing the difference as profit. The risks of short selling are higher than a long purchase, because the loss is theoretically infinite whilst the loss on a long position is restricted to a drop in price to zero.

Illustrated below is an example of a simplified securities lending deal in which a lender (beneficial owner) makes a portion of its securities available to a lending agent to lend. The lending agent, typically a division of a large investment bank, lends securities to borrowers, who then sell the securities into the open market for one of the many reasons outlined later in this paper. The cash proceeds or other liquid securities are then posted as collateral to insure against borrower default. The securities posted as collateral typically remain in the name of the borrower and are held in a segregated account that is usually pledged to the lender and held in trust by the agent. The securities pledged as collateral should be unencumbered to act as a suitable form of guarantee against default and minimise potential losses.

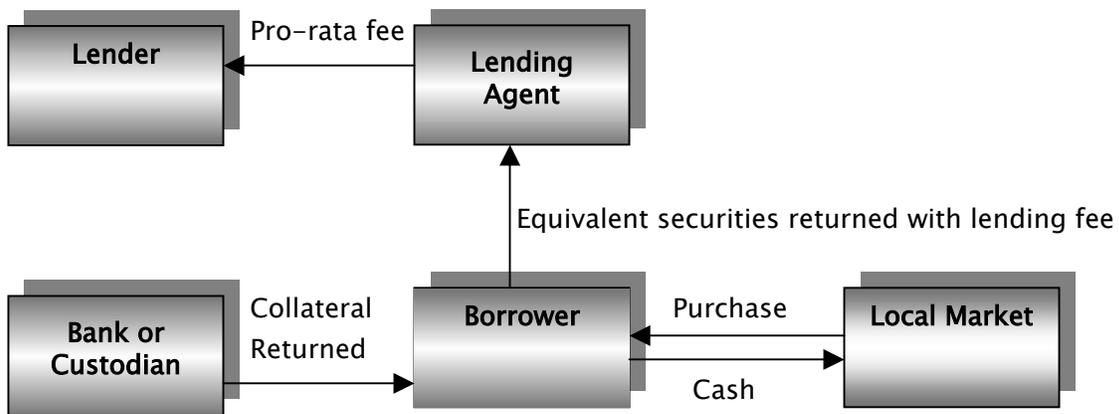
Simplified Securities Loan Transaction

Fig. 1a: Leg 1 – Securities Borrowing (Selling short)



The borrower, at some future point in time, purchases equivalent securities in the open market and then returns the securities to the agent along with any accrued fees in order to unwind the transaction. The securities held as collateral, are returned to their respective accounts and the pledge dissolves upon the borrower acting in accordance with the contracted obligations. The agent then passes on the lender’s portion of the fees according to the pre-determined fee-split (typically in the region of 60:40 in favour of the beneficial owner).

Fig. 1b: Leg 2 – Securities Borrowing (Unwinding the loan)

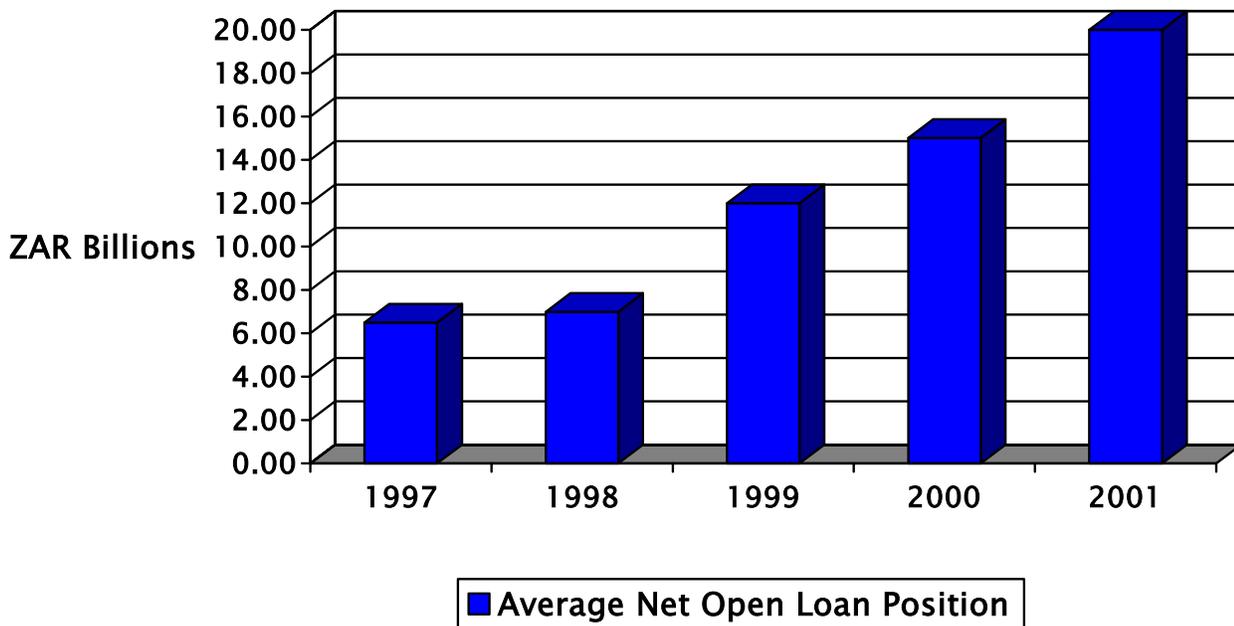


3.2 Overview of the Industry

It is estimated that the size of the equity securities lending industry in South Africa is currently around R20bn (i.e. open loan position). According to figures released in 1999, the average open loan position is typically less than 1% of the market capitalisation of the entire equity market and is approximately 0.77% of the market capitalisation for each counter. Fees for securities out on loan typically average 90–100bps (annualised), but can be as high as 500bps in times of extreme demand and conversely as low as 60–70bps for ‘GC’ (General Collateral) stock, such as ALSI40 counters, which are usually in abundance.

Unfortunately a portion of the trade may not be reported specifically where the loan of securities are provided for private deals outside the banking environment. Furthermore, due to the nature of derivatives and ‘carry’ or bond securities lending, industry figures may be understated by excluding ‘effective’ loan positions.

Fig. 2: Approximate average annual open loan position, 1997–2001



3.3 Industry Growth

The steady growth of the South African Securities Lending industry can be attributed to some of the following measures that effectively reduced the transaction costs associated with securities lending and borrowing:

- 1) Introduction of the ALSI 40 in 1995;
 - 2) Corporate membership of the JSE in 1995;
 - 3) Tax relief for securities lending transactions in 1996;
 - 4) Changes to exchange control regulations in 1996;
 - 5) Relaxation of the bear sales rule for liquid stocks in 1996; and
 - 6) Technology and settlement changes allowing for increased liquidity on the JSE.
- This increase in activity has allowed for increasingly complex structures and products involving security loans.

A number of these factors further promoted the proliferation of derivative instruments and the resultant growth in trading volumes of their underlying securities.

3.4 Findings of the Genesis Report

The Genesis Report, commissioned by the Financial Services Board in January 1999, was tasked with the responsibility of investigating the effects of securities lending on securities prices, market volatility, risks, market nuances and so on in response to widespread criticism directed towards the industry. The Genesis Report concluded the following:

Securities lending: –

- 1) Enhances market liquidity;
- 2) Reduces volatility;
- 3) Does not contribute to falling share prices;
- 4) Ensures the consistent behaviour of spot (physical asset) and futures prices, thereby facilitating more effective hedging by fund managers; and
- 5) Promotes stability on the JSE.

These findings have aided the industry invaluablely and have placed it in a far more favourable light. Potential participants are now becoming more interested due to improved sentiment surrounding the industry. Beneficial owners are increasingly recognizing the superior risk-adjusted return potential from lending their securities while at the same time indirectly benefiting from the short-side of the market.

4. The Motivation for Borrowing Securities

Companies borrow securities to meet an obligation to deliver securities in circumstances in which they do not currently possess such securities. This situation may arise from some of the demand requirements outlined below.

4.1 Settlement Borrowing

To prevent a failed trade, brokers may borrow securities, often with the aid of an intermediary, to enable them to meet a settlement obligation in which they do not possess the required securities.

This may arise when an asset manager sells securities that have not yet been ‘physically’ received. (i.e. have not yet been settled in the name of the asset manager or underlying fund). This may be as a result of a number of discrepancies between the trade details recorded by the respective trading parties. In this instance, the broker may borrow securities to enable the timeous settlement of the trade for good value.

Settlement borrowing therefore helps to minimize failed transactions in the financial market. A high incidence of failed trades impacts negatively on the market participants’ confidence in the market and in the settlement infrastructure of the financial system. Brokers, who rely on volumes and therefore partially on investor confidence, may borrow securities and deliver them to their clients, thereby transferring the defaulting party’s obligations temporarily onto themselves, rather than onto their client. The broker then initiates various procedures to recover the securities from the seller.

Prior to STRATE, South Africa had one of the worst settlement records in the world, with a settlement failure rate of 30–40% in the paper–trading environment. This was seen as one of the few weaknesses in an otherwise sophisticated securities market. STRATE has significantly reduced this failure rate and improved investor confidence in the local market due to a reduction in risks and costs associated with failing trades. The inevitable result is increased interest in the local market and therefore increased volumes traded. Many market participants expect that the demand for securities for settlement purposes will increase between 3–5 times in the dematerialized STRATE environment that has brought about T+5 contractual settlement. The importance of securities lending for the smooth, efficient operation of the financial market and to ensure investor confidence is evident and in fact critical in the facilitation of security settlement in the STRATE environment.

Analysis of market data suggests that settlement borrowing constitutes approximately 20% of the demand for securities borrowing. This source of demand, as indicated above, is expected to increase in much the same way as demand for securities increased with the implementation of Crest in the United Kingdom.

4.2 Strategy Borrowing

Borrowing for strategy purposes includes any borrowing not for settlement purposes and typically refers to hedging requirements, arbitrage trades, short selling and use for financial product structuring. We now consider each of these separately to understand the rationale and process behind each borrowing requirement.

4.2.1.1 Hedging

Hedging involves taking offsetting positions in instruments that are broadly similar, the outcome of which enables investors to offset the gains on one transaction against the losses incurred on others. This is best illustrated by way of an example.

Hedging Example:

An investor owns a portfolio of blue-chip shares that he wishes to hold over a long investment term. He believes that the market has peaked and wishes to protect the portfolio against a fall in the market. Instead of selling the shares and buying them back once the market has fallen, the investor sells the equivalent futures contract. Because the futures track spot prices, any loss in the value of the portfolio will be offset by the profit made from the sale of the futures. An additional reason to use this method of transacting is the savings on transaction costs from selling futures, instead of selling the shares at the market peak, and buying them back again after the market has fallen. Similar transactions can be achieved through securities lending transactions and these allow a little more flexibility to profit from the hedge.

Alternatively, a hedger may wish to retain exposure to a certain area of the financial market and not another. In this case, the two securities will differ in a manner to enable this exposure. For example, an American bond investor wanting to strip out interest rate exposure (i.e. the risk-free rate of return) but retain credit exposure. In this instance, the investor will buy the foreign government or any corporate bond and sell short the relevant Treasury Bill, which is essentially a proxy for American interest rates, thereby retaining credit exposure.

4.2.1.2 Types of Arbitrage

a) Index Arbitrage

Index arbitrage remains one of the largest sources of demand for domestic securities. The introduction of the ALSI 40 in 1995, and the increased use of this and other indices to hedge portfolio returns, improved liquidity and created arbitrage opportunities. Given that the index and the underlying securities represent the same financial instrument at a future point in time, any discrepancy in their price (referred to as the spread), after adjusting for funding (if this arbitrage utilizes derivatives on the index), will give rise to an opportunity to buy the 'cheaper' instrument and sell the relatively 'more expensive' instrument. By virtue of the fact that these two instruments' prices will converge at futures close-out (March, June, September and December), convergence is guaranteed from the point of trade. The two trading opportunities that exist are as follows:

- 1) The future trades at a premium to the funding-adjusted basket of underlying securities; and
- 2) The basket of underlying shares trades at a premium to the index implicit to the future.

It is the second trade that interests us from an individual stock borrowing perspective. This trade requires the trader to borrow a basket of securities, replicating the index in full or one that broadly captures the movement of the index (by selecting stocks with large weightings in the index that therefore act as a suitable proxy for the index as a whole by virtue of their high degree of correlation), in order to short the instrument and profit now from the premium in the underlying stocks. Because one knows that the two instruments (including cash returns) will converge, this is a risk-less form of arbitrage and the profit is known at the point of trade. The added benefit of index arbitrage is that it ensures the accurate pricing of spot-futures relationships and thereby enables more accurate hedging.

b) Equity Market-Neutral/Statistical Arbitrage

Equity market-neutral managers strive to generate consistent returns in both bull and bear markets by selecting positions that have a net exposure of zero to the market thereby creating alpha. This is achieved, inter alia, by holding a long portfolio with an equal, or close to equal, Rand amount of offsetting short positions to achieve a total exposure of close to zero (sometimes referred to as 'Rand neutrality'). This enables a manager to neutralise the effect of systematic changes on the value of the stock market as a whole. Shorting the stock perceived to be overvalued, and going long an equal Rand

amount of a stock perceived to be undervalued typically achieves such strategies. The basis for this determination of over and undervalued securities varies and may be relative to a historical average of the two, the relevant index and so on. Also the methods of determining market neutrality may differ e.g. may be determined to obtain Rand neutrality, beta neutrality and so on.

c) Merger Arbitrage

A merger arbitrage trade usually involves buying the common stock of a company that is being acquired or merging with another company, and selling short the stock of the acquiring company. There are two reasons for the target company's share price typically trading at a discount to the value it will attain after the merger is completed, namely:

- 1) Corporate acquisitions are generally offered at a premium to the stock price of the target company prior to the announcement of the proposed merger;
- 2) Mergers involve event risk. This refers to the fact that there exists a risk that the transaction will fail to be completed as announced; and
- 3) Should the transaction fail to go through, then the price of the target company's stock will decrease, sometimes significantly.

The merger arbitrage trader makes his/her profits by correctly predicting the outcome of the transaction (the announced merger) and locking in the spread between the actual share price and the price being offered by the acquiring company. If the announced deal goes through, stock in the target company will become an ownership interest in the acquiring company, so theoretically the two stocks represent ownership interests in the same company. Until the deal is consummated, however, fluctuations in the share price of the two stocks will largely reflect the market's uncertainty about whether the deal will be concluded as per the announcement. It should also be borne in mind that these trades are usually only entered into once the merger has been announced so as to remove as much of the implicit event risk as possible. These mergers may take the form of cash mergers, or tender offers as they are sometimes referred to, stock swap mergers or a combination thereof such as the Anglo-De Beers merger and Investec-Fedsure deal.

Merger and Acquisition (M&A) activity internationally is currently far lower than the levels seen in the late 1990's (particularly 1998 and 1999) and typically follows a cyclical pattern. M&A is currently in a downturn of sorts and thus represents a smaller portion of total security demand composition at present.

Clearly as in most deals of this nature, the shorts are traded before the longs and illiquid stocks before the liquid stocks. Traders don't want to be in a position where they enter the trade easily on one side (the long trade), but are unhedged due to the fact that it takes longer to set up a short sale (because of the need to borrow stock), especially when there is an illiquid or 'hard-to-find' stock involved.

d) Convertible Arbitrage

Convertible arbitrage refers to the construction of long portfolios of convertible securities (which have dual bond and equity characteristics) and the hedging of the equity element by selling short the underlying stock implicit to the exposure thereto of each bond. It was actually the listing of offshore convertible bonds that proved to be the major catalyst for the securities lending industry in South Africa in 1994. The return to the international financial markets around this time presented the opportunity to raise capital offshore that was duly done by Liberty Life, with several others following suit.

The instrument was listed in London in 1994 and traded at a discount to the underlying stock trading here on the JSE Securities Exchange. Foreign institutions needed to buy the convertible bond and sell the underlying stock short to profit from the spread available. This clearly required the ability to borrow securities to facilitate the short sale. As the bonds were freely convertible from inception, there existed strong demand from the outset and the foreign banks approached local lenders as the offshore supply began to dwindle. This area of the market, whilst proving to be the major catalyst for the domestic industry, has become less important as a source of demand for securities today.

e) Event Driven

Investors investing in event-driven strategies focus on the outcomes of the significant events that occur during a corporation's life cycle. These typically fall into three broad categories:

- 1) Risk/Merger arbitrage (e.g. Mergers, acquisitions, hostile takeovers and liquidations);
- 2) Distressed securities (e.g. Recapitalisations, bankruptcies, restructurings and reorganization); and
- 3) Special situations (e.g. Rights issues; spin-offs; significant changes in a company's asset mix from, say, the sale of a major asset or a large share repurchase).

Event-driven investors search for three things in any potential investment situation (that usually results from a corporate event):

- 1) A disparity between the current market value of an instrument and the anticipated value of such an instrument after the event is completed;
- 2) A near-term catalyst that will alter the market's perception of the company and thus the valuation of its debt or stock; and
- 3) An estimation of the amount of time that it will take for the catalyst to become visible to investors and how long the market will take to correct the valuation disparity.

This trade is based upon the risk-premium reflected in the price of the security based on the uncertainty about whether or not the event will be completed. Profits are made by correctly predicting the outcomes of such events. These trades are typically long biased, enabling returns that are independent of the market with low to moderate risk.

f) Equity-Hedge

Equity-hedge managers build equity portfolios by combining core long holdings with short sales of stock or stock index options. Their net market exposure varies and may be 'net long' or 'net short' depending upon the manager's preference and market conditions (i.e. net long in a bull market and net short in a bear market). Equity-hedge funds typically exhibit reduced volatility with returns similar to those achieved by long-only managers and focus predominantly on a particular sector of the market. They are seen to be true stock pickers. Again, it is clear how the ability to short a security reduces portfolio volatility and hence risk.

g) Macro Arbitrage/Global Asset Allocators

These are the strategies/funds that give 'shorting' a bad name. With the broadest mandate of all investment funds, these funds can typically invest worldwide using any instrument. Given that the bulk of their trades are 'views' on the future direction of various macroeconomic forecasts (using a top-down approach) and therefore the underlying share prices within a particular economy, they are largely directional investments, using significant amounts of leverage to extract maximum value. Macro-investors scour the world's financial markets for unusual price fluctuations that they refer to as 'far-from-equilibrium' conditions, usually only a few opportunities a year or even in a decade. Macro-investors, once having identified such a situation, invest where the risk premium in the economy has swung furthest from equilibrium.

An example of this was the perceived imminent formalisation of the European Union (EU). Macro-investors noted that for there to be a Central Bank in a common monetary area in Europe, interest rates in countries such as Italy and Spain, which were historically higher than in France and Germany, would need to fall to be in line with the rest of Europe. They traded the spread by buying Italian and Spanish Bonds (bond prices rise with falling interest rates) and short selling French and German Bonds (bond prices fall with increasing interest rates). Trading of this spread helped enable convergence of the underlying financial instruments – investors in this strategy were rewarded handsomely.

The issue of correlation or causation of outcomes (in terms of the effects of these transactions) is difficult to quantify, but it is this area that has historically attracted most criticism, for reasons such as:

- 1) The massive gains made by George Soros from his views on Sterling in the early 1990's; and
- 2) The failure of LTCM in 1998 on the back of the Russian debt default.

Subsequent to these events, prudence has increased substantially. Leverage ratios have, for the most part, decreased substantially and many 'speculate' that George Soros has lost equally astonishing amounts in recent years as he made in his assault upon Sterling. Furthermore, more emphasis is placed upon risk management today than in the past, which adds to this increased prudence. However, these trades still retain much of their directional bias. It is this that attracts speculation but it should be remembered that these trades are constructed as a result of perceived macro-economic disequilibria and thus remains a form of arbitrage. The fact that convergence is far from guaranteed results in the higher risk exposure inherent in such strategies.

4.2.1.3 Short Selling

Pure short selling funds form an extremely small portion of the total number of investment funds and thus are a small source of demand for securities. This is primarily as a result of the extended bull run of the 1990's reducing the number of significantly profitable shorting opportunities and has thus performed relatively poorly when compared to other investment strategies. These funds typically borrow shares to short securities that they believe are over-valued. The funds provide returns that are negatively related to the market given the directional trading implicit in this type of fund that epitomises the bear investor. Nevertheless, they are an important part of the investor universe and ensure that the market is truly capable of reflecting demand and supply factors to ensure equilibrium.

4.2.1.4 Borrowing to Facilitate Structuring

A structured product is an investment strategy that seeks to minimise, and ultimately limit, downside risk in the pursuit of positive investment returns. For example, this can be achieved by investing in a basket of securities while having the net investment capital protected.

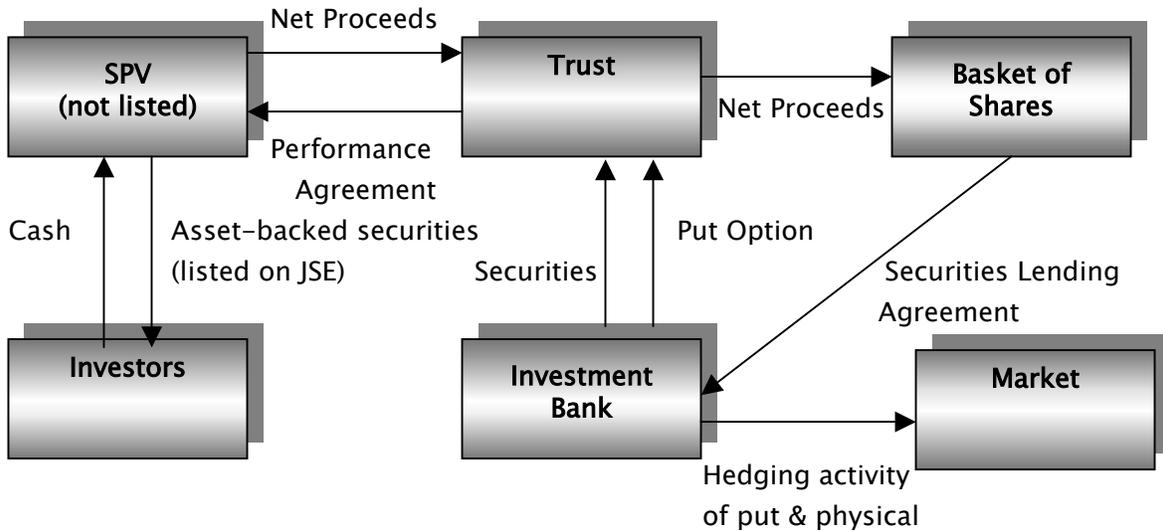
This may be via the issuance of an asset-backed security – a financial instrument secured by assets that are structured to deliver the contractually required performance as per the mandate issued to the investor.

Typically, these securities selected for the basket and offered to investors are ‘blue chip’ listed (ensuring liquidity and broadly representing a significant portion of the market) securities with a significant portion of their earnings being generated offshore, thereby providing a partial Rand-hedge for the investor.

Example:

Investors invest into a Special Purpose Vehicle (SPV) established for the purpose of issuing the structure (asset backed securities) to prospective investors. The proceeds are then transferred to an independent trust that purchases the basket of shares. Prior to the listing of the SPV, the trust may enter into a securities lending agreement with a large agency lender who would be entitled to all dividends and entitlements on the basket of shares for the duration of the investment period. The agent lender (typically a large investment bank) simultaneously issues a put option to the trust, exercisable on the maturity date. The put option clearly underpins the performance of the ‘protected amount’. The basket of shares remains the same unless any amendments are brought about by corporate events, index changes and so on.

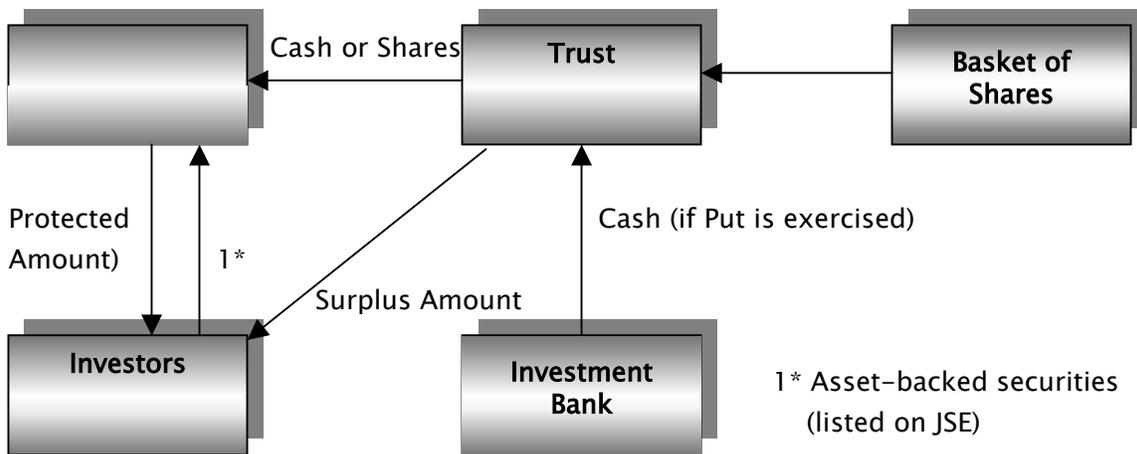
Fig.4: Leg1 – Events prior to listing



On maturity date, the registered holders of the asset-backed securities compulsorily surrender their securities. Two possible scenarios then exist that will determine the value of the proceeds from the investment at maturity date:

- 1) The value of the basket of shares has decreased in value – The Trust then exercises the put option and registered holders, after all fees and costs have been taken into account, will receive a fixed percentage, say 96%, of the value of the issue price of the asset-backed security (the protected amount mentioned earlier) in cash only; or
- 2) The basket of shares has increased in value – The registered holders receive the protected amount plus the capital growth of the basket of shares. In this instance, registered holders have the option of receiving their entitlement to the underlying shares in the basket in shares or cash. The latter naturally having tax consequences.

Fig. 5: Leg2 – Events at and after maturity



While ensuring compliance with the necessary taxation and legal requirements and charging competitive fees, such a structure is capable of offering a cost-effective means of investing in the market whilst ensuring capital preservation. In volatile markets, such investment products may make sense for some investors and the importance of securities lending in these ‘hedged’ investment structures must be noted. Similar transactions may take on a myriad of structures in order to bring about various risk/return payoffs.

5. Hedge Funds (including Prime Brokerage)

Hedge funds have received much criticism in the past for their use of shorting strategies and the possible negative impacts that these strategies may have on financial markets. They are also often criticised for their excessive use of leverage, making them both risky and powerful in terms of being capable of manipulating financial markets.

A brief definition and overview of hedge funds in the United States can be found below:

“A fund, usually used by wealthy individuals and institutions which is allowed to use aggressive strategies that are unavailable to mutual funds, including selling short, leverage, program trading, swaps, arbitrage, and derivatives. Since they are restricted by law to less than 100 investors, the minimum investment is typically \$1 million. The general partner usually receives performance-based compensation.”

In South Africa, there are approximately 50 hedge funds managing in the region of R5bn. Current legislation precludes retail investors from investing in South African

hedge funds and they are only permitted to do so by means of their R750k offshore allowance. It is anticipated that hedge funds will be classified as a Collective Investment Scheme (CIS) when the CIS Bill is promulgated later this year, which will see the emergence of a legitimate hedge fund industry in South Africa.

The inclusion of hedge funds in this paper is as a result of their flexibility and the permitted use of alternative trading strategies, many of which are outlined above. Hedge funds typically seek absolute returns, using a combination of long and short trading strategies as well as derivatives. Consequently they need to borrow securities to sell a security short.

International studies indicate that, contrary to popular belief, hedge funds are typically not 'pure shorting' or 'directional trading' funds. Evidence of this can be seen in the table below that outlines the prominence of spread trading in preference to directional trading.

Macro Arbitrage	20%
Fixed Income	17%
Equity Non-Hedge	15%
Equity Hedge	11%
Equity Market Neutral	10%
Sector	10%
Event Driven	6%
Emerging Markets	3%
Convertible Arbitrage	2%
Relative Value	2%
Merger Arbitrage	2%
Distressed Securities	1.7%
Short Selling	0.3%

Fig. 6: Hedge fund strategy composition

Some spectacular hedge fund disasters, most notably that of Long Term Capital Management in 1998, where highly leveraged macroeconomic strategies failed, should be seen as the exception, rather than the rule. The vast majority of hedge funds are carefully constructed investment vehicles seeking absolute returns, which maximise risk-adjusted returns through the use of a broad universe of strategies and instruments. Their use of short selling and thus securities borrowing is primarily in the pursuit of exploiting pricing discrepancies and thus trading spreads, both real and perceived, such as those strategies outlined above in the various forms of arbitrage.

The growing hedge fund industry and their need to borrow securities to execute shorting strategies has given rise to a relatively new area typically housed within the Investment Bank, namely Prime Brokerage.

The services offered by Prime Brokers to their clients, which are typically hedge funds, are numerous and include the following:

- Clearing and Settlement;
- Technology;
- Custody;
- Margin finance; and
- Research amongst others.

The obvious omission here is the lending of securities. The need for this service comes about due to the fact that most hedge funds do not meet the stringent credit risk criteria that most lenders demand and thus gives rise to the opportunity for investment banks to act as intermediary in such a transaction. Beneficial owners, primarily large pension funds, are happy to take on the counter party risk of a large investment bank, acting as agent but in a principal capacity. The investment bank thus usually guarantees the performance of the hedge fund to the beneficial owner. Prime brokers thus act as agents in the transaction, indemnifying potential loss from borrower default and picking up a margin for taking on the credit risk of a smaller, less creditworthy counter party. This is an area expected to grow rapidly in the coming years in South Africa once the required legislation permits more widespread hedge fund activity and thus increases the domestic demand for South African securities.

6. Use of Securities Lending to Circumvent Asset Swap Requirements

Asset swaps refer to the financial structure set up by government to allow institutions and corporates to invest offshore while exchange controls are still in place. Institutional asset swaps were introduced in the 1995 Budget and corporate asset swaps were introduced in 1999. The users of these asset swaps are corporates and prior to the scrapping of institutional asset swaps in 2000, retirement fund and unit trust investors. Because the local investor wanting to invest offshore was required to find a long-term foreign investor who would buy the equivalent amount of South African securities and hold them for the holding period specified by the asset swap (Leg 1 in illustration); they were supposed to be currency neutral. This raises the question of whose responsibility it is to ensure that the foreign entity actually holds the security for the required period.

The problem arising from this type of structure is the difficulty in effectively policing them by the Reserve Bank and the fact that they are not necessarily currency-neutral. It is such a deal, albeit a more complex corporate deal, that is at the heart of current allegations of collusion between a financial institution and a corporate client. Furthermore, to the extent that the Reserve Bank allows a timing mismatch between the legs of the asset swap, there may exist a negative currency impact over a period.

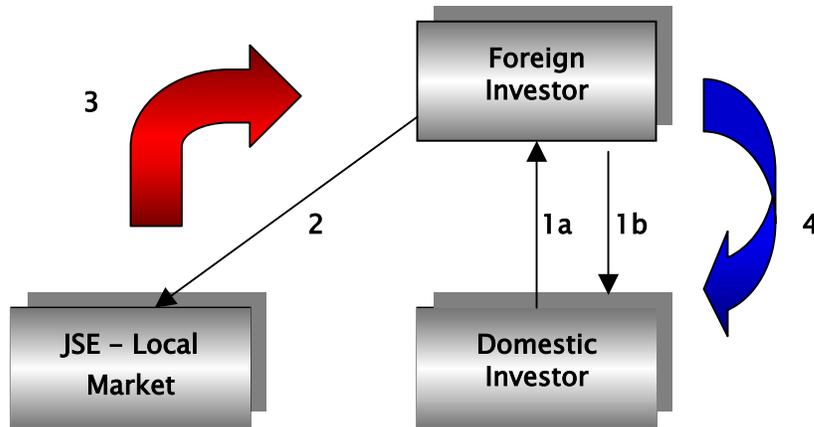
Example:

The strategy most frequently used appears to have been one that resulted in profit to foreigners from the discount offered on many South African assets being sold to offshore investors in the course of an asset swap. The foreigner purchased the domestic assets at a discount, of say 4% (1b), whilst the domestic investor purchased assets offshore (1a), resulting in a surplus supply of Rands. This had the unintended effect of changing the currency-neutral effect on the swap transaction to an outflow of currency, although the impact of this is considered to have been small. Clearly there is less currency entering the domestic market than leaving it by virtue of the discount amount.

Unfortunately, to compound matters, the foreign investor may have hedged its South African position (temporarily or permanently) by selling short (through a separate securities lending or derivative transaction) the same domestic shares it bought on the JSE Securities Exchange at their full market price (2), thereby adding further to the directional bias of the transaction for the duration of the swap (usually one, two or three years). The consequent flow of funds offshore is denoted by (3). The bear sale hedging the transaction was rolled over for the duration of the swap at which time the swapped assets were used to repay the loan. This hedge may have been indirectly supported by the Reserve Bank or not, and may facilitate short term supply / demand restrictions on currency or scrip.

What should be noted is that if the currency outflow from the hedge transaction occurred at the commencement of the swap period (i.e. the hedge was implemented at the inception of the deal), then the proceeds of the bear sale would be taken offshore and held as collateral. It should be borne in mind that whilst this outflow occurs at the outset of the transaction (amounting to the discount amount plus the hedge amount), it is necessary for the bear position to be reversed at the conclusion of the asset swap holding period, if indeed it is concluded. Again, note that if the Reserve Bank approved the swap to be hedged, this will have an impact on the demand for foreign currency and the supply of Rands, as the asset swap will have a short term impact on the Forex flows. Should this approval facilitate a timing constraint, this imbalance should correct at some stage in the future as the hedge is unwound.

Fig. 7: Institutional asset swap mechanism:



The mechanism ensures that, in theory, funds return back into South Africa (4) when the transaction is unwound. The obvious deduction from this is that the flows resulting from this transaction may affect the exchange rate if done on any large scale (probably not by a single organization but in times of increased prominence of such transactions by a number of entities), particularly during periods where trade in the Rand (ZAR) is thin. The timing mismatch of the supply and demand for foreign exchange may have an impact on exchange rate volatility. We consider this issue more closely later. Also the expectations of further demand for foreign exchange resulting from any implementation may further damage the currency price levels.

The extent to which such structures, and indeed more complex structures currently in the financial press, have been used to circumvent exchange controls and their effects on the exchange rate are difficult to quantify for the same reasons that is difficult to 'police' such transactions. It seems that while the perception exists that the exchange rate is more likely to deteriorate than appreciate, the prospect of profiting from adverse movements in the Rand may be an additional reason to enter into the transaction itself. As an emerging market, the need to hedge against adverse movements in share prices and the currency is understandable and hence the bear sale is entered into.

Furthermore, it should be asked whether or not the securities lending transaction is seen as a sale of 'ownership' (i.e. can the proceeds be repatriated or not). This, we suspect, is a legal issue.

7. The Effects of Changes in Foreign Collateral Holdings

Studies analyzing the effects of levels of foreign currency collateral in the past have shown that there were an almost equal number of instances when the net supply of Rands in a week was in the region of R200–R500m as there was a net demand for Rands in a week in excess of R200m. Patterns observed during this period suggest that these ‘large’ swings are reversed after one to three weeks. This is further evidence that the depressing effects on the local currency would not persist and are typically reversed. Such patterns do possibly add to volatility. We consider this further in the section below entitled, “Exchange Controls”.

8. Do Foreigners Borrow Securities to Speculate Against the Rand?

It is possible for foreigners to profit from a weaker Rand while engaging in on–shore securities lending. The extent to which there exists a degree of causation is almost impossible to quantify in light of the fact there is insufficient data to perform such analysis. What can be said is that the short sale of the security gives rise to the realisation of an asset into Rands. These Rands are then sold, increasing the supply thereof and possibly having a negative effect on the exchange rate at that point if, and when, Rands are exchanged for Dollars or other foreign–denominated funds to be held as collateral. This would be the case if the foreign entity were placing foreign denominated currency as collateral or other securities other than Rands. A stream of payments into South Africa (in the region of 100bps annualised on average) representing the fee for borrowing the security is annuity cash flow into the country if the loan originated in South Africa but this impact should be marginal.

Upon termination of the loan, the foreign investor sells dollars and buys Rands (this increased demand for Rands may now work in favour of the local currency and cause appreciation if the same line of reasoning is adopted as before) in order to be able to purchase the stock originally sold short. The scope for possible gains to be made in the currency market from such a transaction can be as a result of two possible outcomes:

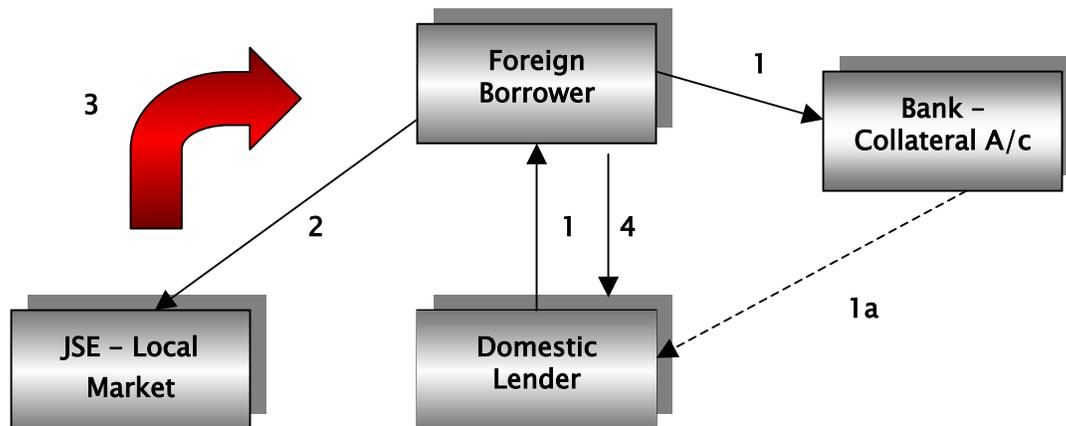
- 1) A deterioration of the exchange rate means that the offshore investor needs to sell fewer Dollars to buy Rands in order to buy the shorted stock in the domestic market; and/or
- 2) The underlying stock does decrease in value in line with the initial expectations by the offshore investment bank (hence the short sale) and results in that bank having to buy fewer Rands than it sold initially.

As indicated, it is possible for both situations to be present which would magnify the effect. It should be noted, however, that the securities lending industry in South Africa is currently (officially, see caveat in 3.2 above) in the region of about R20bn (monthly averages as per the South African Securities Lending Association database). When converted into Dollars, that is approximately USD1.78bn (at an exchange rate of USD1=ZAR11.25, at the time of writing on 03/04/02). When one considers that the average daily volume traded in the foreign exchange market is estimated to be between \$6bn and \$10bn, the open loan position of \$1.78bn pales in comparison when one considers that the trades did not all take place on the same day or even at a similar time (It is also important to consider the effect of the notional value of foreign-held short futures). Most trades at any one-time range from a couple of weeks to a year and it seems plausible that none are traded in any quantity that would materially affect the exchange rate. Again, it should be noted that the trade of large blocks could potentially have greater effects in periods of thin trade, but this is still considered unlikely.

9. ANALYSIS

To fully understand the possible ramifications of an offshore securities lending transaction, we now consider a few simplified possible scenarios:

Fig. 10: Leg 1:



1 - The domestic lender (Lending agent arm of a bank authorized to act, for the purposes of Exchange Control Regulations, as Authorised Dealers in foreign exchange) lends the securities demanded by the offshore borrower (typically an Investment Bank, Hedge Fund or Prime Broker on behalf of a Hedge Fund) to enable the execution of a



strategy such those outlined above. The foreign borrower places collateral in a bank account in the name of the borrower, pledged to the lender.

2 - This enables the foreign borrower to sell these securities into the local market.

3 - The sale of the security results in the borrower being long Rand (ZAR). In order to repatriate these funds offshore again, the borrower will enter into a spot FX transaction, typically two days prior to the settlement of the sale transaction in the local market or alternatively a forward contract sometime earlier, although the preciseness of this timing is questionable, that involves selling ZAR and buying offshore currency - typically USD, GBP or EUR. This increase in supply of ZAR will then, to a greater or lesser extent, depending on the volume of FX being traded and the size of the contract, potentially impact upon the exchange rate by placing some amount of downward pressure on the value of the Rand.

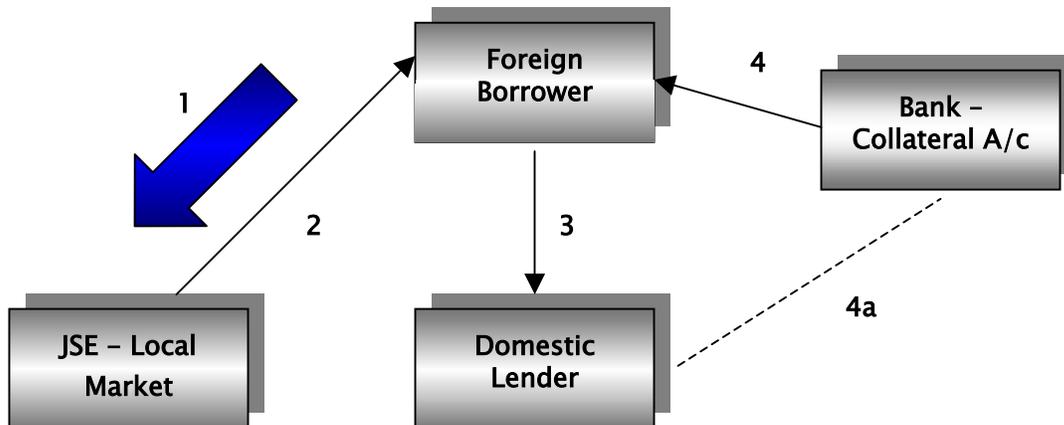
4 - A fee is payable on the loan transaction by the borrower to the lender. This is typically in the region of 1% of the value of the loan at transaction date.

The borrower is then, by virtue of the contents of the contract, required to purchase 'equivalent' transactions in the market and return such securities to the lender on the date specified at the time of contracting or prior to that in the event of recall by the lender or early termination by the borrower after a notice period as specified in the contract. Clearly the price of the underlying share may do one of three things:

- 1) Appreciate;
- 2) Depreciate; or
- 3) Remain constant.

We consider each of these in turn and consider the different ramifications pertaining to the resultant FX transactions. The transaction flow of this return leg is highlighted below.

Fig. 11: Leg 2:



It is clear that the fee amount represents a very small amount when compared to the notional value of such transactions. It is also assumed that these flows will result in some demand for Rand as local lenders receive foreign denominated currency and convert this into Rands over the period of the loan.

The return leg of the transaction, where the borrower buys equivalent securities to those borrowed, requires the borrower to buy Rands and sell the foreign currency in order to execute such a transaction. This consequently results in some amount of upward pressure on the value of the Rand. The extent to which this demand occurs is conditional upon the value of the underlying security at the end of the loan period.

We now consider to what extent this demand for Rands differs from the original supply of Rands when collateral other than Rands are posted. The possible outcomes can be summarised as follows:

- Share price rises – Net surplus demand for Rands equal to the value by which the share price rose.
- Share price falls – Net surplus supply of Rands equal to the value by which the share price fell.
- Share price unchanged – Net surplus demand for Rands equal to the fee amount paid.

This excess demand/supply for/of Rand is clearly the same regardless of the exchange rate. The exchange rate doesn't alter the quantity of Rands demanded or supplied at T₁ (this being affected by the change in share price), it does, however, significantly affect

the Pound equivalent paid by the foreign borrower and thus represents a profit or loss factor to the borrower but not influencing the demand/supply of Rands.

While the end results are almost offsetting currency transactions that bring about a near currency-neutral transaction, the crux of the issue is the mismatched timing of the supply of Rands initially (at T_0) and the subsequent demand for Rands (at T_1) in reversing the transaction. The question that remains to be answered is: Does the mismatched timing of currency trades add to currency volatility? In order to comment more fully on this, it would be necessary to conduct further analysis based on actual transaction data (see “Recommendations”). It is also questioned whether, in fact, the transactions will actually be reversed at some future date.

Should the initial transaction to destabilise the currency, it would seem that the transaction becomes a self-fulfilling prophecy in that it would provide the means to profit from such a transaction (the depreciating currency enabling profits to be made and then a correction of the exchange rate subsequent to the trade being completed). This, however, seems unlikely given the size of such transactions when compared to the volumes traded daily in the foreign exchange market. This may vary slightly should the transaction be significant and be executed on a day where FX volumes are thin. The effects are still thought to be negligible.

10. EXCHANGE CONTROL

Offshore borrowers of securities were previously permitted to hold foreign currency denominated collateral as guarantee for the securities borrowed. This situation was amended by Exchange Control Circulars D.342 (16/10/2001) and D.345 (07/11/2001), amending Exchange Control Rulings to read as follows:

Section E.5(E)(i)

The entire third paragraph has been deleted and substituted with the following:

“Authorised Dealers may, however, enter into repurchase transactions with a non-resident seller-borrower, provided such transactions are fully secured either by providing cash cover in Rand or the pledge of unencumbered non-resident owned local assets. Any additional margin requirements are to be provided similarly.”

Let us now consider the currency ramifications of these changes in cross-border securities lending transactions.

1) Offshore Loan – Foreign collateral (Prior to 16/10/2001)

The placing of foreign currency denominated collateral would bring about the mismatch of supply and demand for ZAR (referred to in the section above) and therefore may result in temporary excess supply (at T₀) and then demand (at T₁) of/for Rands at those times. As indicated, the net effect is more or less equal, save for fees, changes to the underlying share price and changes in exchange rate. This situation could therefore theoretically contribute to exchange rate volatility, although this is necessarily reversed at some later point in time. The extent of this effect has been noted previously and depends upon the size of the open loan position and the volume of foreign exchange traded on the day the transaction is executed. Clearly a large loan on a day where FX market volumes are thin will potentially have a larger impact. This is still, however, unsubstantiated and one feels that these transactions would possibly get lost in the size of the FX market.

2) Offshore Loan – Rand collateral only (Current legislation)

By enforcing the purchase of Rands at T₀ to place as collateral for the securities loan, the Reserve Bank has effectively negated the timing mismatch that may exist in securities lending transactions whereby an offshore borrower sells ZAR when shorting the borrowed security at T₀ and buying it back (and therefore buying Rands) at T₁. This occurs as the security is exchanged for Rands that are then held as collateral, thereby reducing the sell-side pressure at T₀. At the conclusion of the loan (i.e. T₁), the collateral may be used to buy back the borrowed securities in the market, thereby reducing the buy-side pressure on the Rand. Minor discrepancies may exist as a result of collateral margin and fees, but these are negligible. The latter representing a positive inflow regardless of any changes in exchange rate or share price movement.

A concluding point is the observation that this was the situation in place at the time of the rapid depreciation of the Rand. The lack of currency effects therefore ensure that securities lending itself could not be to blame for the events that transpired in this period. It could be said that the possibility exists that the Rand exposure of the offshore borrower, now for the duration of the loan and hence the need to hedge against such a depreciation, has resulted in the decrease in offshore loan activity and thus brought about a reduction in two-way trade in the Rand and USD/GBP/EUR, making for a thinner market whereby transactions, such as the corporate asset swaps being analysed, contributed to a far greater extent than before.

11. RISKS OF SHORT SELLING

Having looked at the sources of demand for securities to enable short selling and the resulting benefits, it is common to hear the following assertion:

“Short-selling enables one to, with little use of one’s own capital, manipulate share prices and contribute to market volatility.”

Having looked at the uses of securities borrowing in a broad spectrum of transactions and with the quantitatively substantiated findings of the Genesis Report in mind, we can dispel those assertions quite comfortably. It is now useful, before we make our concluding remarks, to consider some of the risks faced by short-sellers. This illustrates that it is not just adverse price movements that present risks to the ‘bears’, but a whole host of other variables as well. Shorting is, as we will see, not necessarily an easy way to go about investing. We outline a few of the risks that make the business of shorting a tricky one when compared to long-only investing:

- The possibility of a ‘Bear Squeeze’ – A situation arising when the price of the short rises and the short-seller has to ‘cut’ the position at an inopportune time and consequently incurs a loss;
- Uptick rules – Rules that limit shorting to an upward movement in the stock;
- The risk of theoretically infinite losses from share price appreciation;
- The need to execute short trades before longs because of the need to ‘arrange’ the required securities to borrow and post proof of such an arrangement prior to selling short; and
- The interest rate spread between the capital raised and that placed as collateral is an additional cost involved with shorting.

The added complexities involved in shorting seem to go some way in explaining the lucrative profits that can be made by incorporating this investment tool in trading strategies. This is simply an extension of the risk–return maxim.

12. RECOMMENDATIONS

In order to arrive at more conclusive results as to the role securities lending played in the sudden fall in value of the Rand in the fourth quarter of 2001, it would be necessary to have the following data sets:

- Daily Rand (ZAR)/US Dollar (USD), ZAR/Euro (EUR) and ZAR/Pound Sterling (GBP) exchange rate for 2000/2001;

- Daily volume of ZAR/EUR, ZAR/GBP and ZAR/USD trades for 2000/2001;
- Daily total open loan position of securities lending activities for 2000/2001 from all necessary sources (this could be determined in conjunction with the Reserve Bank);
- Daily loan figures for trades involving all shares involved as the subject matter of any asset swaps during 2000/2001;
- Composition of offshore loans as a ratio of total open loans for 2000/2001;
- Composition of foreign collateral as a ratio of total collateral held in 2000/2001; and
- Composition/structure of offshore debt (corporate) during 2000/2001.

These data sets would enable statistical analysis to support or disprove the assertions made in this document and in the press. This analysis would typically include some form of regression analysis. There are a number of complexities in such analysis, most notably being the presence of lagged transactions and the importance of identifying these time lags. However, such analysis would enable one to scrutinize the study more closely and substantiate the plethora of comments both for and against the possible impact of securities lending on the exchange rate in a quantified manner.

13. CONCLUDING REMARKS

It is clear that shorting and therefore securities lending is used for a multitude of reasons within financial markets. The two are often regarded as the root of all evil in financial markets and regularly used as a scapegoat for adverse movements in financial markets. This is not helped by the lack of market data pertaining to short sales and securities lending, the securities lending industry historically being notoriously opaque and lacking transparency. This results in arguments both for and against it being largely unquantified and unsubstantiated.

Shorting, and consequently securities lending and borrowing, is a means by which the market can be transparent and accurately reflect investor beliefs so as to bring about market equilibrium. Many of those opposing this investment tool do not recognise the benefits in terms of risk reduction (as indicated in some of the strategies pointed out above), the need to buy the security back at some stage (and the resultant positive currency effects), the fact that carries and repos effectively have the same effects as securities lending but attract far less controversy as well as the importance of borrowing in the settlement cycle. The other benefits of securities lending on the market, pointed out above, should also be noted.

Ultimately, it is most likely (in the absence of quantified analysis) that the lack of confidence in the Rand and the perceived need to maintain exchange controls to stem the flow of funds offshore resulted in reducing the two-way trade of foreign exchange.

The implementation of the asset swap mechanism (which is notoriously difficult to police) to facilitate growth offshore by companies (and previously used by investors) to enable offshore-based transactions has potentially brought about adverse consequences for the domestic currency. Whether or not a few transactions, that seem pale in comparison to the average volumes of FX traded daily, caused a rapid depreciation is uncertain. What is possible, however, is that negative sentiment, over supply expectations, coupled with some sizable trades on days in which volumes were thin (which is often the case at year end when the FX market quietens appreciably as well as the reduced liquidity resulting from decreased offshore speculative activity), caused adverse movements in the Rand.

The question of market manipulation should therefore be viewed very differently from securities lending. Use of potentially sophisticated structures to circumvent exchange controls may be at the heart of the problem. The use of securities lending to enable such transactions may not mean that securities lending should be prohibited, but rather that the market has possibly outgrown exchange controls or that there is a need for improved policing of such structures.



14. APPENDIX 1

Introducing RisCura

RisCura provides a variety of solutions via consulting, auditing, risk management and software to pension funds, asset managers, banks and other financial services businesses.

Through these services, we enable investment decision makers, from trustees to portfolio managers, to optimally prepare and position their funds for any market environment. We assist these clients with managing general and specialist portfolios as well as their business and reputation risk.

The company was established in 1998 and currently advises to clients with a combined asset base of more than R400 billion. This significant growth is due to our consistent display of excellence as well as our ability to provide measurable value add to clients through all our products and services.

Our business is advisory only and we do not directly manage or transact in assets of any form. This makes us one of the few truly independent advisers in South Africa.

Informed Investment Choices

Our goal is to enable decision makers to make informed investment choices with confidence. This involves providing simple and usable communication and decision support about highly complex issues.

Clients are able to draw this decision support from our research, experience, reports and technology solutions.

We provide solutions that take into account the different goals of participants in the investment “food chain” from trustee to trader, and their various levels of concern regarding payout, profit and performance. The information can be customised in terms of detail and complexity so that it meets a client’s specific needs and skill level.

Furthermore, we attempt to highlight the drivers of risk, which entails understanding the factors that are significant for a client or fund under changing circumstances. We aim to understand and manage the conditions giving rise to risk, rather than simply treat the symptoms of risk.



All our products and services reflect favourably in a cost benefit analysis and result in visible, measurable payback for clients in the form of lower costs and higher profits or returns.

We believe strongly in transferring our knowledge and skills base rather than forcing our clients to become dependent on our services. This business philosophy keeps us nimble and fresh and ensures that we always add value and explore new ideas and solutions.

We empower our clients with the necessary training and skills, enabling them to maximize their usage and benefits from our solutions.

Broad Client Base

Our commitment and loyalty to clients is very important to us. Service excellence, support and training are integral to our relationship with clients. Solutions and products are tailored to clients' individual circumstances.

Major clients include pension funds, asset management companies, multi-manager operations, major banking groups, stockbrokers and financial advisers. We currently advise to 5 of the largest 10 pension funds in South Africa as well as a number of smaller funds.

Access to a large and varied client base within the financial services industry ensures that we retain a multi-dimensional approach to investment and risk management.

Questioning Minds

We employ exceptional people who challenge conventional thinking and share our values of "client first", integrity, creativity and hard work. We value knowledge growth and all our employees are encouraged to undergo continuous training and skills enhancement.

With a large portion of the business owned by staff, there is a strong owner managed culture. This means that everyone feels accountable to clients, and is committed to the continued success of the business. Performance bonuses also form a significant part of staff remuneration, which further motivates excellence.

Empowering People

We actively promote employment equity on a number of levels within our employments procedures and this is highly evident in our staff composition. We are willing to take the necessary risks in our business to empower people, but mitigate potential downside with a strong focus on training and mentorship.

Client Driven Solutions

Our products and services can be divided into consulting, reporting, auditing, software and skills transfer. All our products add demonstrable value to a client's decision-making process and business and are customized to meet the specific requirements of our clients.

❖ Consulting

We provide independent, expert advice to clients on a range of issues from general industry to highly specific and complex. This advice stems from extensive practical and academic research, as well as a high level of industry and client experience.

❖ Auditing – Second Opinion

Because we understand how critical the investment entity is to stakeholders, we undertake detailed audits of clients' investment, operational, risk and marketing processes to identify potential gaps and offer solutions.

❖ Reporting

Our reports incorporate the full depth and breadth of clients' unique investment decisions. The reports recognize client's different skill levels and information requirements and allow effective decision support for each client.

We also recognize that clients don't necessarily have time to overview all aspects of risk and performance, and the reports clearly and concisely highlight the most important and relevant aspects for each client.

❖ Software

Highly flexible and easy to use, our software solutions enable clients to do full analyses at their convenience from their own desktops, real time. All our reports are generated via this proprietary software.



❖ Skills transfer

Training and product support is an integral part of our service to clients. We are also committed to knowledge transfer on broader industry issues and developments.

Why RisCura?

- ❖ Independent of implementation services
- ❖ Highly skilled staff
- ❖ More effective decision making
- ❖ Exceptional value for money and visible payback
- ❖ Improved communication with key parties
- ❖ Peace of mind
- ❖ Cutting edge solutions
- ❖ Technically advanced, intuitive and appropriate products
- ❖ Personal proactive interaction with clients
- ❖ Proven credibility

Contact Details

Tel: +27 (21) 6837111

Fax: + 27 (21) 6838277

Ground Floor, Colinton House, The Oval, 1 Oakdale Rd, Newlands, 7700, Cape Town

PO Box 23983, Claremont, 7735

Email: info@risCura.com