



**NATIONAL TREASURY
REPUBLIC OF SOUTH AFRICA**

File No:

Ref: P S Hadebe & J Redelinghuys

Tel: 012 315 5486

Fax: 012 326 7552

WORKING PAPER ON STRIPS

The National Treasury is inviting market participants to comment on the 'Strip Working Document'. The intention of this Working Document is to provide basic information on how a strip market operates and to begin to work on the structure that will be suitable for the South African financial environment. While the National Treasury has had discussions with some of the market participants, including the Central Depository, Unexcor and BESA, it is evident that the majority of the market participants have not yet been involved. In order to ensure that we come-up with a structure that is not just suitable for the South African financial environment, but that will also contribute to the growing sophistication of the South African Government Securities Market, the National Treasury encourages the market participants to actively participate in the establishment of a Strip market.

Contact persons for further information or comments:

- Phakamani Hadebe

Tel: (012) 315-5486

Fax: (012) 326-7552

E-Mail Phakamani.Hadebe@treasury.gov.za

- Johan Redelinghuys

Tel: (012) 315-5297

Fax: (012) 326-7552

E-mail Johan.Redelinghuys@treasury.gov.za

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1. INTRODUCTION

The increasingly more active debt management strategy of the Government reflects the need to maintain liquidity and integrity under conditions of a declining Government funding requirement, and is facilitated by the growing sophistication and efficiency of the South African bond market.

Among the measures to maintain and enhance the liquidity of the Government securities market announced by the National Treasury in the 2001 Budget Review, was its intention of facilitating a market in strips.

This working paper is released for discussion purposes only and does not provide detailed information on all operational issues, some of which still need to be discussed further with various market participants.

2. WHAT ARE STRIPS?

2.1 Stripping

The process of stripping involves separating a standard coupon-bearing bond into its constituent interest and principal payments, so that they can be separately held or traded. These strips trade as zero coupon instruments¹. Consider a ten year bond which will redeem on 31 August 2010. The benefits associated with a holding of this bond are the receipt of coupon payments on 28 February and 31 August up to and including 31 August 2010 and of the redemption repayment of 100% nominal on that date. Under the stripping process, each of those payments are stripped from the totality of the bond and made into an individual bond. This process gives rise to a series of 20 such securities emanating from the bond's coupon payments due on 31 August 2000, 28 February 2001, 31 August 2001, until the redemption date of 31 August 2010, and a further strip relating to the

¹ A conventional bond is a debt instrument consisting of a series of periodic coupon payments plus the repayment of the principal at maturity. As the name suggests, a zero-coupon bond has no coupon payments. It has only a single payment consisting of the repayment of the principal at maturity. The zero-coupon bond is purchased by an investor at a discount to its face value and then redeemed for its face value at maturity. The return to the investor is the difference between the face value of the bond and its discounted purchase price.

bond's repayment of principal on 31 August 2010. The cash flows on the bundle of zero coupon strips would be identical to the cash flows on the original unstripped bond.

Coupon strips are referred to as C-strips and principal strips as P-strips.

2.2 Reconstitution

Reconstitution is the opposite of stripping. It involves assembling the constituent cash flows in order to recreate the standard coupon bearing bond from which the principal strip originally constituted.

USES OF STRIPS FOR INVESTORS

3.1 Are strips safe investments?

The coupon and principal strips that have been created through the official bond strips facility will remain direct obligations of the Government of the Republic of South Africa and are backed by the full faith and credit of South Africa. They will be registered securities at the Bond Exchange of South Africa. Since they are fully owned by the Government of South Africa, they will have the same credit characteristics as standard coupon-bearing bonds.

3.2 Market prices of strips vs prices of conventional bonds

Market prices of strips fluctuate more than the prices of fully constituted securities of the same maturity, as the price of a strip is more sensitive to interest rate changes. This is because interest rate is the value that the market attaches to payments in the future. The further into the future payments are received, the more sensitive the present value of that payment is to the market interest rates. A strip provides only a single payment at maturity, so its price (present value) is more sensitive to interest rates than a coupon-paying bond that provides a series of payments in the periods before maturity. This means that the market price of a strip reflects the fact that there is only one payment on a specific date in the future. The market price of a fully constituted bond reflects the fact that there are a series

of semi-annual interest payments and a final payment at maturity. The longer the maturity of strips, the greater the potential market price fluctuation.

Strips sell at discount because there are no periodic interest payments. An investor's income on a strip that is held to maturity is the difference between the purchase price and the amount received at maturity. Long-term strips have lower market prices than short-term strips, because long-term strips accrue interest over a longer period of time.

3.3 Attractions/uses of strips

As zero-coupon instruments, strips can be considered financial building blocks which can be used to create a variety of synthetic assets whose cash flows cannot be produced with a combination of conventional bonds.

3.4 Positioning for a decline in interest rates

Strips may be attractive to investors because they typically have higher duration than coupon-bearing bonds and are also much more convex than similar maturity coupon bonds. These features mean that they allow active fund managers to take greater exposure to price movements and that in some circumstances strips may outperform coupon-bearing bonds in the same maturity. For these investors, strips offer the best vehicle to benefit from a decline in interest rates. This is because the price of a strip is more sensitive to interest rate swings than the price of a coupon-bearing bond with similar characteristics. Investors who hold strips in a declining rate environment could sell the bonds prior to maturity and realise a capital gain, or else hold the bonds and continue to earn competitive yields.

3.5 Strips minimise reinvestment risk

Strips are also attractive to investors because of the lack of reinvestment risk, making them useful in helping to immunise a portfolio against interest rate risk. This is because strips promise the investor a specific yield to maturity and Rand

value at maturity. Among the necessary conditions to immunise a portfolio is that duration (a time-weighted measure of the cash flows) of the portfolio equals the time remaining in the holding period. Strips meet this criteria because their duration equals their yield to maturity.

3.6 Matching assets and liabilities

Strips can be used to achieve a dedicated portfolio where cash flows are matched to the stream of liabilities. This ensures that interest rate risk is eliminated and the liabilities are pre-funded. Strips can be used to offset a single liability that a company or individual will face at a particular point in the future. This need is more prevalent among the institutional investors, although it can also be used by individuals who face an expense of a known amount in the future.

3.7 Strips also attractive to individual investors

Most individual investors buy strips in order to save for long-term goals like a university education or retirement.

3.8 Strips and zero-coupon yield curves

The National Treasury has in the past issued zero-coupon bonds. However, these bonds have been insignificant and have been ignored by the market in the construction of a zero-yield curve. This means that it is not possible to observe directly traded zero-coupon rates in the domestic market. Because of this, the market participants are instead using data from coupon-bearing bonds to build a yield curve model. Due to strips, the South African Government Securities Market will be able to derive an actual zero coupon curve directly from the prices of strips. This is important as it will allow the market participants to compare the actual zero coupon curve derived from strips with the theoretical curve obtained from coupon bonds. In theory, the yield on the strip should match the yield on the spot curve for the given maturity. In reality, however, anomalies do arise. This comparison is important as it will provide an indication of whether there is an incentive to strip or reconstitute bonds.

In a situation where the yield curve is upward sloping, the strips curve will always lie above the par yield curve for coupon-bearing bonds. A strip will yield more than coupon-bearing bonds with otherwise similar characteristics. That is because a positively sloped curve means that the market attaches a higher yield to payments further out in time. Since the entire payment from a strip comes at maturity, the market should give it a higher yield than that for a coupon bond, which provides payments in the periods before maturity.

When the yield is negatively sloped, the strips curve will lie below the par yield curve. The market is attaching a lower yield to payments further out in time, and a strip will normally yield less than a comparable coupon-paying bond. This superficially makes strips look less attractive than coupon bonds. However, it is not enough to simply compare the yield on a strip with that on a strippable coupon bond of the same maturity. This takes no account of the differences in duration between two instruments. Comparing the yields on coupon bonds with the yields on strips of the same duration provides a much better indication of relative value between the two instruments.

4 ISSUANCE AND FEATURES OF RSA STRIPPABLE BONDS

4.1 Bond issues to be stripped

Initially it is the intention of the National Treasury that only benchmark bonds will be strippable. Bonds that have been used as source bonds in the switch programme will not be considered. In future inflation-linked bonds might also be considered to be strippable. It is the intention that all new issues of conventional bonds will be strippable from the issue date.

Non-strippable bonds will not be made strippable without prior notification to the market.

4.2 Fungibility of coupon and principal strips

A single bond issue would not generate a significant volume of coupon strips on its own and therefore effect liquidity. To promote liquidity of strips, coupon dates of strippable bonds would as far as possible be aligned. This will make all coupon

strips maturing on the same date fungible, e.g. coupon strips payable on the same date stripped from different underlying bonds will be completely interchangeable. Of the current benchmark bonds, the coupon strips of the R150 (12%; 2004/05/06) and R153 (13%; 2009/10/11) will already be fungible. To enhance liquidity at the start of the formal strip market, the coupon dates of the new R194 (10,0%; 2007/08/09) bond will also be aligned with that of the R150 and R153 bonds, e.g. 28 February and 31 August.

To increase investor choice of the timing of cash flows the National Treasury will consider to align a second pair of coupon dates in addition to 28 February and 31 August. As the initial priority is liquidity the aligning of a second pair of coupon dates will be considered at a later stage once demand and liquidity of strips can be assessed.

Coupon and principal strips will not be fungible. The fungibility of coupon and principal strips will mean that the market could create more of a coupon bearing bond via the reconstitution facility, than had originally been issued. This might be detrimental to holders of the bond, as the size of an issue would be uncertain.

For the same reason, principal and principal strips will not be fungible, even if the redemption payment dates of two strippable bonds fall on the same date.

4.3 Stripping of the capital of three legged bonds

The principal amount of the three legged benchmark bonds will, when stripped, be separated into its three equal principal payments and therefore into three different principal strips which can be separately held or traded as zero coupon instruments.

4.4 Limits on strippability

There will be no limit on the amount or proportion of any strippable bond issue that can be stripped. While a limit might in principle help to avoid an underlying coupon-bearing bond being in short supply in the secondary market, the reconstitution facility should ensure that this is achieved through market mechanisms.

The maximum use which can be made of the reconstitution facility will be determined by the amount of the underlying coupon bond in issue.

5. STRIPPING AND RECONSTITUTION

5.1 Availability of the facility

National Treasury will provide the facility to strip bonds.

Although anyone can trade or hold strips, only primary dealers in Government bonds will have the ability to perform stripping and reconstitution by using the facility provided by the National Treasury.

Thus, a non-primary dealer who wants to acquire strips will have to purchase these in the market, or can strip a bond in its own name via a primary dealer. Similarly a non-primary dealer wishing to reconstitute a stripped bond could either sell the constituent strips of a strippable bond in the market and buy back the underlying bond or alternatively, it could arrange for a primary dealer to reconstitute the bond on its behalf by delivering appropriate coupon and principal strips to the primary dealer and receiving the coupon-bearing bond in exchange.

The National Treasury envisages that primary dealers will make a market in strips as part of their general market making obligations. The service primary dealers are expected to provide will be discussed with primary dealers.

5.2 Strips to be held in uncertificated form

Stripped bonds can only be held in uncertificated form by using the Central Depository Book Entry System.

The implication of strips with regards to the book entry system will be further discussed with the Central Depository.

5.3 Minimum units for stripping and reconstituting

For each strippable bonds there will be a minimum amount below which a strip or reconstitution request will not be accepted.

5.4 Stripping and reconstituting bonds which are ex-dividend or close to redemption

As strips will be dematerialised in the Central Depository it should be possible for a bond to be stripped after it has gone ex-dividend. Similarly it should be possible, after book close, to include a coupon strip into a bundle of strips submitted for reconstitution into a coupon bearing bond. Implications this may have on other market players will have to be investigated and discussed.

6. TRADING AND SETTLEMENT OF STRIPS

Coupon and principle strips will be freely tradable on BESA. The transactions on BESA will be effected for settlement on the third business day after the transaction (t+3). The possible need for special settlement conditions for strips, if any, will be discussed with BESA.

It will also be possible to lend and/or repo coupon and principal strips in the bond lending and repo markets, like any coupon-bearing bond. Coupon and principal strips will qualify as liquid assets.

7. STRIP PRICING

While the National Treasury prefers that trading takes place on a yield basis, market participants will be requested to indicate whether trading in the secondary market should be on a yield or price basis. The market will also have to decide on a standard pricing formula, if this is deemed essential.

8. MARKET INFORMATION ON STRIPS

Information on the nominal amounts of each strippable bond issue and the amounts stripped, will be made available to the market by the National Treasury on a regular basis.

9 TAXATION OF STRIPS

It is envisaged that tax on coupon strips and principal strips will be taxed on a basis similar to that of the conventional zero coupon bonds that were issued by the Government. The investor will be taxed on accrued income calculated on the yield to maturity of the coupon or principal strip.