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Glacier Life Investments Summit

The A - Z of Bonds

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What is a Bond?

Difference between a Bond and a Share

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BOND

- Pays **coupons**: defined series of payments
- Set **maturity** date (will receive principal back)
- **First claim** to cash flows before shareholders

SHARE

- Pays **dividends**: not pre-defined, can vary considerably
- Perpetual/**no maturity** date
- **Last claim** to cash flows

Every bond has one of each of the following characteristics

Coupon Type

Issuer Type

Maturity Date

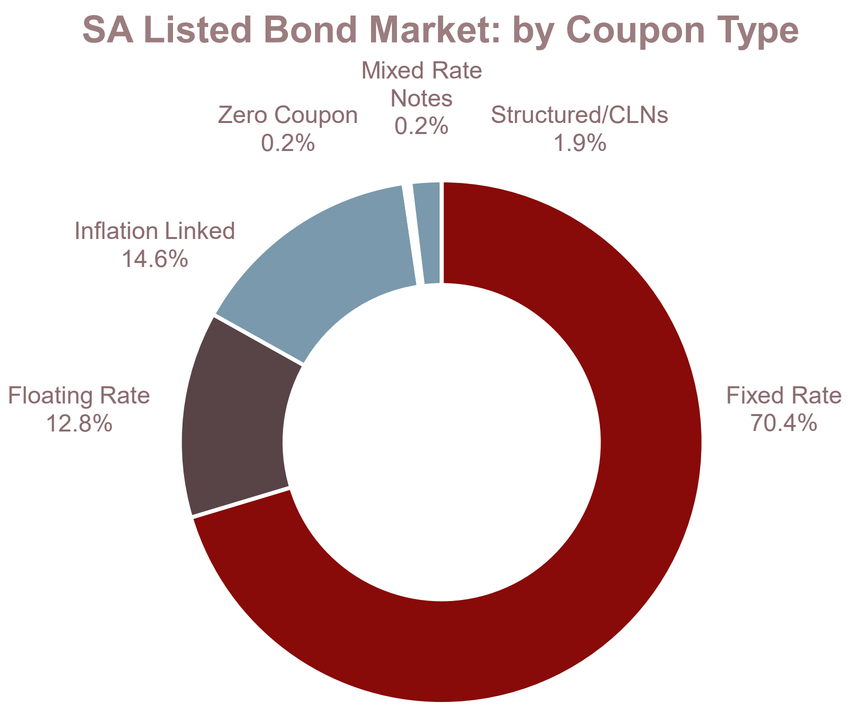
Every bond has one of each of the following characteristics

Coupon Type

Issuer Type

Maturity Date

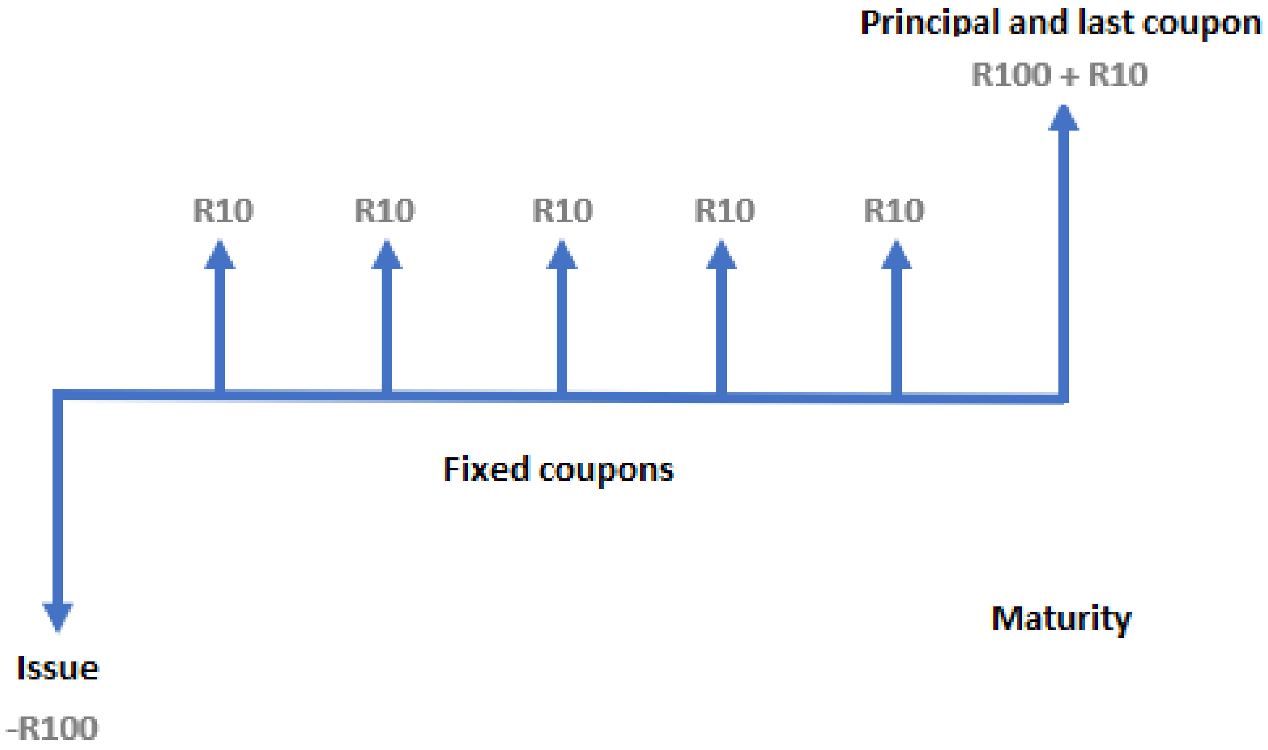
SA Listed Bond Market by Coupon Type



Source: JSE and National Treasury, Laurium

Fixed Rate Bonds

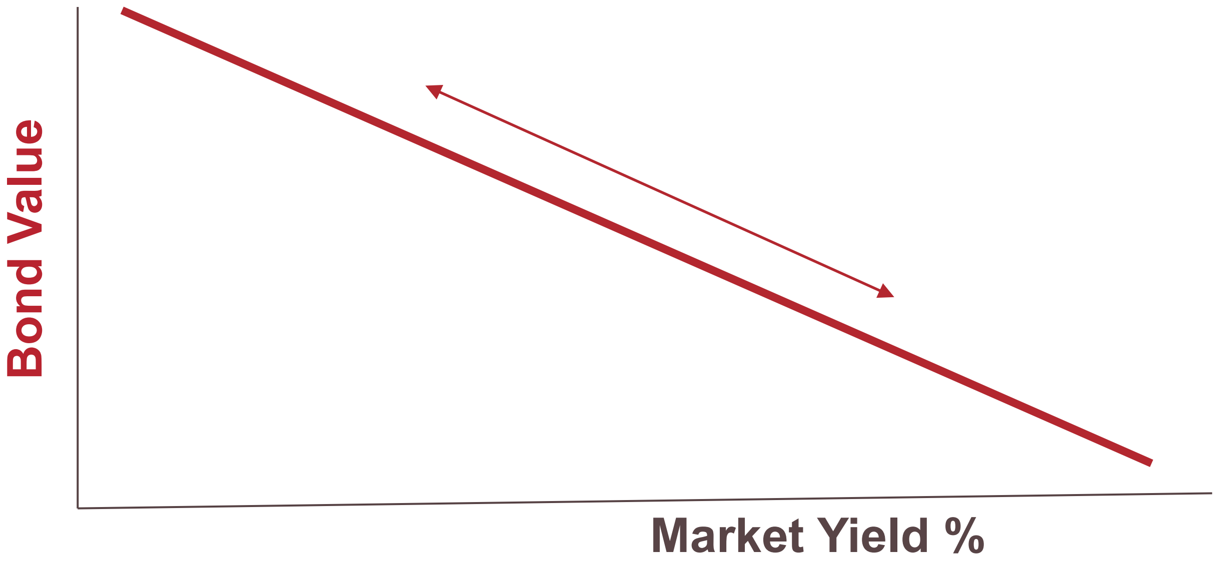
Fixed rate bond: Pre-defined set of cash flows



Inverse Price/Yield Relationship

Capital gains and losses as market interest rates change

- When **market rates** change, the **price** of a fixed coupon bond changes in the opposite direction
- Bondholder **loses** when market rates **rise**, **gains** when market rates **fall**



Inverse Price/Yield Relationship

Capital gains and losses as market interest rates change

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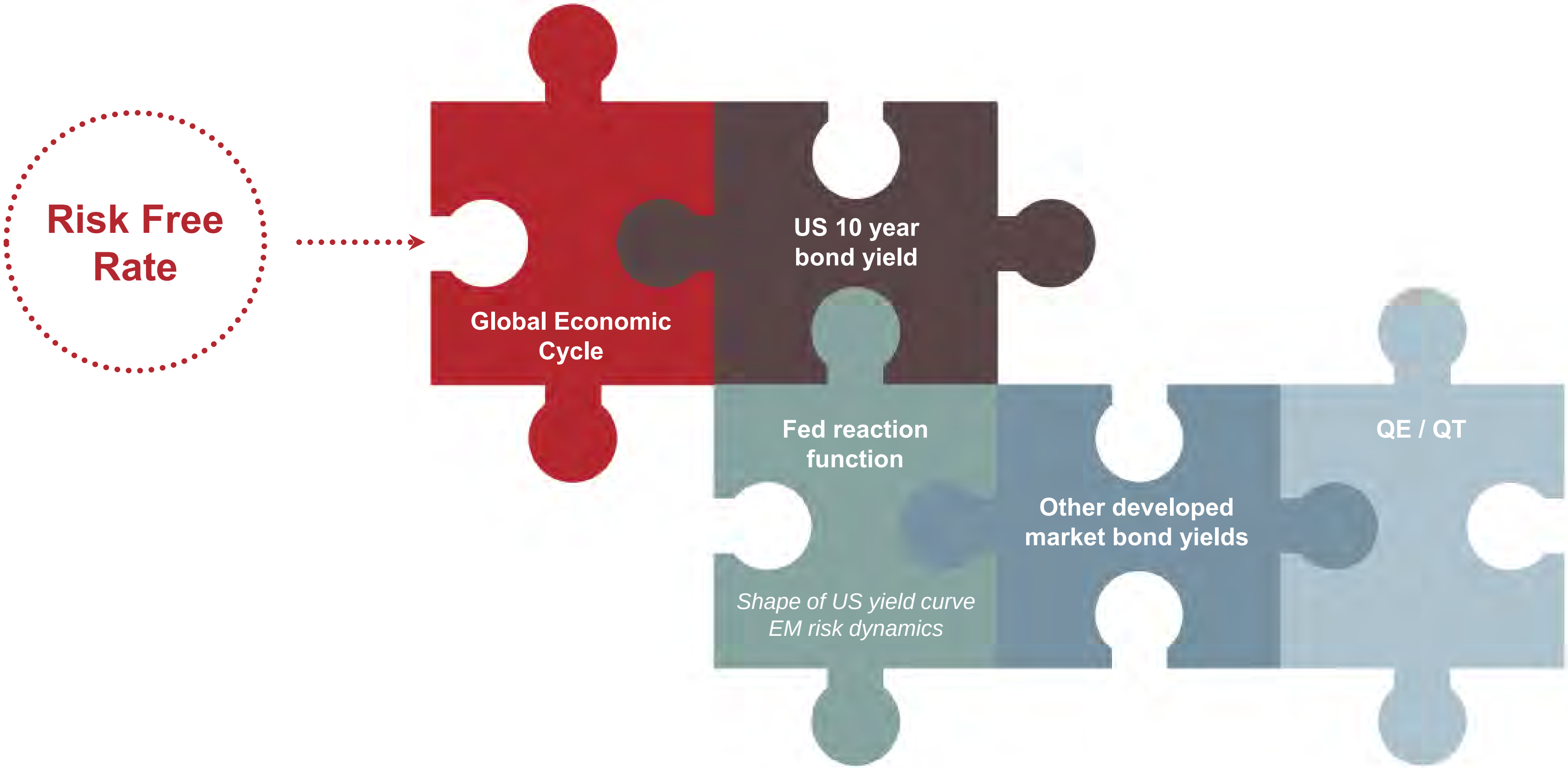
- If market yield **INCREASES**, bond price **DECREASES**
  - Discounting cash flows at a higher rate, e.g. 10% set coupon, but mkt rates are now 12%, therefore a fixed 10% is worth **less** than market rates
- If market yield **DECREASES**, bond price **INCREASES**
  - Discounting cash flows at a lower rate, e.g. 10% set coupon but mkt rates are now 8%, therefore a fixed 10% is worth **more** than market rates
- **Duration** is a measure used to indicate how much the price will change given an increase/decrease in market yields

Bond Fair Value - How do we gauge this?

The Three Rs

Top Down Process

Our first R



Global Central Bank Pivot

DOVE

- Softer approach to the interest rate outlook
- Inclined to keep rates unchanged or lower

HAWK

- More aggressive approach to increasing interest rates
- Inclined to keep rates high or hike further

Fed policy rate vs US CPI inflation

Is this what 'behind the curve' looks like?

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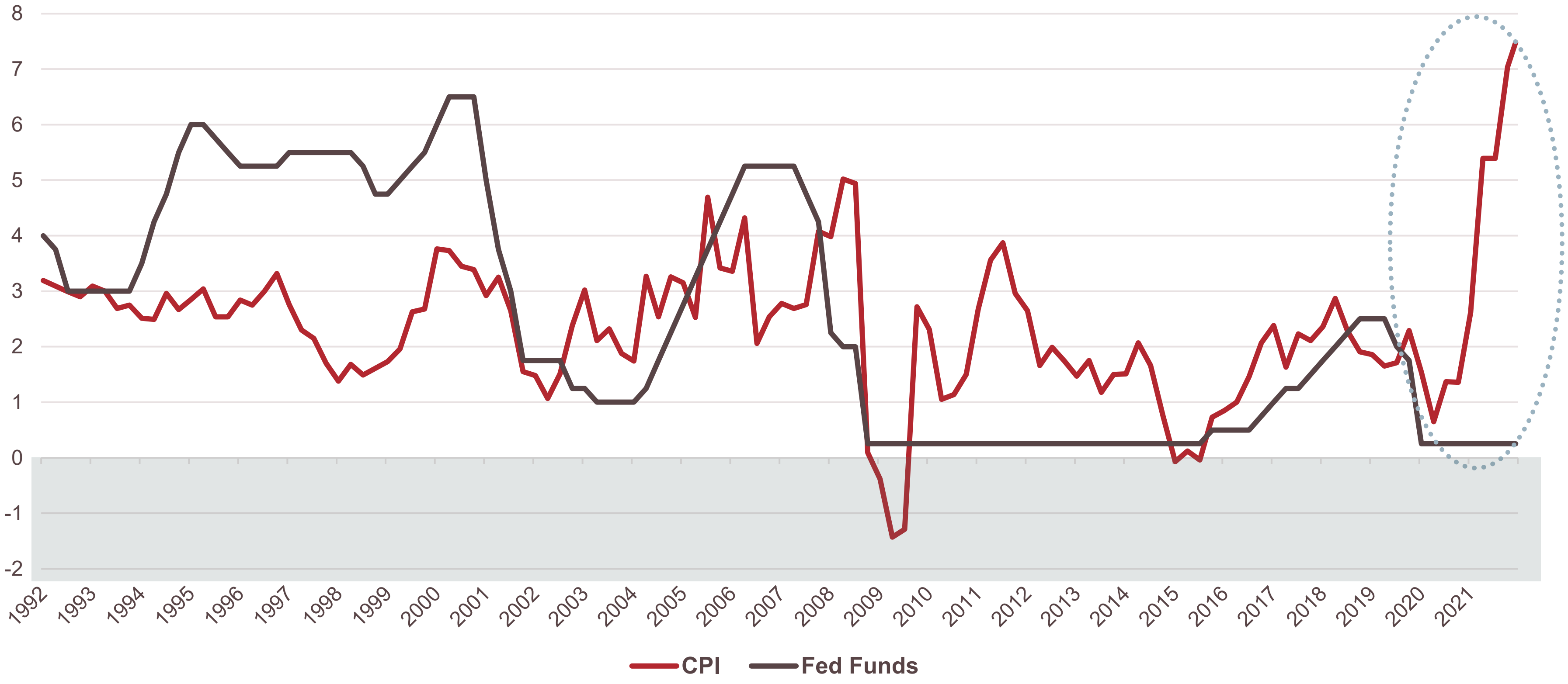
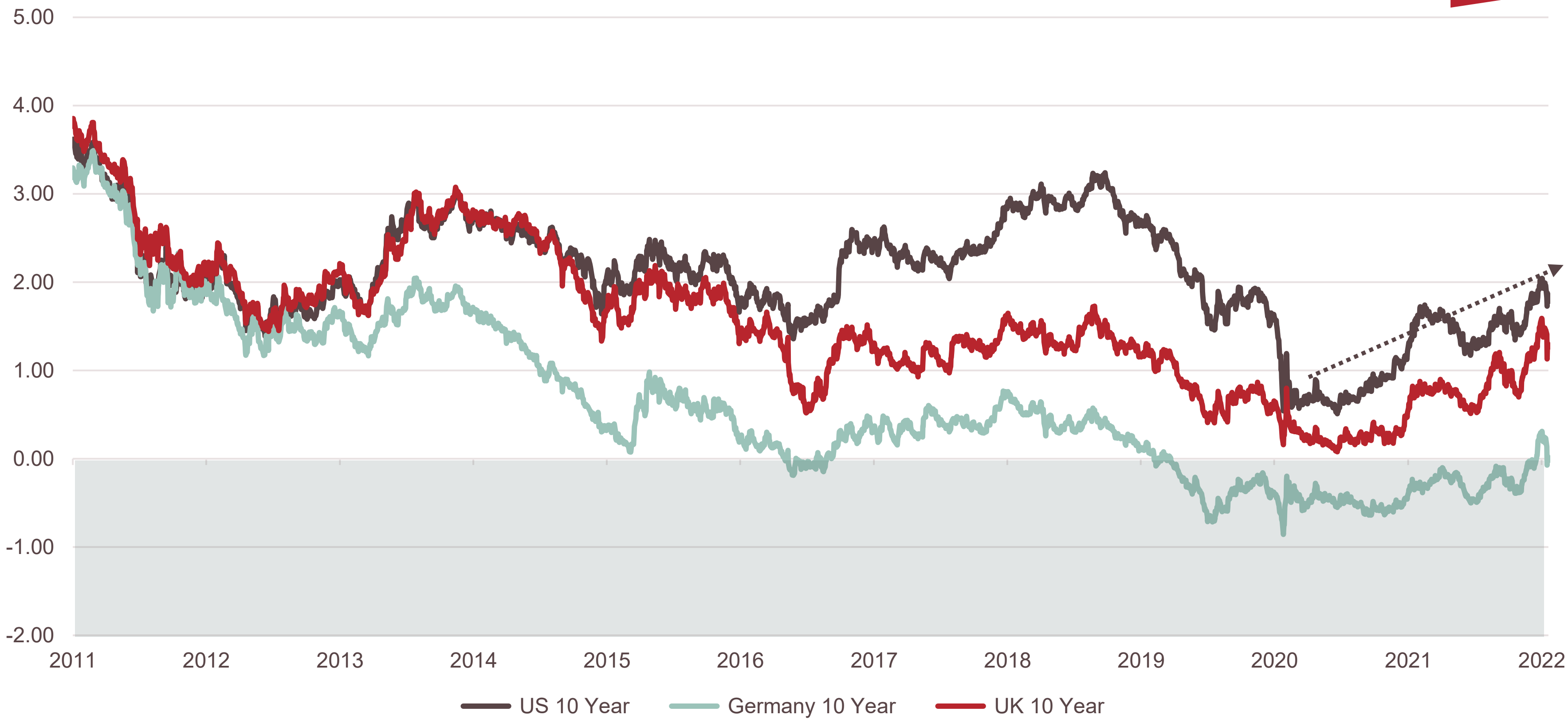


Source: Bloomberg

10-year govt bond yields

Upside inflation surprises, swift U-turn in central bank messages

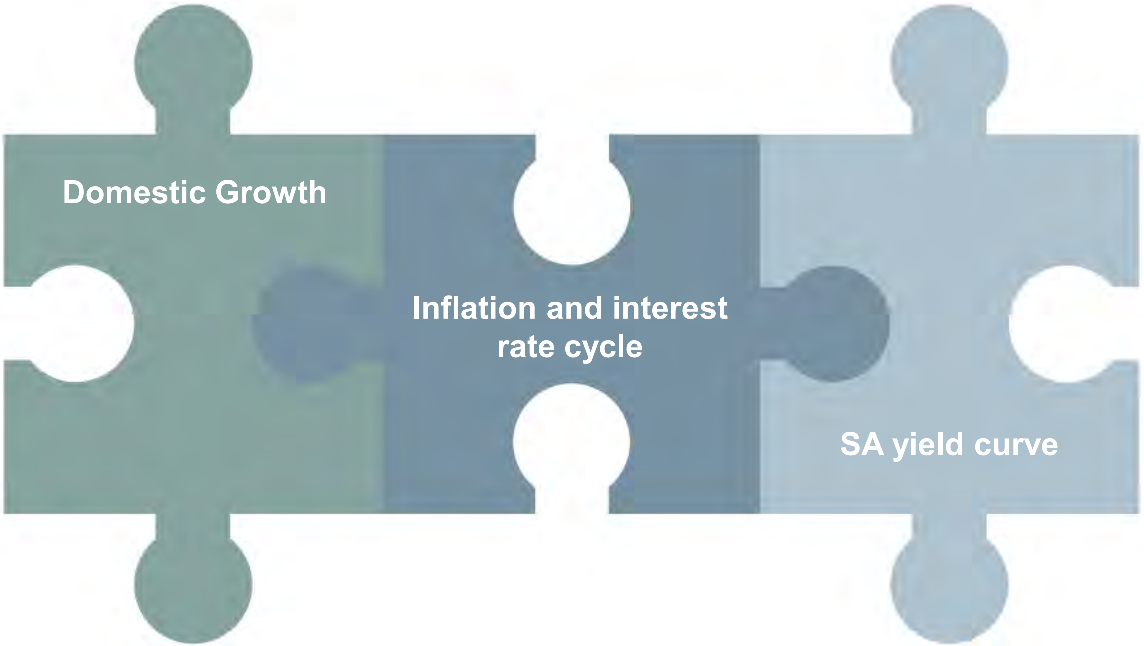


Source: Bloomberg

Top Down Process

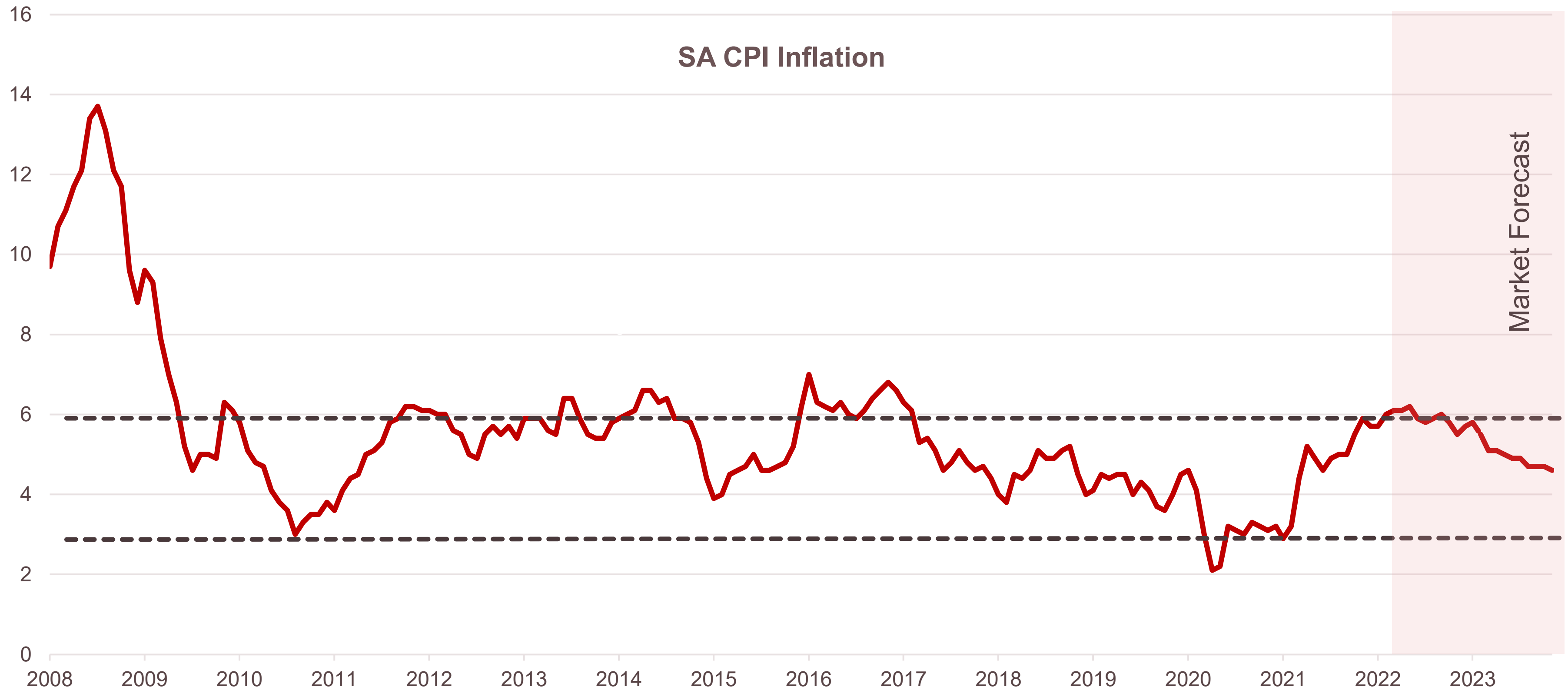
Our second R

Relative inflation & domestic cycle



SA: Inflation within target range, upside risks

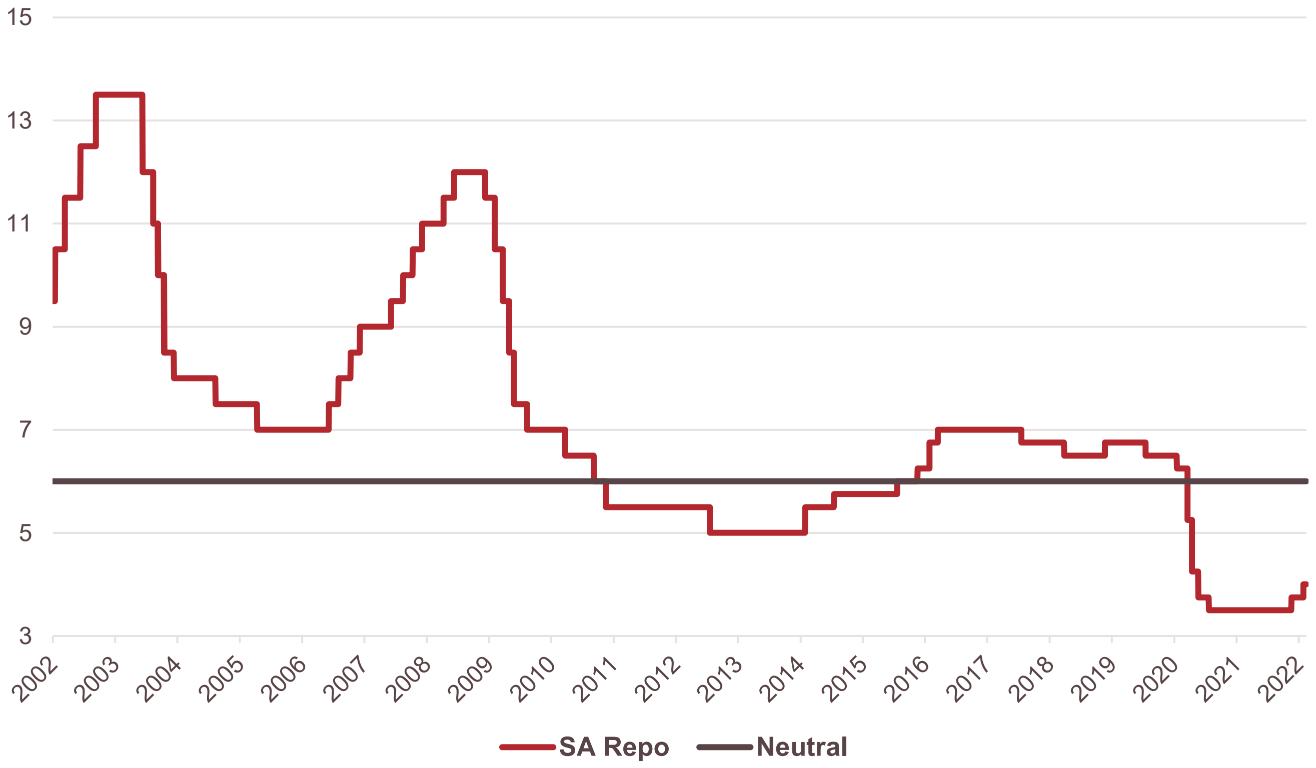
Oil and food prices pose a significant risk to the near term outlook



Source: Bloomberg, ABSA

SA interest rates

Will need to normalise, but how quickly?



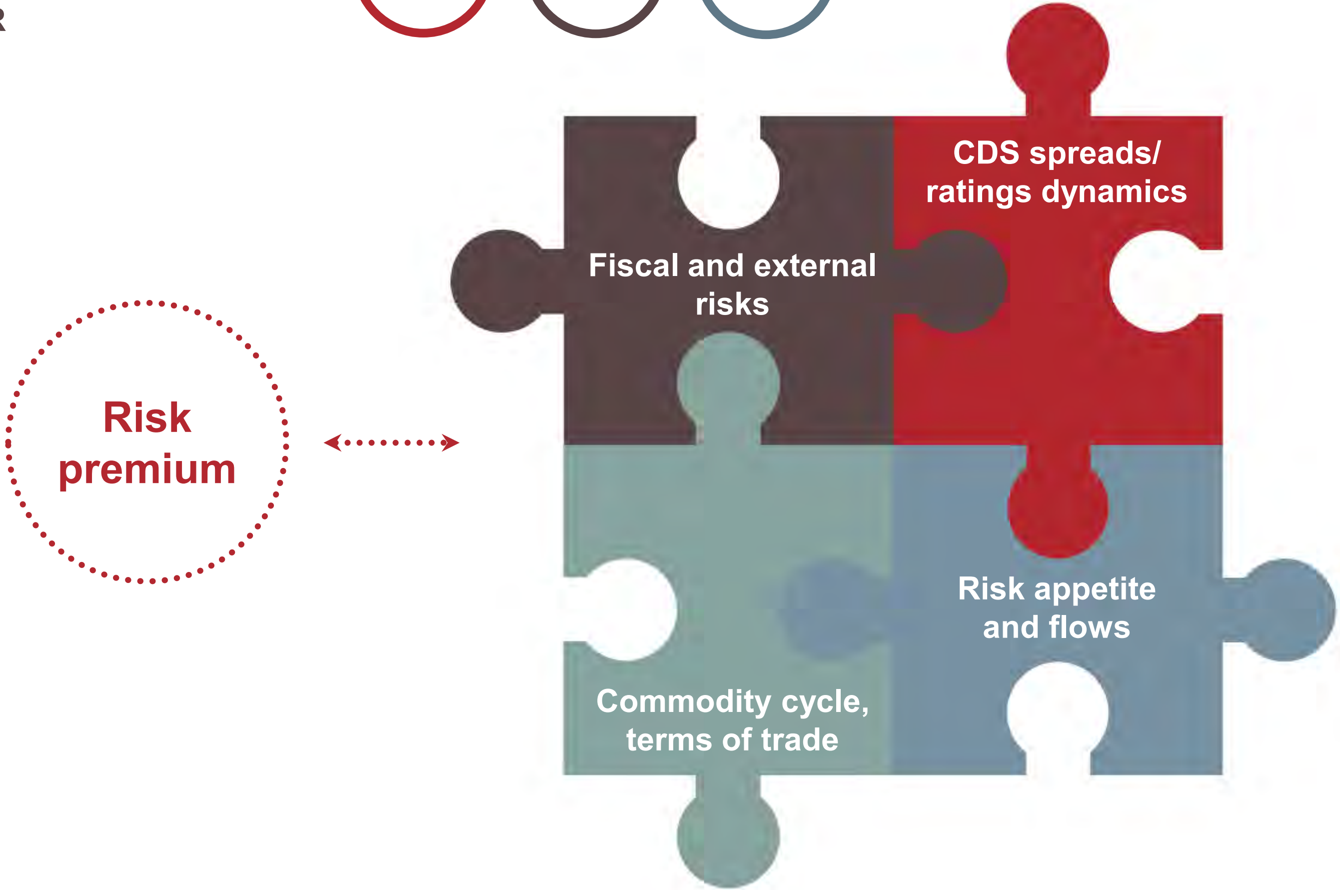
Source: Bloomberg

Magnitude and **speed** driven by:

- **SA Inflation**
  - How quickly does it fall back to **mid-point**?
  - Do inflation **expectations** remain anchored?
- How **aggressively** does **Fed** hike?
  - If **risk off**/capital **outflows**/sharp **Rand weakness**
- **MPC** will likely **front-load** rate hikes

Top Down Process

Our third R



Global growth and commodity price backdrop

Has provided significant boost for SA

- Reduces SA **external** vulnerability
- Buffers **Rand** and **inflation** outlook
- Further **fiscal** boost

Source: JPM, Bloomberg

Low external funding needs: SA Current account to GDP

Current account surplus was last above 3% in 1987: very different to taper tantrum

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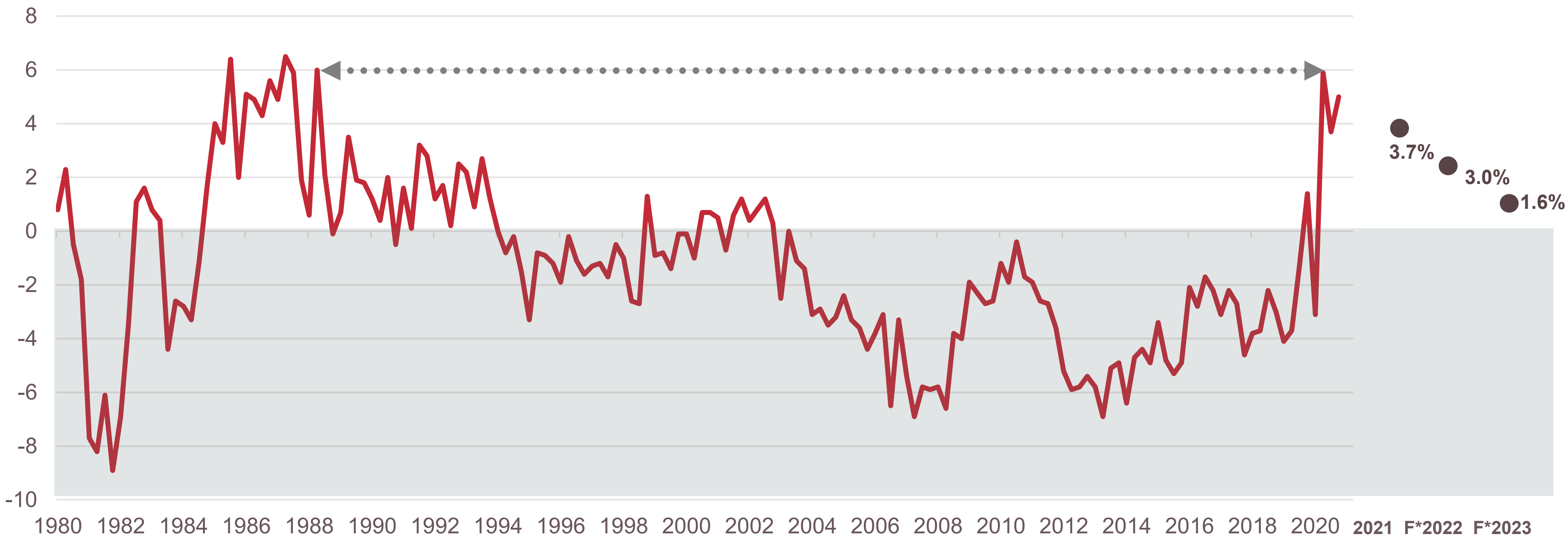
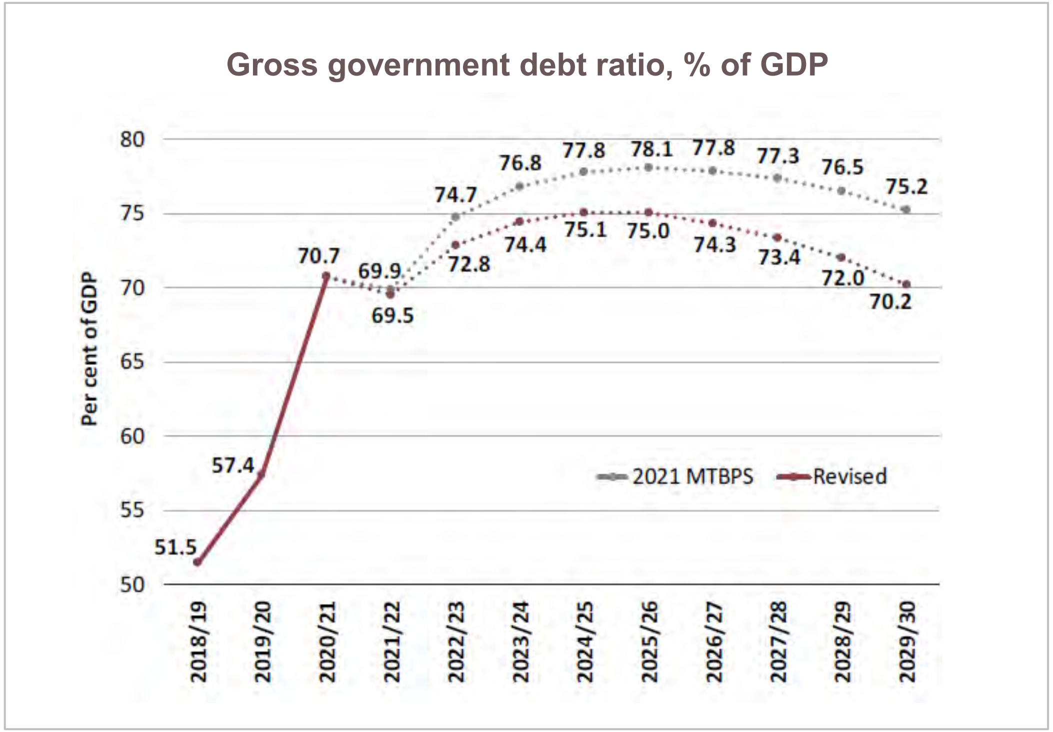


Source: Bloomberg; F* = SARB Forecast

Fiscal risks high, but direction of travel better last 2 years

Long term growth key to whether SA debt stabilises



Source: National Treasury

- Questions around **durability** of commodity windfall
- Long term trend **growth** and fiscal **consolidation** still critical

Risk Premium: SA nominal 10-year yield is high

Source: Bloomberg

Risk Premium: SA real 10-year yield high relative to peers

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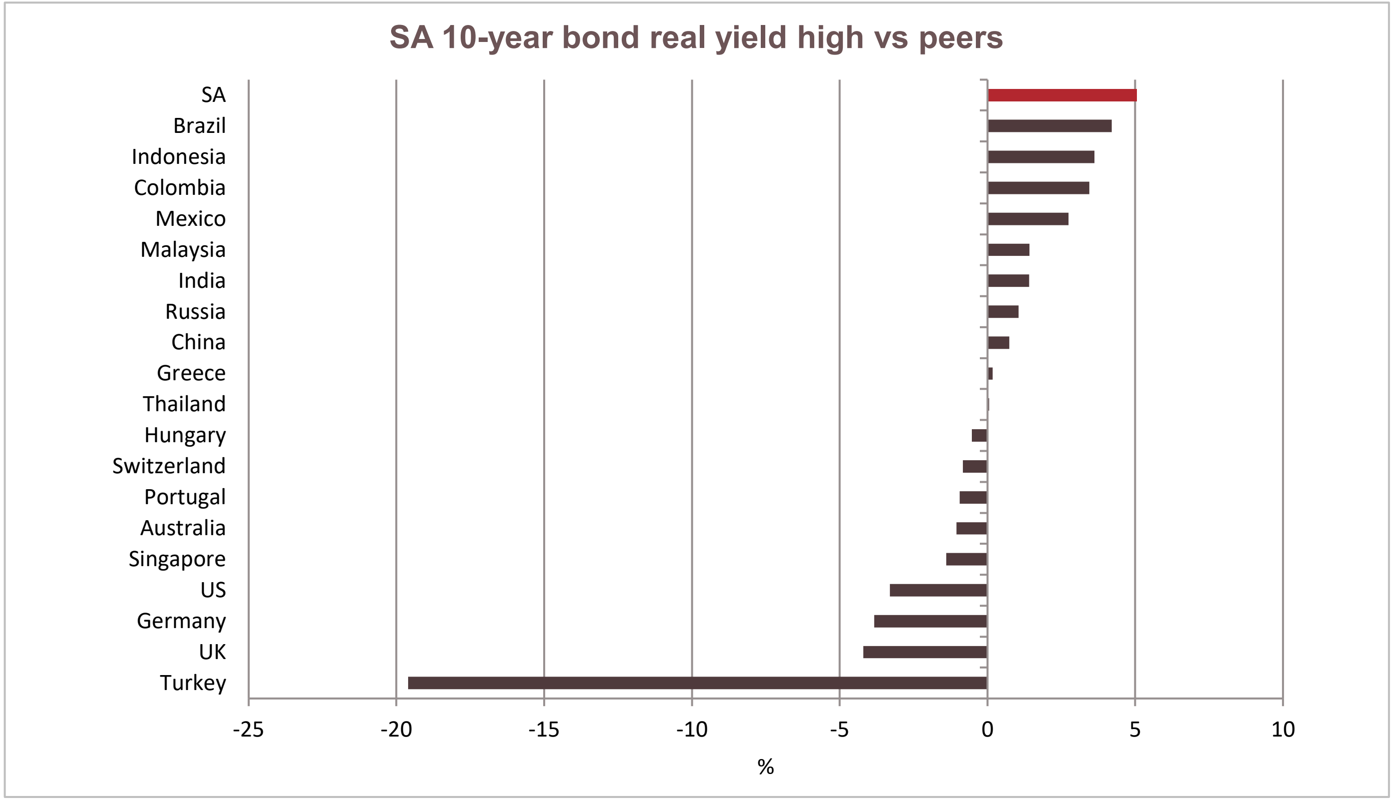

Source: Standard Bank Research

Fair Value – SA 10 year bond yield

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US 10 Year

- Fair Value for the 10 year risk free rate

Inflation Differential

- Less US exp inflation
- Add SA exp inflation

Country Risk Premium

- Add SA specific country risk

The Yield Curve

The Yield Curve

- In all economies there is not only a single interest rate but a **term structure** of interest rates – yield for each maturity
- Important to use homogenous bonds (**same quality** but different maturities)
- Every point reflects the market's views on the various components of risk these views **change** over time
- Examples of factors drive the shape:
  - Expected **interest rate** changes
  - Term premium for future **inflation** / **fiscal** risk
- Normally convex in shape, but can also invert (concave) – seen as a signal of recession risk
- The current Yield Curve can provide investors crucial information regarding the **economic cycle**

SA Sovereign Yield Curve – opportunities in longer dated bonds

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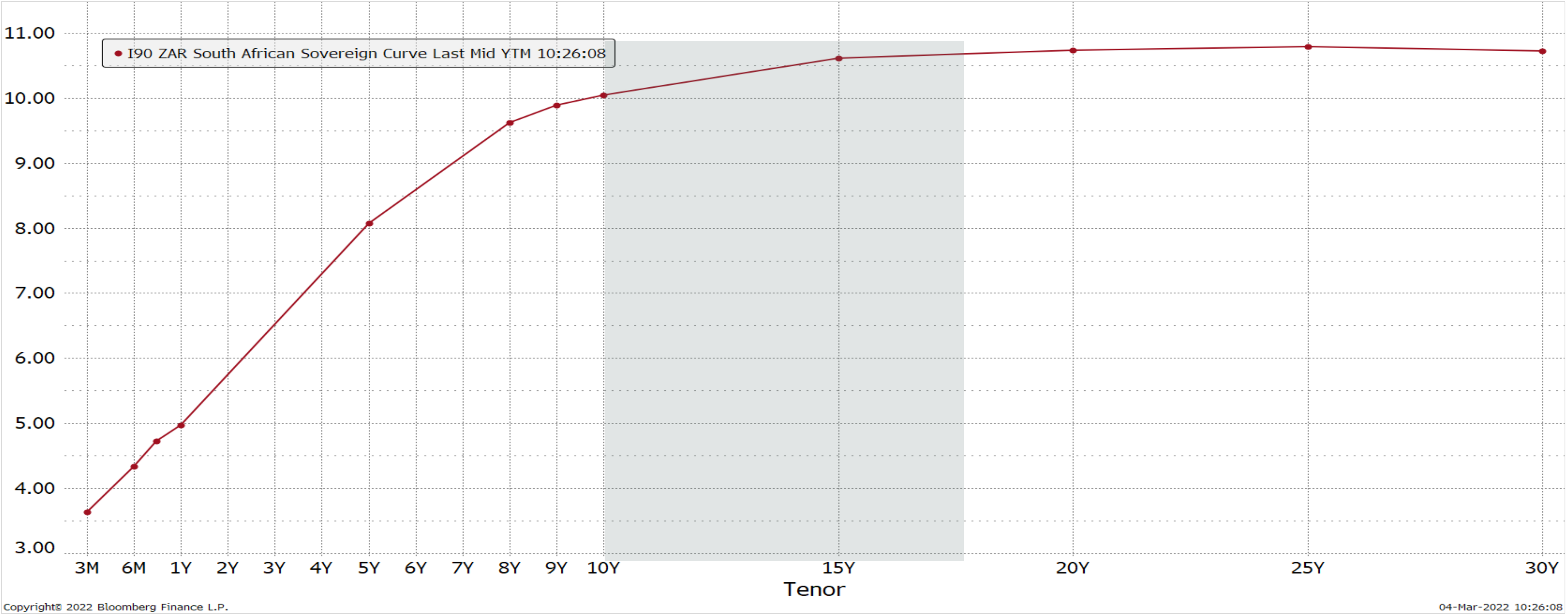
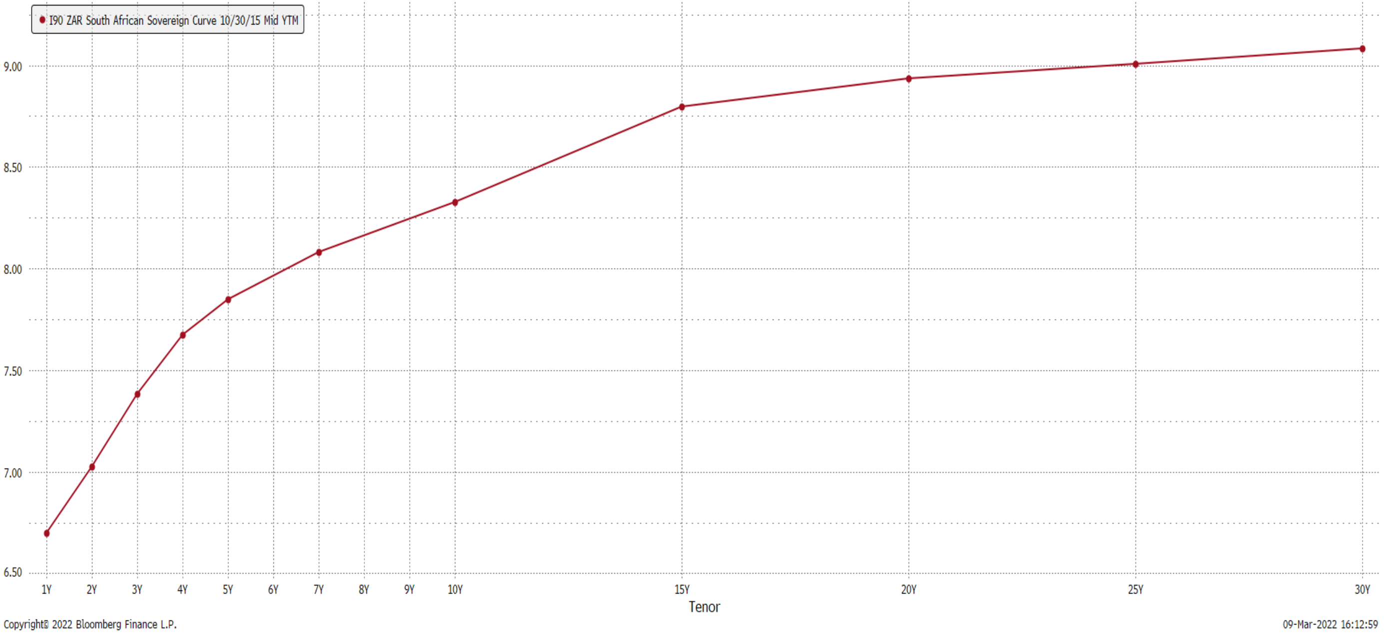


Source: Bloomberg

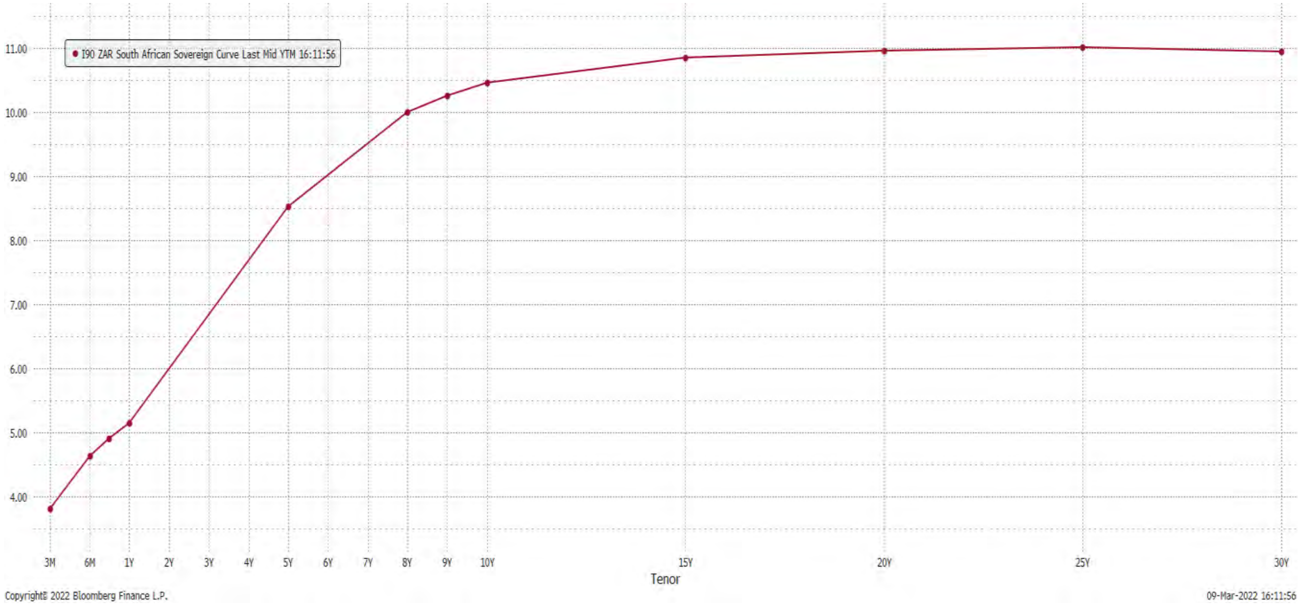
Positively Convex sloped yield curve



- Economy expected to grow at **normal** rates of **growth** and **inflation**
- Long term investors get a **higher reward** for taking on time risk

Source: Bloomberg

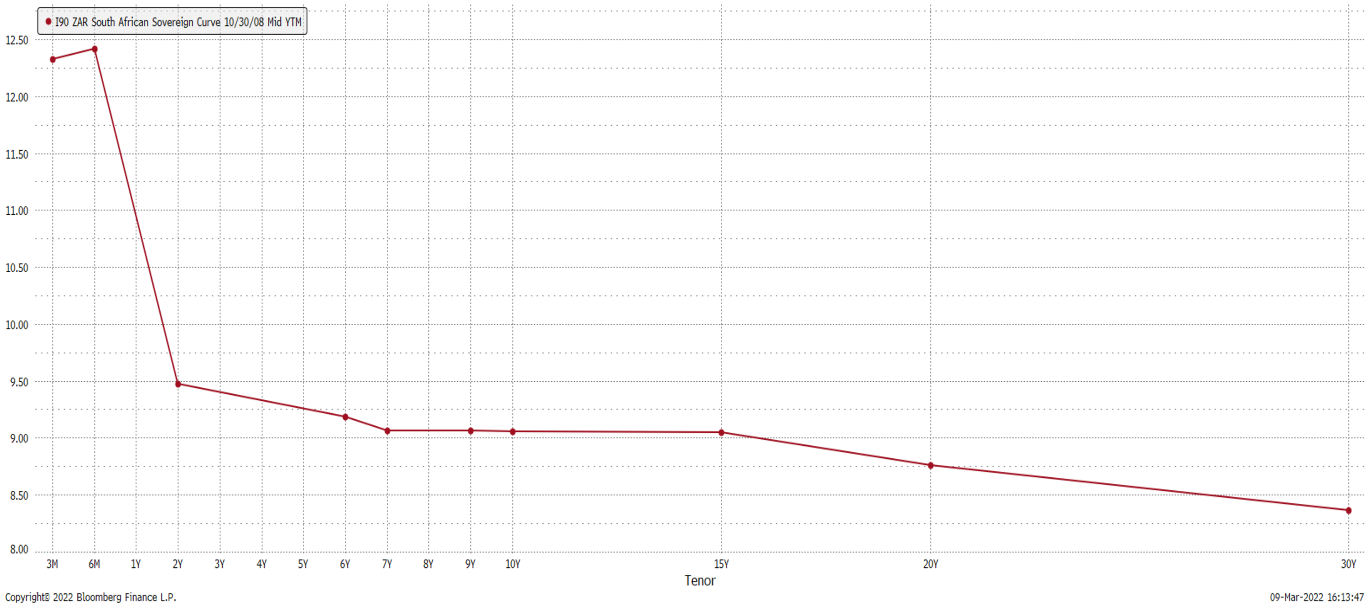
Steep (positively) sloped yield curve



- Signal that economy will **grow quickly** in the future – usually at **above potential** levels
- Above potential growth usually means **inflationary pressures**, thus more **restrictive monetary policy**
- Long term investors require much **higher reward** for this risk
- **OR:**
- Risk premium to compensate for higher perceived **other risks**, e.g. **fiscal risk** (SA) where steepness not driven by growth or inflation

Source: Bloomberg

Inversely (negatively) sloped yield curve

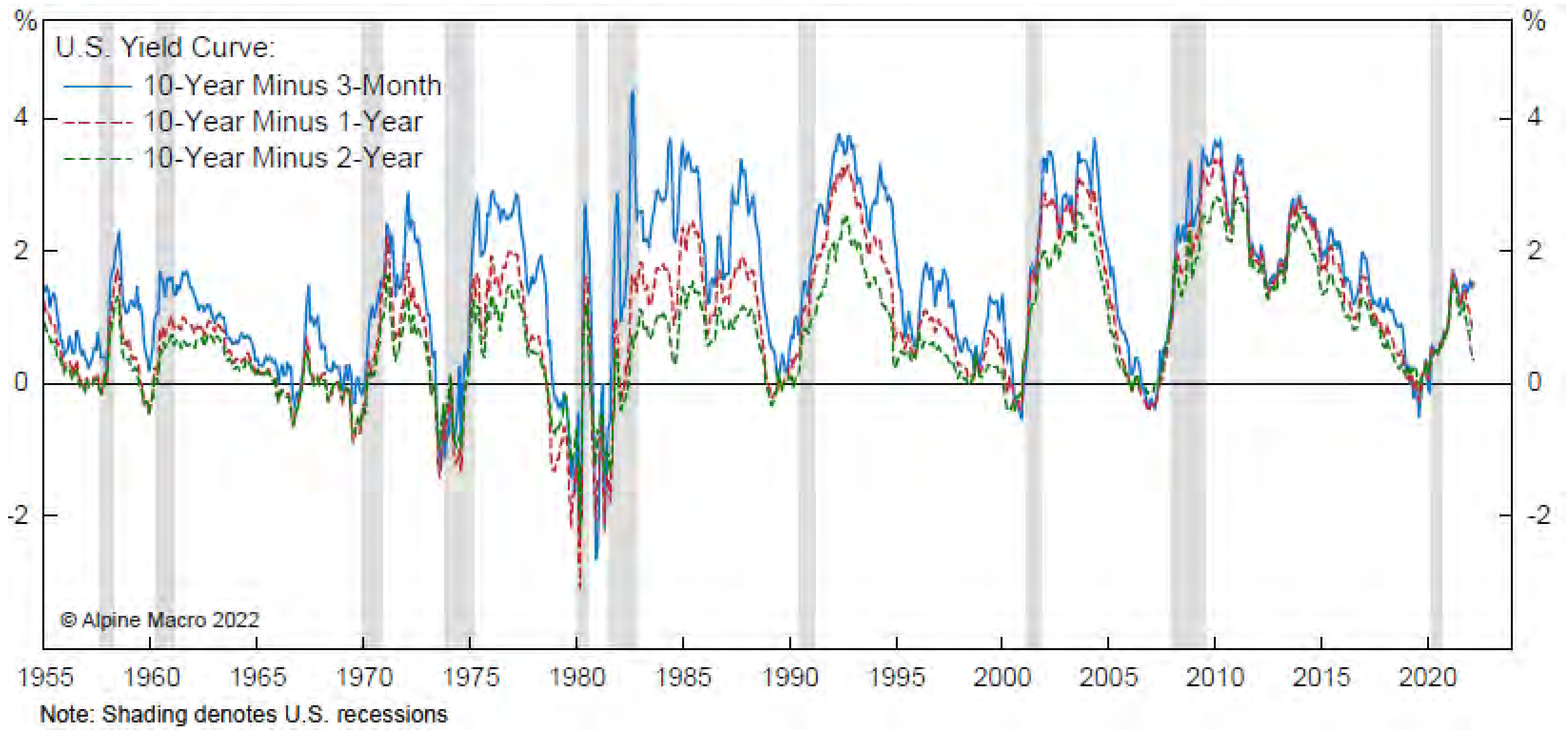


- This seems a paradox. Why would l/t investors settle for lower yields than s/t investors?
- Because they think **rates are going even lower**, so they want to lock in current rates before they fall
- Usually the curve becomes inverted at times of **recession**

Source: Bloomberg

Every Recession is Preceded by an Inverted Yield Curve

Shape sends important signals about economic cycle



Source: Alpine Macro

Other coupon types

Inflation Linked Bonds (ILBs/Linkers)

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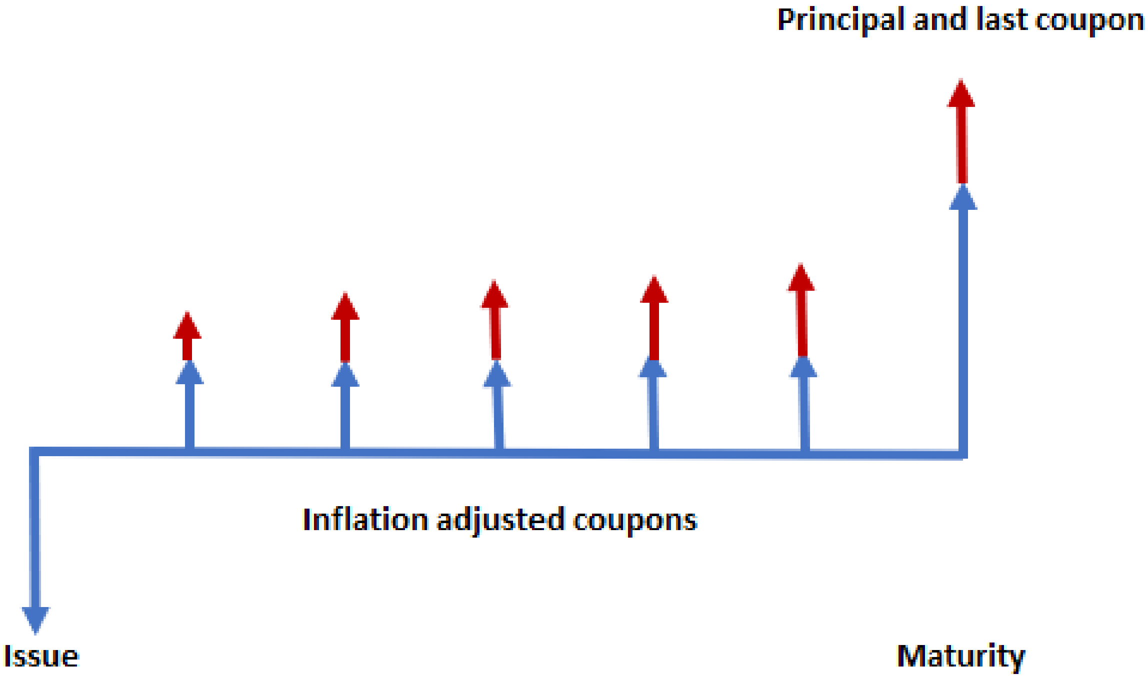
- Coupon payments linked to an **inflation index** (SA: headline CPI)
- Allows investor to earn a constant **real return** (i.e. a return after adjusting for the effects of inflation) as well as **protect the principal** amount of their investment against inflation (purchasing power stays intact!)
- Fundamental difference between ILBs and conventional nominal bonds: **nominal** bonds have coupon payments fixed in **nominal** terms, ILBs make payments fixed in **real** terms (i.e. coupons and principal calculated on a capital value that grows with inflation… hence free from inflation risk)
- Fixed rate bonds carry inflation risk – the possibility that the prices of goods and services in general will increase (SARB inflation targeting credibility important)
- Increasing prices erodes buying power of fixed rate bond payments (e.g. buy a bond which earns a 7% yield, but inflation is actually 8% until maturity = negative real return)

Inflation linked bond cash flows



Floating/Variable Rate Bonds (FRNs)

- **Majority** of SA corporate bond market issuance
- Pays a variable rate that fluctuates with market rates
- Coupon resets periodically against a reference rate to bring in line with prevailing market interest rates
- Formula: **reference rate** +/- **fixed margin** = applicable until next reset date
- Most common FRNs in SA market use 3 month Jibar (an average NCD rate) as a base rate, paying quarterly coupons *(Jibar will be phased out and replaced at some point)*
- For corporate bonds, this **fixed margin** is the **credit spread**
- Duration of FRNs small (therefore limited risk of capital loss/potential capital gain due to market rate changes)
- Changes in bond price therefore largely due to changes in the market credit spread

Different issuer types

Every bond has one of each of the following characteristics

Coupon Type

Issuer Type

Maturity Date

Types of Issuers

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Government

SOEs

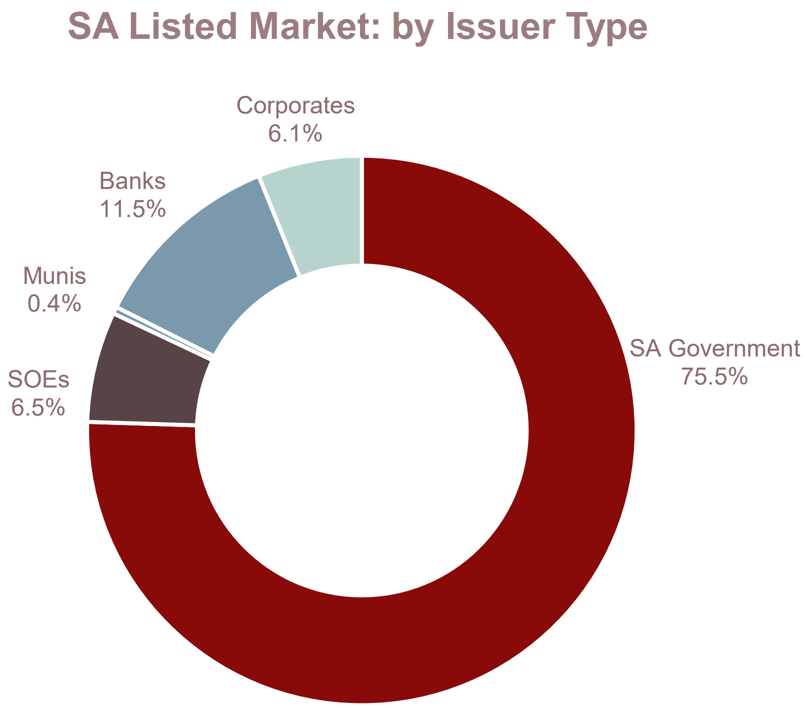
Munis

Banks

Corporates

Project Bonds

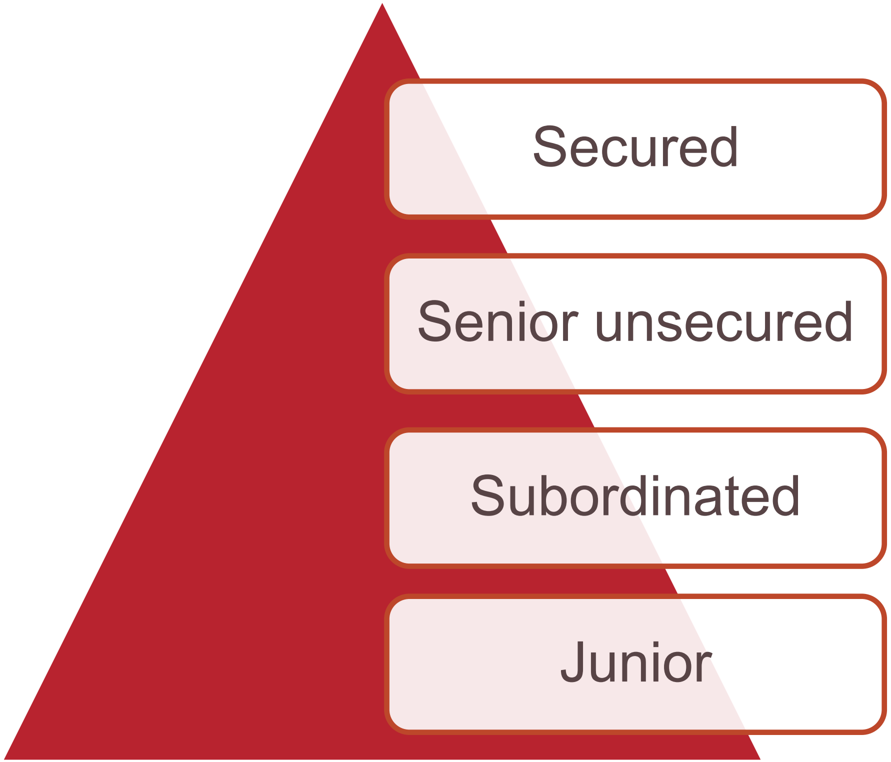
SA Listed Bond Market by Issuer Type



Source: JSE and National Treasury, Laurium

What is a corporate bond?

- Debt instrument issued by a **non-government entity** with specific terms and conditions
- **Failure to pay** interest and principal when due constitutes legal **default** and court proceedings can be instituted to enforce the contract
- Bondholders have **senior claim** over common and preference equity holders
- Bonds of the **same issuer** can have **different seniorities –** but always senior to equity



Credit risk of bonds

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Default Risk

- Risk of not being paid in full and on time
- 1) Risk of Default
  2) Loss Given Default

Credit Spread Risk

- Changes in credit risk over life of bond
- Company specific
  Economic cycle
  Industry specific
  Market risk appetite

Credit risk of bonds

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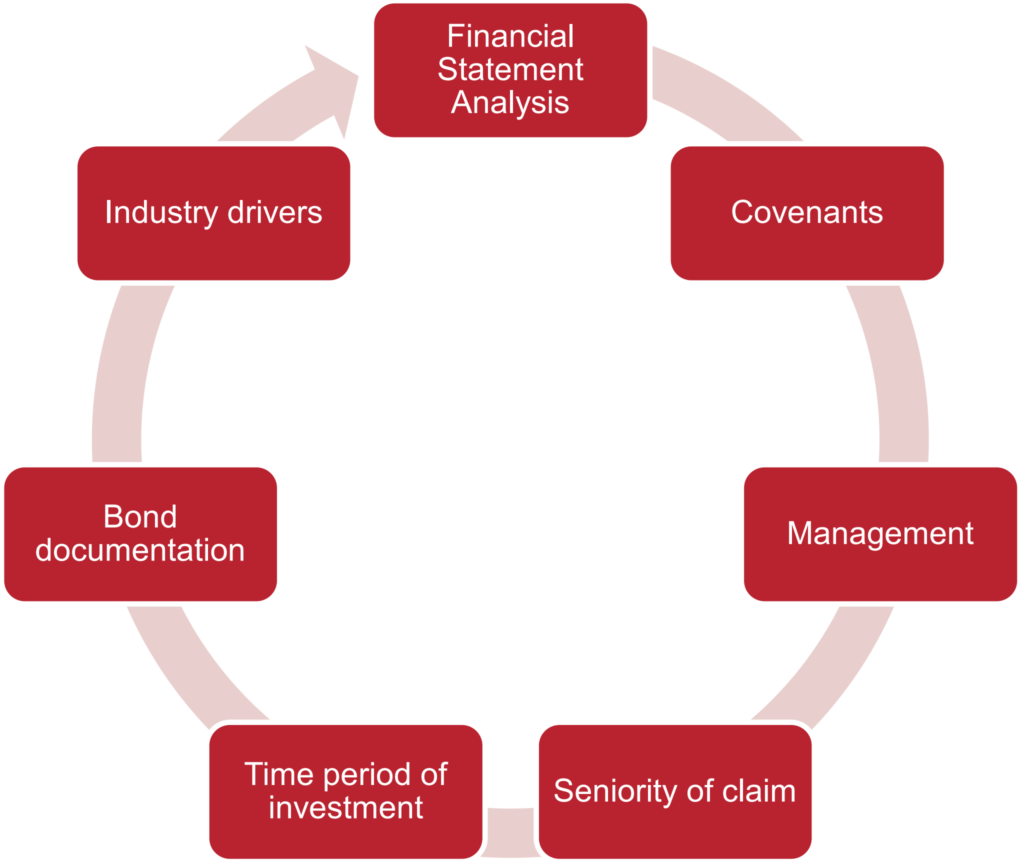
- Because of this risk, these bonds are sold at a **higher yield** (lower price) than a comparable maturity government bond
- The **greater the risk**, the greater the **risk premium** required = the **higher the yield**
- Positive attributes in bond portfolios
  - Yield enhancement
  - Diversification

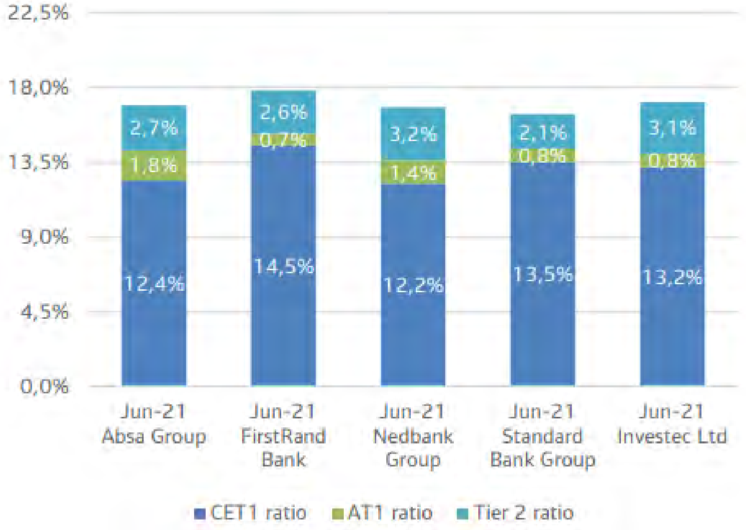
Credit assessment



SA Banks

- Top banks are **systemically important**, **highly regulated**
- **Investor protection** increased significantly post GFC
    - Liquidity buffers
    - Funding ratios
    - Regulated capital structure

Total Capital Adequacy Ratio Comparison



Surplus above SARB minimum requirements

Source: SBR

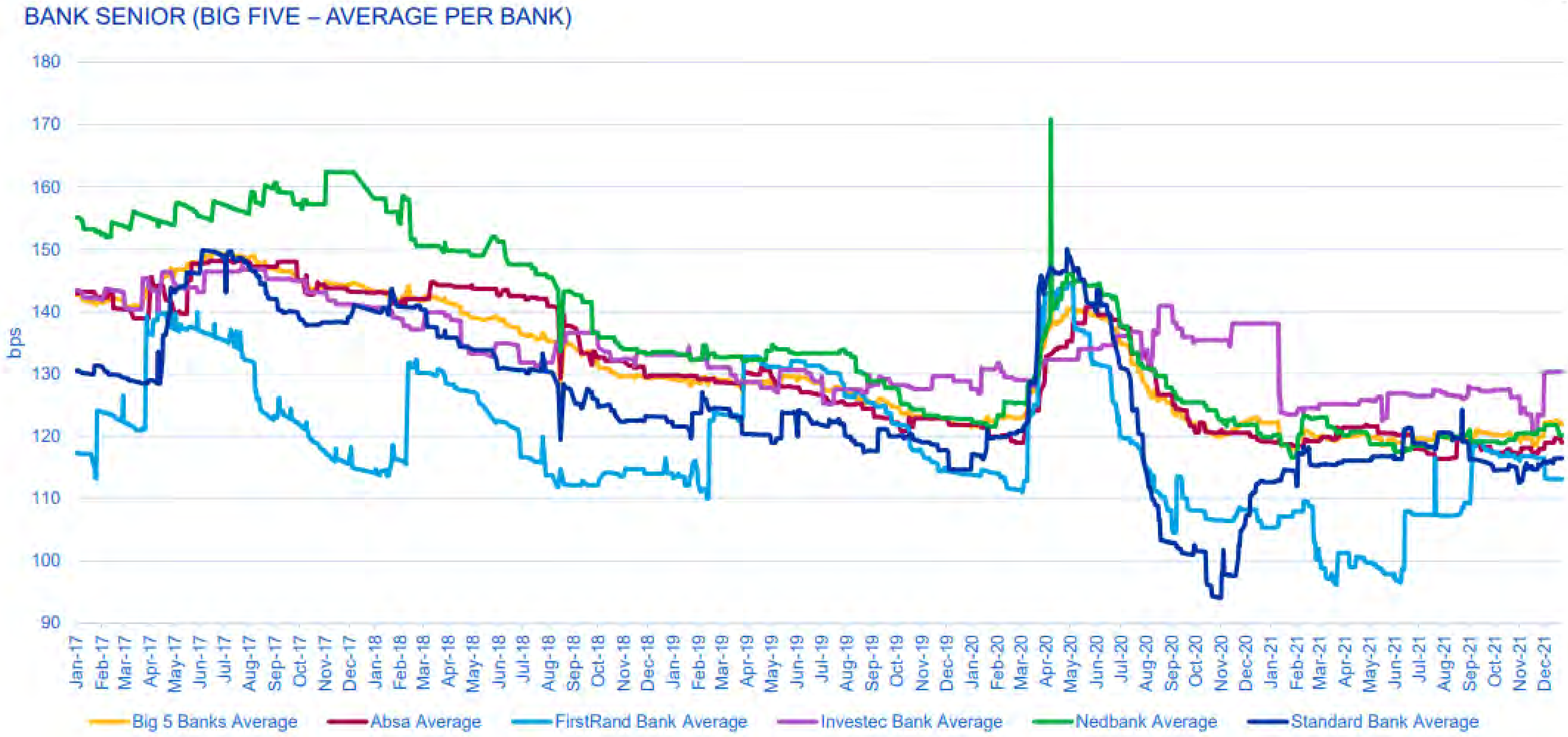
Credit spreads change over time

US High Yield Spreads

Source: Bloomberg

Credit spreads change over time

SA Bank Senior Spreads



Source for all charts: SBR analysis; JSE

Data as at 31 December 2021 (contains only floating-rate notes)

Can government bonds default?

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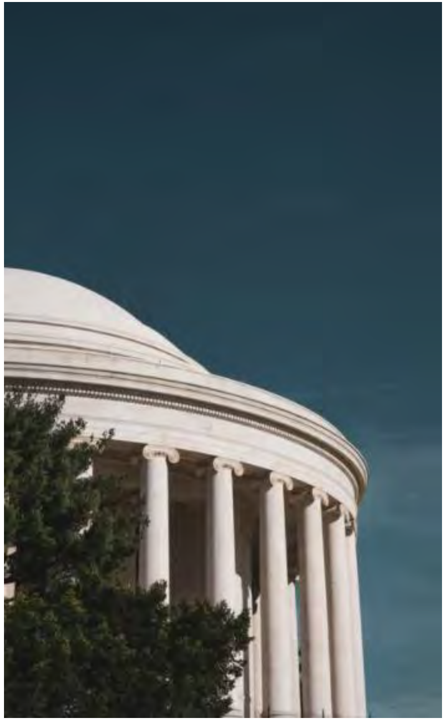
- **Uncommon**
- **Wider toolbox** than corporates
- When need to reduce fiscal risks, focus on increasing **revenues (taxes)** and deceasing **expenditure**
- Generally triggered by excessive borrowing in a **foreign currency**
- If a country's Treasury were to **print more money** to meet obligations, total money supply would increase which would create **inflation**
- Can approach friendly lenders e.g. **IMF**
- In deep distress: **debt restructuring** process (bond restructuring, haircuts)



Role of credit rating agencies

- **Independent** credit analysis – analyse risk (ability and willingness of entity to repay both interest and capital on time and in full)
- Express conclusion using a system of **relative ratings** (A/B/C)
- Larger agencies: Moodys, S&P, Fitch Ratings
- Allow for **easy comparison** across sectors and countries
- Not static – **change** ratings (upgrade or downgrade) as perception of risks change
- **National scale**: compared relative to there entities within a single **country** (SA govt = AAA)
- **Global scale**: compared to any other entity in the **world** (US govt = AAA, SA govt = BB)

Rating Scale Characteristics

Investment Grade	AAA	Highest quality, minimal risk
	AA	High quality, very low credit risk
	A	Upper medium grade, low credit risk
	BBB	Medium grade, moderate credit risk
Non-Investment Grade	BB	Speculative, substantial credit risk
	B	Speculative, high credit risk
	CCC	Very high credit risk
	CC	Highly speculative, in or near default
	C	In or near default
In Default	D	In default

ESG Bonds

ESG Bonds

What is an ESG bond?

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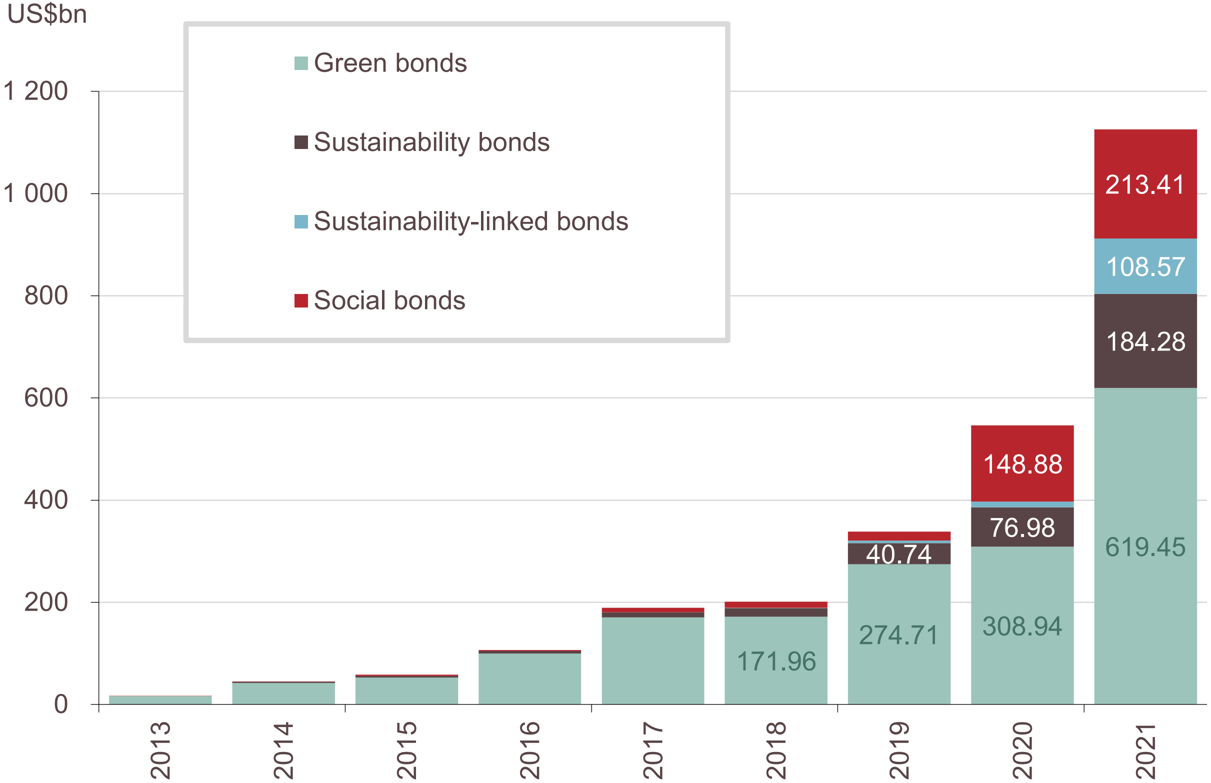
THE PRINCIPLES

GREEN BOND	SOCIAL BOND	SUSTAINABILITY LINKED BOND	→ FINANCIAL INSTRUMENT
Investec Bank: **IBG01, 3YR**	Standard Bank: **SBSS01, 3YR**	Rand Water Board: **RWL26, 3YR**	
Renewable energy projects	Affordable housing	GHG emissions reduction Water efficiency	→ KEY PERFORMANCE INDICATORS

Climate Transition Finance Handbook → THEMATIC GUIDE

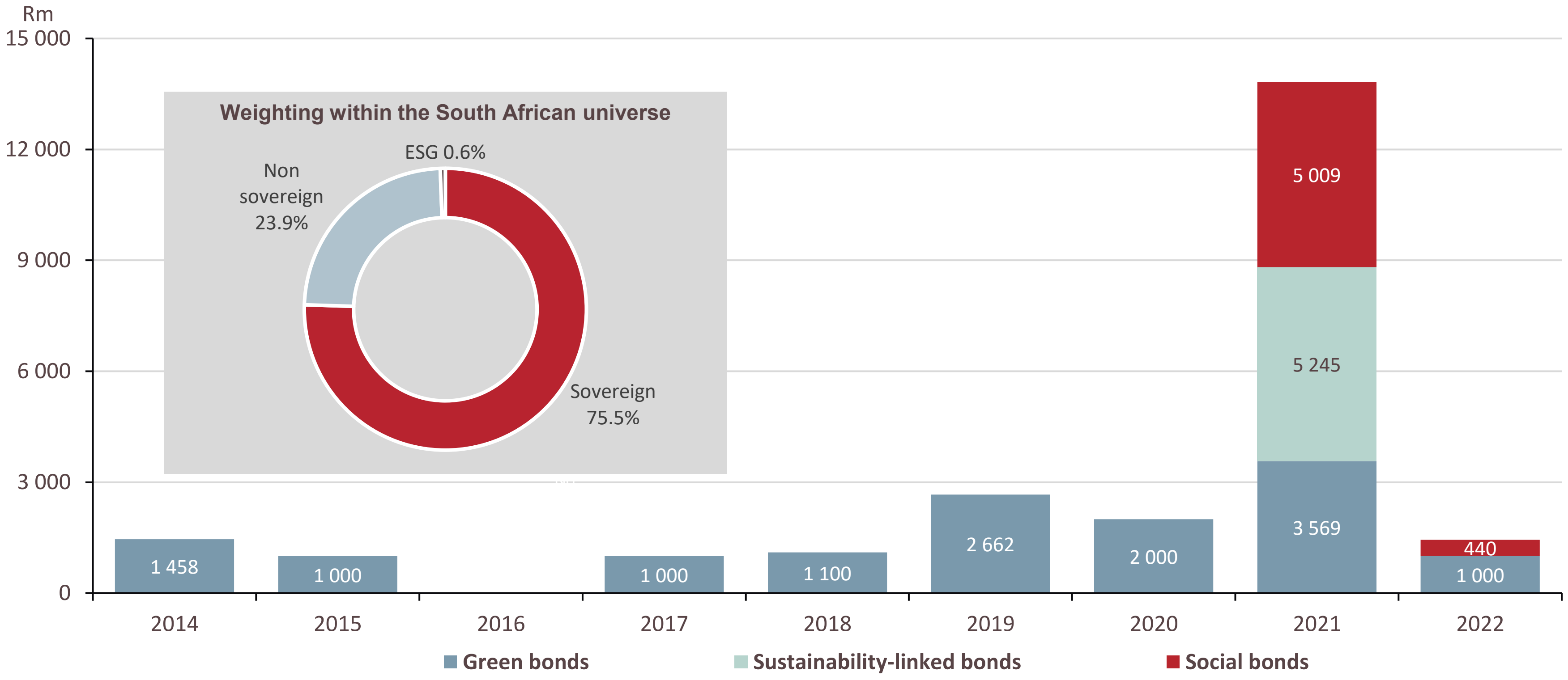
ESG Bonds
Global perspective



Source: RMB Markets, Bloomberg

ESG Corporate Bonds

What are the trends in SA?



Source: JSE, RMB Markets (as at end December 2021)

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13 YEARS
Since 2008
Unwavering resolve
and still committed to you

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