

Out of the Ordinary®

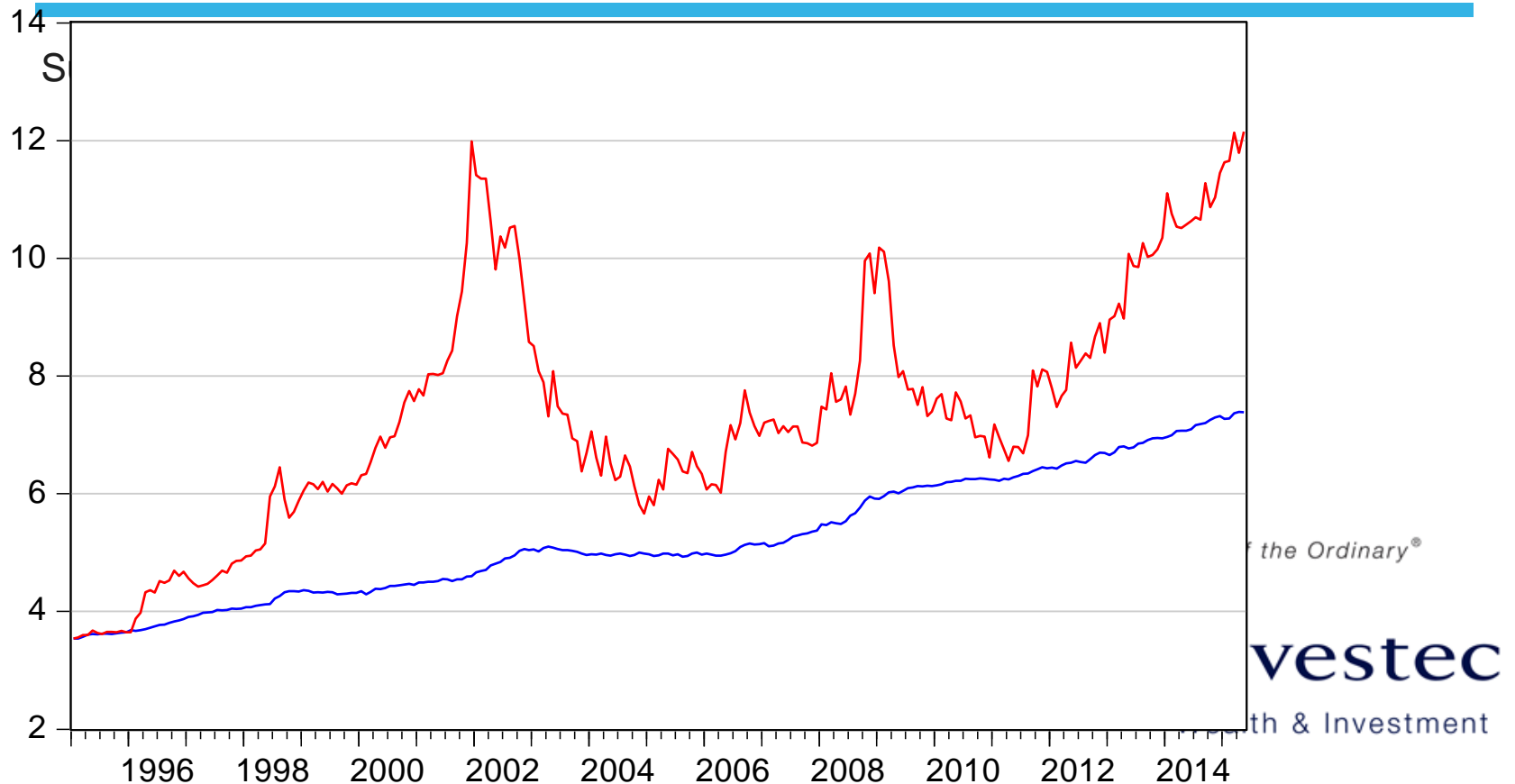


Inflation and Inflation targeting – in the midst of an unpredictable ZAR

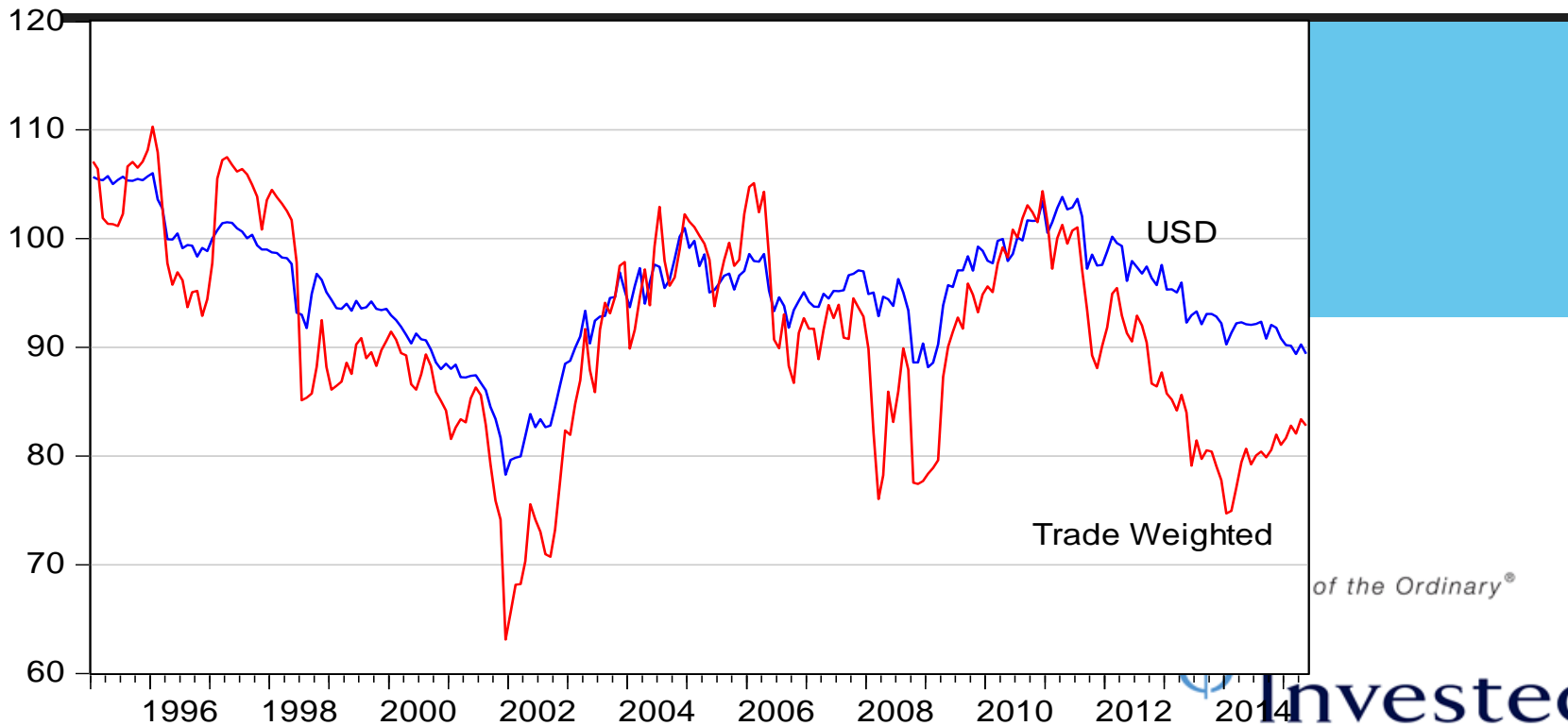
Presentation to ESSA, University of Cape Town 14th August
2015

Brian Kantor

Inflation differences do not go very far in explaining the rand



The real rand- no less volatile

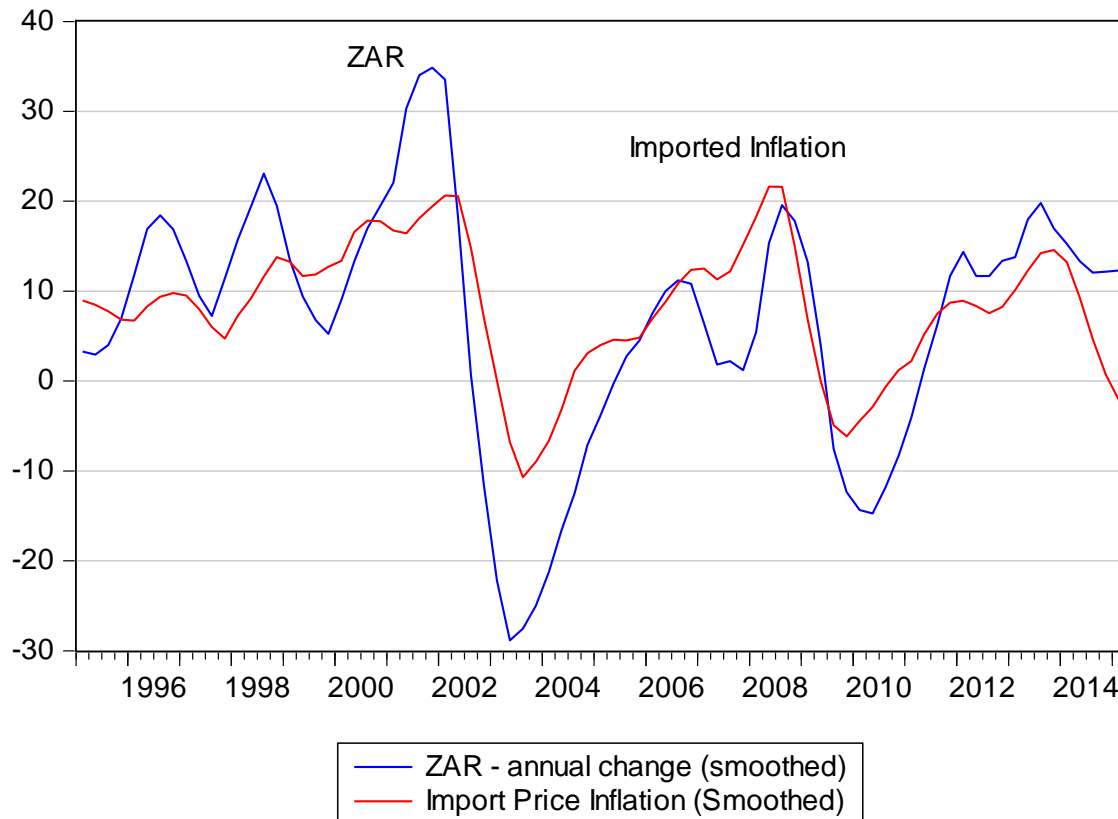


— (Real USD Exchange Rate (2010=100))
— Reserve Bank Real Exchange Rate - Trade Weighted (2010 =100)

of the Ordinary®

Investec
Wealth & Investment

Imported Inflation and the ZAR- Annual change (smoothed)



Out of the Ordinary®

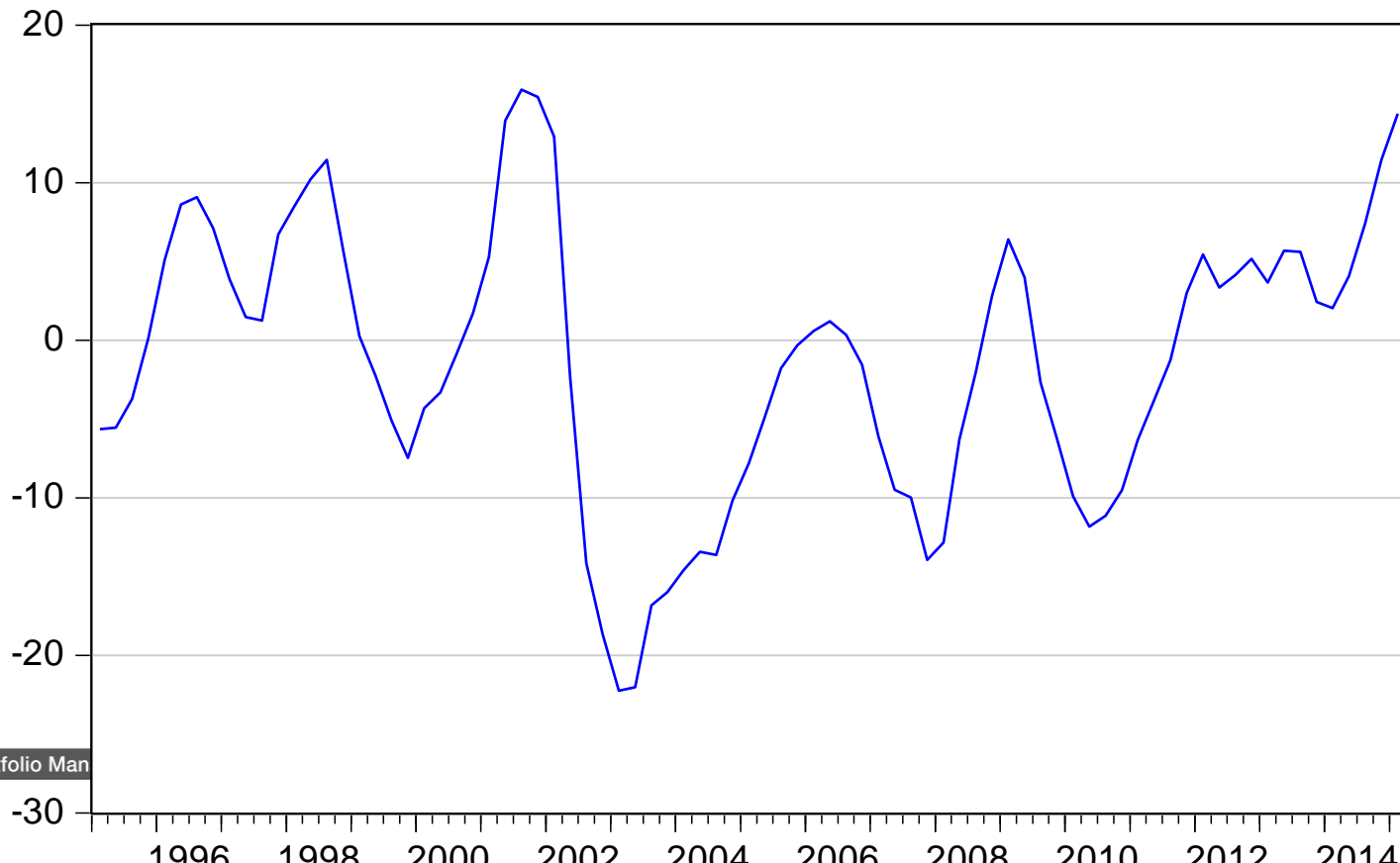


Investec

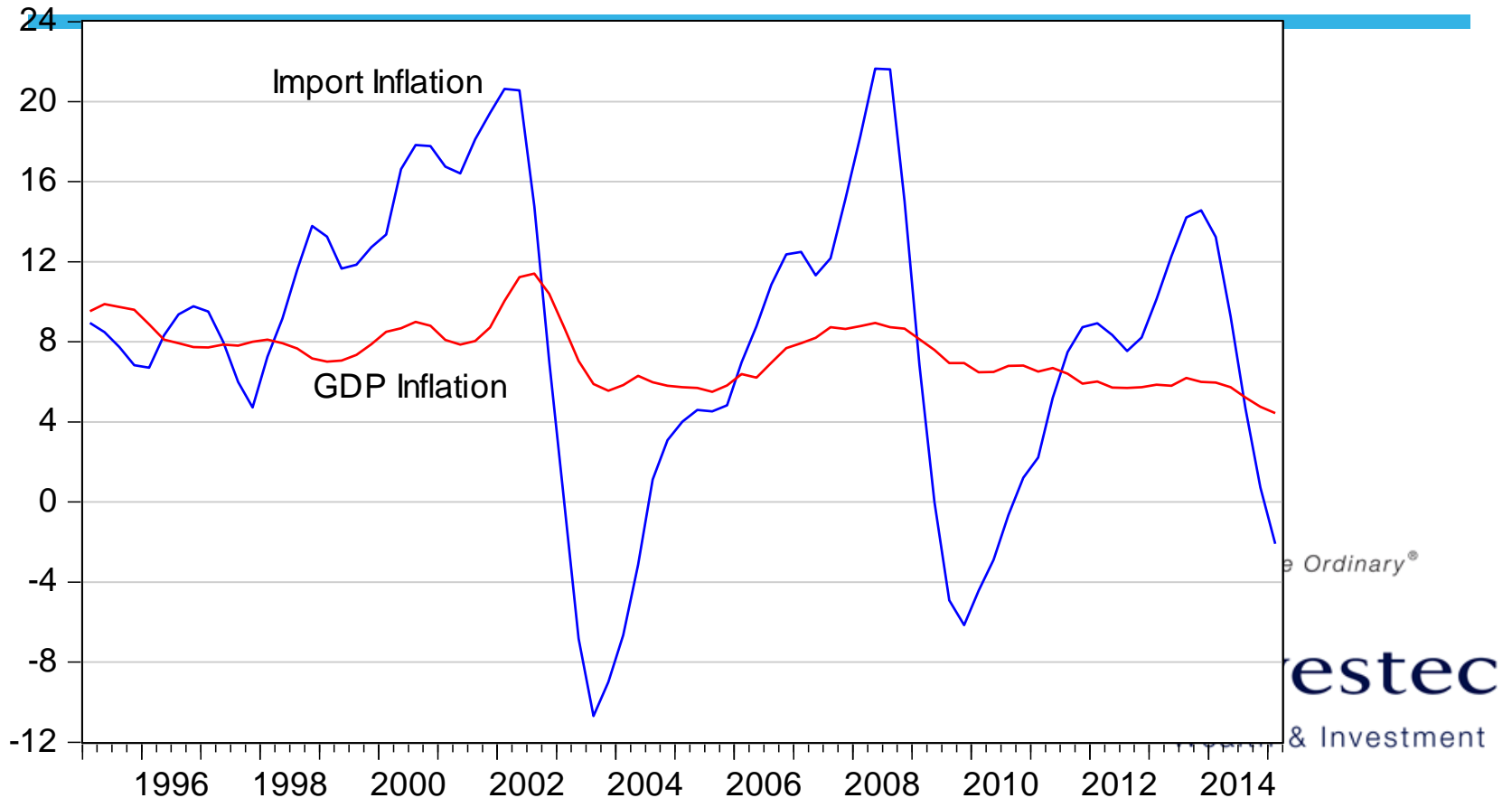
Wealth & Investment

The Pass Through effect

ZAR4-IMPDEF4

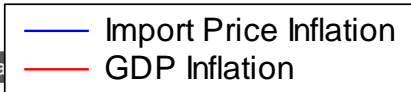
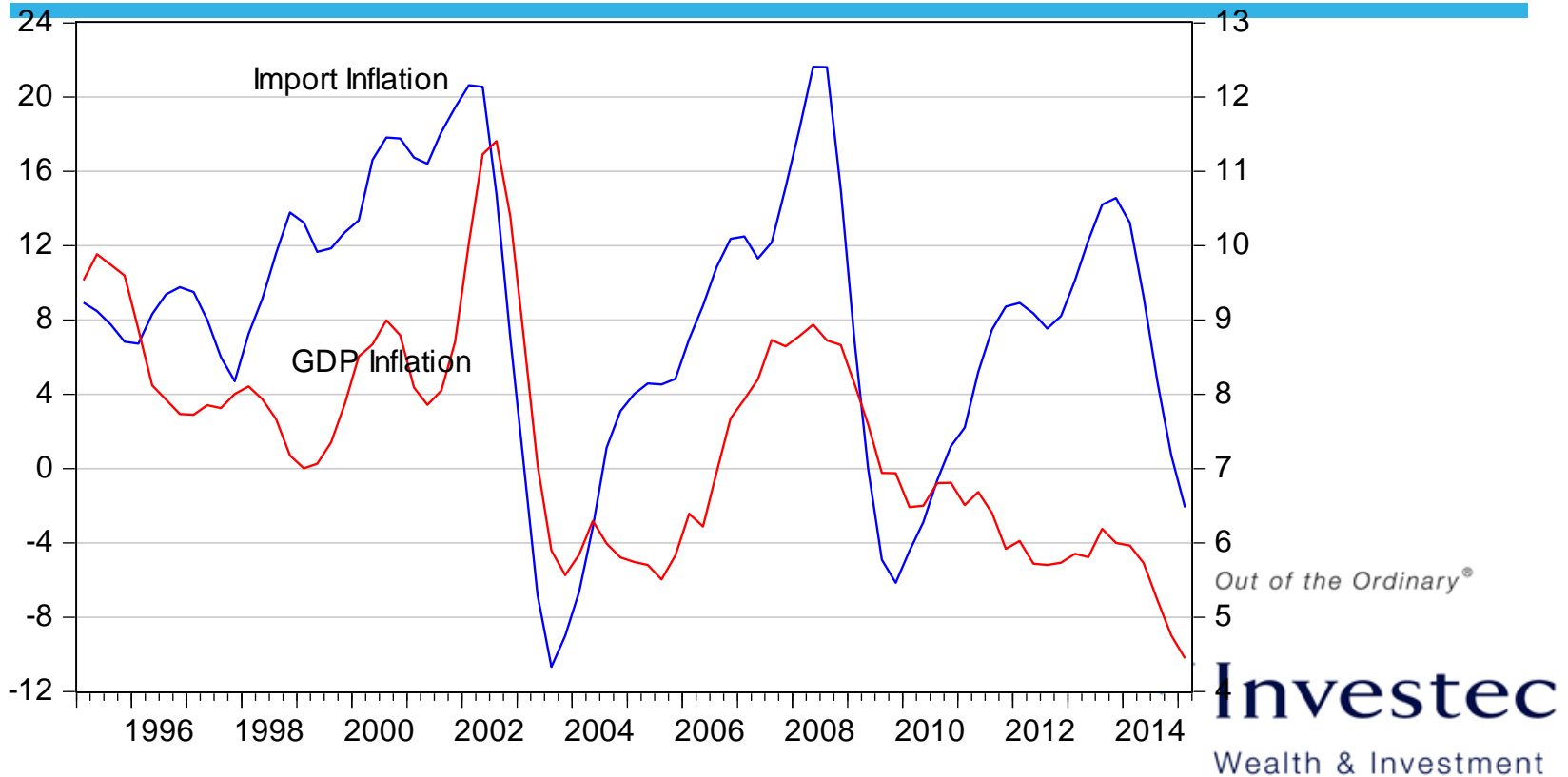


Imported Inflation and GDP Inflation



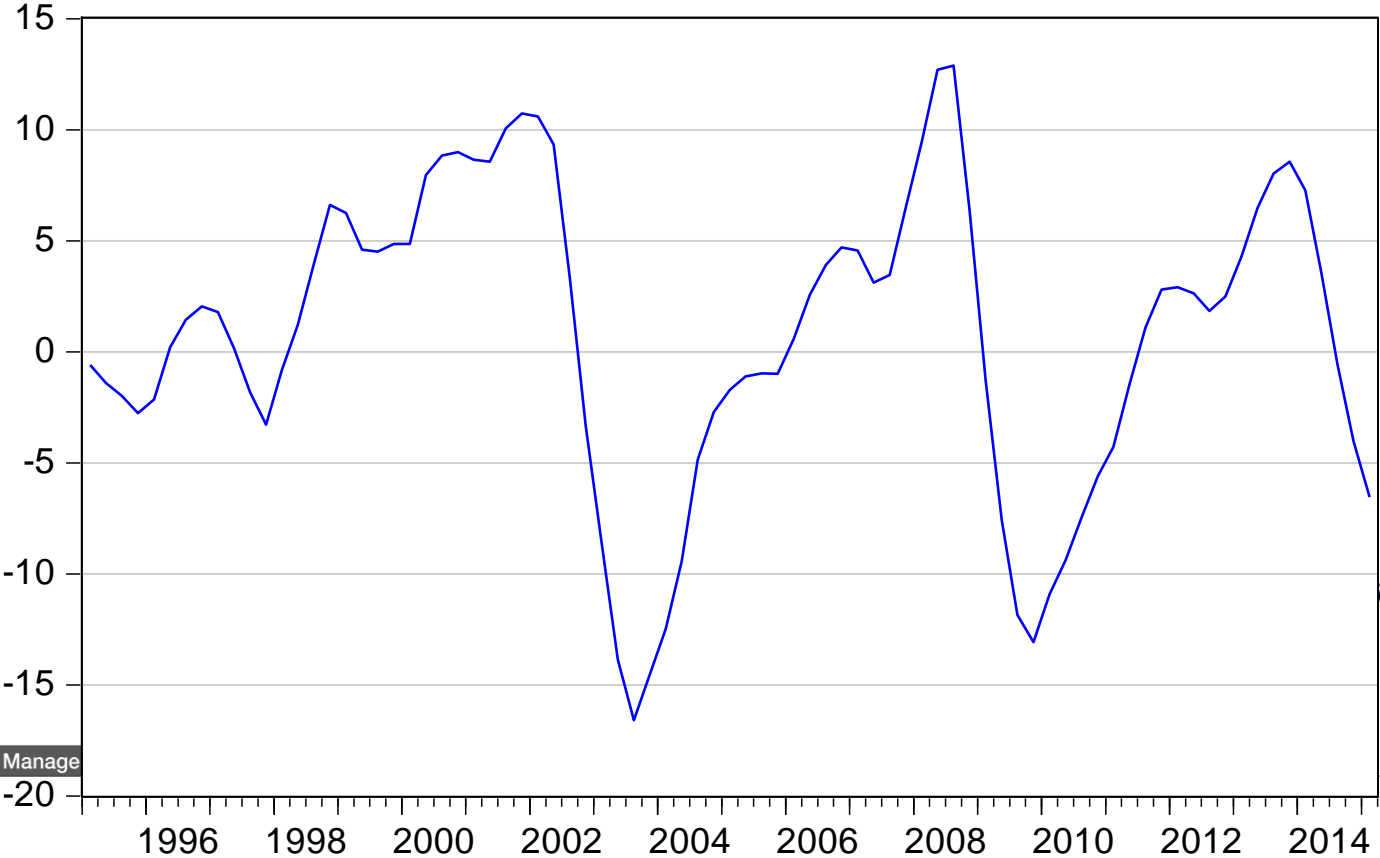
— IMPDEF4 — GDPDEF4

Import Inflation leads- but the lags are variable as is the impact



The domestic demand effect

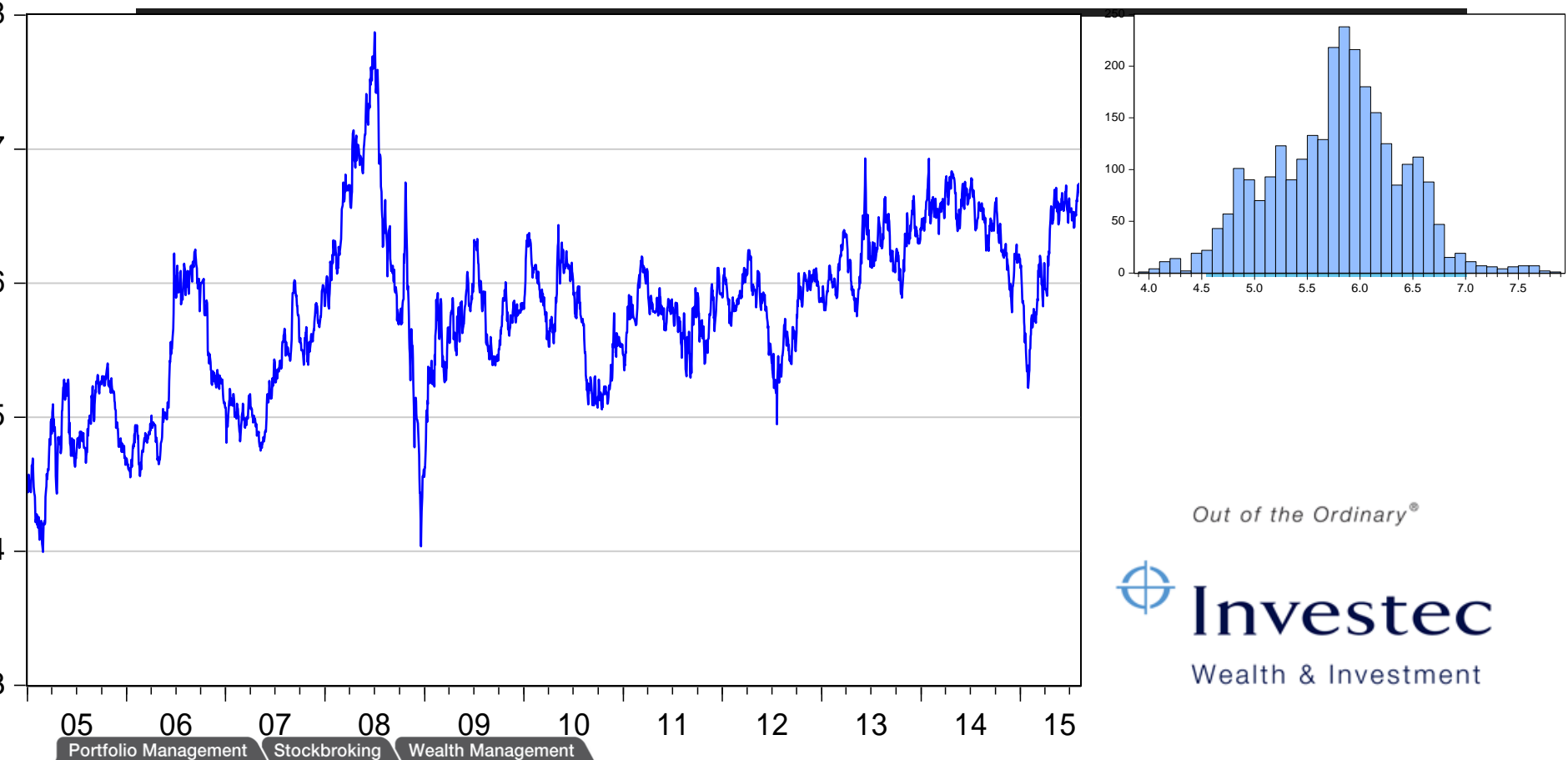
IMPDEF4-GDPDEF4



Ordinary®
restec
& Investment

Inflation Compensation in the RSA bond market daily Data

INFCOMP

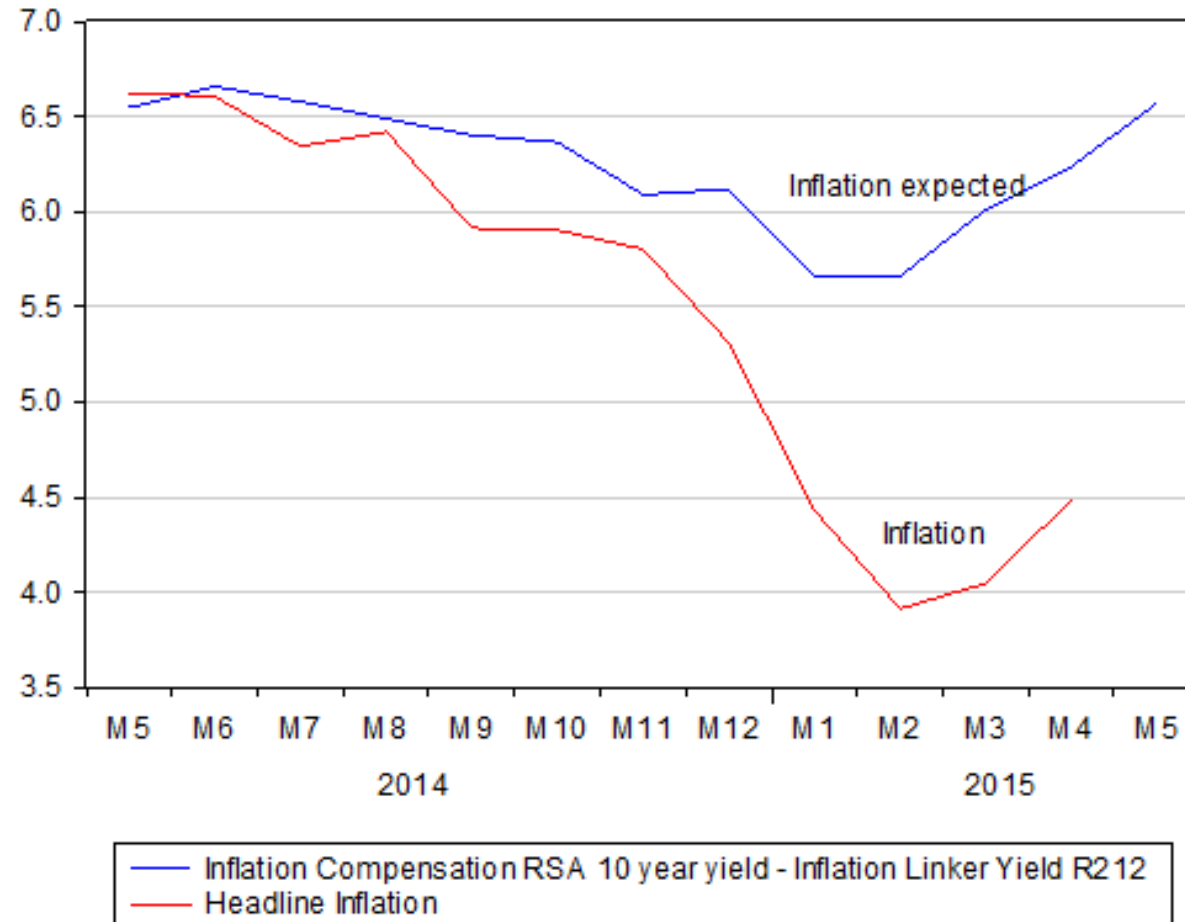


Out of the Ordinary[®]

 **Investec**
Wealth & Investment

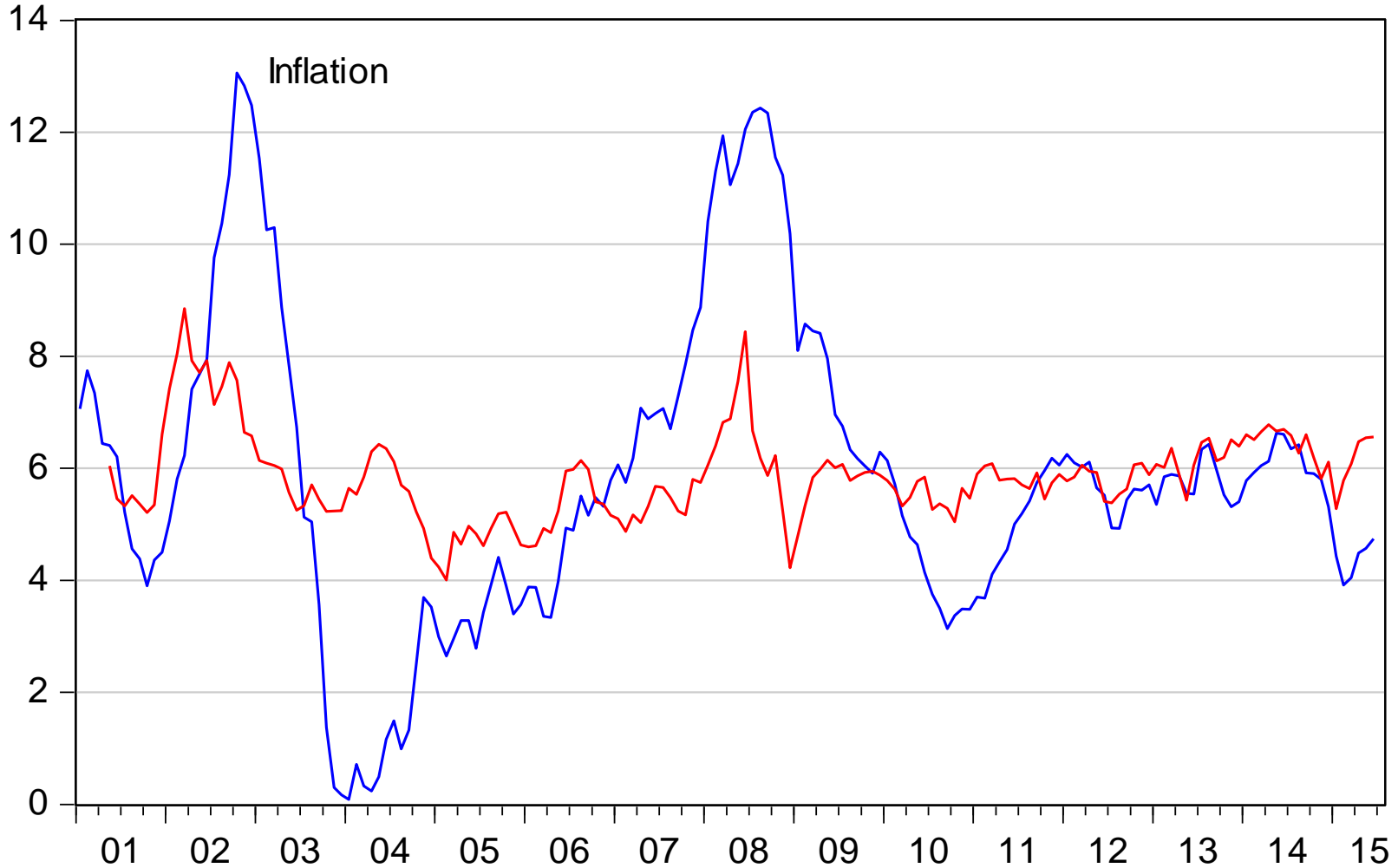
Inflation and Inflation expected in the Bond Market 2014-15; Month end

Headline inflation and inflation compensation in the RSA bond market, 2014-2015 (month end data)

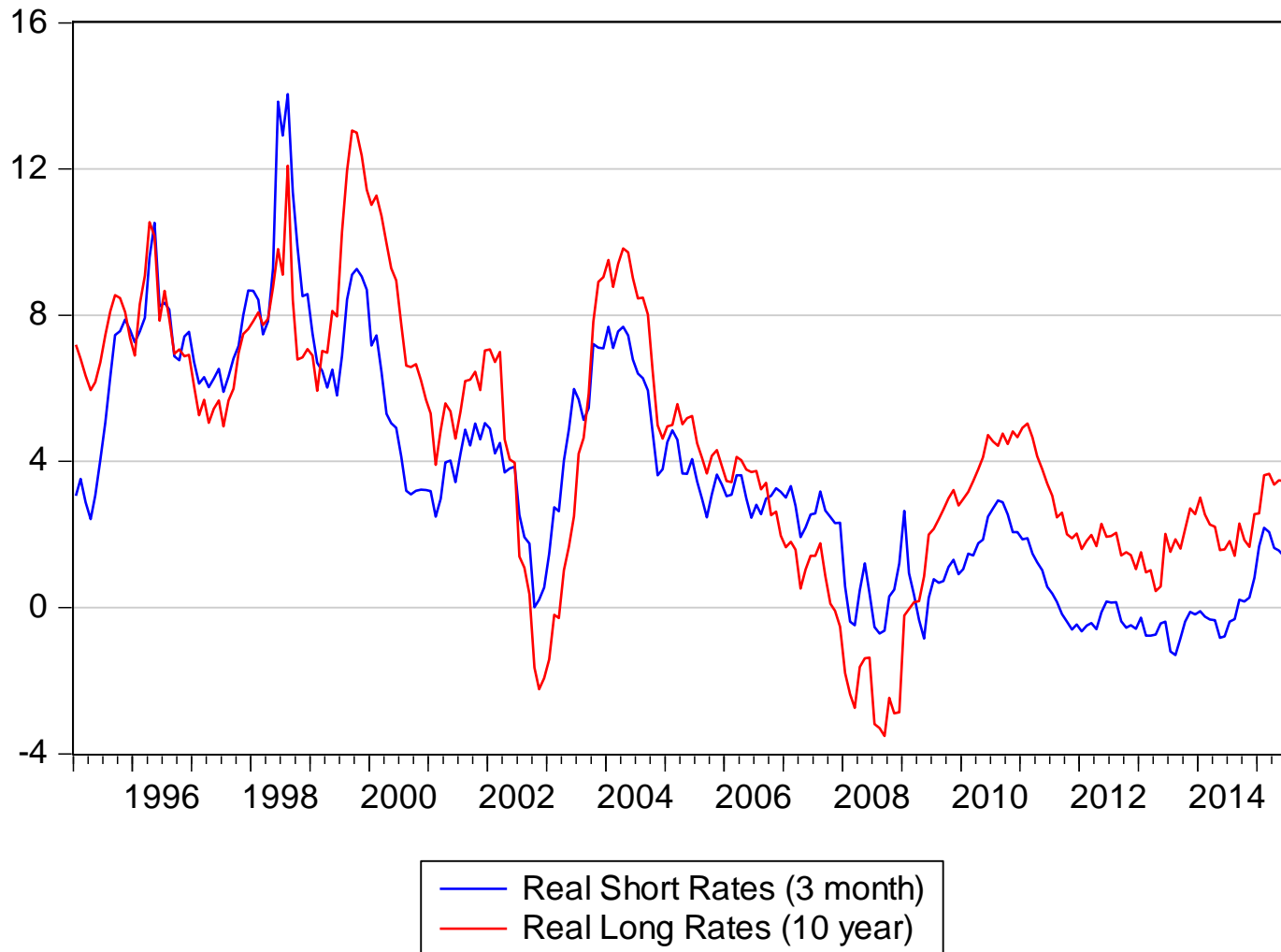


Source: I-Net, Investec Wealth & Investment

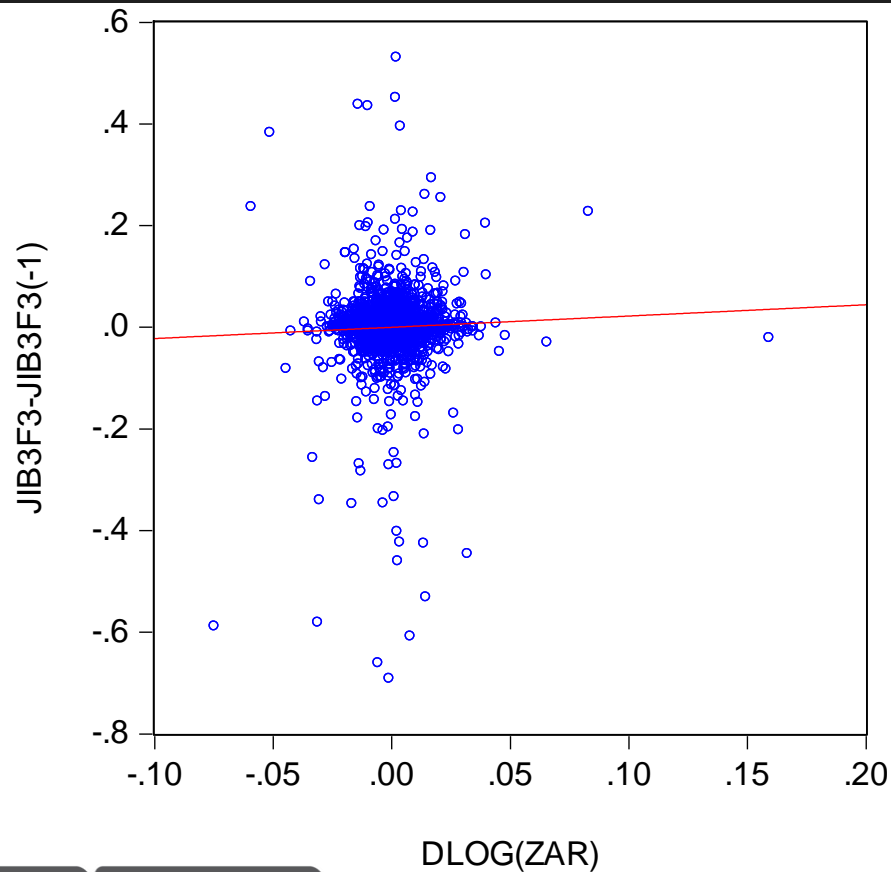
Headline Inflation and Inflation Compensation



Real Interest Rates (ex post)



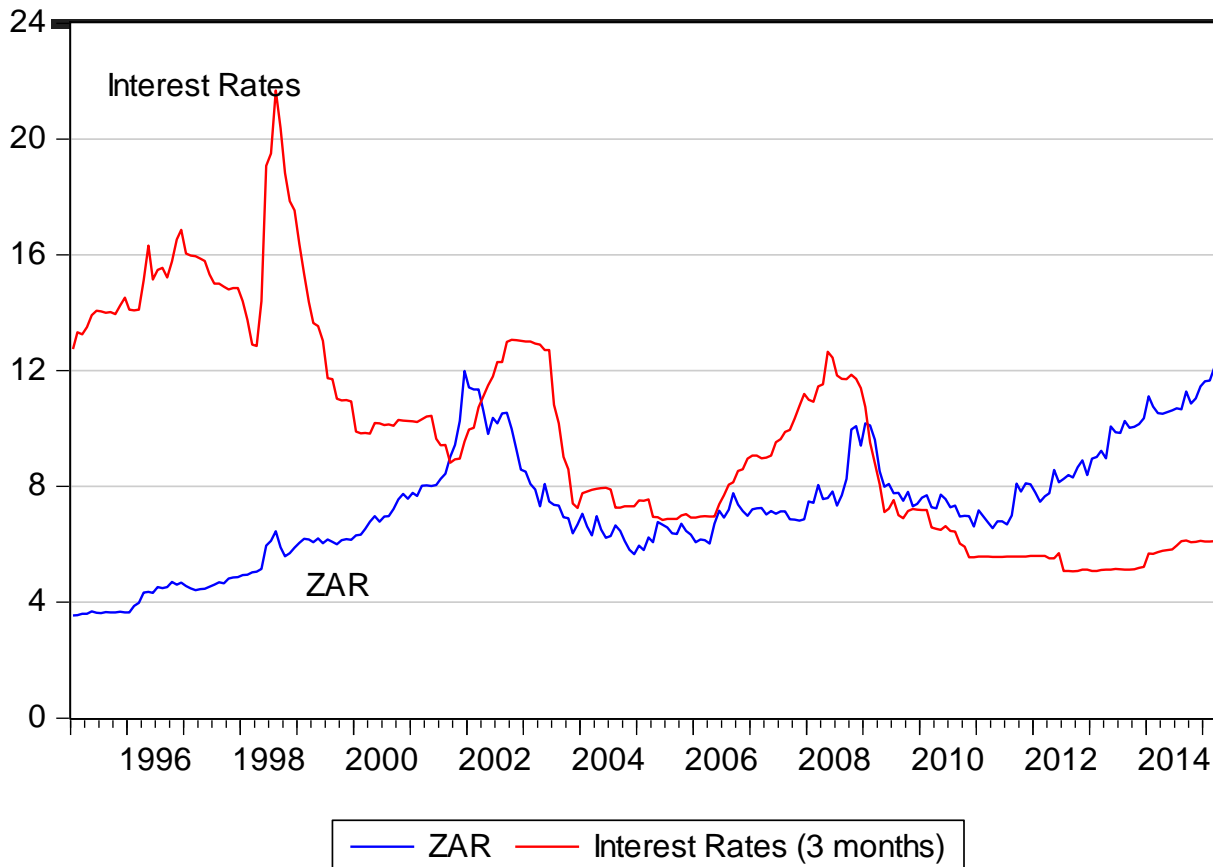
Daily moves in 3 month forward rates and the USD/ZAR



Out of the Ordinary®



The ZAR and Short term Interest rates (Month end data)



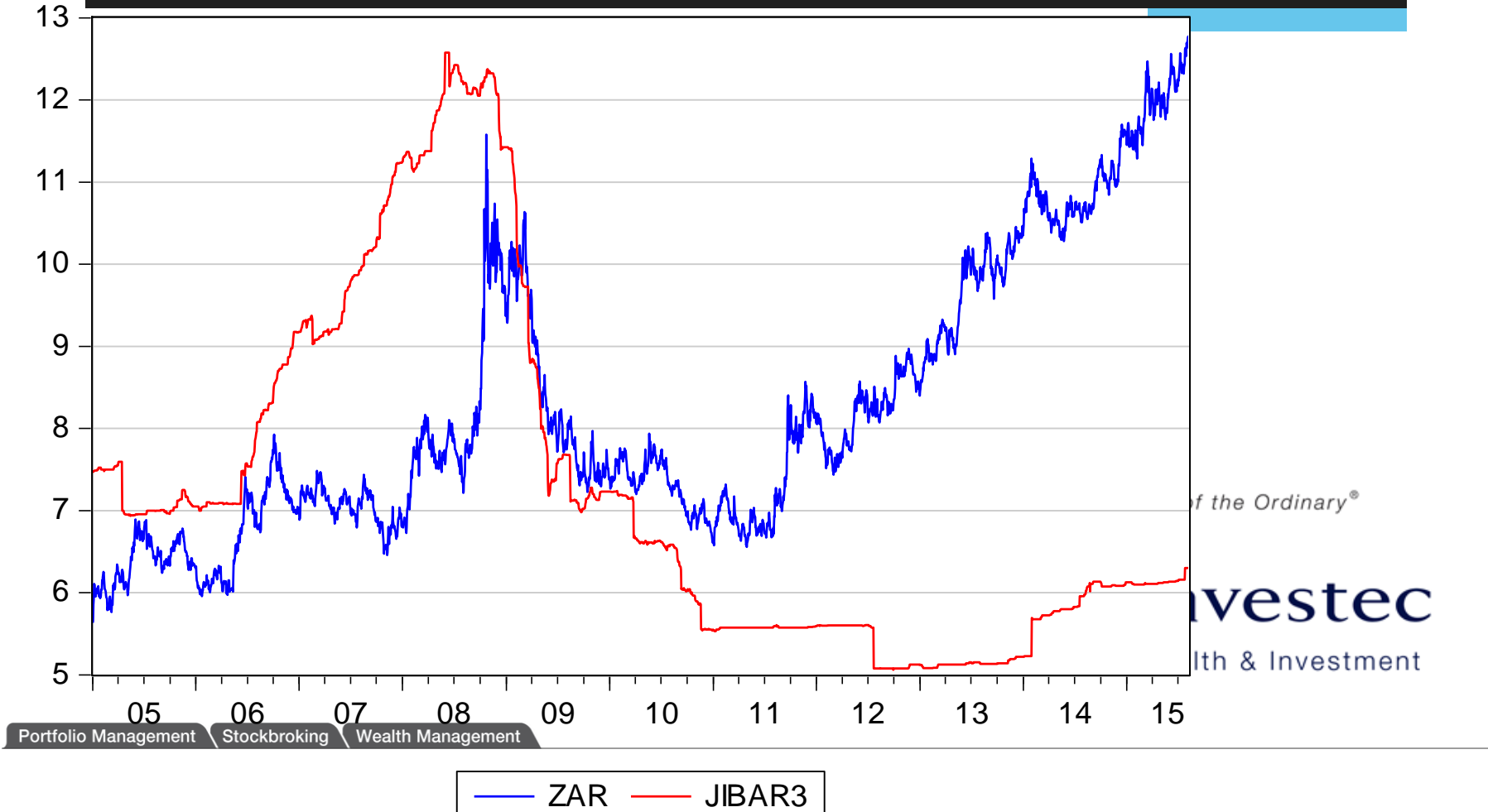
Out of the Ordinary®



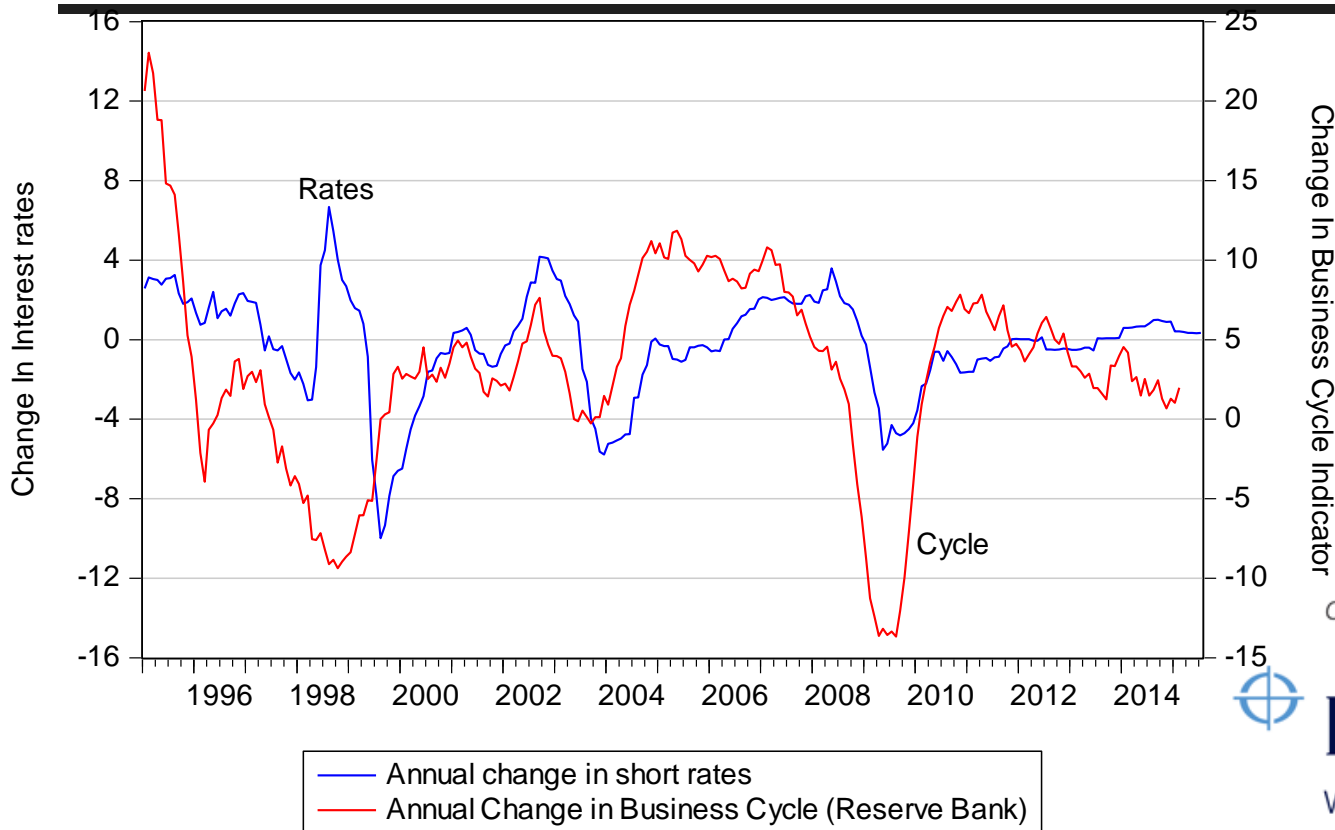
Investec

Wealth & Investment

The ZAR and Short term Interest rates (daily data)



Interest rate moves and the Business Cycle



Change In Business Cycle Indicator

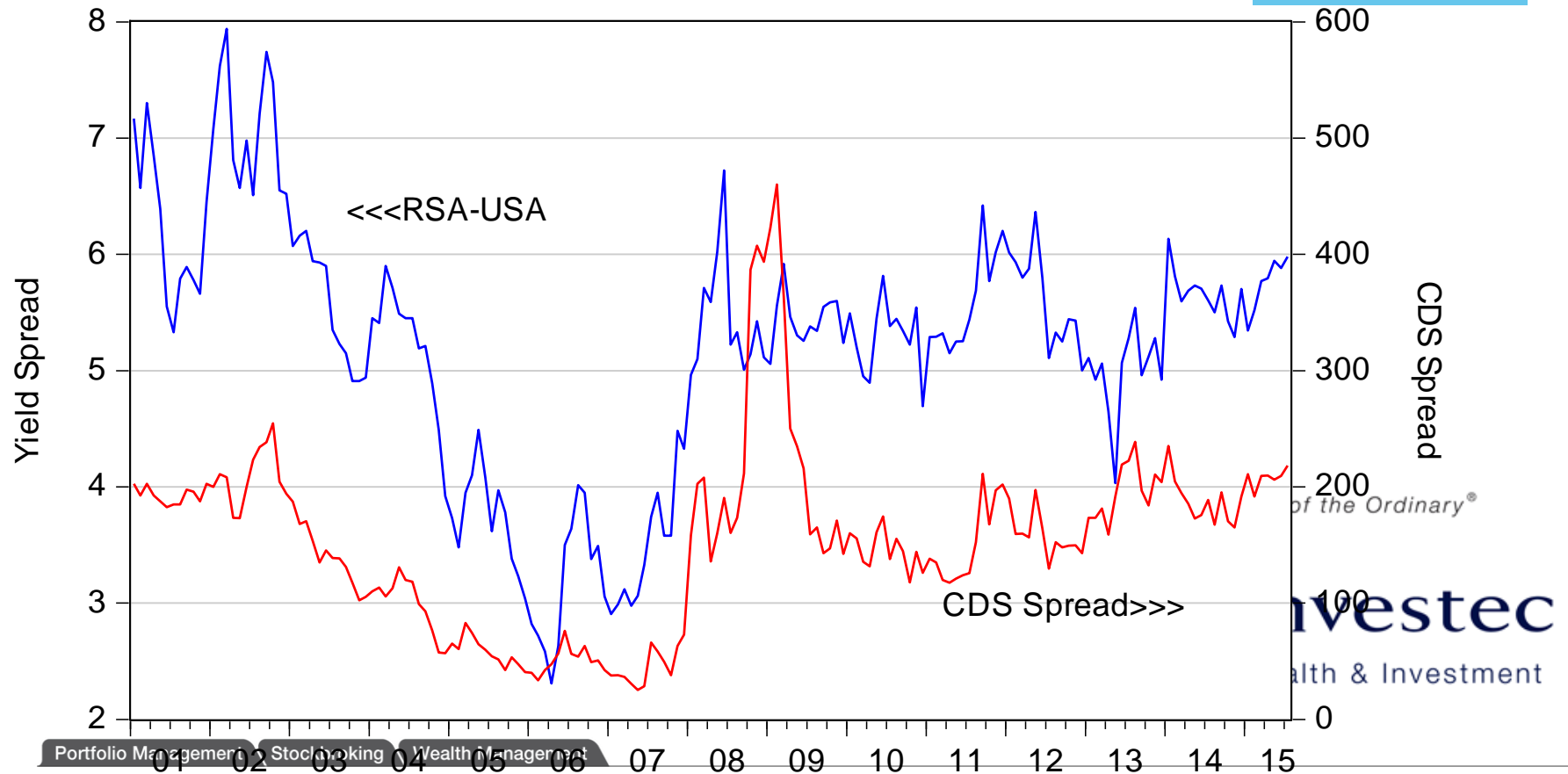
Out of the Ordinary[®]



Investec

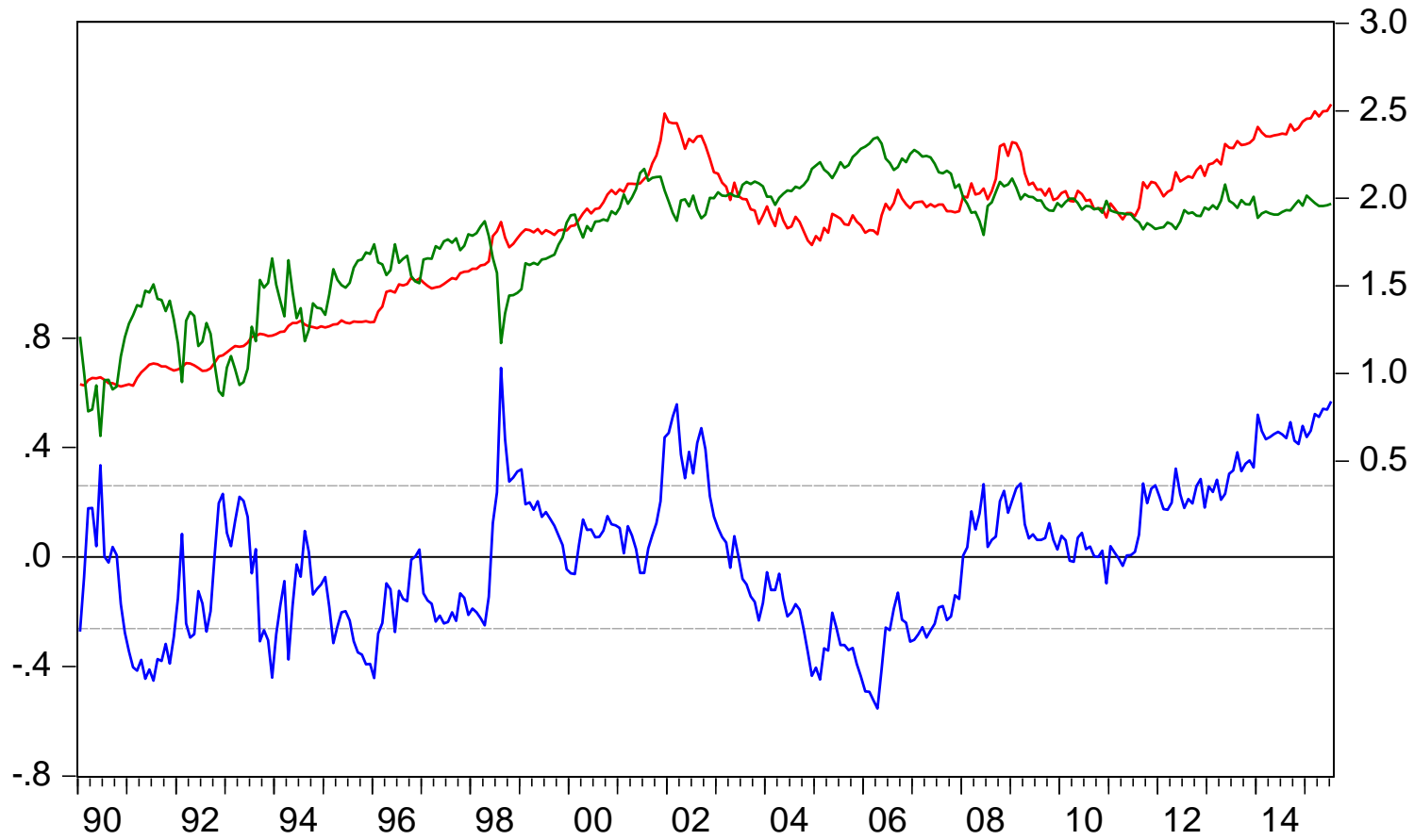
Wealth & Investment

Measures of SA Risk



A model of the ZAR-identifying SA specific risks

$$\text{LOG(ZAR)} = 2.49470918358 + 0.356971454836 \cdot \text{LOG(USDAUD)} - 0.10678027953 \cdot \text{GAP}$$

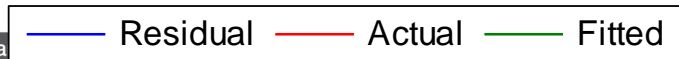
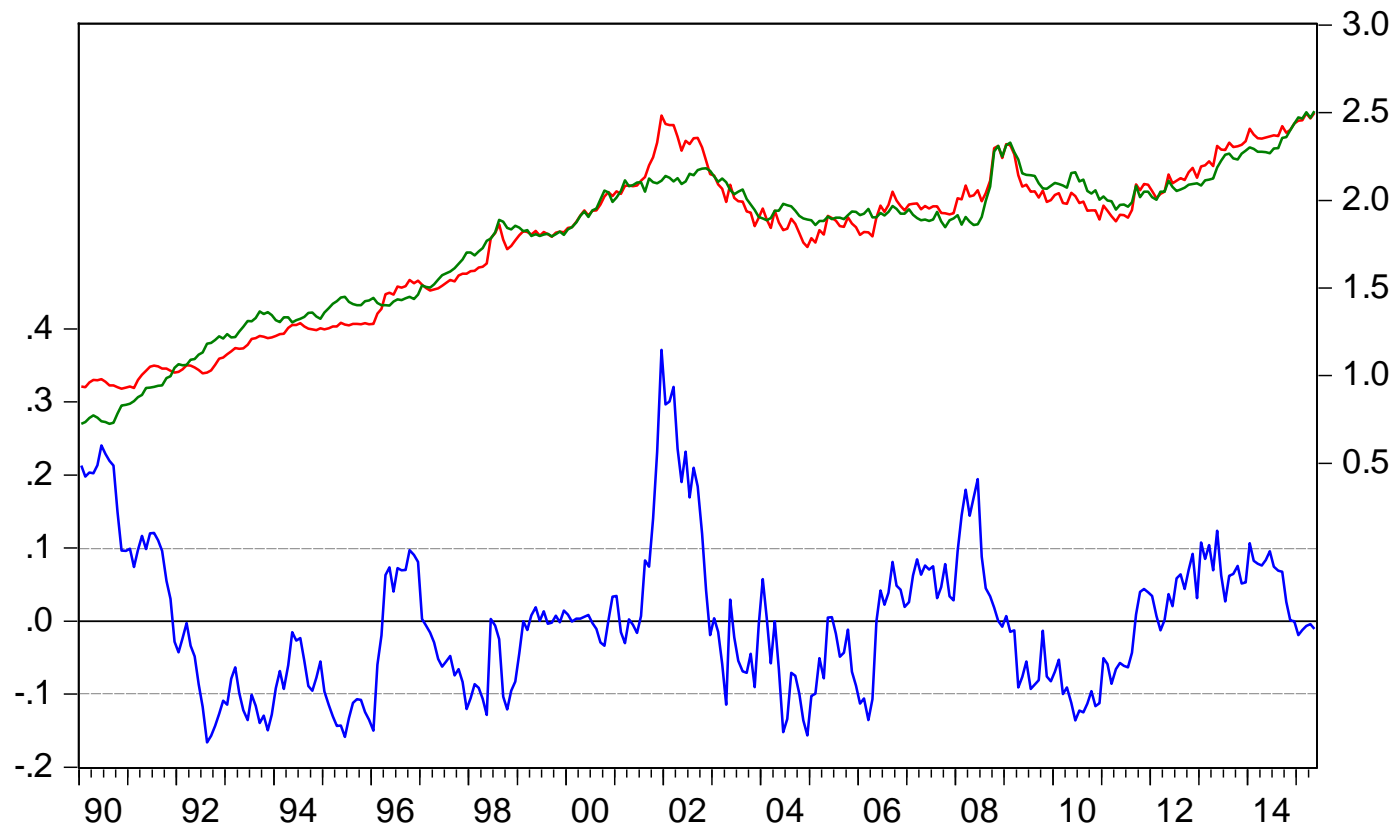


Estimations

Dependent Variable: LOG(ZAR)				
Method: Least Squares				
Date: 08/12/15 Time: 10:40				
Sample: 1990M01 2015M07				
Included observations: 307				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.494709	0.039911	62.50631	0
LOG(USDAUD)	0.356971	0.08398	4.250651	0
GAP	-0.10678	0.004579	-23.31819	0
R-squared	0.642391	Mean dependent var		1.784534
Adjusted R-sq	0.640038	S.D. dependent var		0.435028
S.E. of regress	0.261003	Akaike info criterion		0.161156
Sum squared r	20.70929	Schwarz criterion		0.197574
Log likelihood	-21.73741	Hannan-Quinn criter.		0.175719
F-statistic	273.0451	Durbin-Watson stat		0.133024
Prob(F-statisti	0			

A model of the ZAR adding PPP- SA and EM specific risks identified

$$\text{LOG(ZAR)} = 3.43571289863 + 0.8464934939 * \text{LOG(USDAUD)} - 0.00208595032855 * \text{GAP} + 1.5543236722 * \text{LOG(CPI/USCPI)}$$

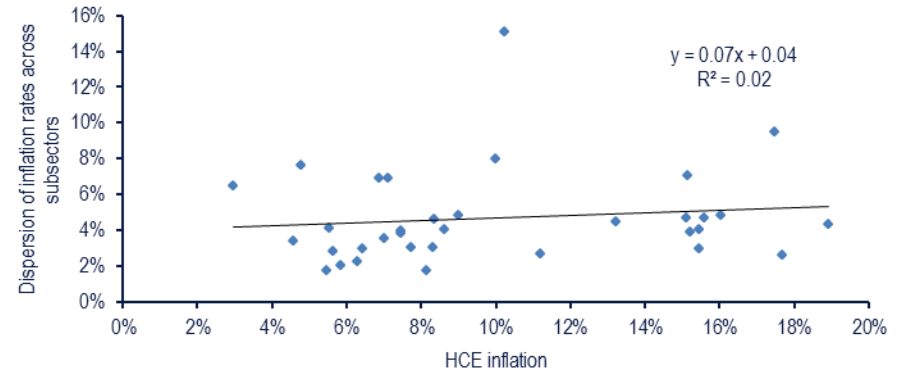
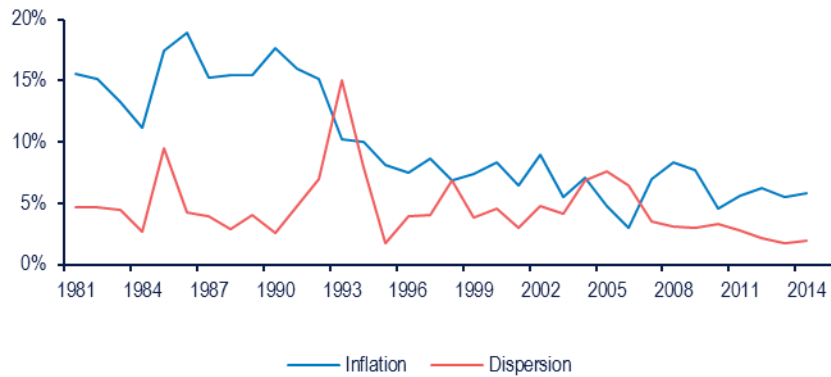


Modelling the ZAR – adding PPP

Dependent Variable: LOG(ZAR)				
Method: Least Squares				
Date: 08/12/15 Time: 11:53				
Sample (adjusted): 1990M01 2015M05				
Included observations: 305 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.435713	0.02735	125.6219	0
LOG(USDAUD)	0.846493	0.03405	24.85999	0
GAP	-0.002086	0.003045	-0.68514	0.4938
LOG(CPI/USCP	1.554324	0.037271	41.70282	0
R-squared	0.947839	Mean dependent var		1.779722
Adjusted R-sq	0.947319	S.D. dependent var		0.43235
S.E. of regress	0.099235	Akaike info criterion		-1.769627
Sum squared r	2.964114	Schwarz criterion		-1.720836
Log likelihood	273.8681	Hannan-Quinn criter.		-1.750112
F-statistic	1823.182	Durbin-Watson stat		0.134054
Prob(F-statisti	0			

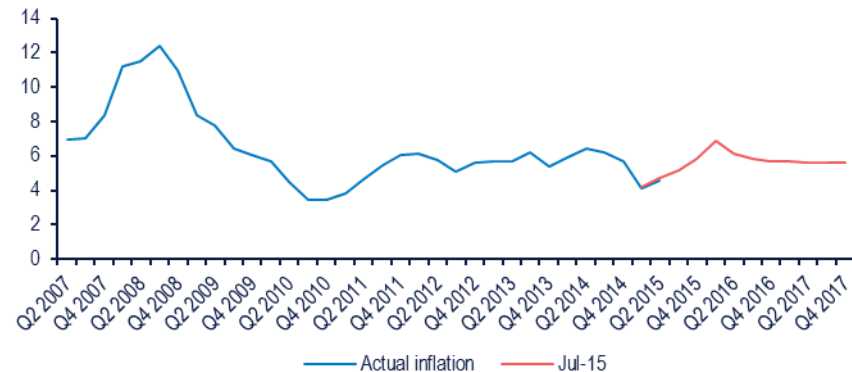
A point on the side

It is not the case that lower inflation in SA has been associated with a reduction in relative price volatility



Forecasting inflation

The SARB places some emphasis on the results of its core forecasting model.
 A paper describing the model is on their website (SARB, 2007)
 However, inflation is not easily or reliably forecast.

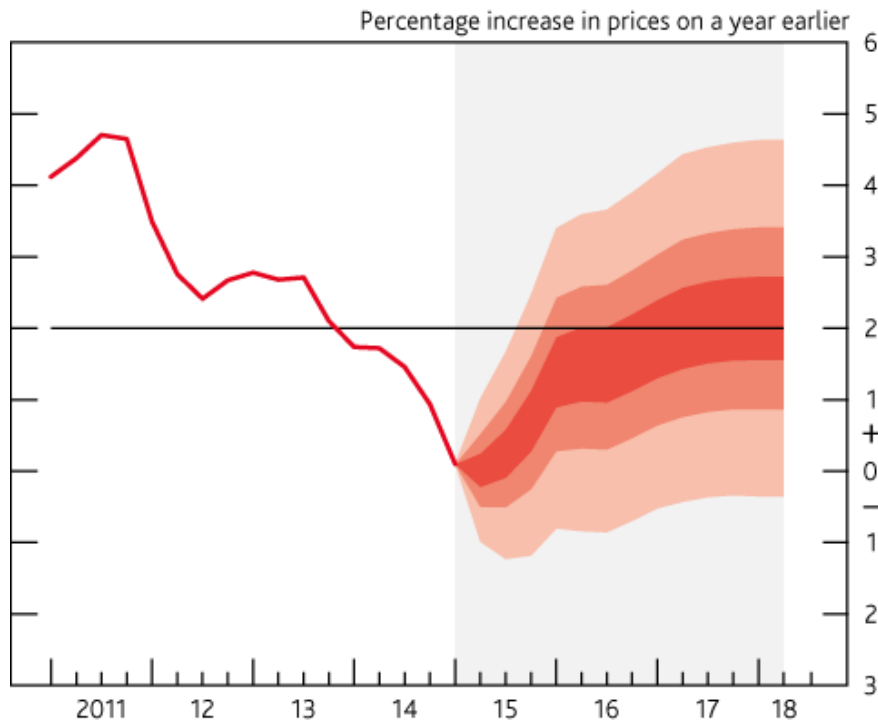


Not here or elsewhere

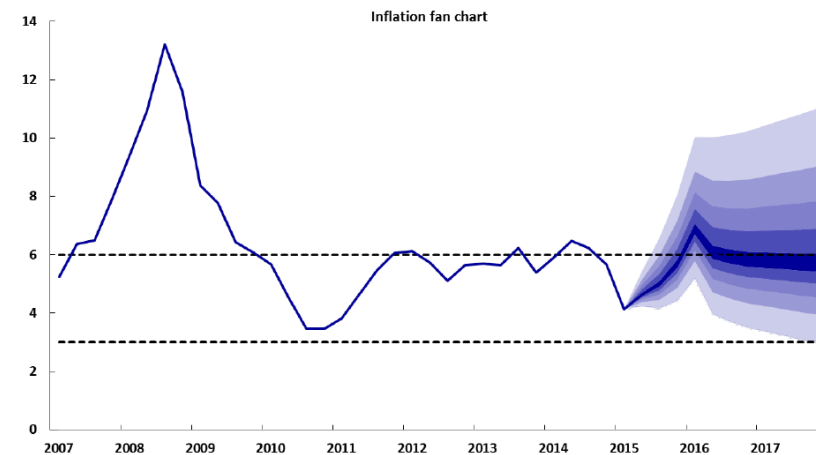
The BOE reports bands of uncertainty around their forecasts.

Research has shown that the bands are fairly representative of the past errors of the model (Elder (2005))

The BOE forecast for 2016 Q3 has a mean of 1.17 with a std dev of 1.34.



Forecast at top of the target and risks to the upside



Source: South African Reserve Bank

Drivers of the model forecasts

The key drivers of the inflation forecasts are

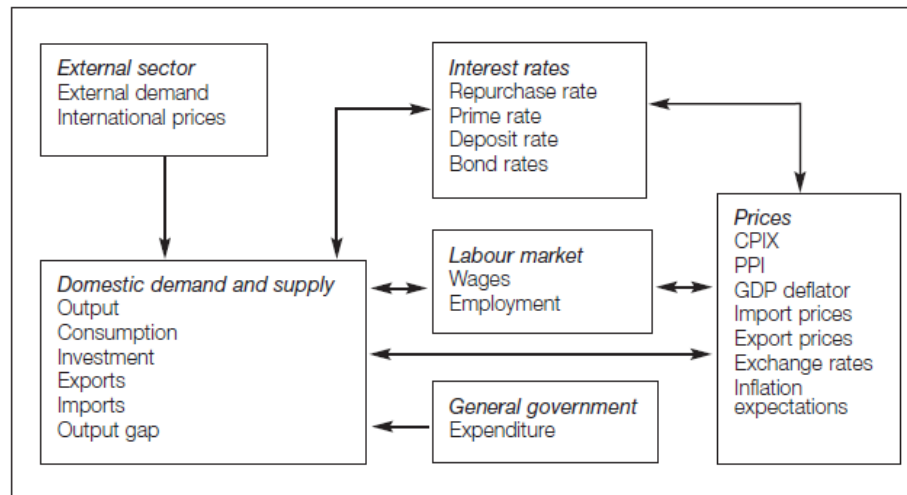
Lagged CPI

Import prices (in turn driven by ZAR, foreign inflation)

GDP deflator (in turn driven by PPI)

PPI (in turn driven by unit labour costs, import deflator and the output gap)

Figure 1 Simplified diagram of interdependencies between variables in the model



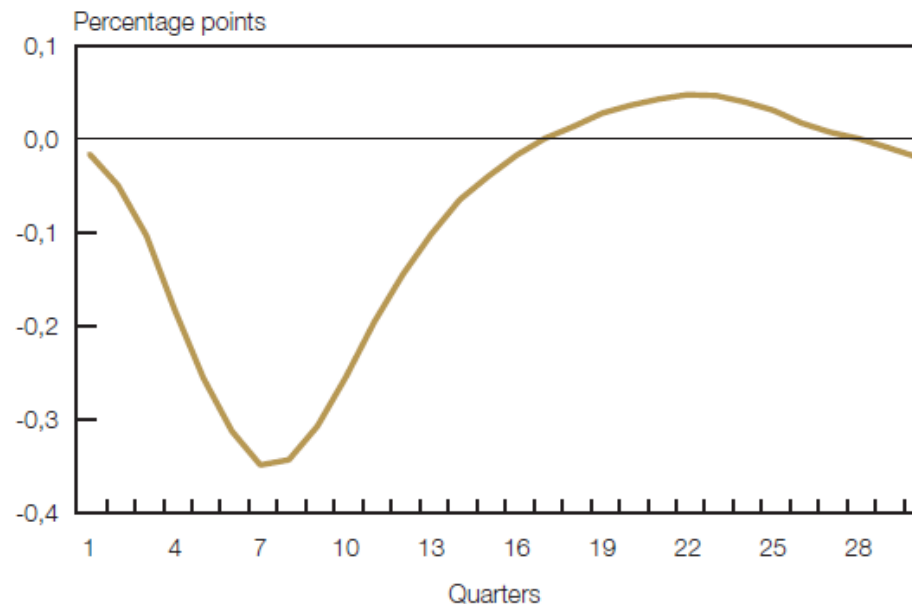
Inflation is hard to control...

According to the SARB's own model, inflation is not particularly sensitive to changes in the repo rate.

A 100bp raise in rates for 4 quarters sees a 35 bp decline in inflation 7 quarters out.

They don't provide the results for a 25 bp increase but on the assumption it is a roughly linear relationship the recent rate increase would have had a barely measurable influence on their forecasts.

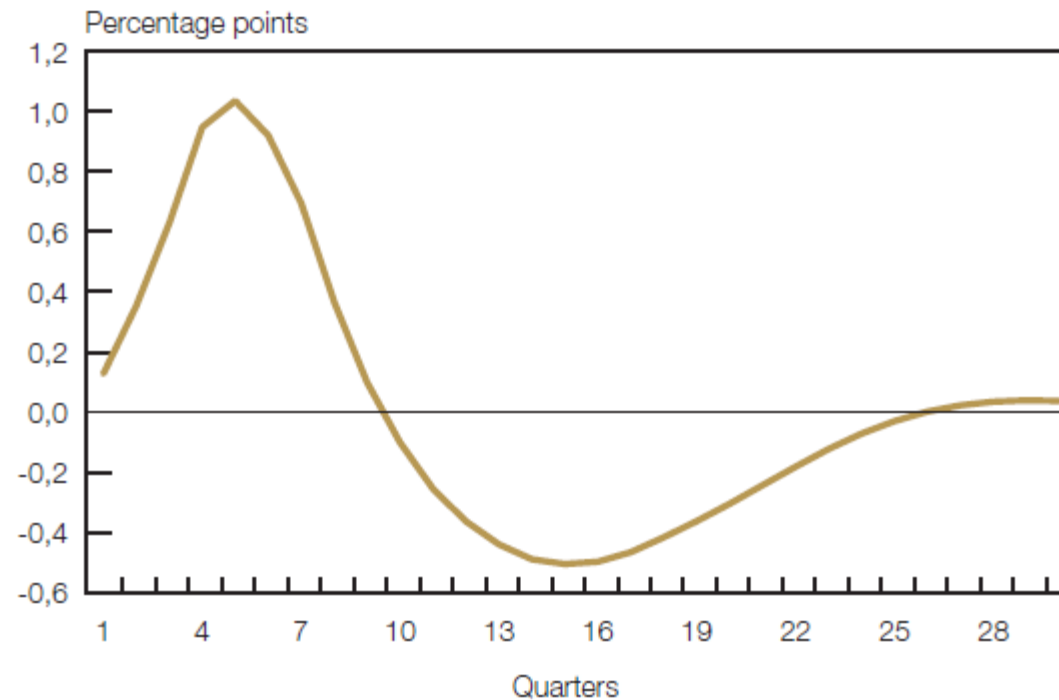
Figure 2 Response of inflation to a four-quarter repurchase rate increase



...unless you control the currency

A 5% weakening of the real effective ZAR for 4 quarters leads to a 1% increase in the inflation forecast 5 quarters out.

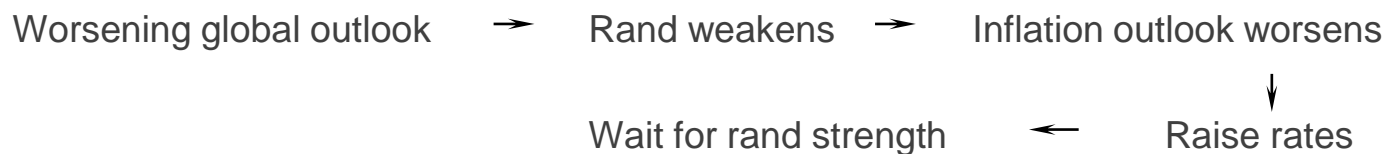
Figure 3 Response of inflation to a four-quarter exchange rate depreciation



But the ZAR is largely driven by global risk

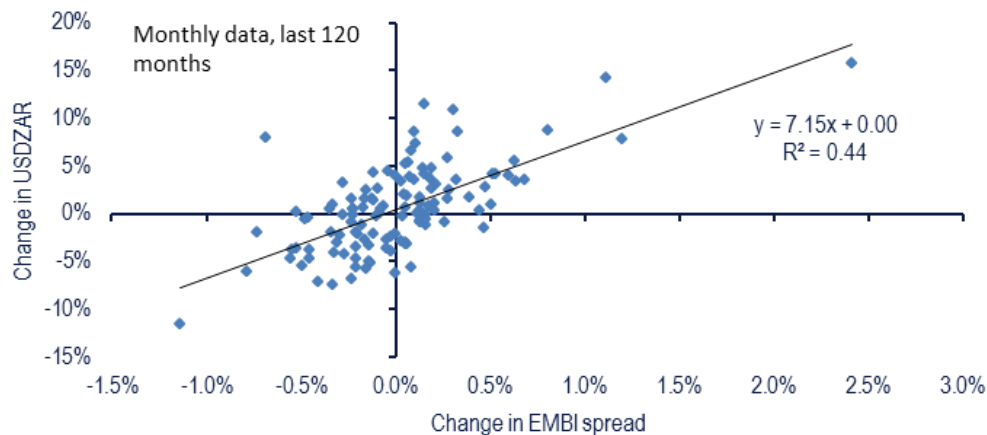
The ZAR is very well explained by measures of global risk.

Within this framework:



It is not at all clear that the rand does in fact strengthen in response to rate hikes.

Note that domestic demand does not come into the above.



Out of the Ordinary®



Thank you



Awards

Ranked #1

In the Private
Banking & Wealth
Management
Survey 2015



Ranked #1

Private Bank in the
FT & Professional
Wealth
Management
Global Awards 2014



Ranked #1

Stockbroker for
the Sophisticated
Executive and #1
CFD Provider
2014



Ranked #1

By our peers in
the Wealth
Management
Banking Survey
2013

