Decoupling from global growth – Is confidence becoming a scarce commodity? – August 2017

Theo Janse van Rensburg and Erik Visser

Abstract

After outperforming global growth in the 2000s, domestic growth has since fallen well below the world rate. One implication is South Africa is missing out on the ongoing global recovery. We use a small econometric model to explain SA growth. This allows us to quantify the contributions of various factors, including confidence. The model suggests domestic growth has slowed relative to world growth over the past three years due to declining consumer confidence and below-average real commodity prices. Had these variables been at normal levels, growth would have been over 2%.

Introduction[1]

South African output growth has stagnated despite a favourable turn in the external environment. Domestic growth has fallen to levels well below global growth and among major economies, SA and Venezuela are the only economies currently in recession (as of the first quarter of 2017).[2] This performance contrasts unfavourably with that of the early 2000s, when SA tended to grow above the global rate. Even in the aftermath of the global financial crisis, domestic growth held up reasonably well, remaining on par with global growth. However, since 2014 SA's growth has fallen well below the world average.

In this note, we explain why SA's growth has decoupled from global averages. We build a small econometric model that indicates the chief determinants of SA's growth are four long term factors, namely global growth, real commodity prices, the real effective exchange rate (REER) and (consumer) confidence. The fiscal balance and real repo rate are also significant, albeit over the short(er) term.

According to the model, the bulk of the slowdown in domestic growth relative to global growth has been due to declining confidence. In the first year (2014) of the decoupling, SA still benefitted from above-average real commodity prices, which neutralised the negative impact of declining confidence. But during 2015 and 2016, real commodity prices became a drag on growth, while the continued fall in confidence exerted even more downward pressure on growth. According to the model, real interest rates have played an almost insignificant role in the growth slowdown – in fact, they have been marginally supportive during 2015 and 2016.

1 The authors are grateful for valuable comments and editorial contributions from David Fowkes and Theresa Alton.

2 L de Lange, 'Een krisis ná die ander laat die ekonomie steier'. *Sake-Rapport*, 13 August 2017, p 4.

From relative growth over-performance to underperformance

When SA's growth is compared to global growth in the post-2000 period, three broad trends can be observed:

a) *Pre-crisis boom period* – lasting from 2000 to 2008. During this period SA's GDP grew at a faster pace than the global economy (Figure 1.1), depicted as SA's GDP rising as a share of global output.

b) *Post-crisis consolidation period* – stretching from 2010 to 2013, with SA's growth on par with global growth.

c) *Post-2013 slowdown* – SA growth slows markedly relative to world rates.

This comparison is based on a constant 2010-US$-weighted measure of world growth, taken from the World Bank. When we express SA's GDP as a share of SA export-weighted world GDP, the patterns are similar – except that the boom phase is less pronounced and the post-crisis consolidation period disappears: SA's share of global output declines from the crisis onwards. However, the export-weighted world growth series is only available on an annual basis, because of data shortages for sub-Saharan African countries. We therefore prefer the World Bank measure (Figure 1.2).

The post-2013 slowdown has had significant implications. For example, had domestic growth remained on par with global growth after 2013, domestic output would have been 6.4% larger by the first quarter of 2017. This in turn could have generated additional tax revenues[3] equivalent to 1.7% of GDP, which would have halved the envisaged budget deficit of 3.5% of GDP for 2017/18.

Figure 1.1: SA output as a share of global output

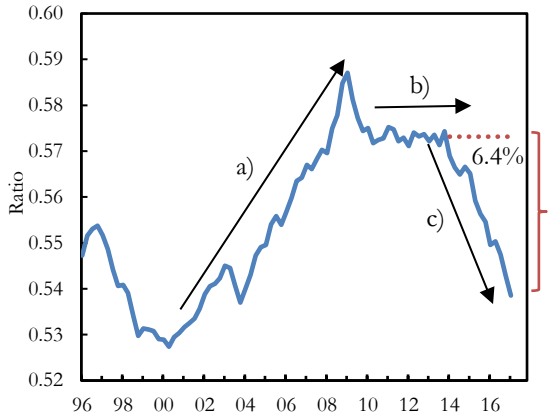
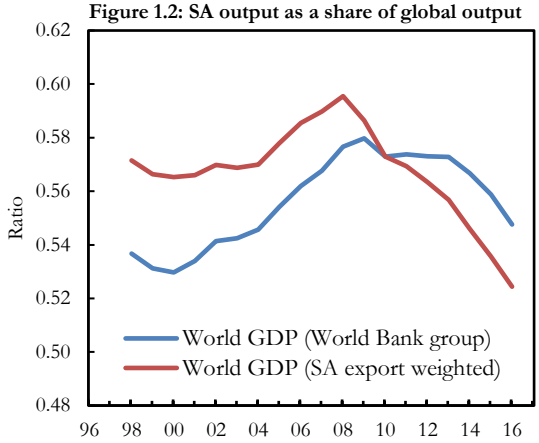


Figure 1.2: SA output as a share of global output



[3] Assuming a main budget revenue-GDP ratio of 26.2% of GDP (as per the 2017 Budget Review).

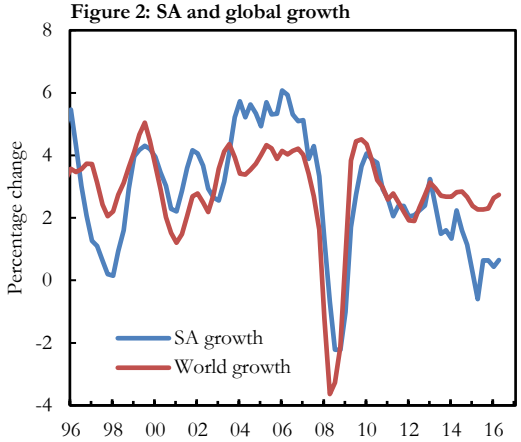
Determinants of SA growth

We identify the following major drivers of SA growth:

i) Global growth

There is a strong correlation (coefficient = 0.69) between SA and global growth (Figure 2). The breakdown in this correlation recently has been unusual; the gap between the two growth rates was last this large during the extreme political uncertainty of the early 1990s.

Figure 2: SA and global growth



ii) Commodity prices

Although export volumes are highly depended on global demand, real commodity prices (particularly mining) is also an important driver of domestic export volumes. Over and above the link between growth and global demand, domestic growth is thus also strongly correlated with real commodity prices – even when there is strong correlation between global GDP and real commodity prices (Figures 3.1 and 3.2).

Based on historical patterns and the level of global growth, one would have expected somewhat higher real commodity prices in the post-2013 period. The slight decoupling of real commodity prices from global growth might partly explain why SA's growth has been decoupling from global growth. Note that both global growth and SA growth have not responded to the most recent surge in real commodity prices, possibly indicating that the impact that commodity prices are having on growth is becoming weaker.

Figure 3.1: Global growth and commodity prices

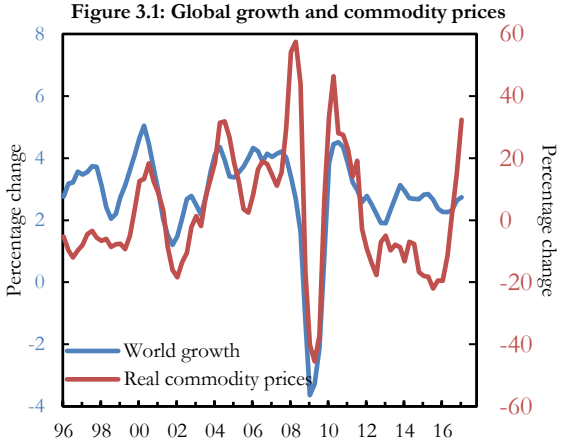
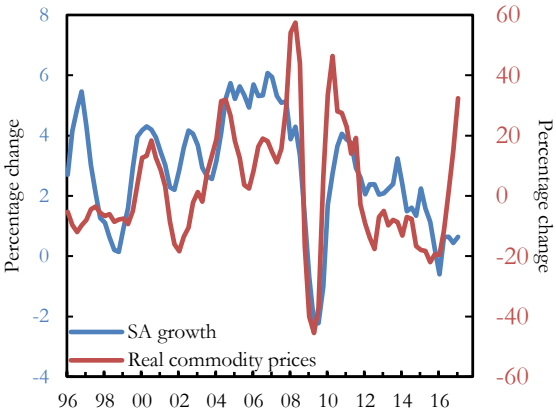


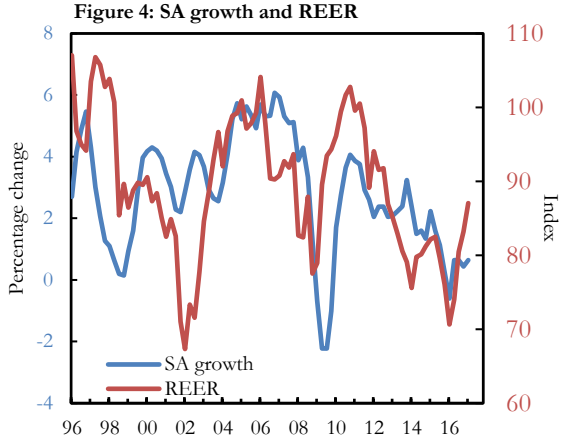
Figure 3.2: SA growth and commodity prices



iii) Real effective exchange rate (REER)

Domestic competitiveness is largely driven by the REER. Accordingly, SA growth should be negatively correlated with the REER. This relationship holds for the 2000s (Figure 4). However, in the post-2010 period, the correlation seems to have become positive, which may have to do with a declining tradeables sector.[4]

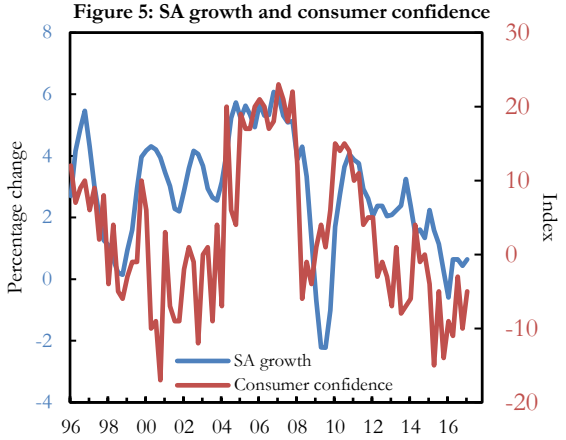
Figure 4: SA growth and REER



iv) Confidence

Confidence has been on a declining trend since 2010 (Figure 5) and is now around its lowest level in almost two decades. Although business confidence displays similar trends to consumer confidence, and was also statistically more significant in the equation specification, we opted to use consumer confidence. The reason for this is that when we used business confidence, the real interest rate variable became statistically insignificant. For theoretical reasons, we felt it was important to keep real interest rates in the specification.

Figure 5: SA growth and consumer confidence



Although confidence is closely correlated with some of the other variables in our model Annexure A), such as global growth and the real exchange rate, it retains its statistical significance even when these variables are included.

[4] T Janse van Rensburg, D Fowkes and C Loewald, 'The shrinking tradeable sector, competitiveness and the post-crisis slump', *South African Reserve Bank Economic Note No. EN/14/19*, September 2014.

v) Fiscal balance

The fiscal balance also has an impact on overall economic activity and growth. As depicted in Figure 6, when the fiscal balance becomes more negative, government is adding to aggregate demand, and *vice versa*.

Figure 6: SA growth and the fiscal balance

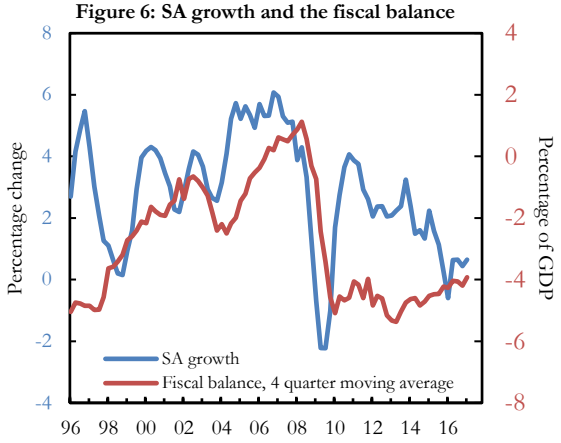
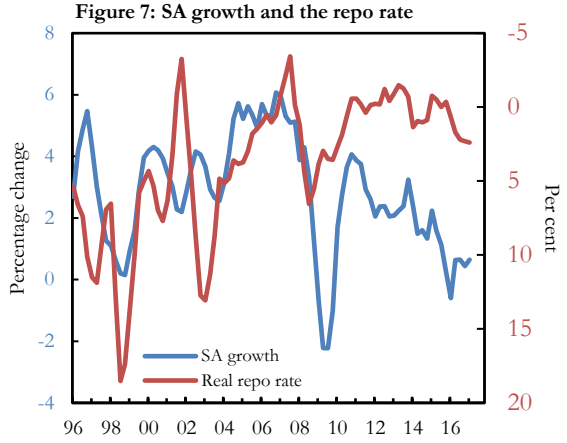


Figure 7: SA growth and the repo rate



vi) Interest rates

As expected, there appears to be an inverse relationship between the real repo rate and SA's growth, but the correlation is rather weak (Figure 7). In fact, in recent years growth has slowed despite a persistently low repo rate, relative to the pre-crisis period.

Modeling the slowdown

Using the growth drivers[5] discussed above, we construct a small quarterly econometric model which explains the bulk of SA growth over the 1996–2016 period (Annexure B). The estimated model indicates that:

- A 1% increase in *global growth* raises the level of SA output by 0.94%, with half (three-quarters) of the adjustment completed within one (six) quarters.
- A 1% rise in *real commodity prices* increases domestic output by 0.08%, with 50% (75%) of the adjustment completed within five (ten) quarters.
- A 1% appreciation in the value of the *REER* lower domestic output by 0.15%, with 50% (75%) of the adjustment completed within five (ten) quarters.
- A one index point change in *consumer confidence*, changes domestic output by 0.29%. It takes about six quarters to do half the adjustment to equilibrium and about one year to complete 75% of the adjustment.

It follows that SA growth is quick to adjust to changes in global growth; however, the adjustment is slower for changes in the other growth drivers. The impulse responses depicted in Annexure C provide more detail on the magnitude and duration of these adjustments. It is important to note that unlike the growth drivers discussed above, which permanently alter SA output, the real interest rate and the fiscal balance were not statistically significant in the long run specification. This shows these variables have

[5] With regard to confidence, we also estimated the model using business- instead of consumer confidence. Although the business confidence variable was statistically more significant than consumer confidence, it made the real interest rate variable (even) less significant. We therefor opted to use consumer confidence.

only temporary effects on output.[6] Another option for analysing these growth drivers is to consider the effects of large shocks. For instance, we have seen that a one unit change in consumer confidence results in a 0.29% change in SA growth – which appears small. Yet consumer confidence has a standard deviation of 10.1 points, which means that a one standard deviation shock to consumer confidence will lower SA output by 2.91% (i.e. 10.1*0.29%).

Table 1 summarises the impact of one standard deviation shocks to the various long term growth drivers. The model indicates that this kind of shock to global growth and real commodity prices will have about a 1½ per cent SA output impact, whereas the impact of a change in the REER will be slightly larger. It is important to note that domestic growth is most sensitive to changes in (consumer) confidence, with a one standard deviation shock altering domestic growth by nearly 3 percentage points.

Table 1: Domestic growth impact due to a one standard deviation shock to the long-term growth drivers

Variable	Equilibrium (long run) impact of 1 unit shock	1 Standard deviation	Impact of a 1 standard deviation shock
Global growth (% y-o-y)	0.94	1.50	1.40
Real commodity prices (% y-o-y)	0.08	19.68	1.56
REER (% y-o-y)	0.15	10.85	1.67
Consumer confidence (index)	0.29	10.10	2.91
Fiscal Balance (% of GDP)	0	3.05	0
(based on 4-quarter moving average)	0	1.93	0
Real repo rate	0	4.65	0

Explaining and quantifying the contributors to the post-2013 growth slowdown

In this section we employ the estimated model to calculate what growth would have been in the post-2014 period had the identified growth drivers been at their 1996–2013 averages. We see that growth would have been about 1 percentage point higher in 2015, and almost 2 percentage points higher in 2016. The most influential variables are consumer confidence and real commodity prices. Consumer confidence averaged -0.8, -9.5 and -8.3 in 2014, 2015 and 2016 respectively.

[6] We have been surprised by the small (and only statistically significant at the 10% level) coefficient of real interest rates. After experimenting with lags ranging from zero to eight quarters, a six quarter lag on real interest rates was found to be the most significant (albeit with a t-value of only 1.34). Some of the explanatory power of interest rates may be captured by consumer confidence, as the former is correlated to the latter, giving rise to issues of multicollinearity. In fact, as discussed earlier, there are various multicollinearity issues as confidence is strongly correlated with political uncertainty, global growth, (real) commodity prices and the REER. The authors intend doing further work on understanding confidence drivers in a future paper.

Had consumer confidence remained constant at +4.5 over the 2014 to 2016 period, SA growth would have been 0.43, 0.99 and 1.15 percentage points higher over the three years (Table 2). Similarly, real commodity prices subtracted 0.11 and 0.55 percentage points from growth in 2015 and 2016 respectively, relative to where growth would have been with average real commodity prices.[7]

Table 2: Impact on domestic growth over 2014–2016, with drivers at historical averages

Percentage change	2014	2015	2016
GDP at market prices	**1.70**	**1.30**	**0.28**
Growth additions with following variables at 1996–2013 averages:			
Global growth	0.14	0.15	0.37
Real commodity prices	-0.43	0.11	0.55
REER	-0.05	0.13	-0.37
Confidence	0.43	0.99	1.15
Real interest rates	0.00	-0.04	-0.04
Fiscal balance	-0.02	-0.29	0.13
What TOTAL growth could have been (B)	**1.77**	**2.35**	**2.06**

Implications for economic policy

Our model indicates that monetary policy has played virtually no role in SA achieving growth outcomes below those attained globally. Instead, below average real commodity prices and weak consumer confidence are the primary reasons for SA's weakening growth performance over the past three years. Although there is little South Africa can do to influence commodity prices, as SA is a price taker on international markets, policymakers have an important role to play in bolstering consumer confidence – an important catalyst to sustainably accelerate growth.

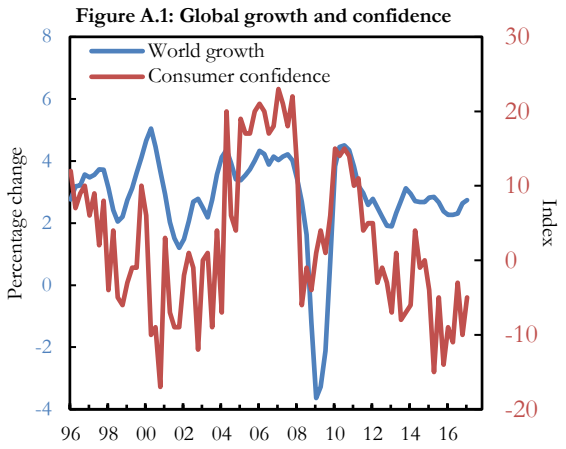
Concluding remarks

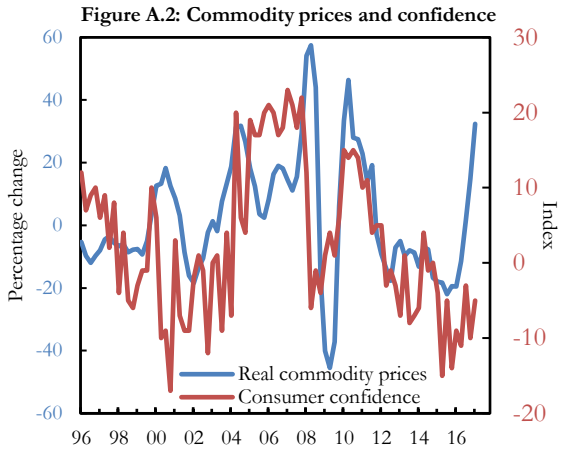
South African growth has historically been closely tied to global growth. Over the past few years, this correlation has broken down. Our analysis indicates the divergence is primarily due to very weak consumer confidence, as well as lower real commodity prices. Reducing political uncertainties appears to be a prerequisite for reversing consumer confidence and thereby renewing growth.

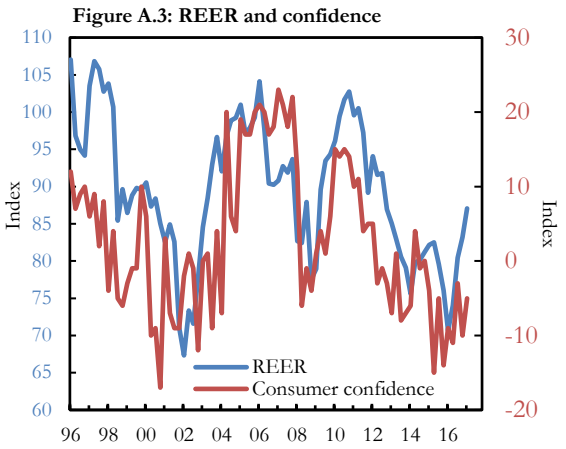
[7] Commodity prices were slightly above long run averages in 2014, contributing 0.43% to growth.

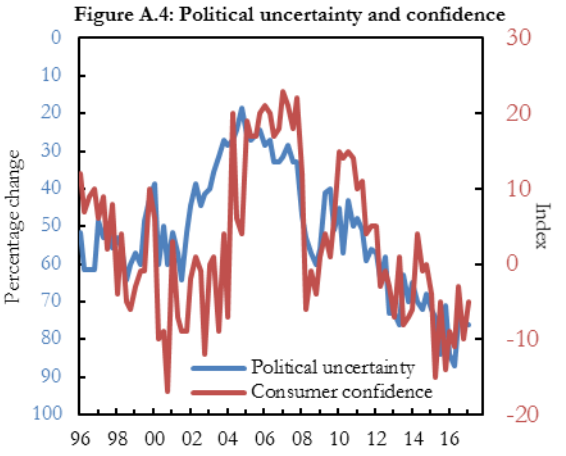
ANNEXURE A

(Consumer) confidence is strongly correlated with various economic indicators









ANNEXURE B

Equation 1: SA GDP at basic prices

Dependent Variable: DLOG(Y1)
Method: Least Squares
Date: 18/08/17 Time: 08:25
Sample (adjusted): 1996Q1 2017Q1
Included observations: 85 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(Y1(-1))	-0.131632	0.031351	-4.198637	0.0001
LOG(WLTY1(-1))	0.123195	0.033015	3.731544	0.0004
LOG(PCOMM1)	0.010412	0.003125	3.331525	0.0013
LOG(REER)	-0.020254	0.006241	-3.245069	0.0018
CCI(-1)/100	0.037904	0.006962	5.444313	0.0000
C	-0.035840	0.121886	-0.294048	0.7695
DLOG(WLTY1)	0.499090	0.107719	4.633260	0.0000
D(CCI)/100	0.023836	0.006659	3.579221	0.0006
D(FREPOR(-6))/100	-0.029479	0.022004	-1.339732	0.1844
D(@MOVAV(GDEFF(-3),4))/10...	-0.208498	0.110758	-1.882464	0.0637

R-squared	0.634779	Mean dependent var	0.006864
Adjusted R-squared	0.590952	S.D. dependent var	0.006072
S.E. of regression	0.003883	Akaike info criterion	-8.154203
Sum squared resid	0.001131	Schwarz criterion	-7.866832
Log likelihood	356.5536	Hannan-Quinn criter.	-8.038614
F-statistic	14.48390	Durbin-Watson stat	1.723239
Prob(F-statistic)	0.000000		

Mnemonics

Y1	=	Real GDP at market prices
CCI	=	BER consumer confidence index
FREPOR	=	Real repo rate (deflated using headline CPI four quarters ahead)
GDEFF	=	Fiscal balance (% of GDP)
PCOMM1	=	Real commodity prices (deflated by US CPI)
REER	=	Real effective exchange rate
WLTY1	=	Real world output

ANNEXURE C

Impulse responses of a permanent 1%/1 unit change on SA GDP (at market prices):

Figure C.1: Impact of a 1% increase in global growth

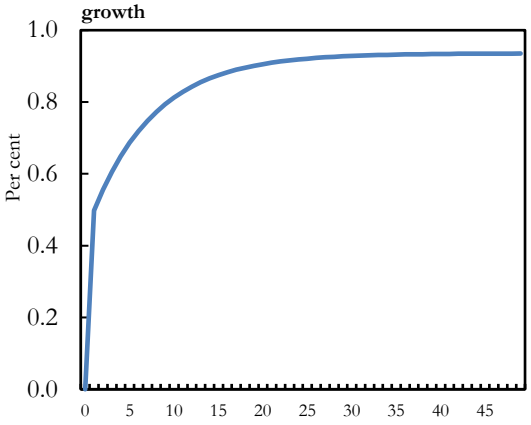


Figure C.2: Impact of a 1% increase in real commodity prices

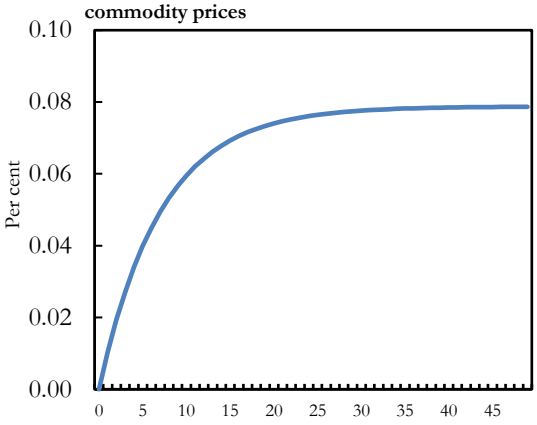


Figure C.3: Impact of a 1% appreciation in the REER

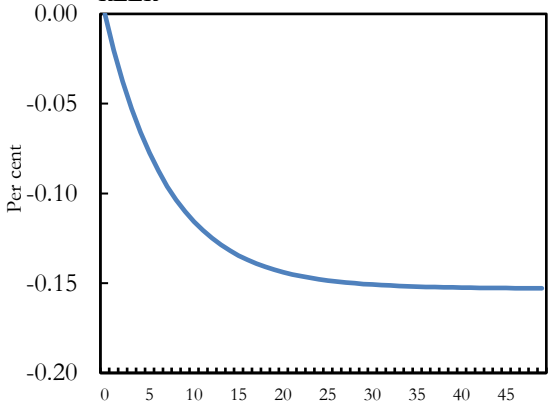


Figure C.4: Impact of a 1 index point change in consumer confidence

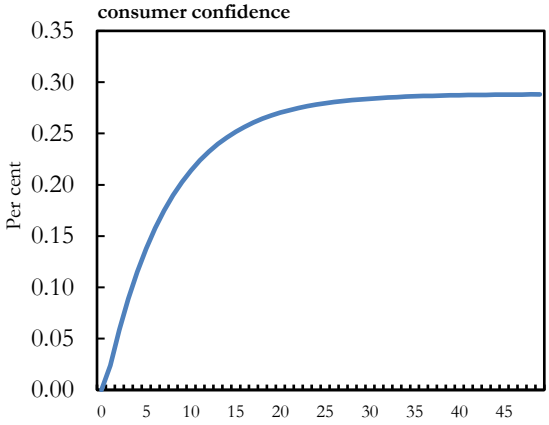


Figure C.5: Impact of a 1 % increase in real interest rates

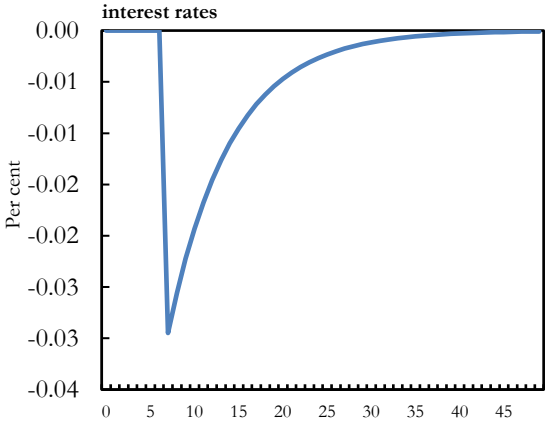


Figure C.6: Impact of a 1 % (of GDP) change in the fiscal balance