



Province of KwaZulu-Natal  
Provincial Treasury  
IMES Unit

THE KWAZULU NATAL ECONOMY – A RISK AND  
CONDITIONS MONITOR<sup>1</sup>  
Update 5

**Clive Coetzee**

General Manager: IMES Unit

Economist

[clive.coetzee@kzntreasury.gov.za](mailto:clive.coetzee@kzntreasury.gov.za)

033 8974538

*Working Paper 2.5: dd April 2013*

---

<sup>1</sup> The views expressed in this working paper are the views of the author and might not necessarily reflect the views of the Provincial Treasury. All rights reserved – 2009-2013

## KZN RISK AND CONDITIONS MONITOR – 4<sup>th</sup> Quarter 2012

### Economic Risk/Conditions Variables

The economic risk/condition variables that are included in the monitor are indicated in the table below. The relative sector weights for the economic risk/condition variables are also displayed and add up to a 100%. The weights at this stage are purely assumed weights and not based on any econometric modelling or calculations simply because of a lack of sufficient time series data. However it must be mentioned that various weightings have been modelled with very little impact on the overall results.

**Table 1: Included economic risk/condition variables and their associated sector weights**

	Rand Dollar (Rand per USD)	Interest Rate (R157 = %)	Inflation (pa %)	Oil Price (USD)	Sugar Price (US cents per pound)	Gold Price (USD)	Credit extended to the domestic private sector (Rm)	Physical volume of electricity production (2005=100)
Agriculture, forestry and fishing	20.00%	10.00%	5.00%	17.00%	30.00%	0.00%	10.00%	8.00%
Mining and quarrying	30.00%	0.00%	0.00%	10.00%	0.00%	40.00%	0.00%	20.00%
Manufacturing	35.00%	20.00%	5.00%	10.00%	0.00%	0.00%	10.00%	20.00%
Electricity, gas and water	10.00%	5.00%	5.00%	20.00%	0.00%	0.00%	10.00%	50.00%
Construction	10.00%	30.00%	10.00%	15.00%	0.00%	0.00%	30.00%	5.00%
Wholesale & retail trade; hotels & restaurants	10.00%	35.00%	20.00%	10.00%	0.00%	0.00%	25.00%	0.00%
Transport, storage and communication	10.00%	20.00%	10.00%	30.00%	0.00%	0.00%	20.00%	10.00%
Finance, real estate and business services	10.00%	35.00%	10.00%	10.00%	0.00%	0.00%	30.00%	5.00%
Personal and General Government Services	10.00%	35.00%	20.00%	0.00%	0.00%	0.00%	30.00%	5.00%

The theoretical impact of a change in each of the economic risk/condition variables are illustrated in the below table. For example when the rand dollar exchange rate depreciates the risk associated is

assumed to be decreasing because of the potential improvement in the economic conditions associated with a depreciating currency.

**Table 2: Implications of a change in the economic risk/condition variables**

	Unit	Movement	Decreasing Risk	Increasing Risk
Rand Dollar Exchange Rate	Rand per 1USD	Appreciate or Depreciate	Depreciate	Appreciate
Interest Rate	Percentage R157 Bond	Increase or Decrease	Decrease	Increase
Inflation Rate	Percentage Per Annum	Increase or Decrease	Decrease	Increase
Oil Price	USD per Barrel	Increase or Decrease	Decrease	Increase
Sugar Price	US cents per pound	Increase or Decrease	Increase	Decrease
Gold Price	USD per Ounce	Increase or Decrease	Increase	Decrease
Credit extended to the domestic private sector	Rand million	Increase or Decrease	Increase	Decrease
Physical volume of electricity production	Index, 2005=100	Increase or Decrease	Increase	Decrease

### Behaviour of the Economic Risk/Conditions Variables

The behaviour or movement of the economic risk/conditions variables over the last 30 months are displayed in the below table.

**Table 3: Behaviour of the Economic Risk/Conditions Variables**

	Rand Dollar (Rand per USD)	Interest Rate (R157 = %)	Inflation (pa %)	Oil Price (USD)	Sugar Price (US cents per pound)	Gold Price (USD)	Credit extended to the domestic private sector (Rm)	Electricity generated and available for distribution (Gig watt-hours)
Jul-10	7.31	7.58	3.98	77	17.69	1,168	2,088,490	3,540
Aug-10	7.35	7.23	3.78	75	18.60	1,237	2,105,320	3,281
Sep-10	6.96	7.30	3.30	79	22.67	1,311	2,116,420	3,629
Oct-10	6.99	7.04	3.48	82	26.94	1,345	2,131,382	3,432
Nov-10	7.10	7.46	3.57	86	26.42	1,368	2,143,414	3,550
Dec-10	6.62	7.31	3.50	93	28.04	1,405	2,150,636	3,559
Jan-11	7.17	7.88	3.50	100	29.74	1,339	2,126,592	3,684
Feb-11	7.00	7.77	3.70	112	29.31	1,411	2,130,220	3,595

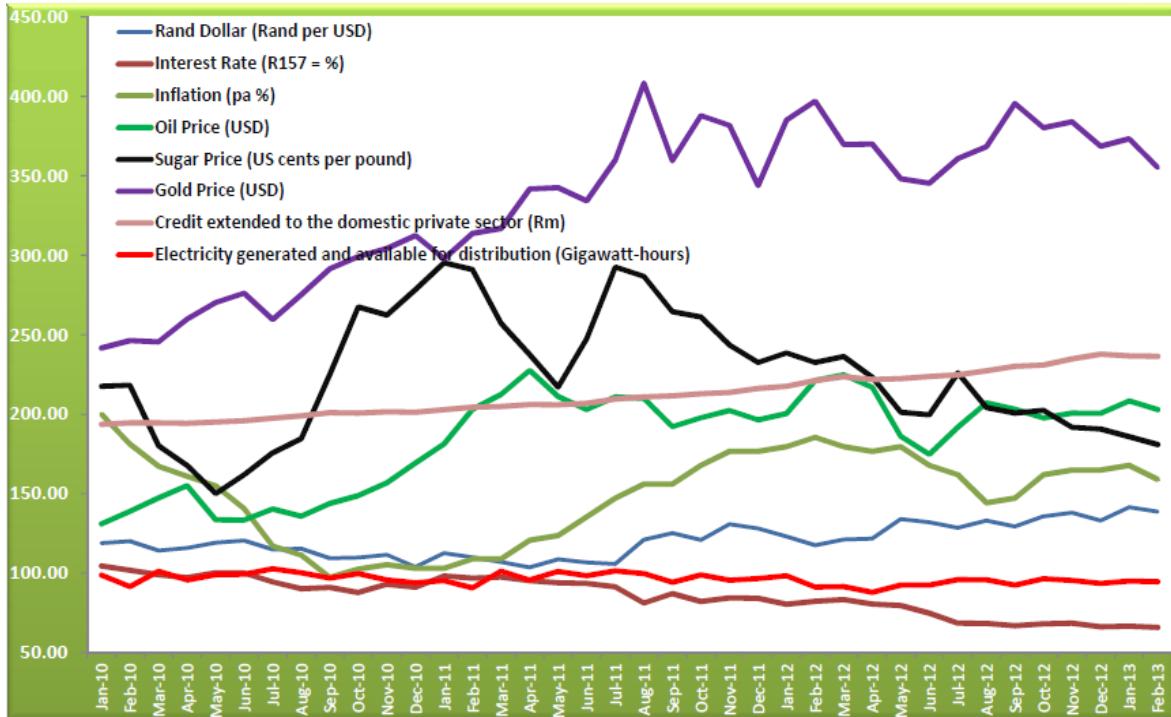
Mar-11	6.81	7.82	3.70	117	25.90	1,425	2,123,841	3,474
Apr-11	6.60	7.64	4.10	125	23.91	1,537	2,155,530	3,577
May-11	6.92	7.53	4.20	116	21.85	1,540	2,150,865	3,433
Jun-11	6.79	7.50	4.60	112	24.92	1,503	2,140,517	3,371
Jul-11	6.73	7.33	5.00	116	29.47	1,618	2,196,179	3,417
Aug-11	7.07	6.52	5.30	116	28.87	1,265	2,223,736	3,256
Sep-11	7.97	6.99	5.30	106	26.64	1,303	2,227,965	3,631
Oct-11	7.70	6.59	5.70	109	26.30	1,357	2,250,618	3,432
Nov-11	8.33	6.77	6.00	112	24.52	1,419	2,256,503	3,624
Dec-11	8.16	6.75	6.00	108	23.42	1,249	2,252,108	3,527
Jan-12	7.83	6.45	6.10	110	24.02	1,366	2,264,173	3,639
Feb-12	7.48	6.60	6.30	122	23.42	1,343	2,273,281	3,574
Mar-12	7.71	6.69	6.10	124	23.79	1,270	2,321,351	3,381
Apr-12	7.75	6.46	6.00	120	22.48	1,284	2,311,762	3,547
May-12	8.53	6.39	6.10	103	20.27	1,327	2,313,714	3,429
June-12	8.40	6.00	5.70	96	20.10	1,306	2,316,624	3,466
July-12	8.18	5.50	5.50	106	22.76	1,340	2,388,824	3,527
Aug-12	8.48	5.48	4.90	114	21.04	1,383	2,339,721	3,271
Sep-12	8.23	5.37	5.00	112	20.21	1,467	2,348,390	3,282
Oct-12	8.64	5.47	5.50	109	20.39	1,710	2,226,668	3,154
Nov-12	8.78	5.50	5.60	111	19.31	1,727	2,263,277	3,318
Dec-12	8.47	5.32	5.60	111	19.20	1,657	2,291,909	3,315

Graph 1 indicates the behaviour of the economic risk variables in index format (2005 = 100) from January 2010 to February 2013.

From the table and graph it seems that during the 4<sup>th</sup> quarter of 2012:

- The rand dollar exchange rate has depreciated (✓)
- Interest rates have decreased (✓)
- Inflation has increased (x)
- Oil prices have increased (x)
- Sugar prices have decreased (x)
- Gold price has increased (✓)
- Credit extended has increased (✓)
- Electricity supply has decreased (x)

**Graph 1: Behaviour of the Economic Risk/Conditions Variables in index format**



The above suggested that there have been 4 variables that have increased the economic risk or decreased the economic conditions in the provincial economy and vice versa.

### Calculating the Monitor

The economic risk/conditions monitor for the province and each of the regions (6 regions) are calculated as follows:

- Step 1. Calculate or compute the monthly percentage change in each of the 8 economic risk/conditions variables ( $t = 1$  to 8 and  $i = 1$  to 184)

$$\% \Delta er_{ti} = (er_{ti} - er_{ti-1}) / er_{ti-1} \times 100$$

Where:

$er_t$  = the different economic risk/conditions variables

i = time in months

- Step 2. Calculate or compute the monthly economic sector weights for each of the 9 economic sectors (s = 1 to 9 and i = 1 to 184)

$$W_{si} = \text{GDP}_{si} / \text{GDP}_{kzni} \times 100$$

Where:

$W_{si}$  = relative weight of each economic sector

$\text{GDP}_{si}$  = gross domestic product per economic sector in period i

$\text{GDP}_{kzni}$  = gross domestic product for the province in period i

- Step 3. Calculate or compute the economic sector risk/conditions for each of the 9 sectors

$$\text{ERC}_{sti} = \sum (w_{si} \times \% \Delta er_{ti} \times erw_{ti})$$

Where:

$\text{ERC}_{st}$  = economic risk/condition of the particular sector

$erw$  = weight of each of the economic risk/conditions per economic sector

- Step 4. Calculate or compute the provincial or regional economic risk/condition monitor

$$\text{ERC}_{loc} = \sum \text{ERC}_{sti}$$

Where:

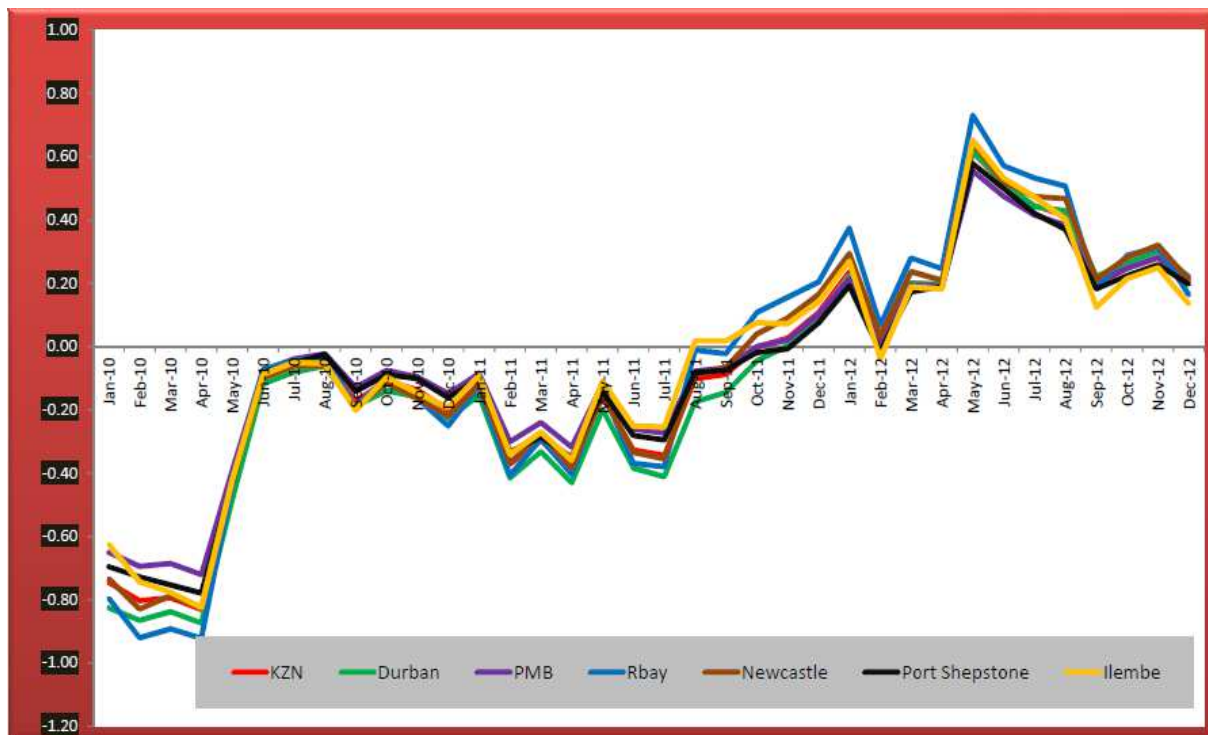
$\text{ERC}_{loc}$  = economic risk/conditions monitor for the province or region

## **Economic risk/conditions monitor for the province and regions**

The results for the province and each of the 6 regions are displayed in the graph and table below (graph 2 and table 4). The results have been smoothed using a 12 month moving average method because of the inclusion of monthly data in the calculations. The monitor should be interpreted as follows:

Positive Numbers	Low or Decreasing Risk
Zero	Neutral Risk
Negative Numbers	High or Increasing Risk

**Graph 2: Economic Risk/Conditions Monitor**



**Table 4: Economic Risk/Conditions Monitor**

	<u>KZN</u>	<u>Durban</u>	<u>PMB</u>	<u>RBay</u>	<u>Newcastle</u>	<u>Port Shepstone</u>	<u>Ilembe</u>
<b>Jul-11</b>	0.27	0.05	0.30	0.43	0.19	0.36	0.69
<b>Aug-11</b>	2.60	2.48	2.20	3.78	2.87	2.32	3.05
<b>Sep-11</b>	0.78	0.94	0.71	0.50	0.75	0.79	0.63
<b>Oct-11</b>	-0.18	-0.20	-0.14	-0.03	-0.18	-0.22	-0.30
<b>Nov-11</b>	0.65	0.66	0.51	1.02	0.88	0.48	0.78
<b>Dec-11</b>	0.25	0.37	0.33	-0.16	0.23	0.28	0.05
<b>Jan-12</b>	-0.42	-0.47	-0.34	-0.32	-0.52	-0.36	-0.54
<b>Feb-12</b>	-2.33	-2.31	-1.96	-2.86	-2.38	-2.14	-2.73

<b>Mar-12</b>	0.59	0.58	0.58	0.54	0.70	0.55	0.75
<b>Apr-12</b>	-0.07	0.00	-0.09	-0.14	-0.13	-0.04	-0.25
<b>May-12</b>	3.68	3.78	3.19	4.37	3.86	3.37	3.93
<b>June-12</b>	0.71	0.76	0.70	0.53	0.57	0.77	0.55
<b>July-12</b>	-0.74	-0.91	-0.59	-0.73	-0.71	-0.70	-0.47
<b>Aug-12</b>	-0.14	-0.10	-0.11	0.09	0.12	-0.29	-0.23
<b>Sep-12</b>	-0.26	-0.23	-0.16	-0.42	-0.43	-0.13	-0.56
<b>Oct-12</b>	1.50	1.47	1.29	1.85	1.64	1.34	1.81
<b>Nov-12</b>	0.27	0.31	0.29	0.30	0.34	0.23	0.14
<b>Dec-12</b>	-0.45	-0.39	-0.28	-0.93	-0.55	-0.32	-0.69

The average risk value for the province and each of the regions for the 4<sup>th</sup> quarter of 2012 are displayed in the table below. The table also includes the average risk values for the 4<sup>th</sup> quarter of each of the indicated years.

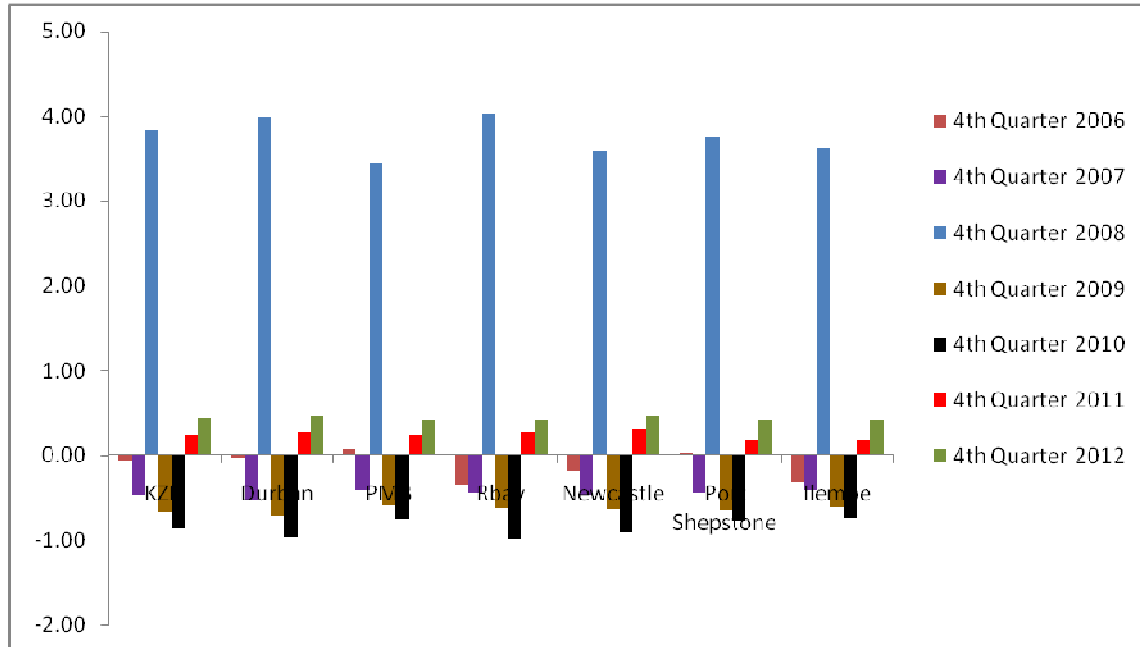
**Table 5: Average 4<sup>th</sup> Quarter Economic Risk/Conditions Monitor**

	KZN	Durban	PMB	RBay	Newcastle	Port Shepstone	Ilembe
<b>4th Quarter 2006</b>	-0.07	-0.03	0.07	-0.35	-0.18	0.02	-0.32
<b>4th Quarter 2007</b>	-0.47	-0.55	-0.41	-0.45	-0.47	-0.44	-0.42
<b>4th Quarter 2008</b>	3.82	3.98	3.44	4.02	3.59	3.76	3.62
<b>4th Quarter 2009</b>	-0.67	-0.72	-0.60	-0.62	-0.63	-0.65	-0.61
<b>4th Quarter 2010</b>	-0.87	-0.97	-0.76	-0.98	-0.91	-0.78	-0.74
<b>4th Quarter 2011</b>	0.24	0.28	0.23	0.28	0.31	0.18	0.18
<b>4th Quarter 2012</b>	0.44	0.46	0.43	0.41	0.47	0.41	0.42

Table 5 can be graphically illustrated through graph 3.



**Graph 3: Average 4<sup>th</sup> Quarter Economic Risk/Conditions Monitor**



### Interpretation of the Monitor

The results suggest that the economic risk in the province during the 4<sup>th</sup> quarter 2012 was consistently fairly low and that the economic conditions in the province was fairly “conductive”. However the outlook seems to be deteriorating given the behaviour of the majority of economic variables since the beginning of the 1<sup>st</sup> quarter of 2013.

The current risk outlook should support the economic outlook of the province during the 1<sup>st</sup> quarter of 2013, but only marginally given the worsening of the inflation and consumer confidence outlook.

The results also suggest that economic risk during the 4<sup>th</sup> quarter of 2012 was the lowest in the Newcastle and Durban economies and the highest in the Ilembe economy.