



Province of KwaZulu-Natal
Provincial Treasury
IMES Unit

THE KWAZULU NATAL ECONOMY – A RISK AND
CONDITIONS MONITOR¹
Update 6

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KZN RISK AND CONDITIONS MONITOR – 1st Quarter 2013

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 33 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
Jan-13	9.01	5.35	5.70	115	18.71	1,678	2,282,495	3,409
Feb-13	8.83	5.28	5.40	112	18.21	1,597	2,301,270	3,137
Mar-13	9.25	5.49	5.90	109	18.33	1,606	2,330,636	3,454

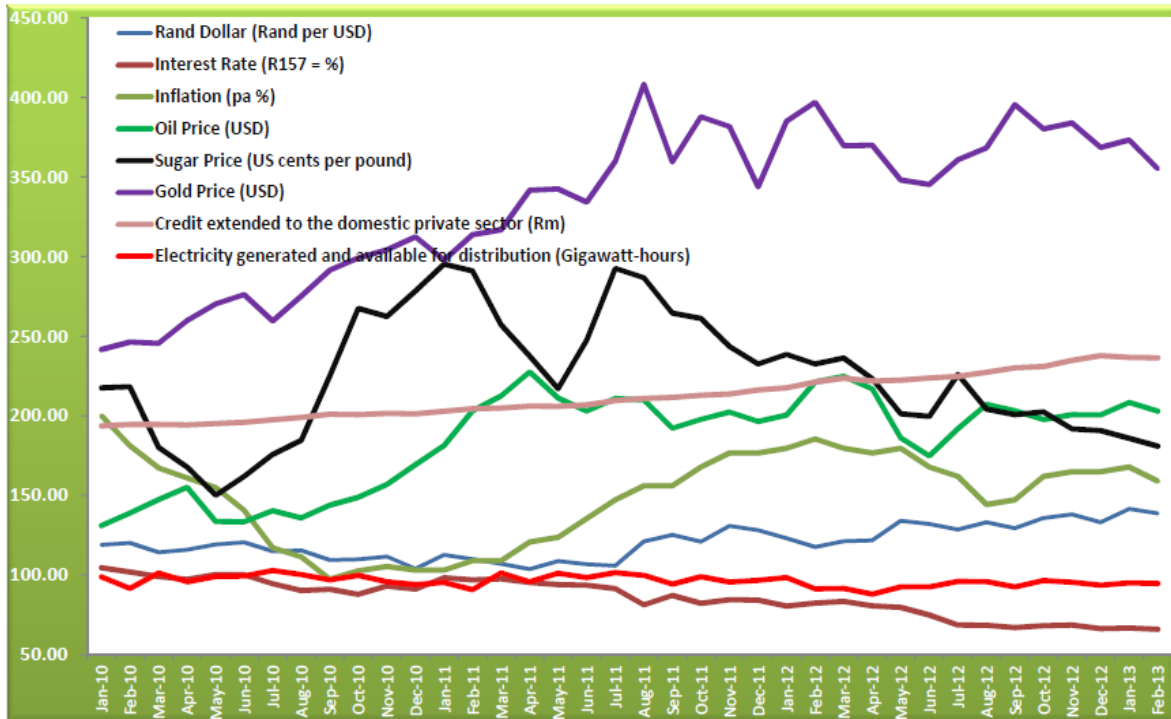
Graph 1 indicates the behaviour of the economic risk variables in index format (2005 = 100) from January 2010 to March 2013.

From the table and graph it seems that during the 1st quarter of 2013:

- 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 decreased (x)
- Credit extended has increased (✓)

- Electricity supply has increased (✓)

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



The above suggested that 4 variables 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

GDP_{si} = gross domestic product per economic sector in period i

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:

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:

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

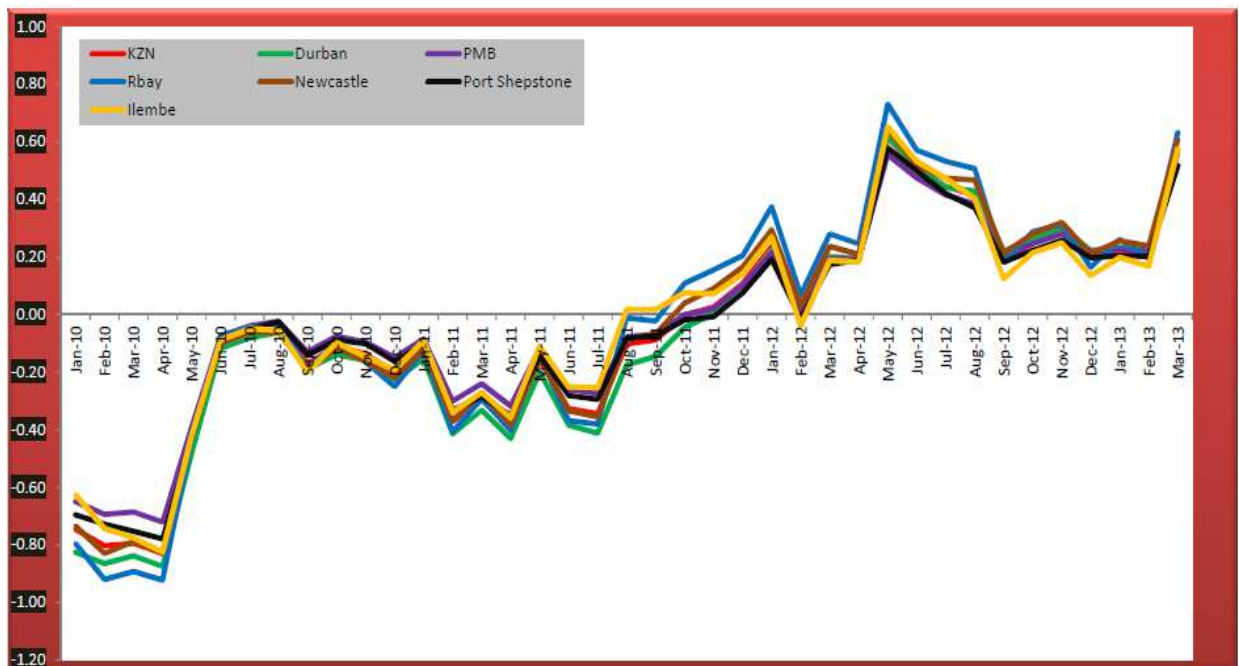


Table 4: Economic Risk/Conditions Monitor

	<u>KZN</u>	<u>Durban</u>	<u>PMB</u>	<u>RBay</u>	<u>Newcastle</u>	<u>Port Shepstone</u>	<u>Ilembe</u>
Jul-11	0.27	0.05	0.30	0.43	0.19	0.36	0.69
Aug-11	2.60	2.48	2.20	3.78	2.87	2.32	3.05
Sep-11	0.78	0.94	0.71	0.50	0.75	0.79	0.63
Oct-11	-0.18	-0.20	-0.14	-0.03	-0.18	-0.22	-0.30
Nov-11	0.65	0.66	0.51	1.02	0.88	0.48	0.78
Dec-11	0.25	0.37	0.33	-0.16	0.23	0.28	0.05
Jan-12	-0.42	-0.47	-0.34	-0.32	-0.52	-0.36	-0.54
Feb-12	-2.33	-2.31	-1.96	-2.86	-2.38	-2.14	-2.73
Mar-12	0.59	0.58	0.58	0.54	0.70	0.55	0.75
Apr-12	-0.07	0.00	-0.09	-0.14	-0.13	-0.04	-0.25

May-12	3.68	3.78	3.19	4.37	3.86	3.37	3.93
June-12	0.71	0.76	0.70	0.53	0.57	0.77	0.55
July-12	-0.74	-0.91	-0.59	-0.73	-0.71	-0.70	-0.47
Aug-12	-0.14	-0.10	-0.11	0.09	0.12	-0.29	-0.23
Sep-12	-0.26	-0.23	-0.16	-0.42	-0.43	-0.13	-0.56
Oct-12	1.50	1.47	1.29	1.85	1.64	1.34	1.81
Nov-12	0.27	0.31	0.29	0.30	0.34	0.23	0.14
Dec-12	-0.45	-0.39	-0.28	-0.93	-0.55	-0.32	-0.69
Jan-13	0.57	0.52	0.41	1.10	0.82	0.37	0.85
Feb-13	-0.59	-0.49	-0.42	-1,18	-0.76	-0.39	-0.93
Mar-13	2.19	2.14	1.91	2.83	2.39	1.93	2.57

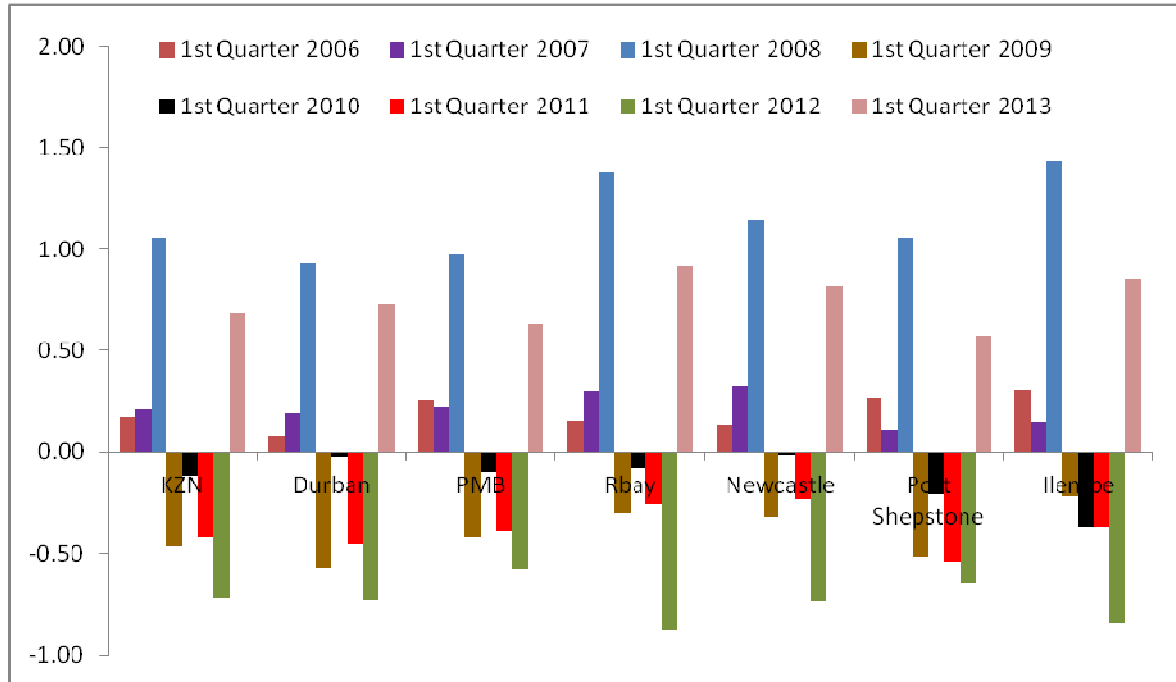
The average risk value for the province and each of the regions for the 1st quarter of 2013 are displayed in the table below (table 5).

Table 5: Average 4th Quarter Economic Risk/Conditions Monitor

	KZN	Durban	PMB	RBay	Newcastle	Port Shepstone	Ilembe
1st Quarter 2006	0.17	0.08	0.25	0.15	0.14	0.26	0.30
1st Quarter 2007	0.21	0.19	0.22	0.30	0.32	0.11	0.15
1st Quarter 2008	1.06	0.93	0.97	1.37	1.14	1.06	1.43
1st Quarter 2009	-0.47	-0.57	-0.43	-0.30	-0.32	-0.52	-0.22
1st Quarter 2010	-0.12	-0.03	-0.09	-0.08	-0.02	-0.21	-0.37
1st Quarter 2011	-0.43	-0.45	-0.39	-0.26	-0.23	-0.54	-0.36
1st Quarter 2012	-0.72	-0.73	-0.57	-0.88	-0.74	-0.65	-0.84
1st Quarter 2013	0.68	0.72	0.63	0.91	0.82	0.57	0.85

Table 5 can be graphically illustrated through graph 3.

Graph 3: Average 4th Quarter Economic Risk/Conditions Monitor



Interpretation of the Monitor

The results suggest that the economic risk in the province during the 1st quarter 2013 was consistently fairly low and that the economic conditions in the province was fairly “conductive”. And the outlook seems to be improving given the behaviour of the majority of economic variables since the beginning of the 1st quarter of 2013.

The current risk outlook should support the economic outlook of the province during the 2nd quarter of 2013, but, unfortunately, only marginally given the worsening of the business and consumer confidence outlook. The SA and KZN economy suffers from a chronic lack of confidence.

The results also suggest that economic risk during the 1st quarter of 2013 was the lowest in the Richards Bay and Newcastle economies and the highest in the Ilembe and Port Shepstone economies.