

Revisions to the composite leading and coincident business cycle indicators

The South African Reserve Bank previously revised the composition of the composite leading and coincident business cycle indicators in 2004.¹ Recently, a number of minor adjustments were effected to these composite indicators. The purpose of this box is to briefly discuss these changes.

The composite leading business cycle indicator

The objectives of the changes to the component time series of the composite leading business cycle indicator were twofold. Firstly, practical experience with the indicator suggested an over-reliance on manufacturing and a need to expand the processes incorporated in the indicator. Accordingly, an adjustment was made to redress the representation of some economic processes and sectors reflected in the composite leading business cycle indicator. Secondly, the format in which some component time series are incorporated into the composite leading business cycle indicator was amended to reduce the indicator's sensitivity to erratic short-term impulses.

Regarding the first objective, a number of changes were made to the composition of the composite leading business cycle indicator. The time series representing the number of new passenger vehicles sold (percentage change over twelve months) was added, thus providing an additional early indication of domestic demand conditions in the South African economy. The total weighting of the manufacturing sector in the leading indicator was reduced. This was achieved by omitting two previously included component time series, namely the six-month smoothed growth rate in labour productivity in the manufacturing sector and the opinion survey of stocks in relation to demand in the manufacturing and trade sectors.² Also, the weights of two manufacturing-sector related component time series were halved, implying that together they weigh the same as each component time series on its own. They are the following:

- The net balance of manufacturers observing an increase in the average number of hours worked per factory worker; and
- the net balance of manufacturers observing an increase in the volume of orders received.

Furthermore, the format of three other component time series included in the composite leading business cycle indicator was changed. The six-month smoothed growth rate in the number of column centimetres devoted to job advertisements in the *Sunday Times* newspaper was replaced by the percentage change over twelve months in that indicator. The six-month smoothed growth rate in the prices of all shares traded on the JSE Limited (JSE) was replaced by the index (in levels form) of the prices of all shares traded on the JSE. The six-month smoothed growth rate in commodity prices, measured in US dollars, for a basket of South Africa's export commodities was replaced by the index (in levels form) of these commodity prices.

The revised composite leading business cycle indicator was linked to the historical composite leading business cycle indicator in 1999. Graph 1 shows the previous and the revised composite leading business cycle indicators.

1 Venter, J C and Pretorius, W S. 2004. Note on the revision of composite leading and coincident business cycle indicators. Quarterly Bulletin, No 231, March. Pretoria: South African Reserve Bank.

2 All the opinion survey data included in the composite leading business cycle indicator are published by the Bureau for Economic Research, University of Stellenbosch.

Graph 1 Composite leading business cycle indicator

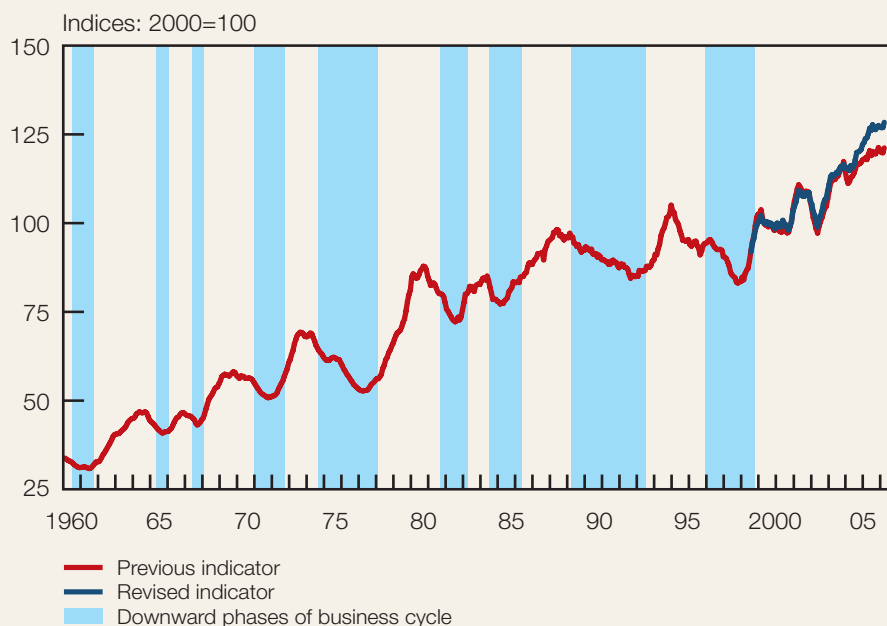


Table 1 shows the 13 component time series previously included in the composite leading business cycle indicator and the 12 component time series that are now included in the revised composite leading business cycle indicator.

Table 1 Component time series of the composite leading business cycle indicator

Previous components	New components
Job advertisement space in the <i>Sunday Times</i> newspaper: Six-month smoothed growth rate	Job advertisement space in the <i>Sunday Times</i> newspaper: Percentage change over twelve months
Number of residential building plans passed for flats, townhouses and houses larger than 80m ²	Number of residential building plans passed for flats, townhouses and houses larger than 80m ²
Interest rate spread: 10-year government bonds less 91-day Treasury bills	Interest rate spread: 10-year government bonds less 91-day Treasury bills
Index of prices of all classes of shares traded on the JSE: Six-month smoothed growth rate	Index of prices of all classes of shares traded on the JSE
Real M1 money supply (deflated with CPI): Six-month smoothed growth rate	Real M1 money supply (deflated with CPI): Six-month smoothed growth rate
Index of commodity prices in US dollar for a basket of South Africa's export commodities: Six-month smoothed growth rate	Index of commodity prices in US dollar for a basket of South Africa's export commodities
Composite leading business cycle indicator of South Africa's major trading-partner countries: Percentage change over twelve months	Composite leading business cycle indicator of South Africa's major trading-partner countries: Percentage change over twelve months
Gross operating surplus as a percentage of gross domestic product	Gross operating surplus as a percentage of gross domestic product
Opinion survey of business confidence: Manufacturing, construction and trade	Opinion survey of business confidence: Manufacturing, construction and trade
Net balance of manufacturers observing an increase in the average number of hours worked per factory worker	Net balance of manufacturers observing an increase in the average number of hours worked per factory worker (half weight)
Net balance of manufacturers observing an increase in the volume of orders received	Net balance of manufacturers observing an increase in the volume of orders received (half weight)
Opinion survey of stocks in relation to demand: Manufacturing and trade	Number of new passenger vehicles sold: Percentage change over 12 months
Labour productivity in manufacturing: Six-month smoothed growth rate	

The composite coincident business cycle indicator

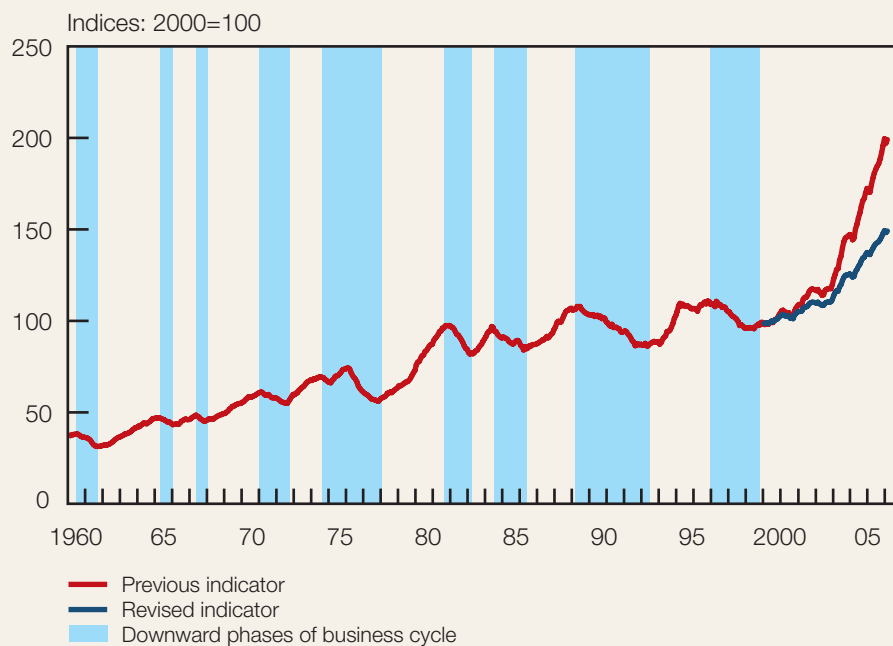
The five component time series of the composite coincident business cycle indicator that were introduced in the 2004 revisions have been retained unchanged. The only change made to the composite coincident business cycle indicator involved an adjustment to its long-term trend.

When calculating the composite coincident business cycle indicator, the final step in the methodology is to adjust the long-term trend of this indicator to match the long-term trend in the real gross value added in the economy at basic prices, excluding agriculture. During the 2004 revisions, the inherent long-term trend in the composite coincident business cycle indicator was outpaced by the growth trend in the non-agricultural real gross value added for the period that was considered at the time. The trend adjustment procedure therefore resulted in the inherent long-term trend of the composite coincident business cycle indicator being adjusted upwards to match the long-term trend in the non-agricultural real gross value added.

The lower growth trend in the composite coincident business cycle indicator occurred mainly as a result of the structural decline in the level of total formal non-agricultural employment during most of the 1990s until 2003. From the third quarter of 2003, however, total formal non-agricultural employment has been trending upwards. This, together with strong increases in all the other component time series of the composite coincident business cycle indicator – most notably the rapid growth recorded in the value of wholesale, retail and new vehicle sales at constant prices – resulted in the inherent growth trend of the composite coincident business cycle indicator outstripping that of the non-agricultural real gross value added in recent years.

The trend has therefore been amended so that the long-term trend in the composite coincident business cycle indicator now more accurately reflects the long-term trend in the real gross value added, excluding agriculture. The revised composite coincident business cycle indicator was linked to the historical composite coincident business cycle indicator in 2000, from where the new long-term trend applies. Graph 2 shows both the previous and revised composite coincident business cycle indicators.

Graph 2 Composite coincident business cycle indicator



J C Venter