



Centraal Bureau voor de Statistiek

Divisie Macro-Economische Statistieken en Publicaties
Sector Ontwikkeling en Ondersteuning

BUSINESS CYCLE TRACER INDICATOR: EXPLANATORY NOTES

Floris van Ruth

August 2009

Background

Statistics Netherlands uses its Business Cycle Tracer to trace developments in the Dutch business cycle. The business cycle is defined as periodic but irregular increases and decreases in economic activity. This is a broader concept than economic growth, which only concerns increases and decreases in GDP. The business cycle cannot be measured directly, but can be derived from developments in the main economic indicators.

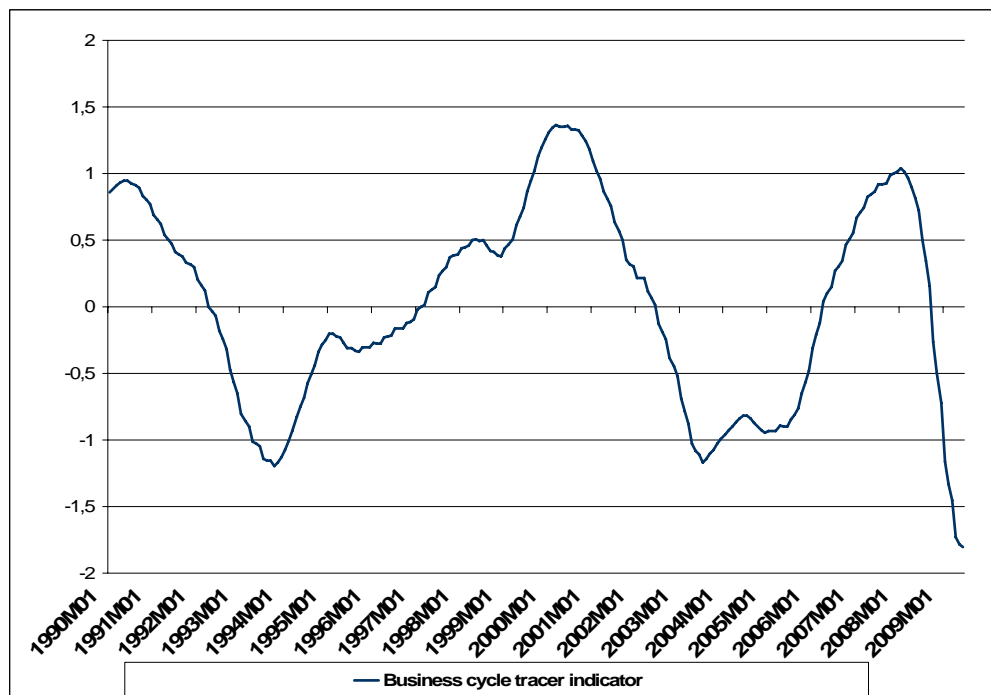
The Business Cycle Tracer presents the combined cyclical development of fifteen selected macro-economic indicators, which give a picture of how the economy is doing at that moment in time. This cyclical approach examines how an economic variable develops compared with its long-term trend. A positive value for the cycle means the economy is growing more strongly than average, negative realisations of the cycle means it is weaker than average. The main function of the Business Cycle Tracer is to establish the state of the Dutch business cycle.

There are different ways to do this; one robust approach is to count in which stage most of the tracers individual indicators are located. Business cycle peaks occur when the majority of indicators are no longer in the boom phase, but have moved to the downswing phase, while the troughs in the cycle occur when the indicators move from the recession phase to the recovery stage. The most often used method to determine the state of the business cycle is to establish the common cycle of the selected macro-economic indicators. This new aggregated indicator, the Business Cycle Tracer Indicator, represents the current state of the Dutch business cycle.. The advantage of this method is that this indicator can be interpreted easily and quickly, and that it can shows developments in the business cycle at any time.

The Business Cycle Tracer Indicator

There are different methods to determine the common business cycle. The discussion paper *A cross-sectional approach to business cycle analysis* (Statistics Netherlands, forthcoming), compares the results of a number of the most prominent methods. These include both direct methods, which estimate the common cycle of a set of indicators directly, and indirect methods which establish the cycle of individual indicators, and then determine an aggregated cycle. For the set of indicators used in the Business Cycle Tracer, all the methods result in a very similar common cycle, and thus a comparable picture of the economic situation. Therefore, the simplest approach was chosen, in which the common business cycle is established by calculating the unweighed average of the cycles of the indicators in the Business Cycle Tracer. This approach works because the individual indicators have the business cycle in common. By taking the average, individual developments are removed and only the common component remains. The cycles of the individual indicators have already been normalised, which makes it possible to calculate the average directly. The resulting cycle, the Business Cycle Tracer Indicator, is illustrated in figure 1. This is the ex-post cycle, based on definite values. This gives the best historical picture of the business cycle, while the Tracer gives the real-time picture of the business cycle, based on data available at that moment in time.

Figure 1. Historical development (ex-post) of the Business Cycle Tracer Indicator, (unweighted average of the cycles of the indicators in the Business Cycle Tracer).



The common cycle shows a steady development, with clear turning points (peaks and troughs). Based on the historical development of the Business Cycle Tracer

Indicator, the development of the Dutch economy since 1990 can be summed up as follows: the business cycle peaked in 1990, economic activity subsequently declined until well into 1993; this was followed by a long period of favourable economic developments until into 2000, after which the economy entered a downswing that ended in 2003. The subsequent period of recovery and high economic growth ended suddenly in 2008, and was followed by a sharp decline. The dates of the main turning points in the Dutch business cycle are presented in Table 1. With the aid of the Business Cycle Tracer and thus also the Business Cycle Tracer Indicator, the analysis of the business cycle can be updated monthly.

Table 1. Dates of the main turning points (ex-post) of the Dutch business cycle according to the Business Cycle Tracer Indicator.

	<i>Peak</i>	<i>Trough</i>	<i>Peak</i>	<i>Trough</i>	<i>Peak</i>
Business Cycle					
Tracer Indicator	1990-6	1993-10	2000-3	2003-7	2008-1

The development of the Business Cycle Tracer between January 1999 and December 2003 (figure 2) shows how useful the Business Cycle Tracer Indicator is. This period contained both a peak and a trough. The graph shows how the Business Cycle Tracer Indicator showed a gradual but clear shift toward the downswing quadrant of the Business Cycle Tracer in the run up to the peak in 2000. This means that the Business Cycle Tracer detected that the business cycle was levelling off, indicating a possible transition to a more unfavourable economic situation. In 2003, just before the trough in the business cycle, there was a noticeable shift towards the recovery quadrant. The turning points in the cycle do not come unexpectedly, therefore.

Figure 2; Development of the Business Cycle Tracer indicator (ex-post) in the Business Cycle Tracer between January 1999 and December 2003.

