The Business Cycle Tracer; patterns in the Dutch business cycle

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Explanation of symbols

.	= data not available
*	= provisional figure
x	= publication prohibited (confidential figure)
–	= nil or less than half of unit concerned
–	= (between two figures) inclusive
0 (0,0)	= less than half of unit concerned
blank	= not applicable
2007–2008	= 2007 to 2008 inclusive
2007/2008	= average of 2007 up to and including 2008
2007/'08	= crop year, financial year, school year etc. beginning in 2007 and ending in 2008
2005/'06–2007/'08	= crop year, financial year, etc. 2005/'06 to 2007/'08 inclusive

Due to rounding, some totals may not correspond with the sum of the separate figures.

Introduction

Statistics Netherlands has developed the Business Cycle Tracer as a tool to assist in the analysis of short term developments in the Dutch economy. The emphasis is on the dynamics in the economy, the cyclical alternation of increasing and decreasing economic activity. The Business Cycle Tracer has two main functions; to give a timely indication of the state of the Dutch business cycle and to show key economic relationships.

In this article the relationships within three clusters of related economic indicators will be discussed. The first cluster concerns indicators related to consumption, the second one consists of indicators related to industrial production, and the third cluster concerns the labour market. It turns out that there are logical and fairly stable relationships within these groups.

The sequence in which business cycle developments show up in the various indicators is calibrated on the Business Cycle Tracer indicator. The latter summarises the state of the Business Cycle Tracer, and as such it reflects the state of the Dutch business cycle. If an indicator leads Business Cycle Tracer indicator it means that this individual indicator is leading relative to the Dutch business cycle. And if the lead of indicator A towards the Business Cycle Tracer indicator is larger than that of indicator B, it also means that indicator A is leading indicator B.

Patterns in the manufacturing industry

The cluster of production related indicators consists of producer confidence, orders received in by producers, exports of goods and industrial production. Business cycle developments generally manifest themselves in these indicators in the following sequence (leads (–) and lags (+) in months relative to the Business Cycle Tracer, graph 1):
1. Orders received(–5 (m));
2. Producer confidence(–3 (m));
3. Exports(0);
4. Industrial production(0).

Table 1
Turning points in the cycle of production related indicators compared to those of the Business Cycle Tracer indicator
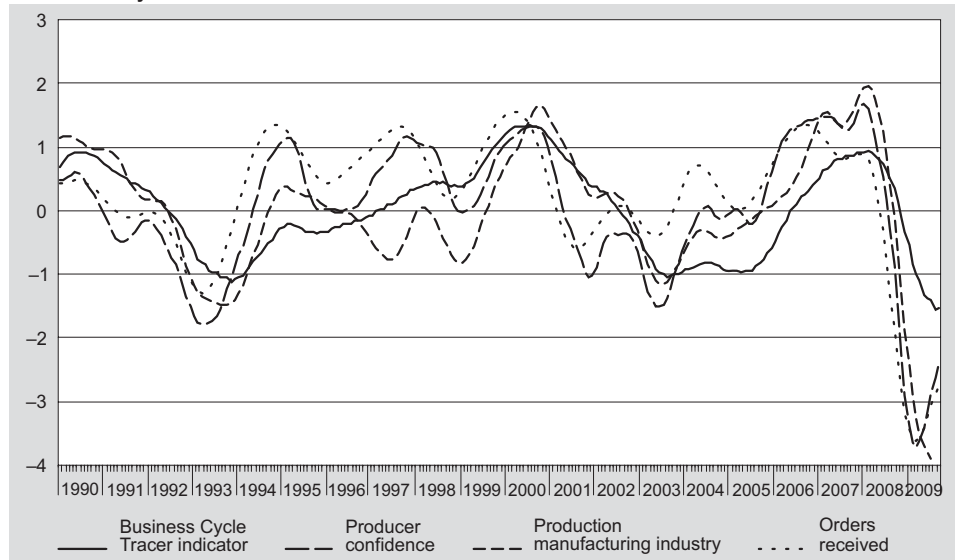
Business Cycle Tracer indicator	Producer confidence	Production manufacturing industry	Orders received	Exports
1990M08	1990M05 (–3m)	1990M03 (–5m)	1990M05 (–3m)	1990M01 (–7m)
1993M08	1993M04 (–4m)	1993M10 (+2m)	1993M03 (–5m)	1992M12 (–8m)
2000M07	2000M08	2000M10 (+3m)	2000M03 (–4m)	2000M11 (+4m)
2003M08	2003M06 (–2m)	2003M07	2003M05 (–3m)	2003M07
2008M02	2008M01	2008M02	2007M12 (–2m)	2008M01

Dark grey = leading, middle grey = lagging, light grey = coincident.

Source: Statistics Netherlands.

A development will manifest itself first in the orders received, and if it persists in producer confidence. Only later will it then show up in the real indicators production and. They tend to be more or less coincident with the general business cycle. These relationships reflect average behaviour from the past, so certain indicators may well exhibit deviating behaviour at certain times, depending on the exact economic developments then taking place. One example of this is the behaviour at turning points, the peaks and troughs in the business cycle. Here too the indicators can lead or lag the general business cycle. There is more variation in these leads and lags, and they can differ from the average leading or lagging character (Table 1).

1. Cycles of production related indicators compared to the Dutch business cycle according to the Business Cycle Tracer

—— Business Cycle Tracer indicator	— — Producer confidence	– – – Production manufacturing industry	. . . . Orders received

However, indicators that lead on average, such as producer confidence and orders received, also tend to lead at business cycle turning points. Production and exports will be roughly coincident at these turning points.

Patterns in consumption

Concerning consumption, there is an interesting pattern in the results of the consumer survey and the realisations of household consumption. The pattern here is comparable to the one found in the industrial production cluster. The sequence turns out to be (leads (–) and lags (+) in months relative to the Business Cycle Tracer):
1. Consumer confidence (-6 (m));
2. Large purchases (–4 (m));
3. Consumption (+1 (m)).

So on average the consumers let changes in confidence affect actual consumption only after a while. Changes will manifest themselves first in consumer confidence, somewhat later in plans to purchase durable consumer goods, and after that come the actual behavioural changes in consumption. The fact that consumer confidence and large purchases lead is also manifest in the turning points of the economy, where the turning points in consumption tend to be later.

Table 2
Turning points in the cycle of consumption related indicators compared to those of the Business Cycle Tracer indicator

Business Cycle Tracer indicator	Consumer confidence	Consumption	Large purchases
1990M05	1989M10 (–5m)	1991M03 (+10m)	1989M10 (–7m)
1993M11	1993M06 (–5m)	1993M12	1993M08 (–3m)
2000M07	2000M04 (–3m)	2000M03 (–4m)	2000M04 (–3m)
2003M08	2003M03 (–5m)	2004M11 (+15m)	2003M05 (–3m)
2008M02	2007M05 (–9m)	2007M12 (–2m)	2007M06 (–8m)

Dark grey = leading, middle grey = lagging, light grey = coincident.

Source: Statistics Netherlands.

2. Cycles of consumption related indicators compared to the Dutch business cycle according to the Business Cycle Tracer

—— Business Cycle Tracer indicator	— — Consumer confidence	— — — Consumption	. . . . Large purchases
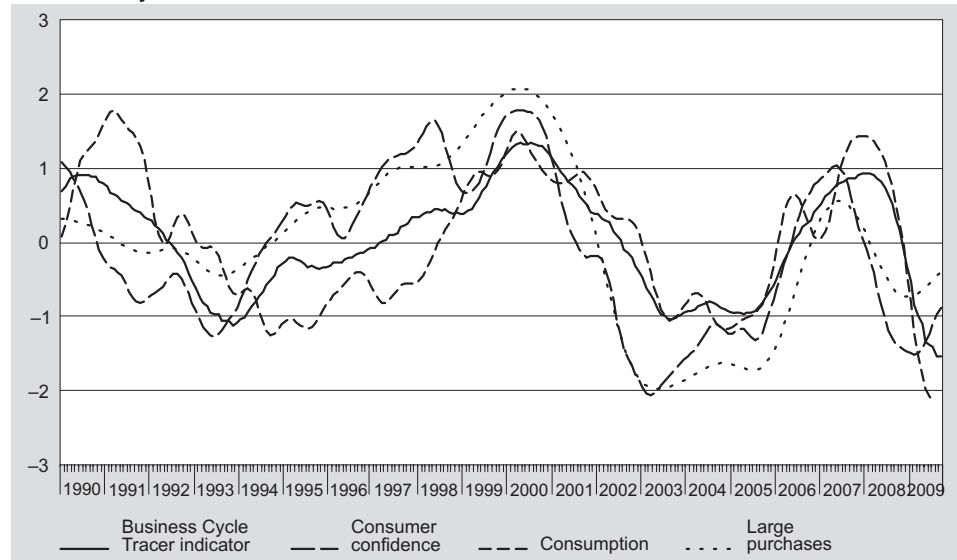
Patterns in the labour market

Finally the Business Cycle Tracer provides a great deal of information about developments in the labour market. The following four variables are included: hours worked in temp jobs, labour volume (number of jobs), unemployed labour force and vacancies in the private sector. It turns out that there is a distinct phasing in labour market developments (leads (–) and lags (+) in quarters relative to the Business Cycle Tracer):

1. Temp jobs(-4q)
2. Vacancies(0)
3. Unemployed labour force(+3q)
4. Labour volume(+3q).

The most flexible part of the labour market, the temp jobs, is where developments first become visible. Then they start to affect the vacancies, only after which they have effect on employment as represented by labour volume and unemployment. This pattern is also manifest in the timing of the turning points of the different indicators.

Table 3
Turning points in the cycle of labour market related indicators compared to those of the Business Cycle Tracer indicator

Business Cycle Tracer indicator	Labour volume	Vacancies	Temp jobs	Unemployment
1990Q3	1990Q4 (+1K)	1990Q2 (−1K)	1990Q1 (−2K)	1991Q4 (+5K)
1993Q4	1994Q4 (+5K)	1994Q1 (+2K)	1993Q4	1994Q3 (+3K)
2000Q2	2001 Q3 (+5K)	2000Q2	1997Q4 (−10K)	2001Q3 (+5K)
2003Q3	2005Q3 (+8K)	2003Q3	2003Q4 (+1K)	2005Q2 (+7K)
2008Q1	2008Q3 (+2K)	2007Q4 (−1K)	2007Q3 (−2K)	2008Q3 (+2K)

Dark grey = leading, middle grey = lagging, light grey = coincident.

Source: Statistics Netherlands.

3. Cycles of labour market related indicators compared to the Dutch business cycle according to the Business Cycle Tracer

Business Cycle Tracer indicator —— Labour volume — — Vacancies — — — Temp jobs — · — · Unemployment · · · ·