

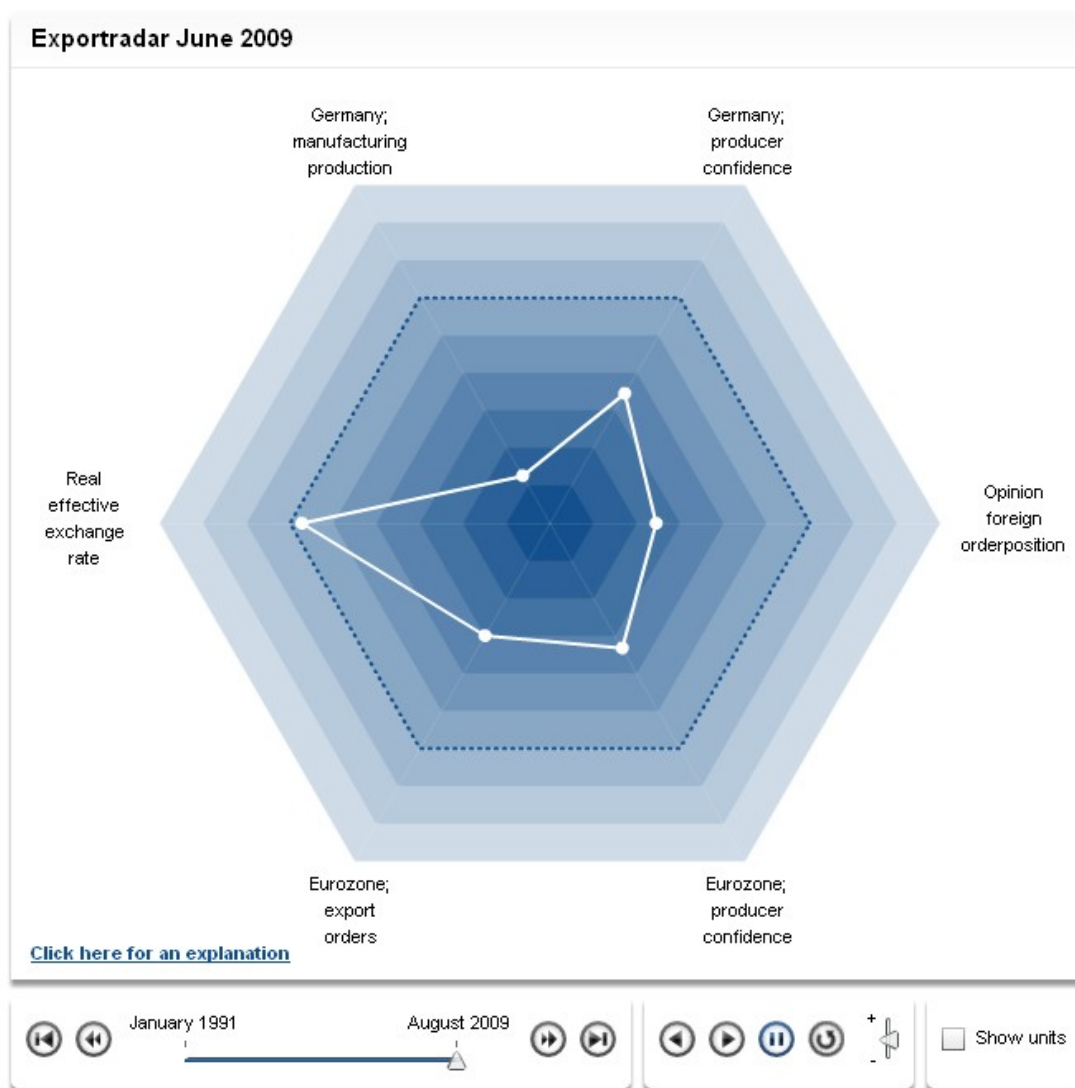
Dutch Exports Radar: explanatory notes

Floris van Ruth, September 2009

What is the Exports Radar?

The Exports Radar is an instrument developed by Statistics Netherlands to analyse developments in exports of goods and place them in some sort of context. On the basis of six indicators – selected on the basis of an econometric study - the radar monitors whether circumstances have developed favourably or unfavourably for Dutch exports. Circumstances relevant to Dutch exports are largely determined by developments in the main market for Dutch exports - Germany and the eurozone - and developments in Dutch competitiveness. The six indicators were chosen as they show a strong correlation with Dutch exports of goods and with the factors described above. Combined in the radar diagram they give an easy-to-interpret overall picture of Dutch exports, see figure 1.

Figure 1: Dutch Exports Radar for June 2009



The Exports Radar does not describe a certain period, but gives a snapshot of exports circumstances existing at a certain moment in time. Adjustment in one of the underlying indicators does not result in an adjustment of the snapshot (the photo has already been taken), but will result in a different picture at a later moment in time.

During the development of the radar, the correlation of the individual indicators with exports and the overall model were tested extensively. The diversity of the indicators means the radar makes it possible to analyse the backgrounds of Dutch exports. The six selected indicators are:

- **Net** positive answers (i.e. positive minus negative answers) of Dutch manufacturing companies to the question: “In your opinion, is the number of foreign orders high, normal or low?”
- The **year-on-year** change of the real effective exchange rate;
- The **level of producer confidence** in the German manufacturing industry;
- The **year-on-year** change in manufacturing production in Germany;
- The **level of producer confidence** in the manufacturing industry in the eurozone;
- **Net** positive answers (i.e. positive minus negative answers) of European manufacturing companies to the question: “In your opinion, is the number of foreign orders high, normal or low?”

Correlation between indicators and exports

The six indicators were chosen following an extensive selection process, because they correlate strongly with Dutch goods exports.

Exports of goods is largely determined by competitiveness and economic developments on the main export markets.

Competitiveness is mainly determined by developments in the relative costs of the exports package, which in turn are determined by developments in exchange rates (and in addition of course by developments in Dutch production costs). The real effective exchange rate is an approximation of the development in relative costs.

The most important market for Dutch exports is the eurozone, and particularly Germany. If economic developments are favourable there, the demand for Dutch export products will increase. Producers' confidence in Germany and in the eurozone, opinions of developments in the number of foreign orders of manufacturers in Europe, and manufacturing production in Germany give an indication of the state of the economy in Germany and the rest of the eurozone.

How it works and what it shows

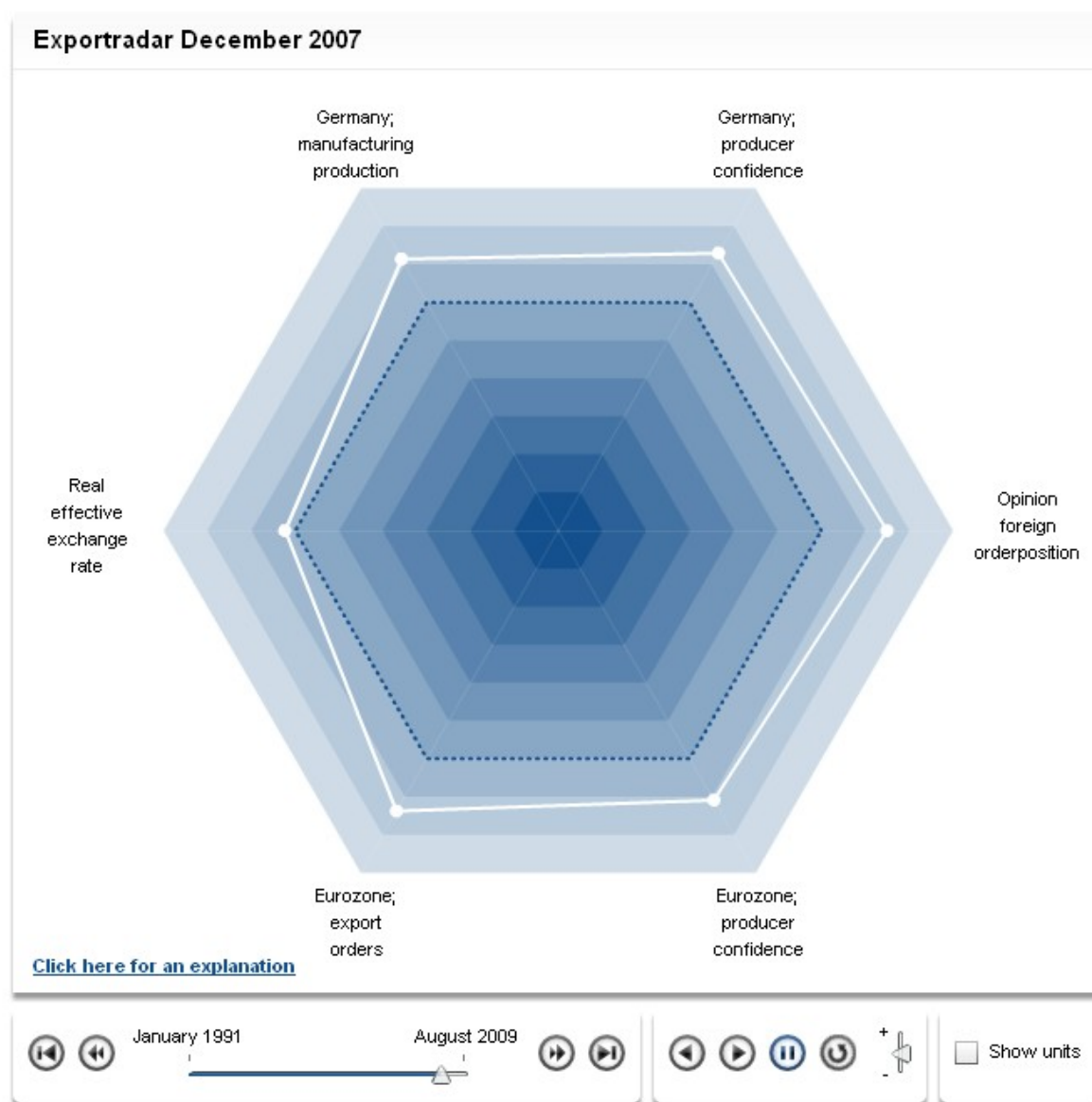
The Exports Radar presents the above-mentioned six indicators in a hexagonal diagram, with each indicator in a corner (figure 1). For each indicator a standardised value is calculated which determines how far from the zero line the indicator is located. The zero line represents the **average** value for each indicator in the period since 1991. A standardised value above zero means that this indicator has a **more favourable value than average**. If the value is below zero, the indicator has a **less favourable value than average**. In the radar, the zero line is marked as a dark blue dotted line. The figure is divided into bands coloured from dark to light blue. The darker the band in which the indicator is located, the less favourable circumstances are for Dutch exports. This makes it visible at a glance which indicators show a

positive picture, and which a more unfavourable picture. By moving the slide on the time bar, which runs from 1991 to today, users can see how exports did in previous months. This makes it possible to see whether circumstances for Dutch exports have become more or less favourable, and which factors were significant in these developments.

Figure 1 shows the Exports Radar for June 2009. The standardised values of all indicators were below zero. This means that the circumstances for Dutch exporters were very unfavourable in June 2009. If they had been favourable, most of the standardised values would have been above zero. With the aid of the time bar we can see whether the circumstances are more or less favourable than in the previous month. It turns out that they were slightly less unfavourable than in May.

Figure 2 shows the Exports Radar for December 2007. The circumstances were clearly more favourable than in June 2009. All the standardised values were above zero.

Figure 2: Dutch Exports Radar for December 2007



It should be mentioned that the values of the indicators in the radar do not necessarily refer to the same month. The Exports Radar is published once a month. When it is updated, the most recently available figures are used. In figure 1, for example, German producers' confidence is the figure for May 2009, but German manufacturing production refers to the April figure. The period under review is indicated in a tool tip. This tool tip also shows whether the indicator concerned has improved or deteriorated compared with the previous month.

Another tool tip shows the source of the figure. Only figures on the opinions on foreign orders are from Statistics Netherlands. Other sources are Destatis (German manufacturing production), the OECD (real exchange rate) and the European Commission (producers' confidence in Germany and in the Eurozone, export orders in the eurozone).

Calculating the standardised values

To calculate the standardised values in the Exports Radar, first the long-term average is subtracted from the original value. Subsequently the difference is divided by the standard deviation. As a formula this reads:

Standardised value = (original value – long-term average) / (standard deviation).

The long-term average is the average value since 1991, as is the standard deviation. Former standardised values are retained. In the Exports Radar for June 2009, the original values are thus compared with the average in the period January 1991–June 2009, and in the Exports Radar for December 2007 with the average in the period January 1991–December 2007.

Methodology

The Exports Radar is based on methodological research described in a paper by [Van Ruth \(2009\)](#).

After the publication of this paper a number of adjustments were made to the Exports Radar. First, the indicator set was changed slightly. The number of indicators was reduced from eight to six, to keep the picture easy to interpret. The difference between Dutch and German inflation and manufacturing production in the eurozone were removed from the model. These were considered the least informative indicators, and removing them would still leave enough information on developments in both Germany and the eurozone, and on competitiveness. Developments in the eurozone are still represented by two indicators, which present a clear picture of export circumstances. The difference between Dutch and German inflation gives largely the same information as the development of the real effective exchange rate. In addition we chose to retain former values, and not to recalculate the average and the standard month for every month: the focus of the Exports Radar is the snapshot at a certain moment in time.