

### Overview

In a market economy, company start-ups and closures are an expression of the competition for the best solutions. With new business ideas, start-up companies expand and modernise the available product and services, so that established companies are stimulated to greater innovative efforts. In particular in the knowledge economy, i.e. in technology- and knowledge-intensive sectors, young enterprises are important motors of innovation. They promote developments in new fields of technology as new trends emerge and in the early phases of the transfer of scientific insights for the development of new products and processes. Start-up companies often occupy market niches and pick up on innovative ideas which are not appreciated by large companies. Company closures are the reverse side of the processes. They show when companies are no longer able to hold their own on the market. Their products and services are either not competitive, or are being produced by other companies, or are marketed in another, improved form.

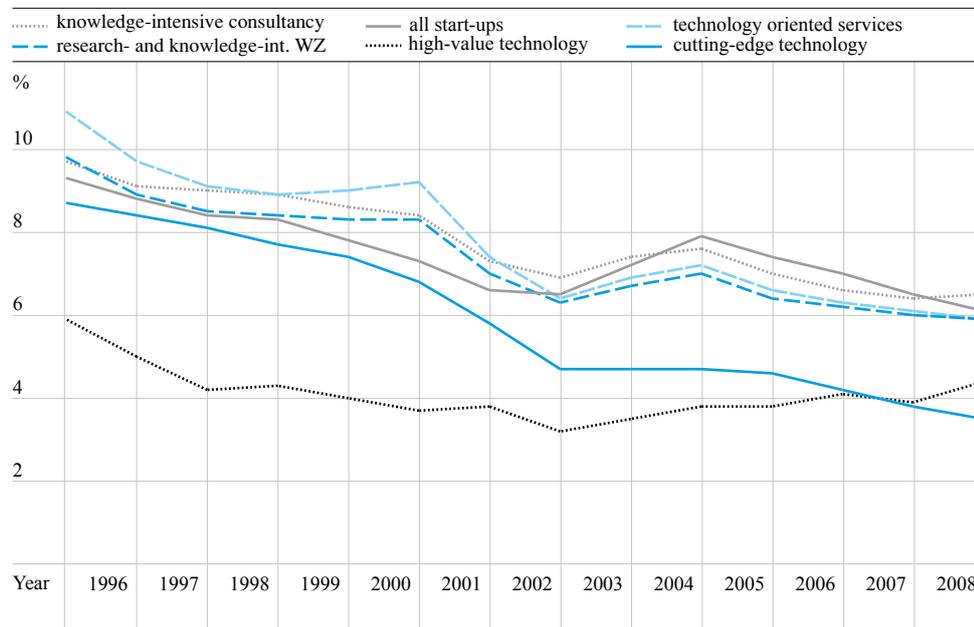
In Germany, the start-up rates are relatively low and also show a long-term downward trend. In particular, the marked fall in the rates for cutting-edge technology are a cause for concern regarding innovation dynamics. The development in high-value technology is more favourable. It is apparent that the focus of innovation activities in Germany will continue to be on high-value technology and not on cutting-edge technology.

The following results on enterprise dynamics in the knowledge economy are based on the evaluation of the Mannheim Enterprise Panel (MUP) carried out by the Centre for European Economic Research (ZEW).<sup>182</sup> MUP, which now also includes the ZEW Start-up Panel, is a panel dataset for companies in Germany derived in cooperation with Creditreform, the largest German business information service. The concept of companies as used by MUP refers to economically-active entities. Start-ups include only newly established companies, which are beginning a new entrepreneurial activity, which corresponds to the full-time activity of at least one person. A company is deemed to have closed when a company no longer carries out economic transactions and markets no goods.

### Investigated indicators:

- Start-up rates in the knowledge economy in Germany
- Closure rates in the knowledge economy in Germany
- Net change in company structures in Germany according to company groups

## C 4-1 START-UP RATES IN THE KNOWLEDGE ECONOMY IN GERMANY



2008 provisional values.  
 Source: Mannheim Enterprise Panel. Calculations by ZEW.

Start-up rate: Number of start-ups relative to total number of companies.

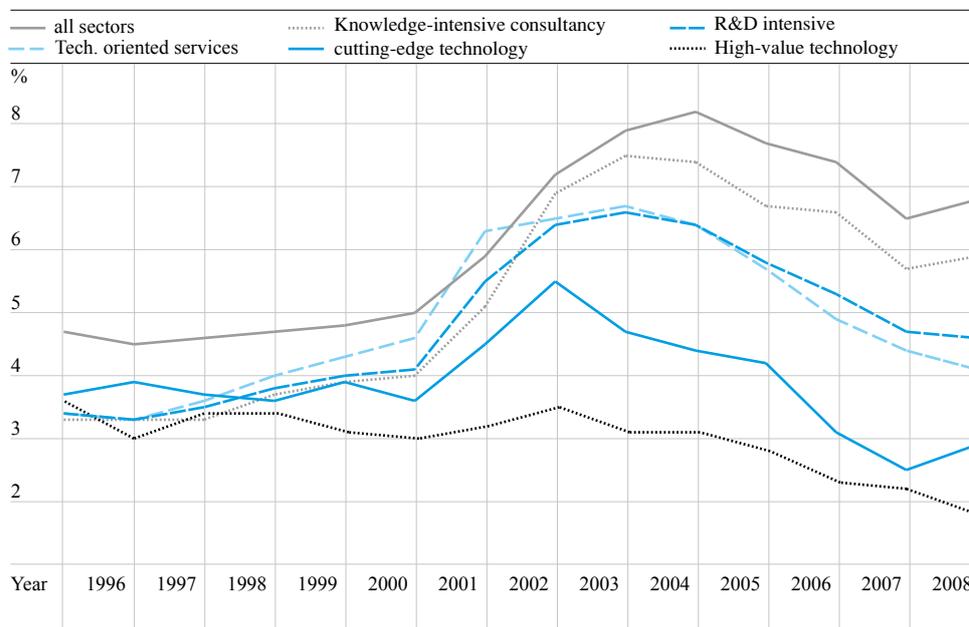
### Further increase in the start-up rate in the high-value technologies

In 2008, 206 000 economically active companies were established in Germany. A seventh of the new enterprises started up in sectors of the knowledge economy (13.4 percent in the knowledge-intensive services and 1.3 percent in the R&D-intensive industry). The start-up rate, which measures the renewal of the stock of companies, was about six percent in 2008 both for the private sector as a whole and also in the knowledge economy, showing a long-term downward trend. In a European comparison, Germany is among the countries with a low start-up rate.

In the knowledge economy, knowledge-intensive consultancy had the highest start-up rate at 6.5 percent. In contrast, the R&D-intensive industry showed comparatively low start-up rates. The rate for the high-value technologies was 4.4 percent. Here, the start-up rates in recent years have been increasing, in contrast to the general trend observed in the knowledge economy. In cutting-edge technology the rate fell to 3.5 percent. The lower start-up rates in the R&D-intensive industry are the result of higher barriers to market entries, and in particular the need to finance plant and equipment and the development of products. Very high demands are also placed on the expertise and the specific market experience of the company personnel. In many market segments, young enterprises find themselves confronted with dominant large companies.

## CLOSURE RATES IN THE KNOWLEDGE-ECONOMY IN GERMANY

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All values are provisional.

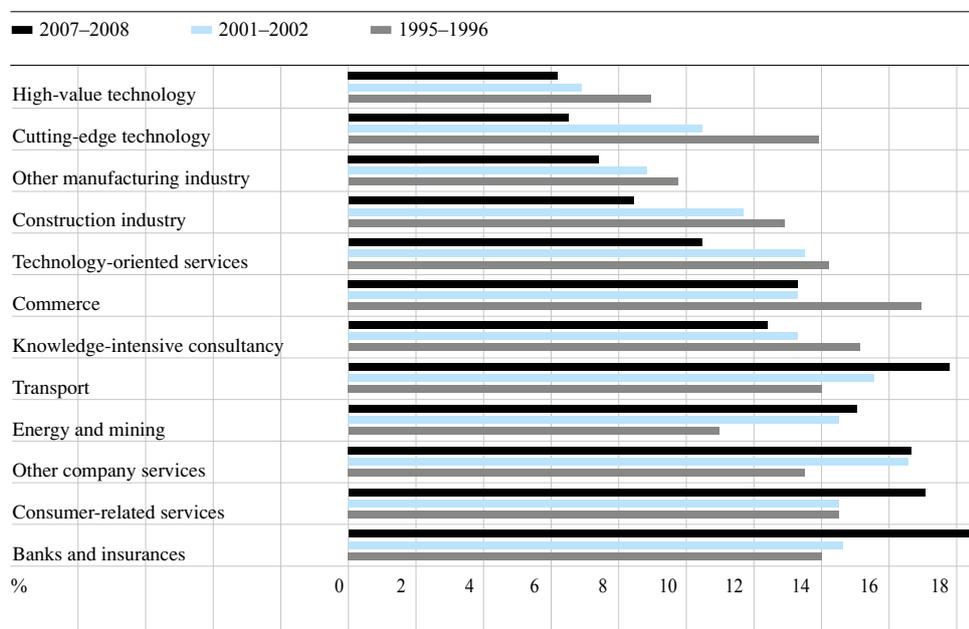
Source: Mannheim Enterprise Panel. Calculations by ZEW.

**Closure rate:** Number of companies closing down in a year relative to the total number of companies.

### Lower closure rates in the knowledge economy

While new companies are starting up, at the same time other companies are closing down. In 2008 some 230 000 enterprises ceased operating in Germany. There were 24 000 closures in the knowledge economy. The number of closures here – as in nearly every year – was lower than the number of start ups, i.e. the total number of companies in the knowledge economy increased. This shows that there has been a shift in demand towards products and services of the knowledge economy. The closure rate in the knowledge economy in 2008 was 4.6 percent, some two percentage points lower than the rate for the economy as a whole. In a European comparison, the German closure rates are relatively low. The knowledge-intensive services show higher closure rates than the R&D-intensive industry. In 2008, 5.9 percent of knowledge-intensive consultancy companies closed down, and 4.1 percent in the technology-oriented services. In the high-value technologies and in cutting-edge technology, in contrast, the closure rates were only 1.8 and 2.9 percent, respectively, which is below the level in the mid-1990s. Enterprises benefited from the favourable economic situation in the years before the financial and economic crisis. At the same time, competition has been reduced by the decrease in the rate of new enterprises being started up over the same period.

### 4-3 COMPANY DYNAMICS IN GERMANY ACCORDING TO SECTOR GROUPS



Start-ups + closures – provisional two-year means.  
 Source: Mannheim Enterprise Panel. Calculations by ZEW.

Company dynamics: Number of start-ups plus number of company closures as a percentage of total number of companies in mid-year.

#### Falling innovation competition in the R&D-intensive industry

In an inter-sectoral comparison, the company dynamics shows the intensity of competition in an individual sector group and the barriers to market entries and exits. Comparisons over time reflect the effects of the economic situation and the incentives offered for new or struggling companies. In 2007–2008, an annual mean of 18 percent of banks and insurance companies either closed down or had newly started up – the highest company dynamics. Most of this fluctuation was due to insurance agents and other small service companies either starting business or closing down. Company dynamics was also relatively high in the transport sector (18 percent). The sector groups with the lowest company dynamics in 2007–2008 were high-value technology and cutting-edge technology, each with six percent.

The company dynamics in high-value technology decreased slightly between 1995–1996 and 2007–2008, and decreased significantly in both cutting-edge technology and technology-oriented services. Since there was no great change in market entry and exit barriers (e.g. minimum company size, fixed asset intensity, human resources requirements, market domination by large companies, or legal requirements), then this result indicates a fall in innovative activity by start-ups and company closures. This is worrying in the R&D-intensive industry because high innovation dynamics are an indicator for a high level of innovation competition.