A 3 Area for action: innovation in established companies

As part of the so-called Lisbon Strategy, in March 2000 the European Council formulated the European Union's strategic goal "to become the most competitive and dynamic knowledge-based economy in the world".[3] Against this background, two years later in Barcelona the European Council decided to increase the R&D spending in the EU to 3 percent of gross domestic product by 2010.[4] Another stated objective was that two-thirds of the investment was to be financed by the private sector.

By 2005, Germany was a long way from this target with a figure of 2.48 percent,[5] which makes the increase over the last ten years all the more remarkable. In 2015, internal R&D as a proportion of GDP was 2.99 percent,[6] – indeed over 3 percent according to the calculation method used in 2005.[7] The strong increase over the last ten years is a great success for R&I policy, and it has led to a marked growth in publicly financed R&D.

Almost two thirds of internal R&D expenditure is financed by private companies.[8] Growth in this field is also large, albeit relatively lower. Strengthening R&D in German companies therefore remains a key challenge.

Promote the diversification of R&D activities in Germany

The R&D activities of German companies are concentrated in a few core industries. Vehicle construction alone accounted for more than a third of Germany's internal R&D expenditure in 2015.[9] The R&D activities of foreign companies in Germany reinforce this concentration. The extensive and still rising R&D activities in vehicle construction are to be welcomed. However, Germany risks being highly dependent on a core industry at a time when competitive positions are being re-defined. Germany should therefore look at ways of achieving greater diversification of its R&D activities.

Use opportunities to internationalise R&D

In the last ten years, R&D spending by German companies has increased in almost all branches of industry, both in Germany and abroad. The Commission of Experts is concerned that German corporate R&D activities are increasingly being carried out abroad incertain sectors, e.g. pharmaceuticals (cf. Chapter B 3-4).[10] The aim must be to strengthen Germany as a centre of international R&D activities with an efficient research infrastructure and research-friendly regulation.

Strengthen the innovation activities of SMEs

Up to now, state funding for innovation has not reached enough SMEs – despite well established project funding. The wide range of specific federal and state programmes makes the funding options complex for companies applying for subsidies; the amount of work associated with applications is harder to shoulder for small businesses than for larger corporations. R&D funding through tax credits, as proposed by the Commission of Experts in Chapter B 7, would therefore be an important measure that would reach many more SMEs than the current application-based project funding.

Shortage of skilled labour: incorporate hidden reserves better to boost innovation

Demographic developments represent a major challenge for companies' innovative capacity. A whole package of strategies is required to overcome it. One measure is to use hidden reserves, which are plentiful

particularly in Germany. For example, the participation of women in vocational training has increased enormously, yet the percentage of women in employment is still relatively small. The aim here must be to create conditions that are conducive to higher labour force participation by women and to remove obstacles, for example tax obstacles. It is also essential in this context to keep productive older workers at work for longer. In coming pension reforms, any further decoupling of the retirement age from life expectancy must therefore be avoided. In addition, an immigration law should be introduced to reduce by means of immigration the lack of skilled labour resulting from demographic developments. Finally, the refugees who have already entered the country must be quickly trained and integrated into the German labour market.

Shortage of skilled labour: develop the education system, increase permeability

Another element is education policy. The education system should be further developed in a way that guarantees a high level of vertical and horizontal permeability – while clearly underlining the distinct profiles of the German education system's two pillars: vocational training and the tertiary education institutions. The developments in the vocational training system should be complemented by greater efforts to encourage life-long learning and corresponding incentives in the employment system.

Gear project funding flexibly to new challenges

Private innovation activities are supported by a whole range of funding instruments. Up to now, the focus has been exclusively on direct project funding, and in most cases this has also proved successful as a funding instrument. However, the question arises as to whether the allocation of funds to the individual funding areas has adapted quickly enough to new challenges, especially digitalisation.

Introduce R&D funding for SMEs through tax credits

Up to now, R&I policy in Germany has not made use of R&D funding through tax credits. The Commission of Experts advises the introduction of such an instrument, focusing on the SME sector, and makes a detailed proposal for implementation in the current annual report (cf. Chapter B 7). The effectiveness of R&D funding through tax credits has been demonstrated in numerous international studies. The promotional effects are particularly marked in the case of SMEs. The variant preferred by the Commission of Experts grants a tax credit on wage tax. The level of the credit should be proportional to the level of R&D personnel costs. Even businesses with no income-tax liability – e.g. start-ups and SMEs in a restructuring phase – could benefit regularly from the cash-flow effects of this form of tax relief. The Commission of Experts believes this would lead to a considerable intensification of R&D activities among SMEs.