

The Europe 2020 Strategy for a smart, sustainable and inclusive growth has defined research and innovation as core activities. Horizon 2020 contains most of these measures and goes beyond the flagship Innovation Union and includes also many measures of the flagship Resource Efficiency, which rests now on the three pillars for Excellent Science, Industrial Leadership and Societal Challenges. By this, it streamlines the multiple and heterogenic items of former Framework Programmes and augments the Horizon budget by about 70% vis-à-vis FP7. Horizon 2020 simplifies the procedures for application, management and financing, being especially at the advantage of SME.

Insofar, Horizon makes important steps towards a more coherent European Research Area. But the optimistic tone of the Horizon-Communication is not confirmed by the recently published Innovation Competitiveness Report 2011, which hints at severe deficiencies of Europe on the global level. For example, real term research investment augmented from 1995 to 2008 in Europe by 50%, in the USA by 60% and in some Asian countries by more than 75%, so that the global quota of European R&D expenditure declined in the same period from 29% to 24%. Even if Horizon attains the target of 3% of GDP in 2020 – a target already set for 2010 in 2000 – Europe will be considerably behind its global competitors, some of which spend already now more than Europe plans for 2020.

One of the reasons, why Europe is behind its targets is the enlargement, leading to high disparities in country-specific R&D expenditures. But even more important is the long tradition since the 1960ies of low R&D expenditures of private firms, partly compensated by relatively – not absolutely – high public R&D expenditures. The Innovation Competitiveness Report 2011 indicates the relation between research workers in public and private institutions for Europe by 54:46, for USA by 10:90, for Japan by 27:73 and China 31:69. And the Innovation Scoreboard enumerates similar relation with different indicators. Horizon 2020 should as far as possible implement incentives to augment firms R&D spending, which would reduce the problem of knowledge transfer from external research institutions and enhance the establishment of European firms as “pools of knowledge”. In this respect, the planned 15% participation of SME in Horizon is very moderate and would remain as low as the SME-participation in the 5th and 6th Framework Programmes. As the European economy rests to a large extent on SME the relatively high participation of large firms deserves to be reconsidered.

Horizon 2020 gives a high priority to Societal Challenges, which accounts for about 40% of the total budget. By this, Europe may strengthen its partly leading role in new technologies, for which in Horizon about 60% account for sustainable development and about 35% for climate protection. But it is not clear, if these new technologies will reduce the overall natural resource consumption, possibly balanced out by rebound effects. The analogous question arises with respect to employment effects of new technologies in the Horizon priority Industrial Leadership. Whereas in the key priority Excellent Science a technology assessment does not make sense, for technologies in both other priorities it should become obligatory for the individual R&D projects and – as far as possible – its implications on the meso- and macro-economic level. European global competitiveness could be augmented by higher resource productivity and more jobs could be created by higher labour intensity of economic growth.

As the Europe 2020 Strategy regards research and innovation as decisive for its success, the direction of technical progress of Horizon 2020 has a large influence on the socio-ecological effects of European economic growth. Horizon proposes, similar like EURAB to allocate the majority of the Cohesion Funds and about 30% of the Structural Funds for research and innovation, what represents a great opportunity both for reducing economic disparities and to enhance a smart and sustainable growth in Europe, which is a precondition for an inclusive growth. A re-orientation of European and national public spending towards R&D will be much more effective, if R&D spending of private firms in Europe converges towards global trends. At the same time, the European consensus to create in mid-term a socio-ecological market economy will depend on a micro- and macroeconomic assessment of the R&D activities in the Horizon priorities Industrial Leadership and Societal Challenges.