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## Introductory Remarks<sup>1</sup>

The subsequent papers will treat, first, the empirical link between human capital and economic growth in OECD countries, and second, the European (higher) education systems. The first paper by Professor de la Fuente will revisit econometric estimations of the impact of human capital on economic growth, i.e. on the growth of GDP per head. In spite of its seemingly obvious relationship, academic investigations into the link between human capital and growth have not been conclusive for a long time. Long policy statements on reforming education systems were thus built on rather shaky foundations and suffered as a result from reduced credibility. It is the merit of Professor de la Fuente to have shown that by correcting for the quality of the human capital data, there is a clear impact on growth and the impact has hitherto been underestimated. Their estimates of the elasticity of output with respect to the stock of human capital are above 0.5, almost 50% higher than previous estimates. From my experience as a central banker and an economic policy-maker, it is of particular importance to be able to act on sound evidence. Human capital seems to be a major foundation for economic growth, and thus it is particularly important to know more precisely how human capital and growth are linked.

Given the importance of boosting human capital to accelerate economic growth, how are the European education systems performing? The panel discussion will provide the opportunity to reflect on this issue from the perspective of economic policy makers, by addressing the questions whether Europe is on the right track in reforming its education systems – do we do enough to make sure we build as much human capital as possible?

The importance of broad levels of participation in higher education has been mentioned before. Several new academic papers emphasize the causal link between higher education and



growth. In countries at the technology frontier, it contributes to the development and widespread use of innovation and advanced technologies. It is no coincidence that all countries which have seen an acceleration of their total factor productivity growth since 1995 also feature high tertiary graduation ratios. They were better placed to reap the benefits of the new general purpose technology, the information and communication technologies. Unfortunately, only few European countries show high levels of tertiary education, such as the Scandinavian countries.

This problem has been recognized lately by European policy makers. Just

<sup>&</sup>lt;sup>1</sup> The author wishes to thank Jürgen Janger for his valuable comments on this contribution.

like for research and development expenditure, there is now a spending goal for investment in tertiary education in the reformed Lisbon Agenda: Countries should spend 2% of their GDP on tertiary education. The European average is much closer to 1%, while the U.S.A. spends much more than 2%. I want to cite Mr. Jean-Philippe Cotis, OECD's chief economist who at his recent visit to Austria stated: "If Europe does not improve its tertiary education system, it will not survive". Higher education is not only important for growth, innovation and international competitiveness. It also matters particularly in times of rapid structural change, triggered by either rapid technological change or increasing competition from emerging countries. In the short- to medium-run, job losses may be the result. We know from empirical studies that people with tertiary qualifications manage to find another job in a different economic sector more quickly than people with low qualifications. This is due to the general skills which come with tertiary education and which enable people to adapt more quickly to the demands of new jobs.

Europe must thus embark on further reforms of its higher education systems, and I am looking forward to the subsequent contributions on this topic.

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