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Editorial

This volume is a collection of papers presented and discussed at the workshop “Current Issues of Economic Growth”, organized by the Oesterreichische Nationalbank on March 5, 2004 in Vienna. The goal of the workshop was to discuss recent advances in economic growth theory, related empirical studies as well as policy implications. Emphasis was placed on issues that appear to be particular challenges for Austria and other EU countries in the years ahead, such as the role of R&D and human capital formation as well as the possible impact of ageing on productivity and long-run growth.

In his **introductory statement**, *Peter Mooslechner*, OeNB, pointed out that even small growth differentials have rather severe consequences for relative per capita incomes and therefore living standards when accumulated over a long time span. Thus, growth theory and policy can have quite a large impact on economic welfare in the long run.

The contribution by *Bart Verspagen*, Eindhoven University of Technology, focused on the **role of R&D** ratios in Europe. Albeit an ambitious target, the planned increase in R&D spending to three percent of GDP by 2010 as described in the conclusions of the Barcelona Council 2002 will not be enough to reach the productivity level of the U.S.A. according to the simulations presented by Verspagen. Raising R&D expenditure must go hand in hand with other measures, such as human capital development to increase absorptive capacity as well as institutional reforms which encourage interaction between researchers in public and private organizations and ensure an appropriate level of intellectual property rights protection. *Michael Peneder*, WIFO, interpreted the findings as confirmation of the need for micro-level, productivity enhancing structural reforms. In addition to R&D, also incremental production process improvements as well as human capital investments are key to the development of total factor productivity.

The next session of the workshop was devoted to international **technology spillovers** as a source of technological change. International spillovers are often thought of as the main driving force behind productivity growth in small open economies like Austria. In two papers, *Stephen Redding*, London School of Economics, and *Johann Scharler*, Oesterreichische Nationalbank, emphasized that investing in one’s own R&D and human capital are important determinants of a country’s absorptive capacity, i.e. the ability to absorb and take advantage of technologies initially developed abroad. Thus, R&D and human capital do not only contribute directly to productivity growth but also indirectly via facilitating international technology spillovers. In addition, the second contribution to this

session also presented evidence indicating that highly regulated product and labor markets can act as a barrier to the adoption of new technologies. *Robert M. Kunst*, University of Vienna, noted that absorption of foreign technology does not necessarily imply convergence to the leader's technological level.

In the third session, *Angel de la Fuente*, Institute of Economic Analysis, presented a new, improved data set for measuring **human capital**. Although economic theory leaves little doubt on the importance of human capital formation for long-run growth, it has turned out to be difficult to find unambiguous empirical evidence confirming this relationship. As emphasized by de la Fuente, this might be due to the relatively bad quality of the data sets used as a basis for empirical research. Using de la Fuente's improved data set, a positive and significant relationship between human capital and productivity is to be established. *Jesús Crespo-Cuaresmo*, University of Vienna, showed that different data sets used in the literature provide contradictory conclusions on both the existence and the evolution of a convergence of educational attainment in industrialized countries.

The last session analyzed the **consequences of population ageing for economic growth**. While so far neglected, the issue is important and warrants further research since population ageing is likely to have severe consequences not just for pension and health care systems but also for productivity. *Alexia Fürnkranz-Prskawetz*, Vienna Institute for Demography, finds in her simulations that the – likely imperfect - substitutability between workers of different age groups substantially influences future productivity developments. Raising Austrian labor force participation rates to Northern European levels offers an opportunity to compensate for the expected shrinkage of the labor force due to population ageing. *Landis MacKellar*, Vienna Institute of Demography, quoted evidence that labor productivity indeed declines somewhat with age. The substitutability among younger and older workers likely differs by sector. Whereas in jobs where physical strength is required young workers are at a clear advantage and training cannot make up for age-related loss of performance, in “knowledge jobs” firm-specific knowledge and networks make up for older workers' outdated skills, and training can to some extent increase the substitutability between age groups. Countries with flexible labor markets are better adapted to respond to ageing than countries with seniority-based wage systems. Ageing may shift labor to low-productivity sectors such as personal services and health care, and it may bias technical progress towards the health sector.

Thomas Lindh, University of Uppsala, argued that population ageing will imply a growth slow down, if no countermeasures are taken. Current growth levels might be preserved by a broad approach comprising intensified and longer utilization of existing human capital combined with labor imports and increased fertility. Important intergenerational issues are raised by ageing. *Helmut Kramer*, WIFO, emphasized the huge macroeconomic and societal implications of ageing, so far not duly recognized by policy-makers. A strategic combination of measures to meet

this problem is required and should, in addition to indispensable parametric reforms of pension systems and an increase in labor participation and productivity rates as well as an integration of unemployed into the work process, also include foreign investments by rich, ageing nations in demographically younger nations. Kramer expected that the demographically induced increasing labor scarcity will automatically boost labor productivity and emphasized education as a key ingredient to any comprehensive strategy, so far not sufficiently recognized by decision-makers.

To conclude, the workshop showed that **no single measure** will be able to raise productivity and potential GDP growth in Austria and the EU sufficiently to live up to the aspirations of the Lisbon strategy. Rather, a comprehensive strategy is required which takes due account of various **complementarities** between R&D, human capital, demographic developments and many other policy areas, both within and across countries. The Lisbon Agenda provides a useful framework but considerable further work, both at a conceptual level and in terms of **coherent implementation**, will be required in the years to come.

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