



### **Addressing the implications for the EU of international differences in the age structure of population**

In a recent LEPAS working paper No. 2010-05, Carl-Johan Dalgaard and Holger Strulik develop a life-cycle model where individuals are subject to physiological aging. They show that cross-country differences in prosperity can explain differences in longevity (at age 20) of up to a decade. This result can have important economic and demographic implications in a global world where some developed countries are starting to suffer the consequences of an aging population while other less developed countries are not.

The empirical evidence shows that improvements in per capita income are associated to improvements in life expectancy and that increased life expectancy can affect human beings' decisions in multiple ways. For instance, it will influence fertility decisions, labor force participation at different ages, and the timing and composition of consumption, saving

and investment. Thus, population aging may affect economic growth in a fundamental way through its potential effects on the growth rate of population, the age and skill distribution of the workforce and the level and composition of aggregate income and investment.

In a global world it is expected that international differences in the age structure of populations will affect the international flows of production factors. That is, differences in the rates of population growth and in the age and skill composition of the workforces will trigger migration flows of workers and capital by influencing their relative rates of return.

At the heart of these potentially large movements of people and capital it is the long-run sustainability of the European welfare states. But large immigration into an aged economy can be seen as a temporary fiscal relief, despite unemployment, increasing tax revenues for the government. The fundamental point however is not the size of the workforce, sustained increases in living standards should rely more on increased

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productivity and efficiency.

The key issues that Europe has to address can be classified into two broad categories, demographic and economic, but they cannot be analyzed separately. Some examples that illustrate this important link are the following. Changes in the age structure of a society also depend on the weights of education and health care in aggregate investment. Migration can affect the structural change of the population age, which in turn can affect the market for education and health care.

It is therefore necessary to explore the quantitative implications of migration for productivity and

for the creation of a highly skilled workforce under different migration regimes. On the other hand, there may be other important reasons to favor immigration, improving the standard of living of the new immigrants, their families and descendants. Migration is largely an unavoidable phenomenon due not only to demographic pressures but also to political realities.

In the LEPAS project we are working in the development of a multi-country model integrating the demographic and economic dimensions of migration and its relation to development that can guide European policy.