Incentivizing skill formation via optimal tax and transfer policy:
A theoretical analysis and its application to Polish data

Among the challenges faced by contemporary welfare states in the time of globalization is to remain competitive, in spite of having high labor costs. One way to achieve this goal is to acknowledge the importance of skills, knowledge, and information for productivity and economic development. However, incentives to form skills are quite often distorted by externalities, uncertainty, and by the welfare states themselves, which heavily tax wage earnings (the returns to skills). The impact of these distortions is at least partially mitigated by transfers from the government, such as skill formation subsidies. Yet the government provides other transfers as well, such as unemployment benefits, and pensions. Is their impact on skill formation positive or negative? If positive, are unemployment benefits substitutes or complements to skill formation subsidies? What about pensions? To what extend should the government use each of these policies to counteract the distortions to skill formation?

The purpose of this proposed research is to provide better understanding of how various tax and transfer policies such as skill formation subsidies, unemployment benefits, and pensions affect individual skill formation choices under uncertainty. The research aims at providing a theoretical foundation for comparing various tax and transfer policies by their impact on skill formation and social welfare in contemporary welfare states in general, and in Poland in particular. Specifically, the proposed research aims at providing answers to the following three questions: which types of tax and transfer policies can be successfully used to induce individuals to intensify skill formation under uncertainty; which policy (or which policy mix) is the most efficient at inducing skill formation and/or improving social welfare; and what is the optimal (welfare-maximizing) level of taxation and transfers from the government in Poland.

The major deficiency of the existing research on the impact of tax and transfer policies on skill formation is that instead of being studied jointly within a unified modeling framework, different tax and transfers policies are studied separately, each within a different framework. As a consequence, it is not possible to rank alternative policies in terms of their efficiency. The proposed research fills this gap: by constructing a unified model of a country which introduces a range of tax and transfer policies, this research will provide an efficiency-based mechanism of selection between various available policies. Specifically, the model will guide the tax and transfer policy choice between skill formation subsidies, unemployment benefits, and pensions, when the aim is to attain the socially desirable skill level (and welfare) by the country's population.

The results of the empirical (calibration and numerical calculation) part of the proposed research will link theoretical predictions of the model with the real world data. By calculating how the current tax and transfer policy design in Poland relates to its optimal design, this research will spell out policy recommendations for Poland. Those recommendations will specify not only how the overall government spending should change to attain social optimum, but, above all, what is the optimal *composition* of this change in terms of the contribution of different tax and transfer policies. This will be the key value of the empirical part of the research.