Research statement

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I am interested broadly in macroeconomic theory and specifically in public finance and dynamic contracts. My dissertation is focused on the optimal design of personal income tax. Below I describe three papers from my thesis as well as other research projects I am engaged in.

In „Optimal Taxation with Permanent Employment Contracts" I extend the optimal dynamic taxation theory (*New Dynamic Public Finance*) by introducing permanent employment contracts. The optimal tax schedule with permanent contracts is simple and realistic, as the government outsources insurance provision to employers and focuses on redistribution. In this way, I address the two main criticisms of New Dynamic Public Finance: missing private insurance and very complex optimal tax system. Interestingly, a government that cares especially about the least productive workers may wish to equip them with fixed-term rather than permanent contracts, effectively stripping them of insurance. That is the case, because fixed-term contracts facilitate redistribution from rich to poor. Hence, I provide a novel perspective on dual labor markets, a prevalent labor market arrangement in Europe.

In „Optimal Redistribution with a Shadow Economy", written with my colleague Luis Rojas, we find the optimal labor income tax in the economy with a large informal sector. The informal sector is an important obstacle for tax authority, as it provides an opportunity to evade the income tax. Counterintuitively, we provide conditions under which existence of the shadow economy improves social welfare. If differences in earning potential between workers are suppressed in the informal sector, the government can tax the productive workers more if the less productive workers are employed informally. Nevertheless, the calibration of our model to Colombia reveals that the actual income tax in that country displaces an excessive number of people to the shadow economy.

The last paper in my dissertation, „Hedging with Human Capital in Venture Capital Contracts", is concerned with the optimal incentives for risky investment. The principal wants the agent to engage in a risky yet potentially profitable venture, but the agent's effort is unobservable. Incentives for effort require that the agent's payoff varies with the venture's outcome. I show that when the agent's utility function exhibits a decreasing absolute risk aversion, it could be optimal for the principal to actually insure the agent by increasing his payoff in the worst state of the world. More insurance reduces the risk aversion and leads to a lower risk-premium the agent requires to engage in the risky project. Consequently, some insurance may reduce the cost of providing incentives. In the paper I relate this theory to the venture capital industry. The risky investment could be also interpreted more broadly as any entrepreneurial activity, while the government that levies an income tax is a principal. According to this interpretation, redistributive taxation may actually strengthen incentives for entrepreneurship.

In my future research I wish to continue working on the optimal policy design. I plan to extend the shadow economy framework to a dynamic setting and examine in detail not only redistribution, but also insurance side of the informal sector. Another topic in my research agenda is a joint design of a tax system for employees and self-employed, taking into account different risks of the two occupations as well as the possibility of misreporting the true status of the job. More generally, I believe that taxes and other public policies, such as unemployment benefits, pensions or fertility policies, should be coordinated and determined jointly. It is an increasingly popular field of study and an important part of my research agenda.

Aside from my research on taxation, together with my colleagues Paweł Borys and Paweł Kopiec we are studying the impact of labor market institutions in the business cycles model with search frictions in the labor and the goods market. This framework allows us to decompose the unemployment into a classical, a Keynesian and a frictional component and examine the impact of various institutions on each part separately. This project has been awarded the Preludium grant from the National Science Centre in Poland.