New tax and benefit instruments, such as tax credits, e.g. child tax credit or the Family benefit "500+" affect the change of income inequality and financial incentives to work. When implementing a new income policy, we want to know what part of the change in income inequality can be attributed to government policy actions, and what was independent of what the government was doing. For example, we know from the Eurostat data that the Gini coefficient decreased in Poland from 33.3 in 2006 to 29.8 in 2016. But we do not know if this was due to changes in the tax and benefit policy or rather due to other changes. It is possible that large part of that change might be explained by changes the distribution of pre-tax income that occurred at the same time.

The aim of the project is to examine the impact of changes in the tax and benefits regulations introduced in the years 2005-2018 on income inequality and financial incentives to work. Correct assessment of the policy effect is important. If conclusion on the impact of tax and benefit policies on income inequality and financial incentives to work are incorrect than our understanding of the relationship between equality and efficiency of economic policy will be wrong, also. Economists agree that too high income inequality is bad for society. When its level is considered too high, governments are pursuing a policy of income redistribution transferring income from those who are relatively rich to those who do not have enough income. Tax and benefit instruments are commonly used for that purpose. Unfortunately, such solutions will simultaneously reduce the financial incentive to work, which may decrease the labor supply.

To assess the impact of changes in income policy, measures of income inequality (e.g. Gini coefficient) or financial incentives to work (e.g. replacement rate or participating tax rate) are used. However, the comparison of changes of index values over time is not a proper way for identifying the significance of policy changes. There are changes in other factors affecting the value of the analyzed indices at the same time and we have to take this into consideration. One of the main problems in measuring the policy effect is the simultaneous change in the distribution of pre-tax income. The second problem is changing the population characteristics , for example, due to changes in the distribution of age or education structure. If we want to know which part of the observed change in the value of indices should be attributed to changes in income policy we need to consider of the impact of those changes..

Bargain and Callan (2010) presented a method how one can distinguish the impact of changes in the tax and benefit policy from the impact of other changes. This method involves the use of a microsimulation tax and benefit model to create hypothetical income distributions that would exist with other tax and benefit systems and other distributions of pre-tax income. Using the microsimulation model we can create an income distribution that would exist if the government had introduced a policy change - e.g. new tax thresholds - but at the same time the distribution of income before tax would have not changed. In 2016, Herault and Azpitarte presented an extension of the Bargain and Callan methods allowing for controlling of the impact of changes in the distribution of population characteristics. The second element of the Bargain and Callan approach is the use of index value decomposition using the Shepley value method.

The choice of the period for analysis - 2005-2018 - is not accidental. During this time, many important changes in tax and benefit policy have been introduced (e.g. reduction of income tax - 2009, introduction and modification of child tax credit - 2007, 2014 and 2105 , introduction of the Family "500+" program - 2016). At the same time, wages increased significantly and unevenly. These two factors - many regulatory changes and a long-lasting period of economic growth - create an excellent opportunity to apply the approach initiated by Bargain and Callan.