Initially, we do not identify the effect of corporate income tax rate on corporate income tax revenues and the effect of GDP on corporate income tax rate.

The following research will help to determine whether corporate income tax rate in Ukraine is at the optimum level according to Laffer Curve and how the change in corporate income tax rate can affect economic growth taking into account different ways of taxation impact on GDP.

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MODELING OF HOURS AND EMPLOYMENT FOR UKRAINE USING SYSTEM DYNAMIC METHOD

The main target of the model is to develop the system dynamics model about hours and employment for Ukraine. The model shows how different parameters such as labour hour productivity, desired production, employment influence on.

The time horizon in this model is 2008-2017. The data is annual. The main source of information on data was the official website of Ukrainian statistics http:// www.ukrstat.gov.ua. Some data was also found on https://data.worldbank.org/.

It is important for every business to create a pleasant workplace where employees can work in a safe environment. Setting the rules of employment in advance that clearly stipulate terms and conditions of employment and the standards for treatment, including working hours, wages, rules on personnel and duties, is essential to not cause disputes between an employer and employees.

We can see how our model works (Figure 1). We look at the Hours per worker model and the relationship between our data. At the same time we can see connection between Employment. Labor hour productivity is equal to labor productivity/ standard hours per worker, where:

Labor productivity = real private AD/ Employed

Desired labor hours = Desired production / Labor hour productivity

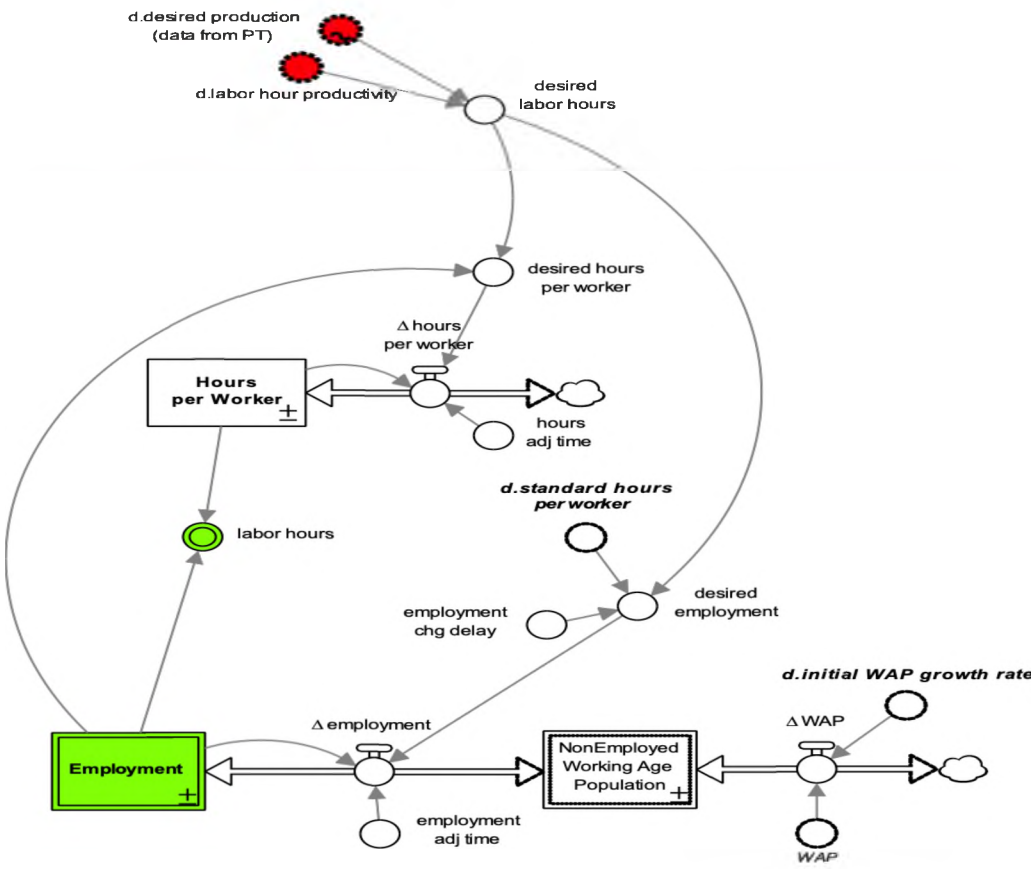

Figure 1. System Dynamics Model of Hours and Employment

The actual labor hours are a product of the number of employment workers and the number of hours per worker. The outputs from this model are a labor hours and Employment. If we want to change desired labor hours the first what we suppose to do is the changing in hours per worker. In Ukraine average standard hours per worker is equal to 2000 hours.

Usually, an adjustment in the number of Hours per Worker can be accomplished relatively quickly, but in Ukraine it takes more time, and we assume that it's around half of the year. Closing gap between current and desired employment takes more time then adjusting the number of hours per worker. It depends on labor market conditions. In Ukraine labor market is tighter, and employment adj time is longer. We assume that it's around 1 year.

In equation of desired employment we use SMTH function because we can't get immediately full effect of desired labor hours. And we assume that it takes half of the year:

Desired employment = SMTH1 (Desired_labor_hours / D.standard_hours_per_worker; Employment_chg_delay)

Figure 2 shows historical data of the labor hour in Ukraine and labor hours, that simulated by model.

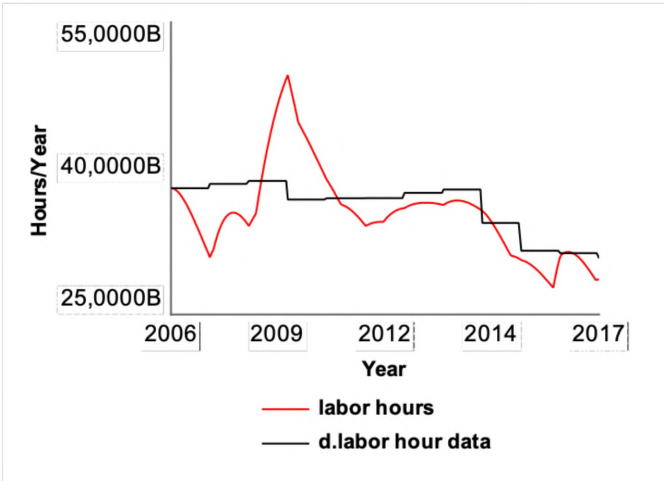

Figure 2. Result of System Dynamics Model for Labor Hours

In Figure 3, we can see connection between stock - Employment and our data Employed.

Figure 3. Result of System Dynamics Model for Employment

Data for 2014 are given without taking into account the temporarily occupied territories of the Autonomous Republic of Crimea and the city of Sevastopol, since 2015 - also without part of the temporarily occupied territories in Donetsk and Luhansk regions. We can test our model using Theil statistics.

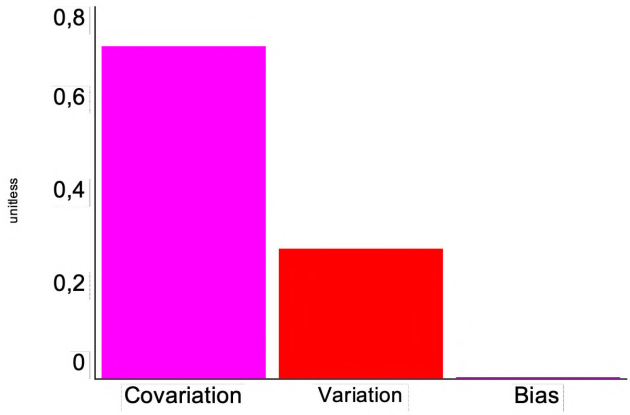

Figure 7. Decomposition of Theil statistics for Hours and Employment model

We have big covariation error 70%, Variation error 28% and Bias 1%.

In conclusion we can say that our models work correct, it show us real behavior of our inflation and taxes but it's hard to collect data, or data didn't show reality. Realized that every parameter in our sub models have big influence on hours and employment.

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MODELING THE INTERACTION BETWEEN MONETARY AND REAL SECTORS USING SYSTEM DYNAMICS METHODOLOGY: CASE OF UKRAINE

The main purpose of the modeling is to develop the structure of the system dynamics model which will replicate the behavior of real economic relationships, so the explanatory model is employed. This type of system dynamics models is based on the rules that explain the past and include today's actual instruments, but not the future ones. By the way, the use of macroeconomic models in the process of estimation of the effects of the monetary policy avoids expensive and sometimes hardly possible practical experiments. In addition, modeling helps to determine the consequences of the implementation of different combinations of use of certain monetary policy instruments.

Low and stable inflation is the foundation for the macroeconomic stability of the country's economy [4]. To reach the inflation target national bank makes changes in combinations of monetary instruments, what also has a significant impact on economic growth. Taking those interconnections into consideration, it is becoming actual to make a contribution to the analysis of how real and monetary sectors in Ukraine are interdependent. That is important because gives some reasoning and quantitative estimates of the main transmission channel from the key policy rate to GDP and prices. Moreover, this research pays attention to the level of shadowing of