As the results of the simulations show, the more employer is interested in work, the less is amplitude of the burnout cycle. This means that he can work longer hours without exhaustion and the quality of his work is still high.

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Borodii Mykola, Tishakova Valeriia Bachelor students, NaUKMA

## WHICH TOOLS ARE BETTER TO TACKLE WITH THE UNDECLARED WORK IN UKRAINE: DIRECT OR INDIRECT?

Undeclared work is a huge problem for most countries around the globe. Those who avoid paying taxes and working legally make labor market unfair and break the law. That is why it is crucial to know which tools will be better for implementation to solve the problem with undeclared work.

Best way to describe those tools is to divide them into two groups where first is "sticks" and second "carrots" (Williams, 2021). "Sticks" represent a punishment for hidden workers. With this tool it is supposed to increase penalties for working informal and to make more supervisions on the labor market. "Carrots" mean the policies which focusing on dealing with public institutions in the long-term perspective. The main idea of such policies is to build trustworthy institutions which will inspire people to work legally.

The CLD for the model of undeclared work shows the logic of intersections between variables. It could be shown on the figure below (figure 1).

There are 4 loops in the CLD: 1 reinforcing and 3 balancing. As can be seen, in the first loop (R1) is represented reasons why people choose to continue working and grow in numbers in undeclared work. It all starts from low average salary in the country, which leads to the desire to survive and in turn be an undeclared worker. Then, the money is obviously hidden, because of the fear of punishment, which means no taxes paying, having a great impact on the development of the country and circle wise.

The second and third balancing loops (B2, B3) show government feedback on the Undeclared work level, which mostly are direct policies (punishment and penalties, accompanies with supervisions). The last balancing loop (B4) represent how people who work in the shadow decide to move to legal work. That happens often through fear of punishments and being detected.

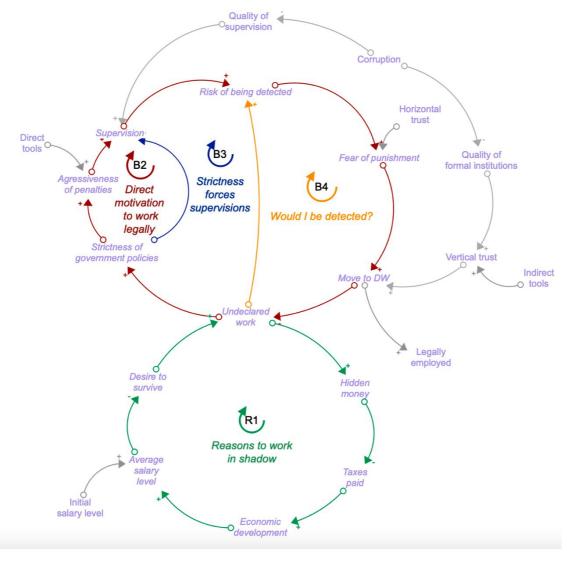


Figure 1. Causal loop diagram for undeclared work in Ukraine

Last parts of the CLD are Direct and Indirect tools which are policies that are observed in this model. So, the main goal of the work is to monitor which policies have better impact on the undeclared work rate in Ukraine, that is why both direct and indirect tools are included in the model.

For the modelling process the reference mode (historical data) was taken. The idea of it to show whether the model is correct in a frame of real world data (figure 2).

Ukraine is definitely not an exception in working in shadow. This issue of undeclared employment is very actual nowadays and constituted 22.8%, which means that 1 out of 5 people work in shadow. For 2020 the level of undeclared work constituted 18%, which means that more than 3 million people were working in shadow and did not pay taxes.

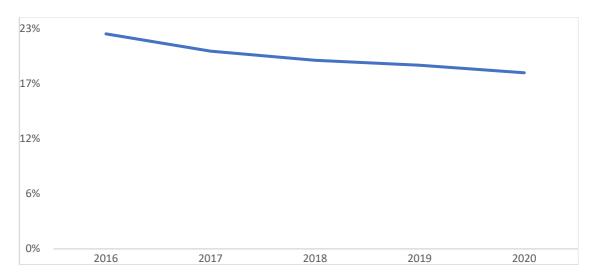


Figure 2. The dynamics of undeclared work level in Ukraine

The system dynamics model was developed with regard to CLD. Policies which are suggested are on left side (direct tools) and right side (indirect tools). The variable Switch helps to observe tools separately and together (figure 3).

Generally, undeclared work and people who moved to legal works we presented as stocks, and increase in rate of undeclared work and movement from shadow side to legal one are flows between them. All other variables are convertors, which help to create loops in model to show endogenous structure of undeclared work level.

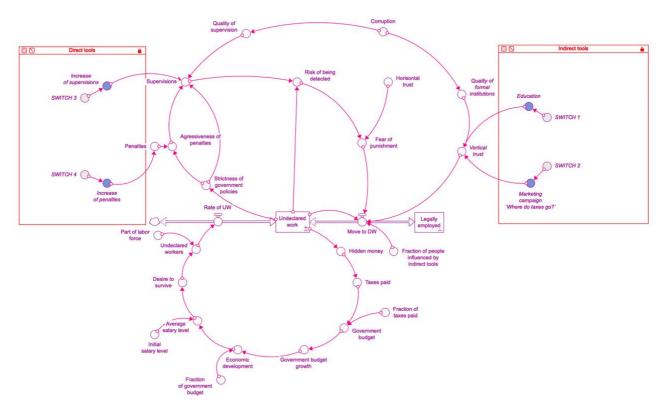


Figure 3. The system dynamics model of undeclared work in Ukraine

The results from the modelling process can be divided by 3 categories: implementation of both direct and indirect policies and each of them separately (figure 4).

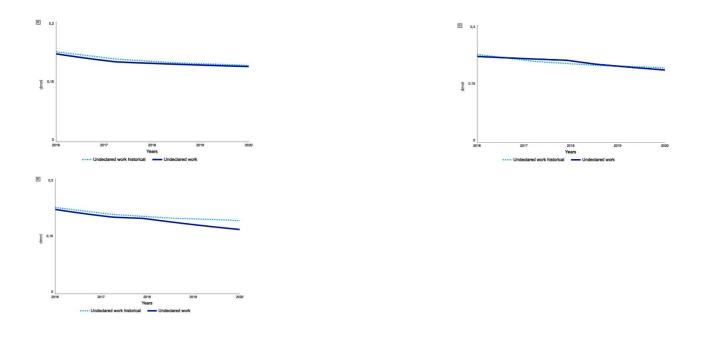


Figure 4. Model results from policies implementation

First graph shows how implementation of direct methods such as more aggressive penalties and supervisions could help to decrease Undeclared work level. Dark blue solid line which present results from direct tools is slightly below historical data of undeclared work developing (light blue dotted one).

In turn, the next graph shows how indirect tools may help in undeclared work level decrease. And from implementation of indirect policies in the short-term period they work worse than direct, however in the long-term sight they have better results as it is needed time for direct tools to start working. The last graph shows results from both direct and indirect policies implementation, which has the best results and should be considered as the goal to combine these two policies.

All in all, many authorities try to reduce the amount of undeclared work in their countries due to bad consequences on the welfare of the country and the economy in whole by implementing punishment instead of trying to change the whole system. However, the primary goal in solving this issue is trying to convince to move undeclared work to the declared one, but not eradicating it. That's why, in this work it is shown some measures and their effectiveness, which could be great tools to tackle with this issue.

As a result, changing the whole system and building step by step the vertical trust between the government and society and increasing the supervision simultaneously will be more effective in the long-term period.

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