вразливих царин економічної діяльності. Розробка і створення законодавчої бази допоможе внормувати алгоритм здійснення M&A за зразком таких країн, як Німеччина, Франція та США.

Друга тенденція полягає в запобіганні зростання монополій у цілих галузях економіки України. Процес злиття та поглинання компаній вже призвів до одноосібного стану певних секторів (енергетика, металургія, нафто газовидобування тощо). Впроваджена легальна процедура розриву неприродних монополій, контроль за діяльністю крупних конгломератів та консорціумів допоможуть не тільки запобігти появі монополій, але й покращать загальний інвестиційний клімат.

Третя тенденція – це розробка науково-обґрунтованих систем для аналізу та оцінки ризиків при здійсненні угод M&A. Це зменшить втрати активів, допоможе якісно покращити цей сектор економічної діяльності, пожвавить попит та збільшить інтерес іноземних інвесторів до входження на український ринок.

Однак зауважимо, що успіхом у цій царині слід вважати врахування всіх трьох тенденцій, реалізація яких виведе процедуру злиття та поглинання в Україні на якісно новий рівень.

Список використаних джерел:
1. Горовий Д.А. Розвиток рикну M&A в Укрїні // Фінансово-кредитна діяльність: проблеми теорії та практики - 2013. - Vol. 1, No.14
2. Эффективные слияния и поглощения – [Електронний ресурс]. – Режим доступу: http://www.e-xecutive.ru/knowledge/announcement/338280/
3. Уманців Ю. Активізація процесів злиття та поглинання як чинник глобалізації світової економіки / Ю. Уманців // Підприємництво, господарство і право. – 2004. – No 2. – С. 129-131.

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RESILIENCE OF FARMER`S LIVELIHOOD IN AUSTRALIA

The first major problem of the food system in Australia is its distance from people through industrialization. Thus, healthy and nutritious food is not available to all citizens, leading to a decline in social cohesion, economic prospects, and well-being of the people involved. In addition, the decline is exacerbated by the lack of resilience and sustainability of food system – the second major problem. Among the factors that reduce the resilience of farmer`s livelihood – drought, floods, fires, climate pollution, Covid-19 and others. The results of reduced resilience can be seen in the following outcomes.
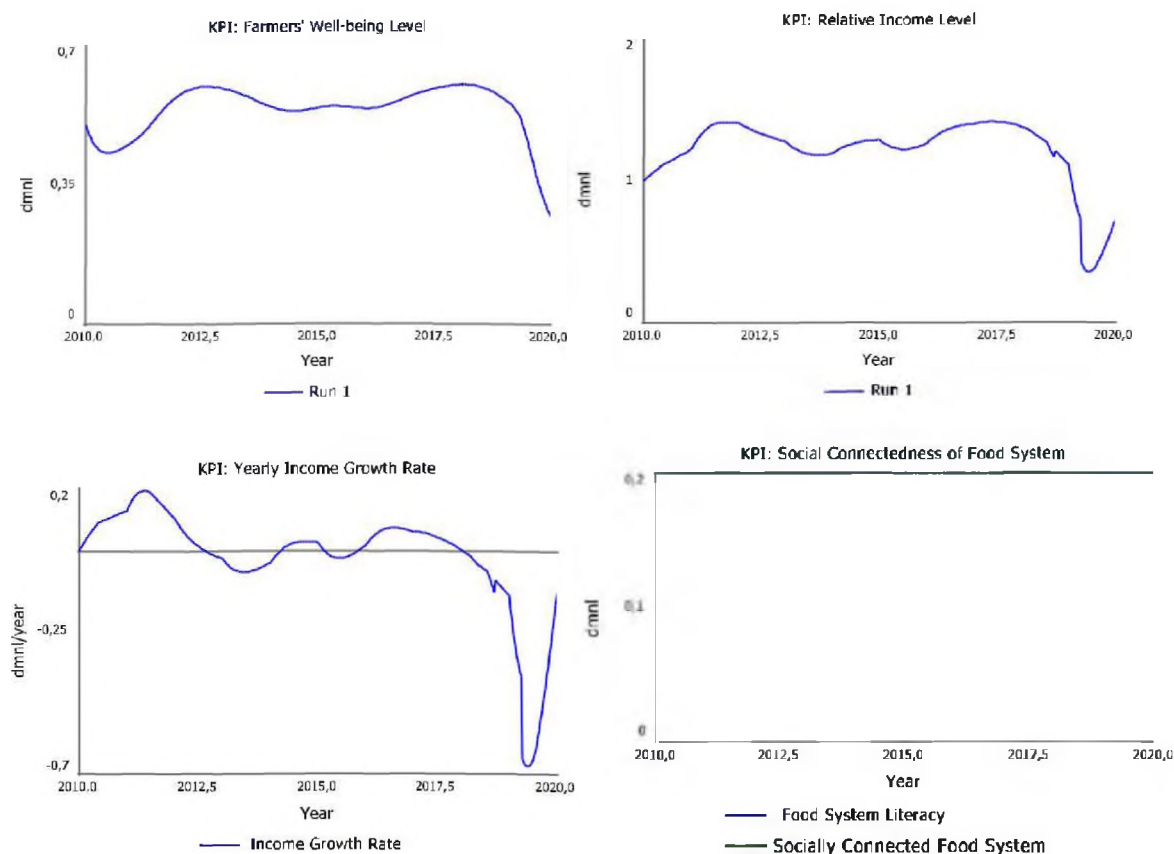
Figure 1. **The historical behavior of KPIs – farmer`s well-being, relative income level, yearly income growth rate, and social connectedness of the food system – during 2010-2020**

The main attention of this team`s project is focused on the problem of sustainability of small and medium-scale farmers, as the livelihoods of large farmers are more stable and less volatile with various factors.

According to figure 1, there is a significant decline in all key performance indicators, except social connectedness of the food system. In recent years, the farmer`s well-being has declined from about 0.6 to 0.3. The relative income level and yearly income growth rate in 2019 decreased by 0.9 and 0.5 points, respectively. Social connectedness was equal to 0.2 during 2010-2020. The decrease in KPI during last years can be explained by a decline in the resilience of small and medium farmers (one of the main reasons may be Covid-2019).

Appropriately, the main hypothesis of this project is the next – increasing food system literacy, and thereby the social connectedness of the food system, improves the resilience of small and medium-hold farmers' livelihood. The conceptual system dynamics model was created to test this hypothesis.

Next, the model is simulating to answer two main questions:

1. Does increasing food system literacy affect the income of small and medium enterprise farmers into the future?

2. Does increasing food system literacy affect the well-being of small and medium enterprise farmers into the future?

The structure of the model is generally divided into 9 sectors: Food Supply, Food Demand, Price Setting, Farm Production Capacity, Farm Finances, Food System Knowledge, Sustainable Technology Adoption, Subsistence Gardens, and Livelihood Outcomes (KPI).

So the model was built to test the only policy idea – the impact of food system literacy on the resilience of small and medium-hold farmers' livelihood. The policy can be explained by the following causal loop diagram.
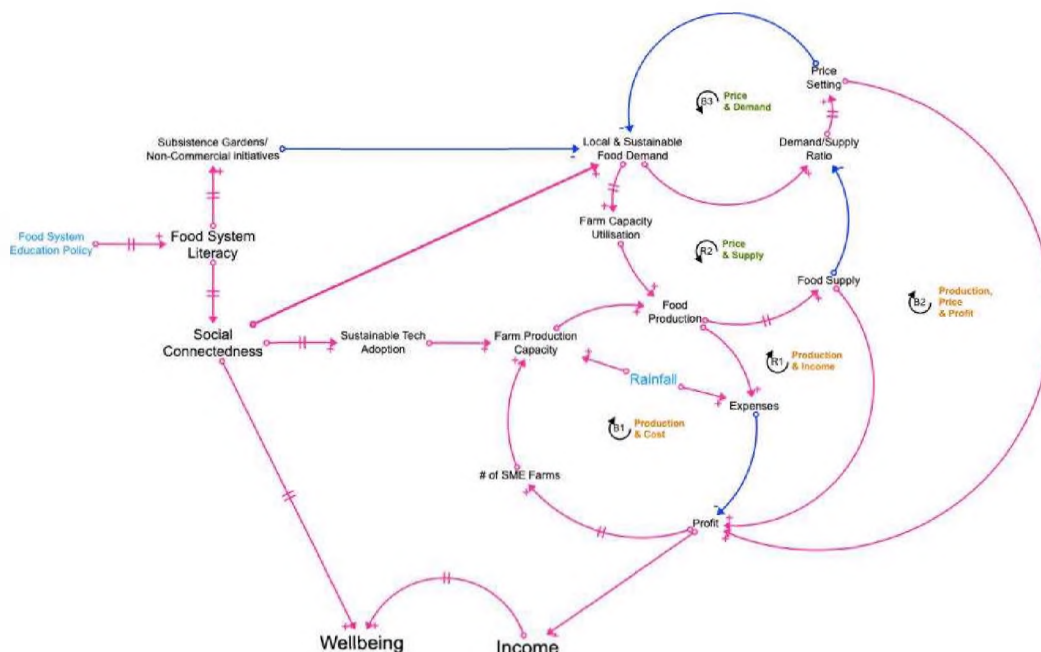

Figure 2. **The causal loop diagram**

According to the CLD, income has impact on the well-being. Income shows interconnection between the volume of production of the farm`s, their expenses, and price of the products. The demand and supply sides determine the price of the product.

If the policy is on, then food system literacy and social connectedness increase. Exploring the food system creates the social connections, the inclusion, and the support that (along with income) helps sustain the wellbeing of the farmer not only in normal operations, but also in the face of shocks and stressors. Thus, people produce some food by their own – subsistence gardens and other non-commercial initiatives are encouraged – and the food demand reduce. The social connectedness influences the adoption of sustainable technology (farmers learn from each other) too, increasing production. Similarly, demand of local and sustainable food will also rise.

Except this, the effectiveness in disseminating and quality of information will determine the degree of impact on the system and, ultimately, the resilience of farmers as measured by well-being and income over time. In order to explore the systems response to disruptions in production, times of drought are included to simulation.

The effect of food system literacy policy on the KPIs can be explored below.
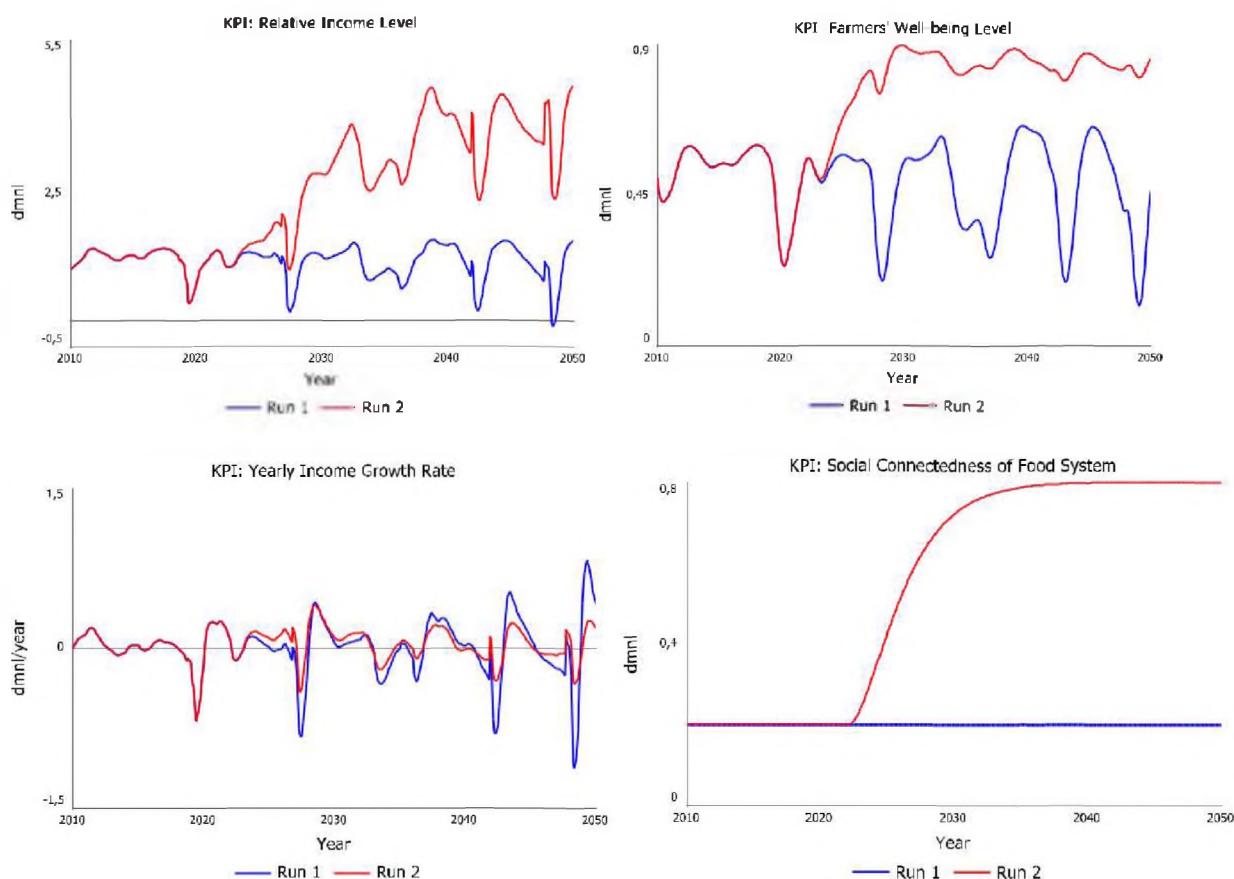
Figure 3. **BAU and policy run**

From the results we can see that if policy is on (optimistic scenario), key performance indicators increase during 2020-2050: farmer`s well-being level rises by 0.4-0.7 and its volatility is reduced, relative income level rises by 2-3, and social connectedness of food system rises by 0.6 points. Another positive aspect – yearly income growth rate is less volatile with active policy.

It is necessary to know that this is a conceptual model, which aims to show the proof of the concept. This means that numerical accuracy is beyond the scope of this project.

According to testing of different scenarios, both income and wellbeing improve under the food literacy policy conditions. So the answer to the two main questions of the model is positive. Respectively, the main hypothesis of this team`s project – increasing food system literacy, and thereby the social connectedness of the food system, improves the resilience of small and medium-hold farmers' livelihood – is confirmed.

Therefore, the livelihood of SME farmers improves with increasing food system literacy and social connectedness respectively. Thus, the changes in the livelihood of SME farmers cause improvements in their resilience. The increased resilience leads to rise and less volatility of well-being under the policy scenario. Income increases too, but still is quite volatile. However, the higher level of relative income and social connectedness of the food system acts as a reserve for well-being and keeps it from declining significantly even in times of crisis.

References:
1. Лук'яненко, І., Віт, Д. (2017). Системний аналіз формування державної політики в умовах макроекономічної дестабілізації.
2. Лук'яненко, І., Віт, Д., Оліскевич, М. (2020). Фінансова політика в умовах тінізації та дисбалансів на ринку праці: методологія та інструментарій.

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ANALYZING MONETARY POLICY OF CENTRAL BANKS THROUGH LIMITED DEPENDENT VARIABLE MODEL

One of the main monetary tools that Central banks use, especially in countries, which set an inflation target, is a key policy rate. A lot of discussions and researches are held on this topic. While implementing monetary policy Central banks take into consideration a transmission mechanism concept that is about interdependence and interaction of macroeconomic indicators.

However, decisions whether to change a key rate or not are made based on complex analysis, using lots of variables, formulas, calibration coefficients and so on. Such models are difficult to prepare because of unreliable or not full due to some security reasons data, also Central banks make lots of adjustments through years of their work.

I suggest that key macroeconomic trends might be observed through Limited Dependent Variable Model that is much easier in preparation than quarterly projection model or etc. This model allows to test the hypotheses whether there is a statistically significant influence of economic indicators on the main monetary tool – key policy rate (KPR). These hypotheses might be useful for market participants other than National Bank, because it doesn't require lots of resources and is easy in explanation.

Main hypotheses I want to test are that consumer price index (CPI), nominal gross domestic product (nGDP) and exchange rate (ER) have a statistically significant impact on policy rate change. In this work I suggest using Ordered Probit Model, where dependent variable is ranged from 1 to 5 regarding the volume of change of the KPR.

Table 1. **Dependent variable change and its respective strategy**

Y	Volume of change	KPR change
5	large increase	≥ 1
4	small increase	from 0 to 1
3	no change	0
2	small decrease	from -1 to 0
1	large decrease	$\geq$-1

Source: created by the author