

# THE ECONOMIC IMPACT OF COVID-19: FORECASTING FOR UKRAINIAN REGIONS<sup>1</sup>

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The world scientific community has developed many economic and mathematical models for predicting and analyzing the multidirectional impact of COVID-19 on various aspects of society. Modeling the economic consequences of a new dangerous virus for different countries has a vital role today. There is a lack of such research in Ukraine. Foreign papers, particularly from the highly-rated databases Scopus and Web of Science, show an increase in research on this topic and their citations. It is appropriate to mention specific quotes from the report of the consulting company One Philosophy Insights, which states that quarantine has affected the economy of Ukraine in different ways. The most affected were airlines, tourism, entertainment services, exhibition business. Real estate and retail trade were the least vulnerable. Furthermore, such sectors as technology, pharmaceuticals, logistics, superfood production have even benefited from the spread of the pandemic in Ukrainian regions [1].

The relationship between the degree of physical distancing during a pandemic and lost income in society is generally considered to be linear [2; 3]. However, the amount of lost income may likely be lower or higher than the level of physical distancing. One of the gaps in the literature is the regional analysis of the economic impact of pandemic shocks. The authors observe different effects of epidemics on the development of regions, which depend on how this region has been affected, its economic structure, the degree of development of the labor market, and economic ties between different activity sectors. According to the four indicators for assessing the situation with COVID-19, Ukraine is one of the regions in Europe with the most challenging situation. As of October 15, 2020, Kharkiv, Sumy, Khmelnytsky, Ternopil, Poltava, Rivne, and Zhytomyr oblasts recorded the largest outbreak of COVID-19 [4]. The spatial component is of great importance in resolving the long debate on the gradual recovery of various economic sectors. In particular, determining the extent of the impact of COVID-19 on individual regions, effective forecasting of further actions allows to more reliably justify management decisions in the field of preventive measures. Naturally, the reactivation of the

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national economy with mitigation, if possible, should be carried out, taking into account the development of individual regions.

The use of forecasts, especially economic and mathematical ones, has a positive effect on the prudence and future effectiveness of the government's management actions to prevent the further spread of Coronavirus. As of October 2020, about 10% of people in the world are infected. According to the modeling results, the spread of SARS-CoV-2 in mid-November 2020 will increase up to 10,000 new cases of COVID-19 in Ukraine [5]. In April 2020, the index of national business activity expectations fell for the first time to a record low of 29.9 points (for comparison in the pre-pandemic era of COVID-19 in March, this figure was 45.8 points) [6]. The reason for this was the strict anti-epidemic measures. Moreover, the services sector was the most pessimistic (24.6% of Ukraine's GDP). A significant number of companies at that time planned to lay off employees or go on vacation at their own expense. All companies have downgraded their forecasts for future sales and production in the short and medium-term. Naturally, the easing of quarantine in May 2020 somewhat improved business expectations in Ukraine. In October, the negative dynamics of this indicator one can observe again – a drop from 49.4 points to 47.8 [7]. The value below 50 points indicates the pessimistic mood of business representatives in Ukraine. One-fifth of Ukrainian families have cut spending on food. About 40% of families have stopped spending money on luxuries. According to Google Mobility Trends, the frequency of business trips remains lower than in early 2020. However, since August, people in almost all regions have become more likely to visit shopping and leisure facilities. Shopping in grocery stores and pharmacies almost reached the level of February 2020.

According to preliminary EBRD forecasts, the Ukrainian economy was to recover in the fourth quarter of 2020. Today the forecasts are more pessimistic – recovery not earlier than the second quarter of 2021. In general, next year, the Ukrainian economy will grow by only 3% [8]. The recovery of the regions of Ukraine depends on their averages and capabilities. Any prognosis may be too optimistic, as the situation with the spread of Coronavirus is too unpredictable and rapidly changing.

According to [9], there is an urgent need in Ukraine to continue a robust reform agenda, continue cooperation with the International Monetary Fund to ensure macroeconomic stability, and create economic incentives to maintain employment and stimulate the inflow of investment in regional development.

1. Під час пандемії 71% організацій в Україні запустили новий продукт або послугу. URL: <https://sostav.ua/publication/p-d-chas-pandem-71-organ-zats-j-v-ukra-n-zapustili-novij-produkt-abo-poslugus-86713.html>.

2. Alvarez, F.E., Argente, D., & Lippi, F. (2020). A simple planning problem for COVID-19 lockdown. National Bureau of Economic Research. Working Paper No. 26981.

3. Newbold, S.C., Finnoff, D., Thunstrom, L., Ashworth, M., & Shogren, J.F. (2020). Effects of physical distancing to control COVID-19 on public health, the economy, and the environment. *Environmental and Resource Economics*, 76, 705-729.

4. За минулу добу в Україні підтвердили 5062 нових випадки коронавірусу, загалом у країні – понад 280 тисяч заражень. URL: [https://zik.ua/news/ludyna/za\\_mynulu\\_dobu\\_v\\_ukraini\\_pidtverdyly\\_5062\\_novykh\\_vypadky\\_koronavirusu\\_zahalom\\_u\\_kraini\\_ponad\\_280\\_tysyach\\_zarazhen\\_983723](https://zik.ua/news/ludyna/za_mynulu_dobu_v_ukraini_pidtverdyly_5062_novykh_vypadky_koronavirusu_zahalom_u_kraini_ponad_280_tysyach_zarazhen_983723)

5. У листопаді щоденна кількість нових хворих на ковід в Україні може сягнути 10 тис. – моделювання КШЕ. URL: [https://lb.ua/society/2020/10/15/468171\\_listopadi\\_shchodenna\\_kilkist\\_novih.html](https://lb.ua/society/2020/10/15/468171_listopadi_shchodenna_kilkist_novih.html).

6. Індекс очікувань ділової активності вперше впав нижче 30. URL: <https://ua-news.liga.net/economics/news/indeks-ochikuvan-dilovoi-aktivnosti-vpershe-vpav-nijche-30>.

7. Індекс очікувань ділової активності у жовтні знизився з 49.4 пунктів до 47.8. URL: <https://business.ua/uk/node/11211>.

8. Зануда А. (2020). Коли економіка України заживе так, як було до коронавірусу. URL: <https://www.bbc.com/ukrainian/features-54361473>.

9. Вплив COVID-19 в Україні: 87% бізнесу закликає Уряд України продовжити потужну програму реформ. URL: <http://www.visnuk.com.ua/uk/news/100020261-vpliv-covid-19-v-ukrayini-87-biznesu-zaklikaye-uryad-ukrayini-prodovzhati-potuzhnu-programu-reform>.

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