








# “Economic activity vs generation of local budgets’ revenues: Regional disparities in COVID-19 instability”

<b>AUTHORS</b>	Iryna Storonyanska   Mariana Melnyk  Lilia Benovska  Natalia Sytnyk  Oksana Zakhidna 
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Iryna Storonyanska, Doctor of Economics, Professor, Vice-Director of M. Dolishniy Institute of Regional Research of National Academy of Sciences of Ukraine, Ukraine. (Corresponding author)

Mariana Melnyk, Doctor of Economics, Professor, Head of the Department of Spatial Development, M. Dolishniy Institute of Regional Research of National Academy of Sciences of Ukraine, Ukraine.

Lilia Benovska, Ph.D., Senior Researcher, Department of Regional Financial Policy, M. Dolishniy Institute of Regional Research of National Academy of Sciences of Ukraine, Ukraine.

Natalia Sytnyk, Doctor of Economics, Professor, Head of the Department of Financial Management, Ivan Franko National University of Lviv, Ukraine.

Oksana Zakhidna, Ph.D., Associate Professor, Department of Financial Management, Ivan Franko National University of Lviv, Ukraine.



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Iryna Storonyanska (Ukraine), Mariana Melnyk (Ukraine), Lilia Benovska (Ukraine), Natalia Sytnyk (Ukraine), Oksana Zakhidna (Ukraine)

# ECONOMIC ACTIVITY VS GENERATION OF LOCAL BUDGETS' REVENUES: REGIONAL DISPARITIES IN COVID-19 INSTABILITY

## Abstract

In the last two years, Ukraine and the world have been living in economic instability caused by the COVID-19 pandemic, which has fundamentally changed the trends in global and domestic economies, public and local finance. This study aims to estimate the trends of economic development of Ukrainian regions in the coronavirus crisis and their impact on the local budgets' tax revenues generation. Main findings show the impact of the COVID-19 crisis on the development of Ukrainian regions is territorially differentiated. It is determined that in quarantine restrictions, the regions were developing under the impact of behavioral and institutional factors. Although a range of enterprises terminated their activities and there was a decline in income from business activities in 2020, the tax revenues of local budgets increased. The growth of tax revenues was accompanied by decreasing interbudgetary transfers and growing expenditures on containing the spread of pandemics and supporting healthcare. Reduced transfers to local budgets from the public budget affected the funding of investment programs of regional development.

The abovementioned effects of falling business activity and consumer expenditures of the population along with falling investment can be considered the delayed effects of economic activity curtailment in the short-term period. An intensive increase of public investment that stipulates projects co-funding from budget funds and resources of businesses and establishment of cooperation between public, regional, and local levels of government should become among the primary steps to overcome the negative trends.

## Keywords

region, development, trends, deposits, taxes, local budgets, investments

## JEL Classification

H71, O18, R11

## INTRODUCTION

In the last two years, Ukraine and the world have been living in economic instability caused by the COVID-19 pandemic, which has fundamentally changed the trends in global and domestic economies, public and local finance, and socio-cultural life of the population. The introduced quarantine measures have affected the socio-economic development of the country: the enterprises' economic activity, investments, exports, imports, and consequently revenues to public and local budgets and living standards of the population have declined. The growing budget deficit has affected the opportunities to introduce the measures of public regional policy and transfer support of local budgets and has contributed to the increasing responsibility of local and regional authorities for generating the local budget's revenues and addressing the issues of territorial development. It should be mentioned that the economic, social, and fiscal impact of the COVID-19 crisis on

the development of Ukrainian regions is territorially differentiated and various risks are significantly stimulated by both the objective economic and spatial features of regional development and the impact of behavioral and institutional factors.

## 1. LITERATURE REVIEW

Scientific studies on the regions' development trends in different countries in coronavirus crisis are quite limited due to minor time lag. The Report (based on the results of the conducted survey) of the Centre for Entrepreneurship, SMEs, Regions, and Cities of the Organization for Economic Co-operation and Development (OECD) regarding the impact of the crisis caused by COVID-19 on regional and local authorities is quite important for this study. It was proved that the asymmetry of socio-economic development effects at different scales (OECD, 2020) between countries, the governance levels inside the country, and individual entities. Meanwhile, the efficiency of managerial actions on overcoming the consequences of the pandemic in the OECD countries is rather independent of the level of authorities' and financial resources' decentralization. Instead, the coherence of managerial hierarchy, adjustment of horizontal relations (at interregional and intermunicipal levels), and making correct decisions in the stimulation of economic activity based on public investment (regarding the choice of investment directions) are the decisive factors.

The representatives of the McKinsey Global Institute emphasize the role of the current corona crisis as an unprecedented strategic platform for "European economic recovery" (Tesfu & Windhagen, 2020). Meanwhile, they focus on the substantial conditionality of evaluating the pandemics' impact on the development of certain territories because such estimations do not consider the functioning features of various economic sectors. The demand for some products can be postponed, so the recovery can be expected in early 2021, while the fast development paces of such sectors as e-commerce, address delivery, etc. will fall and they will not compensate losses from traditional activities of the regions. The analysis of the McKinsey Institute proves direct dependence of regions' vulnerability to a crisis on their economic profile, stability of the local economy, and stability of tax base.

The financial condition of local governments before the crisis also plays a certain role in the differentiated level of resilience to the corona crisis. Indeed, low debt level and formed powerful tax base of large cities at the end of the 2019 financial year allowed them to cover increasing healthcare and education costs in 2020 and be more resilient to reducing income.

Finally, a powerful and efficient mechanism of horizontal and vertical aligning can soften the differentiating impact of COVID-19 on regions. For example, according to S&P Global Ratings (Strasser et al., 2020; S&P Global Ratings, 2020), the governments of countries with extended aligning systems (like Germany and Austria) and a substantial share of interbudgetary transfers faced the biggest problems with the elimination of growing development misbalances of regions and basic units. Although the aligning systems can help to reduce the regional misbalances, their effect can be limited and depends on the formula of the budgetary resource distribution. Since most aligning systems are funded by allocations from budgets' tax revenues that are certain to face the decline in economic activity, there is a threat of reducing interbudgetary transfers in the aligning system. According to the survey of the OECD Network on Fiscal Relations (OECD, 2020), most respondents in the OECD countries emphasize the falling volumes of aligning transfers.

The research of the International Monetary Fund (2020) analyzes the policy of a range of countries in public investment in the corona crisis as a response to declining economic activity. Meanwhile, it mentions that most countries have taken into account the lessons of the 2008 crisis and included the investment packages among the first steps of confronting the pandemics. However, the International Monetary Fund considers the investment by the following three priority directions as the examples of the leading practice regarding reacting to the policy that can soften the impact of the crisis on regions and municipalities in all OECD countries: reinforcement of the healthcare system, digitalization of management,

social services, and education, etc., and acceleration of the transition to the low-carbon economy.

Many studies and recommendations regarding overcoming the consequences of the coronavirus crisis are provided by Ukrainian researchers. Zhalilo et al. (2020), and Bazyluk and Geiko (2020) examine the problems and suggest the mechanisms to reduce economic threats and measures to overcome negative socio-economic consequences of the coronavirus crisis. Heyets (2020) examines the issues related to the global economic crisis, while Sharov (2020) analyzes the impact of external threats of the coronavirus crisis on the financial system of Ukraine. The banking sector problems under the impact of the coronavirus crisis are studied by Danylyshyn and Stepaniuk (2021).

Following Kravtsiv and Storonyanska (2020), Storonyanska and Benovska (2017), and Storonyanska et al. (2020), the major problems of tax revenue generation in local budgets under the impact of the decentralization reform in Ukraine were detected and the risks of national and local levels were emphasized. In addition, according to

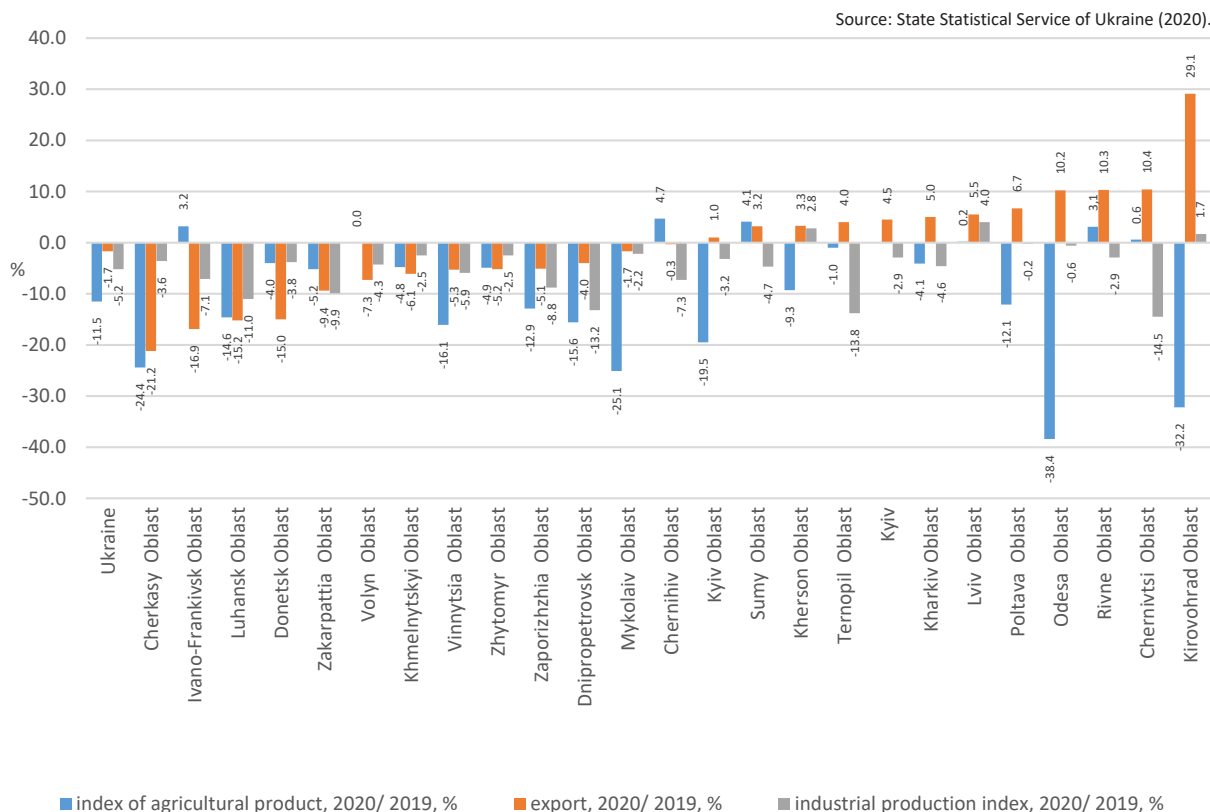
Melnyk et al. (2021), and Vatamanyuk-Zelinska and Sytnyk (2019), the negative trends in the economies of regions under the impact of quarantine measures introduced in the first wave of the COVID-19 epidemic were found. Yet, the regional economic systems' development trends in the coronavirus crisis require profound study as they cannot be explained solely by the laws and categories of economic theory.

This study aims to estimate the trends of economic development of Ukrainian regions in the coronavirus crisis and their impact on the local budgets' tax revenues generation.

## 2. RESULTS

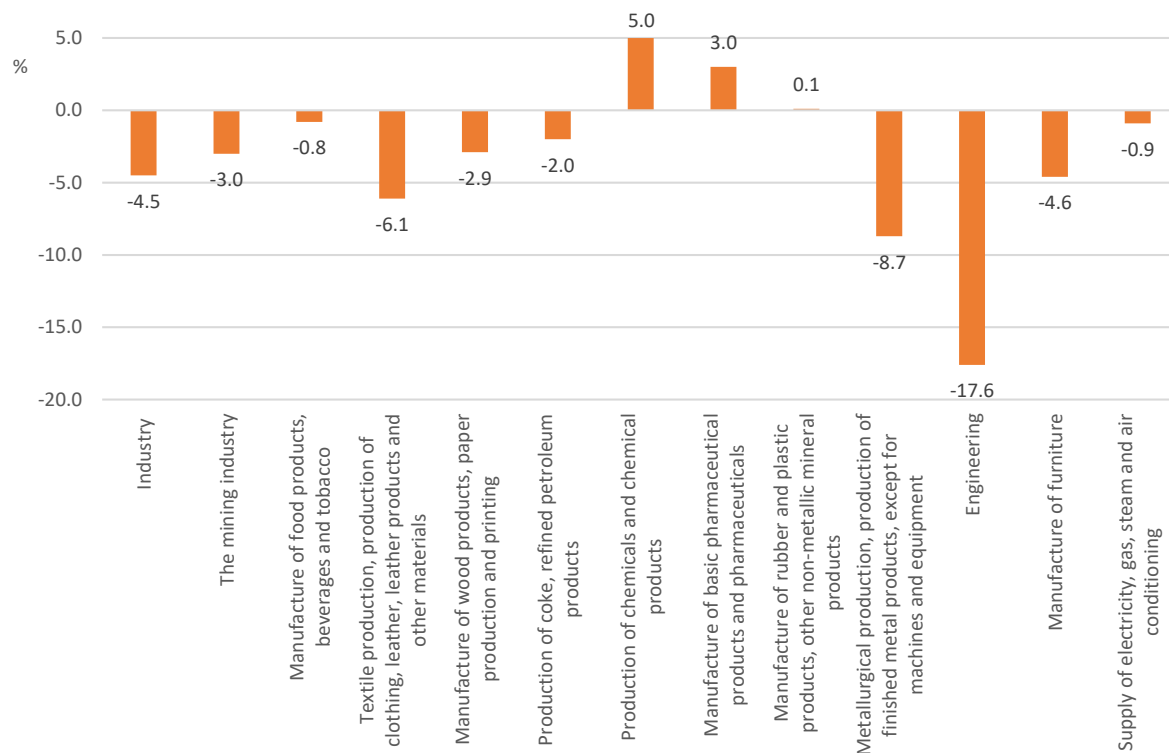
### 2.1. Trends in the economic development of regions

General economic destabilization in Ukraine and the world, suspension of the functioning of the range of industries and enterprises, and falling mobility of the population and business-



**Figure 1.** Dynamics of industrial and agricultural production and export of goods in 2020: interregional dimension

Source: State Statistical Service of Ukraine (2020).



**Figure 2.** Dynamics of industrial production by economic activity types, 2019–2020 in %

es have resulted in Ukraine's GDP decline by 4% in 2020. Economic growth of the regions in 2020 compared to the previous year is characterized by the positive dynamics of retail turnover despite the quarantine restrictions in retail trade and negative dynamics of real wages, unemployment, and industrial and agricultural production. Meanwhile, Ukrainian regions were demonstrating quite heterogeneous and sometimes even divergent trends.

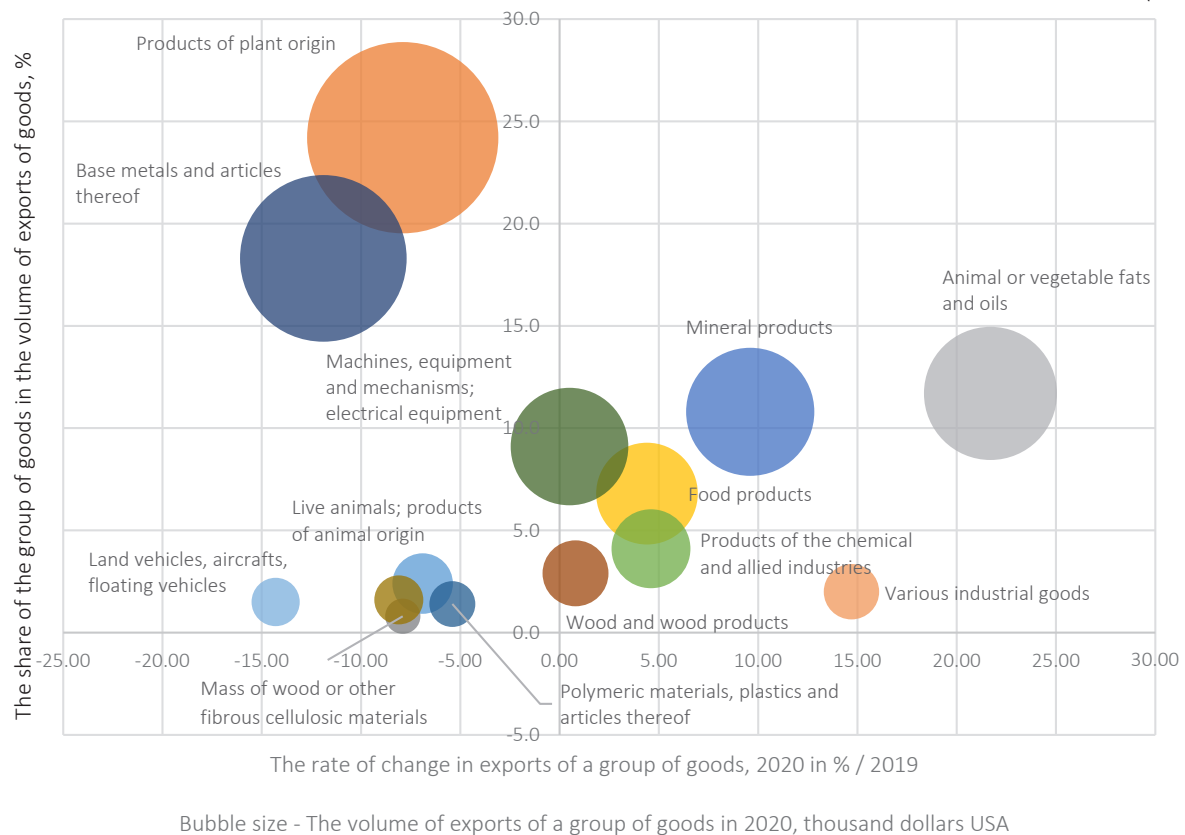
2020 was characterized by a further decline in industrial production (–5.2% against the previous year) and a substantial fall in agricultural production (–11.5%). Meanwhile, the export of goods declined only by 1.7% (Figure 1).

In the last years, the Ukrainian economy has faced deindustrialization, which has resulted in the annual growth of regions with agricultural and trade specialization. In 2020, most regions of Ukraine had the negative dynamics of industrial production, except for Lviv, Kherson, and Kirovohrad oblasts. The growth in Lviv and Kherson oblasts in 2020 was secured by chemical and agricultural processing enterprises.

Analysis of the macrolevel trends shows that chemical and pharmaceutical enterprises are the most flexible and adapted to present realities and have managed to keep and increase the production pace in the growing demand for their products (Figure 2). Due to the slowdown in the development of the global economy caused by pandemics and respective fall in prices and demand on global markets, the year turned out to be the most critical for export-oriented industries, in particular for engineering (–17.6%) and steel industry (–8.7%). The decline in real income and certain reorientation of consumers' needs affected clothing and footwear production (–6.1%).

A substantial decline in agricultural production in 2020 can only partially be explained by the negative impact of introduced quarantine measures. The main causes are somewhat different:

- difficult climate conditions in 2020 became perhaps the most important factor of negative impact on production and profitability of domestic agribusiness. It resulted in the falling production of grains, legumes, and oil crops. Moreover, the last year had the record rates by



**Figure 3.** Dynamics of main merchandise export groups in Ukraine in 2020

productivity, yet, such rates shouldn't be expected each year;

- crisis aggravation in animal husbandry, in particular the livestock reduction. Efficient long-term lending programs that help to obtain financial resources to create new capacities of cattle breeding and product processing, etc. have not been developed.

It is worth mentioning that the decline in export rates in 2020 amounted to 1.7%, although it is less than was expected early that year. Across the groups of commodities, the main "minus" was secured by the falling export of vegetable products (namely, grains) and steel (Figure 3). Considering that raw materials export still constitutes the basis of agricultural export of Ukraine, namely vegetable products – wheat, corn, barley, and soybeans (their share exceeds 50%), – thus, domestic export directly depends on natural conditions.

Vegetable and animal fats and oils (+21.7%), mineral products, namely ore (+9.6%), mineral fertiliz-

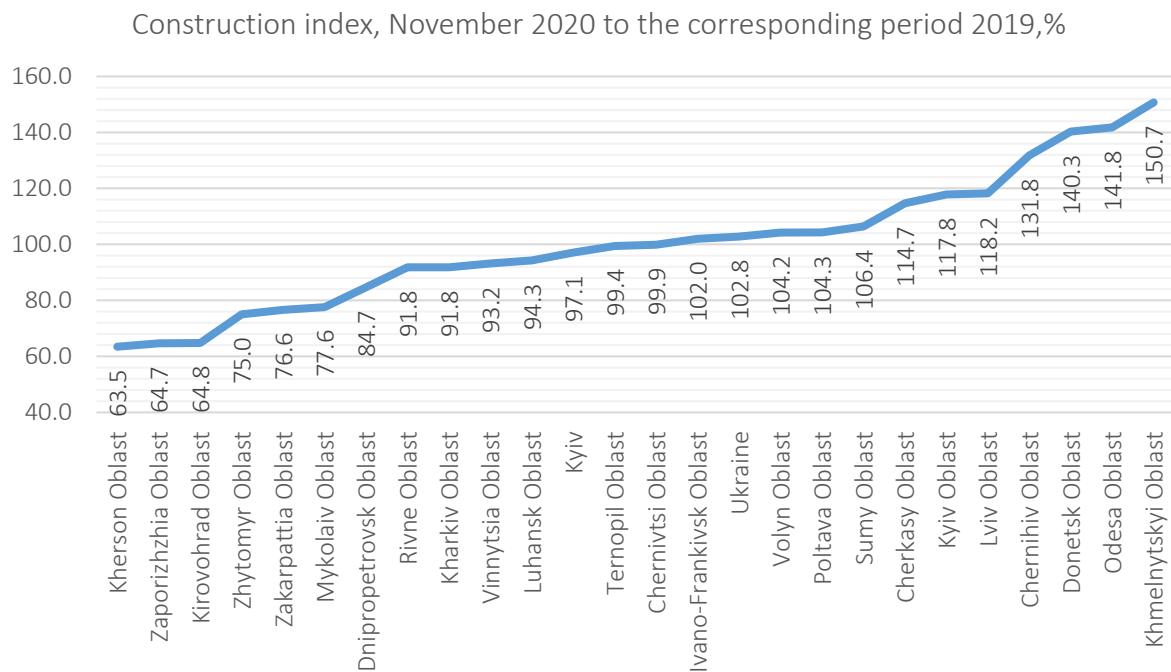
ers (+4.6%), and prepared food (+4.4%) are among the merchandise export groups that showed growth in 2020.

The changes in export structure caused the substantial interregional differentiation of export dynamics in the coronavirus crisis. Export of Cherkasy oblast faced the biggest fall (-21.2%), along with a range of other regions – traditional exporters of grains and steel. Meanwhile, Kirovohrad oblast showed export growth by 29.1% due to the growing export of food.

Construction is another industry characterized by very high territorial heterogeneity of development. In 2020, in economic turbulence and uncertainty of the nearest perspective, the heterogeneity only aggravated. As a result, a substantial interregional differentiation by the pace of construction growth was observed (from -36.5% before 2019 in Kherson oblast up to +50.7% in Khmelnytskyi oblast) (Figure 4).

The regions (Kyiv, Lviv, and Odesa oblasts) that have demonstrated high construction growth pac-

Source: State Statistical Service of Ukraine (2020).



**Figure 4.** Dynamics of construction in 2020: interregional dimension

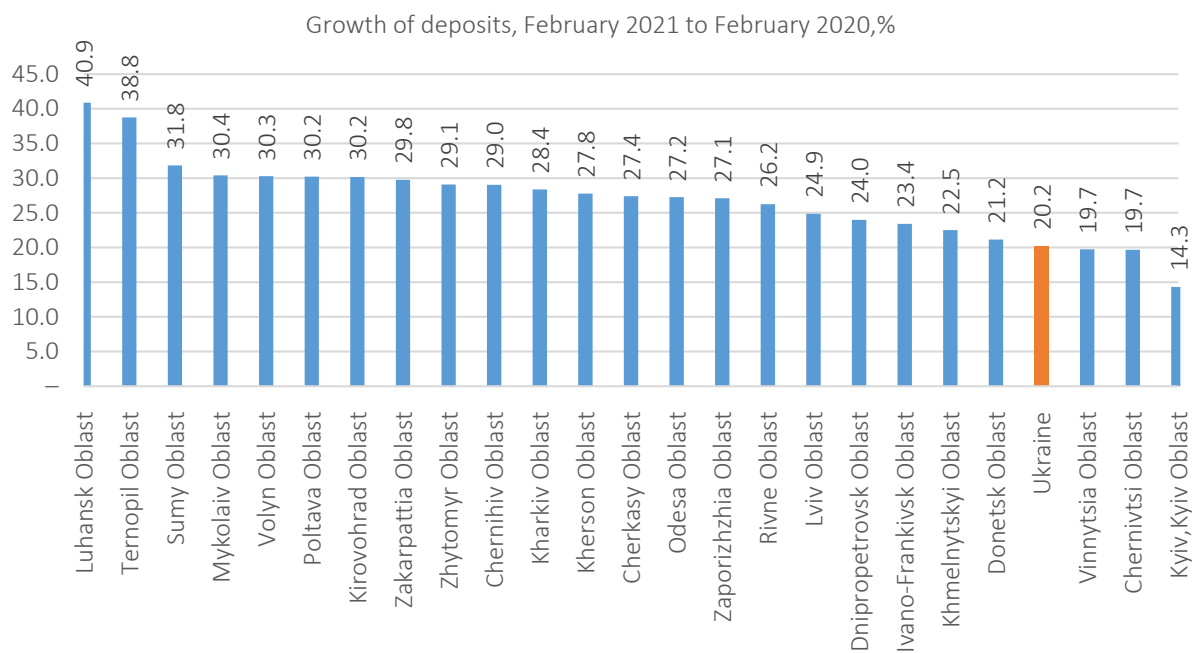
es in the last years do not slow down in the coronavirus crisis. The first months after the quarantine measures had been introduced destabilized the investors in construction, who suspended the purchase of apartments and office premises. It affected the work of developers in all regions – the obstacles with funding and adherence to construction schedules emerged. The average annual rate of the use of rebar in Ukraine is 70,000 tons, but in April it was 30,000 tons (Davymuka et al., 2020). Construction works were restored with various paces in various regions.

The owners of construction businesses argue (Davymuka et al., 2020) that the COVID-19 pandemic has affected the demand of the population for the purchase of individual projects that do not stipulate the opportunities for staying in the epidemic (i.e. where there is no large yard, leisure area, sports ground, or which require additional transport). Mostly, it is about economy-segment housing. Considering the fact that in quarantine people have to stay at home a significant amount of time, the issue of comfortable outdoor arrangement and infrastructure becomes quite relevant for prospective residents. Therefore, an investor tries to buy not only a dwelling but also external surroundings that affect the growing competition

in the real estate market. That is why the regions where residential construction in the previous years was largely oriented on the cottage and suburban development (Odesa, Lviv, Chernihiv, and other oblasts) showed high construction paces. Meanwhile, it is worth mentioning that the fall in real estate prices on the primary market expected early in the year did not happen.

For Ukraine (as other countries) the time of quarantine instability was characterized by growing demand for cash as the most liquid asset. The behavior of population and business is typical for periods of high uncertainty. Yet, if in previous crisis years the deposits were flowing off the banking system, in 2020, substantial growth of deposits became an extremely untypical phenomenon for Ukrainian realities. Overall, from February 2020 until February 2021 the growth of deposits attracted by deposit corporations in Ukraine (except for the National Bank of Ukraine) was 20.2% (Figure 5).

Across regions, the trend is also interesting – the highest paces of deposit growth are peculiar for the regions that are not characterized by the comparatively higher level of income of the population. Instead, Kyiv oblast and Kyiv city showed the lowest deposit growth (+14.3%).



**Figure 5.** Growth of deposits attracted by deposit corporations (except for the National Bank of Ukraine) across regions, February 2020–February 2021

There are not many objective factors of the situation: the income of the population has not increased in the last year, on the contrary – it has reduced. The banking system has faced a decline in interest rates to the level that barely covers inflation. Growing trust in the banking system has not been observed either. Partially, the phenomenon can be explained by fewer household expenditures on travel, leisure, clothes, and footwear. In fact, trying to increase savings and keep some share of income can be the reason for such irrational behavior of households caused by lack of understanding of how long the quarantine restrictions can last and growing uncertainty regarding the availability of income sources in the period.

## 2.2. Formation of tax revenues of local budgets

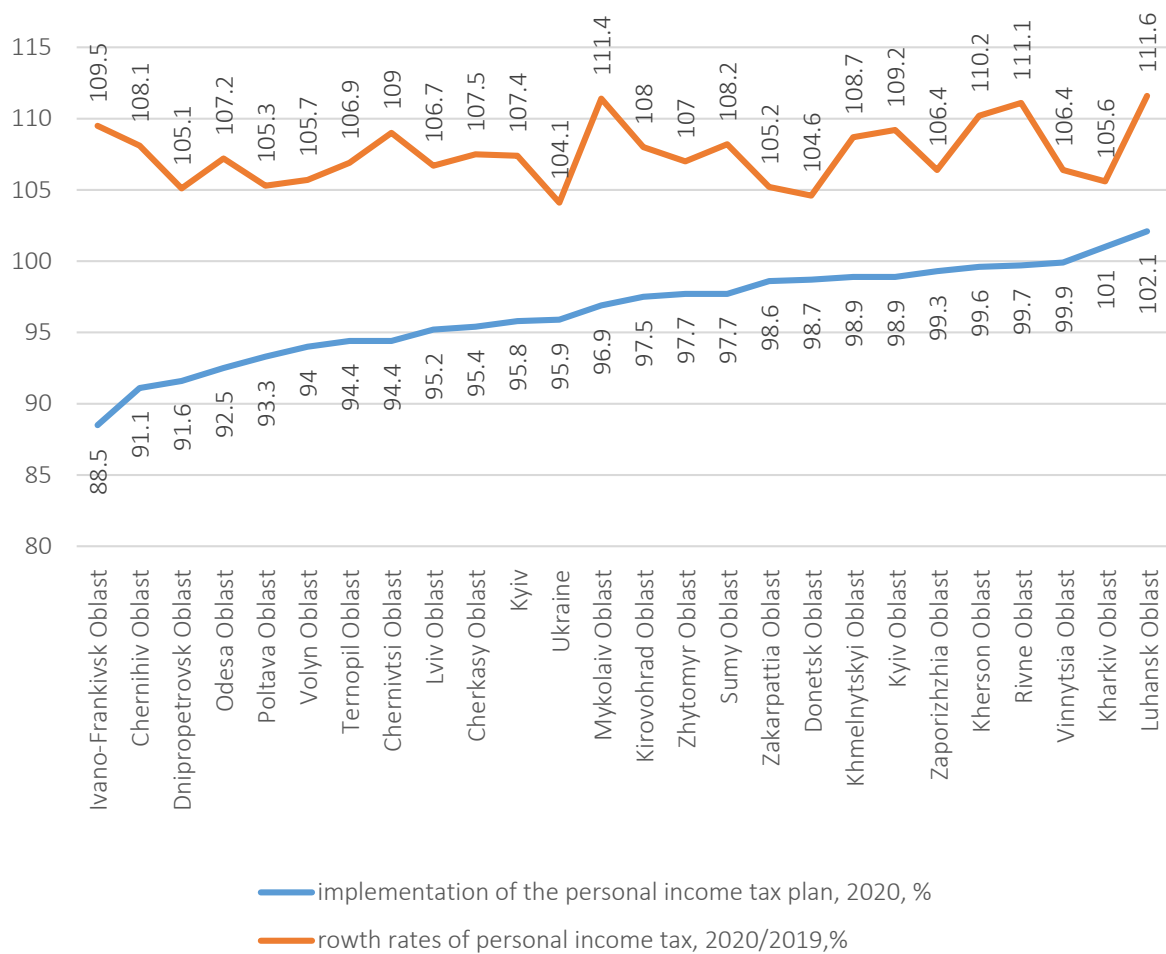
It is quite important to assess the impact of changes in the economy of a region on local budgets' revenues because, on the one hand, tax revenues are the quickest to react to the change of economic dynamics, on the other hand, local budgets were the ones to face substantial expenditures on counteracting the pandemic spread.

According to the results of budgetary decentralization, personal income tax and local taxes and fees have become the major budget-generating taxes for local budgets. Under the impact of quarantine restrictions introduced in the COVID pandemic, almost every region failed to implement the plan of local budgets' revenues from personal income tax in 2020. It can be explained by falling employment and forced unpaid leaves, etc. (Zhalilo et al., 2020). Meanwhile, the analysis shows that every region without exceptions increased the personal income tax revenues in 2020 compared to the previous year (Figure 6).

Much higher interregional asymmetries were peculiar to 2020 by local budgets' single tax and property tax revenues. It is caused by the right to introduce amendments to already adopted decisions on reducing the single tax rates and property tax incentives granted to local authorities (Figure 7). Yet, it is worth mentioning that even under these conditions, implementation of the plan on revenues from the single tax to local budgets in Ukraine was 103.1%. Moreover, the growth of single tax revenues was recorded in every region.



Source: State Statistical Service of Ukraine (2020).



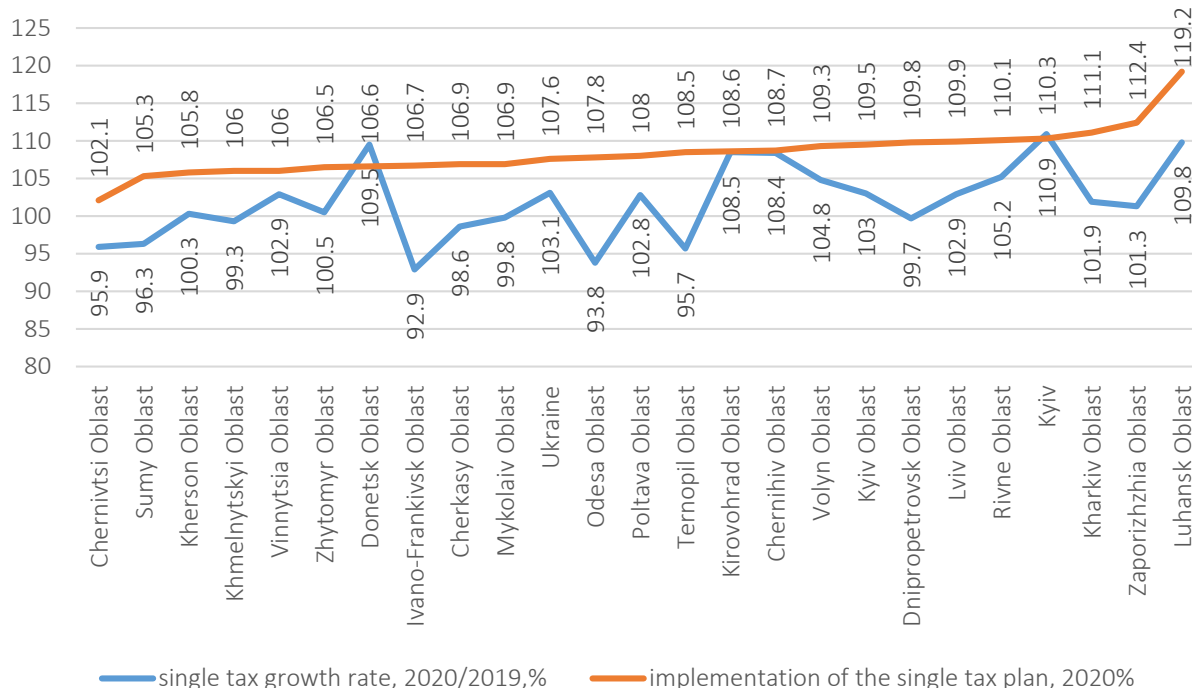
**Figure 6.** Local budgets' revenues from personal income tax across regions, 2020

The described trends seem rather inconsistent from the viewpoint of falling economic indicators of regional development. Growing local budgets' revenues from personal income tax were secured by increasing minimum wages. Moreover, it is worth paying attention to the fact that a substantial share of revenues from the tax is covered by employed in the public sector, who turned out to be perhaps the most protected category in the coronavirus crisis and managed to keep almost the entire income. As opposed to personal income tax, single tax is the tax paid by economic entities on a simplified taxation system, a major entrepreneurship tax. Individual entrepreneurs are the main payers of single tax (about 85% of total single tax revenues in 2020). Their income reduced significantly in the crisis period. Thus, the following factors of growing local budgets' revenues from a single tax can be regarded as major ones.

In the first place, *the positive expectations regarding the elimination of the quarantine restrictions and shortcomings of the institutional environment of entrepreneurial activity* (namely, the difficult procedure of entrepreneurial activity termination) urge the entrepreneurs to pay single tax and avoid the procedure of an individual entrepreneur status liquidation. In general, there is the "trap" effect – the situation, when the owners, having invested money, some endeavors, and time in a project, decide to keep on doing it for the sake of their initial investments (OECD, 2013). The owners reevaluate the cost of their businesses based on the "endowment effect" (they consider all efforts invested in the creation and development of their businesses) regardless of obvious problems in the industry development in the future.

Secondly, there is a *tax optimization of large businesses* (considering the objective processes of in-

Source: State Statistical Service of Ukraine (2020).



**Figure 7.** Local budgets' single tax revenues across regions, 2020

come reduction) and their transformation from payers of income tax to the payers of the single tax.

Thirdly, it should be remembered that such domains as IT, pharmaceuticals, logistics, and superfood production (that mostly function on single tax) have benefited from quarantine restrictions. These domains have experienced the growth of entrepreneurship entities.

On the contrary to Ukraine, many OECD countries managed to decrease their local budget revenues by 10% on average. Meanwhile, the COVID-19 pandemic forced the governments to spend extra expenditures to cover its consequences, thus causing an increase in expenditures by about 5% (OECD, 2013). A survey was conducted in 300 European cities and regions and it showed that nearly 90% of respondents anticipated local budgets to have a deficit in tax revenues because of a downturn of economic activity in Europe and the world (OECD, 2020).

The growth of local budgets' tax revenues in Ukraine was accompanied by the decrease of interbudgetary transfers and the growth of expenditures on containing the pandemic spread and supporting healthcare. The implemented decentrali-

zation has led to the situation when regional and local authorities rather than public ones turn out to be on the front line of crisis management as they bear responsibility for the most important aspects of measures related to containing the spread of the pandemic, healthcare, social protection, economic development, etc. Public authorities' endeavors to shift all responsibility for the course of actions and meeting the needs of healthcare and population in coronavirus crisis to local governments faced substantial opposition at the first stage. As a result, it was possible to somewhat reduce the tension and proceed to the development of critically important coordination between the management levels and branches of power only at the end of the year.

Consequently, local budgets (same as public budgets) substantially reduced their expenditures on investment activity. It affects the capacity of economic growth restoration in the country.

The experience of the previous crisis in 2008 shows that public investment should come to the fore in conditions of substantial economic activity decline. Moreover, the research of the International Monetary Fund (2020) specifies that public investment directed at a healthcare system, administration digitalization, social services, education, etc.,

and acceleration of the transition to a low-carbon economy can become the most efficient in strategic dimension. Ukrainian Government also used the practice of public investment activation and in March 2020 the President announced the start of the investment project “Large Construction” implemented at the expense of public and local budgets, Road Fund, and Regional Development Fund. The exact amount of public investment under the project was not communicated anywhere. It was only emphasized that it exceeded UAH 100 billion. Not a smaller amount is stipulated for the project implementation in 2021. Yet, unlike in most developed countries, “hard” infrastructural facil-

ities – roads, schools, kindergartens, outpatient clinics – rather than the healthcare system (namely, increasing its capacity to fight the pandemics) and social services digitalization became the main investment destinations. The efficiency of such investment requires detailed evaluation. OECD (2013) examines the quality of public investment and defines the following efficiency criteria: orientation on complex projects that need co-funding from public and local budgets and businesses, the establishment of cooperation between the levels of governance (public – regional – local), high manufacturability, and use of innovative low-carbon technologies.

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## CONCLUSION

Analysis of economic development trends in Ukrainian regions in coronavirus crisis and their impact on local budgets’ tax revenues generation shows that the economic, social, and fiscal impact of the COVID-19 crisis is territorially differentiated and its various risks are largely stipulated by objective economic and spatial features of regional development. Meanwhile, in quarantine restrictions, the regions were developing under the impact of behavioral and institutional factors: panic caused by the COVID-19 spread leading to making a range of irrational decisions by financial-economic entities at various managerial levels. So businesses kept paying taxes hoping for quick recovery of economic mobility, while the population kept reducing consumer expenditures and increasing savings due to a lack of understanding how long the quarantine restrictions would last.

Even though a range of enterprises terminated their activities and there was a decline in income from business activities in 2020, the tax revenues of local budgets increased. The growth of tax revenues was accompanied by decreasing interbudgetary transfers and growing expenditures on containing the spread of pandemics and supporting healthcare. Reduced transfers to local budgets from the public budget affected the funding of investment programs of regional development.

Together the abovementioned effects of falling business activity and consumer expenditures of the population along with falling investment can be considered the delayed effects of economic activity curtailment in the short-term period. An intensive increase of public investment that stipulates projects co-funding from budget funds and resources of businesses and establishment of cooperation between public, regional, and local levels of government should become among the primary steps to overcome the negative trends.

## AUTHOR CONTRIBUTIONS

Conceptualization: Iryna Storonyanska.

Data curation: Mariana Melnyk, Lilia Benovska, Natalia Sytnyk, Oksana Zakhidna.

Funding acquisition: Iryna Storonyanska.

Investigation: Iryna Storonyanska, Mariana Melnyk, Lilia Benovska, Natalia Sytnyk, Oksana Zakhidna.

Project administration: Iryna Storonyanska, Mariana Melnyk.

Resources: Iryna Storonyanska, Mariana Melnyk, Lilia Benovska, Natalia Sytnyk, Oksana Zakhidna.

Supervision: Iryna Storonyanska.

Validation: Iryna Storonyanska, Mariana Melnyk, Lilia Benovska, Natalia Sytnyk Oksana Zakhidna.

Visualization: Lilia Benovska, Oksana Zakhidna.

Writing – Original Draft: Lilia Benovska, Natalia Sytnyk, Oksana Zakhidna.

Writing – review & editing: Iryna Storonyanska, Mariana Melnyk, Natalia Sytnyk.

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