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INTRODUCTION

Ukraine as a sovereign state is on the way today democratic construction. It faces important socio-economic issues problems that are solved by ensuring macroeconomic stability and economic growth, improving efficiency and quality providing services to the population.

In Ukraine the taxing system changes extremely rapidly including the division of the tax revenues between the state and the local budgets.

At the present stage, Ukraine is steadily focusing its efforts on the implementation of the European integration course, implementation of international legal obligations, including on the development of local and regional democracy. That is why, further the democratization of society and the simultaneous decentralization of power on the basis of subsidiarity have been and remain priorities of the government of Ukraine.

In the process of decentralization that has been occurring for the past six years in Ukraine has led us towards more freedom of choice for local states, more possibilities, more rights, but also- more responsibilities.

By nature of the economic category, the state budget reflects monetary relations that manifest themselves between the state, on the one hand, and enterprises, organizations, institutions of all forms of ownership and physical individuals - on the other, and they exist about the formation of a cash fund state and its use for extended reproduction.

Exploring the budget as the planning system, it should be noted that it takes the central place and that it is the key element in the organizational structure of financial systems. This is due to the fact that the budget, being a constitutive document of the financial system, should serve all distributive and non-distributive processes in Ukraine.

That is, budget, as the main plan of money revenues and expenditures should ensure their distribution by major directions to the corresponding goals in accordance

with the socio-economic policy of the state. The budget system functions due to a number of various tools and levers.

The essence of the implementation of financial policy through budgetary appropriations is to determine the directions, volumes and forms of financing individual entities, industries, regions. Optimization of budget allocation funds from the point of view of ensuring both the resolution of priorities and achieving a balance between economic and social development is the goal of the state budget policy.

The possibilities of this policy are determined by the level and volume of budgetary centralization is GDP - the higher it is, the greater is the financial potential of the state. However, it arises here -the contradiction between the interests of the state and legal entities and individuals, for what is the higher the level of budgetary centralization of GDP, is the lower the level self-financing as a leading and ascending form of financial support.

In this bachelor thesis the aim is to cover both sides (revenues and expenditures) of city budgeting in Ukraine, clear what has changed in the everyday realities of local states due to the last reforms in this area, observe which trends are most possible to stay in the nearest future, what direction cities budgeting policies are heading in, what could be improved and how, and to clarify if foreign experience could be used in Ukrainian realities.

The **relevance** of the topic is explained by the fact that, by managing the tax burden and the budgeting policies used, the government can influence the level of development of commercial activity in the market, the level of tax revenues, and the economy of the country as a whole. That is why the topic of cities' budgets is extremely relevant at all times.

Moreover, for Ukraine, which is still only developing its market, city budgeting policies are extremely important tools that, if used properly, can significantly strengthen Ukraine's position in the international market.

By using the wide range of tools of budgeting correctly Ukraine could finally make good use of its trade agreement, have a strong export position on the world

market and find its target areas of production, which could make the country economically more independent.

The topic of tax and budgets law reform has been sufficiently studied in the **literature**, but not among current sources. Ukraine's tax laws are changing at an extremely rapid pace, as are the requirements of today's world economy. Therefore, the scientific literature does not have time to develop at the required pace to meet the requirements of today.

The **purpose** of the research is to investigate the city budgeting systems in Ukraine, to explore the trends of nowadays Ukrainian cities, to evaluate the level of success of the recent reforms, to draw conclusions about the expediency of using western experience in Ukrainian realities.

The **objectives** of the study are:

- to review the legal framework of city budgeting in Ukraine, the theoretical principles of budgeting;
- to draw conclusions on the improvement of Ukrainian city tax legislation;
- to consider a practical case that clearly demonstrates differences in city budgeting systems;
- to examine the impact the decentralization reform has made on the cities budgets;
- to define whether there is a present connection between the corruption rates in Ukraine and the decentralization reform;
- to examine the boost the decentralization reform has given to new businesses created in the country.

The **object** of the study is the budgeting system and budgeting relations in Ukraine and other countries of the world.

The **subject** of the study is the budgeting policies of cities in Ukraine and tools of its realization.

In the study, depending on specific goals and objectives, were used following **methods**: dialectical, methods of analysis and synthesis, comparison, grouping, system-structural analysis, mathematical statistics.

This **bachelor thesis** has an introduction, the main part which consists of three sections, general conclusions and a list of sources used.

PART 1

CITIES BUDGETING POLICIES AND THEIR SPECIFICS IN MODERN UKRAINE

1.1. The role and place of cities budgeting in the budgeting system in Ukraine

Ever since humankind has realized that working together is occasionally more effective, helps gaining higher goals, protect themselves from wild animals, build shelters and hunt for food for the first time, it has started gathering together, creating communities. Obviously, the first communes did not look much alike the modern megapolises, but the concept has not changed as much as we might think. Just as thousands of years ago people still try to live close to each other in order to make everyday life easier: to share liabilities. Our possibilities and needs have become amazingly wider. One of the traits of any joined communities that has existed for thousands of years (in one way or another) is taxes.

Taxes are an ancient category that has existed for almost as long as human cooperatives. For the sake of mutually beneficial work, people agreed with each other on a plan of collaborative work and shared tools, provisions, and more. So, from this point of view, any taxes are a payment for social work that a person cannot do on his own. Of course, this is especially true for individuals, since they were the first to unite for the division of labor, but so did the families, the communities, united for joint hunting, protection or construction.

Budgeting was not initially created for cities. The origin of the word ‘budgeting’ itself is in the term ‘bougette’ (French)- a wallet for money, cash or documents. A budget usually stands for a complete list of all future planned transactions: cash, goods and services flows for a chosen period of time.

In other words it a financial plan of a particular time period, which can describe future transactions of a person, a household, a community, a legal entity (be

consolidated for multiple entities as well), any sort of a governmental community - from tiny villages to cities, a region, a country or an area, as well as any combinations of the above.

Taxes are the same service fee as any other. First of all, the cities provide people and entities with access to the domestic market in which they can operate, buy and sell goods and services.

Secondly, the city creates and maintains legal boundaries of activities of all individuals and market participants, which provides safe conditions for any sort of legal activities, protects the right of ownership and allows to be confident in your safety and your property's safety.

Third, the state creates the necessary infrastructure for work and business: roads, legal bodies, medical and educational spheres, etc. Also, it should be noted that the environmental status of the territories and external security are provided by the state, usually not the cities separately.

Therefore, cities provide its citizens with a number of services, the fees for which are taxes. Taxes are a way of earning money for cities, but it is not the only thing that should be taken into consideration. Another question of great importance is how to spend the money, where to direct the money flows.

Cities' expenditures cover all kinds of different areas, for instance, such as social insurance: education (schools and kindergartens, universities, colleges, etc.), healthcare system (hospitals, insurance, laboratories, medical research), financial system (market regulations, banking system control), trade (transition of goods and services), infrastructure (roads, public building, parks, recreation zones), ecology (nature protection), safety guarding (police, courts, firemen, the army) and many, many other.

Obviously, there is not always money for everything needed, so the local government needs to choose between the main objectives: whether to spend more on hospitals this quarter, cutting down on schools or do to just the opposite. Questions like this arise all the time and they are way more difficult than they might seem at the first sight.

The decisions on how to spend the money are not less important than the ones on how to earn them. Planning cities' expenditures can make an impact on everyday life of every of its citizens for decades.

In Ukraine, a settlement may obtain the status of a city only under a separate law of the highest legislative body of the state - the Verkhovna Rada of Ukraine, if the settlement has at least 10 thousand inhabitants, while the "vast majority" of the population must be engaged in manufacturing or services. . Although there are cities such as Berestechko or Uhni, which have less than 2,000 inhabitants, and the cities of Pripjat and Chernobyl do not have permanent residents at all.

Ukraine has 5 cities with more than a million people, 41 cities with between 100,000 and 1 million people, and more than 300 cities with between 10,000 and 100,000 people.

As of January 1, 2018, the population of Ukraine was 42386.4 thousands. More than a half of the populations lives in cities (see Figure 1.1), which proves that city budgeting impacts everyday life of the most of population, indirectly influencing life of countryside villagers as well.

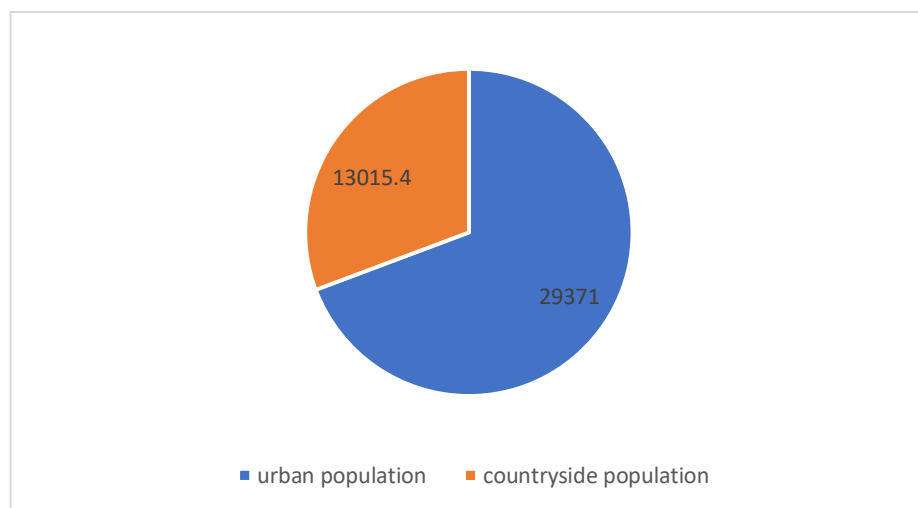


Figure 1.1. Urban (cities) population to the total population of Ukraine, 2017, thousands of people

Source: created by the author based on the information from State Committee for Statistics of Ukraine [40].

Overall population of Ukraine is shrinking at a rapid rate, but due to internal migration, urban population is decreasing slower, as countryside citizens move to bigger cities.

The level of natural decline in rural areas (7.4 ‰) is twice the level of natural decline in urban settlements (3.8 ‰).

Therefore, the role of cities in Ukraine is relatively growing, making the topic of cities' budgets more and more relevant each day. The process of decentralization also gives cities' local governments more power and responsibilities, providing them with more resources.

In the theory and practice of economic science you can find different approaches to formulating the principles of budgeting and planning. Those principals cover all kinds of budgets, including enterprise budgets and governmental budgets as well. The main ones include:

1. *the principle of completeness*: all operations of an entity (country,city) that lead to the receipt or payment of funds, as well as affect its financial results, should be reflected in the budget;

2. *the principle of coordination* means that the budgets of individual profit centers, costs, structural units, etc. must be tailored to the ability to consolidate them into a single consolidated budget; in addition, strategic goals should be aligned with indicators of long-term plans and short-term budgets;

3. *the principle of centralization* implies that budgeting is an important financial management tool for an entity (a country or a city), which should be carried out from a single center, and therefore all cash flows (including borrowed resources) should serve to cover all outgoing cash flows;

4. *the principle of specialization* of budgets requires that cash inflows and payments must be recorded according to their types and sources of origin, so that cash flows can be monitored by individual centers of profitability and responsibility;

5. *the principle of periodicity* of budgeting means that budgets should be divided into the same of size separate periods, the duration of which is determined by the

specific organization of financial activity of the country, city (daily budgets, every ten days, weekly, monthly, quarter, etc.);

6. *the principle of transparency* stipulates that budgets should be drawn up in such a way that all persons involved in their performance are clear about the tasks they are facing and have incentives to carry out;

7. *the principle of accuracy*: all transactions and the resulting cash flows and payments should be based on realistic forecasts from reliable sources with all the needed evidence for its credibility;

8. *the principle of decomposition* is that each lower-level budget is a detail of a higher-level budget, for instance, shop budgets are "embedded" in the consolidated production budget, partial budgets by cost items specify the production budget, regions budgets are parts of countries overall budgets.

In Ukraine there is a generalized government state budget, which is a plan for the formation and use of financial resources to ensure the tasks and functions carried out respectively by state bodies of Ukraine and local self-government bodies of Ukraine during the budget period.

The ideology of budgeting of the national economy is to determine the sources and amounts of its revenues, public expenditures and ways to cover the budget deficit, if it exists.

The task of the any budget is to maintain market equilibrium and stimulate the development of individual sectors and branches of the economy.

The state budget as a list of state revenues and expenditures for a certain period (financial year) must be approved by law. The sum of all budgets in the budget system is called a consolidated budget.

The budget system of Ukraine in particular consists of the state budget and the local budgets.

Cities budgets are also local budgets. The local budget, in accordance with the Budget Code of Ukraine, contains revenues and expenditures for the exercise of authority of the authorities of the Autonomous Republic of Crimea, local state

administrations and local self-government bodies. These revenues and expenditures form the only balance of the respective budget.

The budget consists of revenues and expenditures. Budget revenues - all tax, non-tax and other non-refundable receipts, the collection of which is provided by the legislation of Ukraine.

The revenues of the State Budget of Ukraine include: revenues (except those assigned to local budgets under the Budget Code of Ukraine) received in accordance with the legislation on taxes, levies and statutory payments and the Law of Ukraine "On Fundamentals of Social Protection of Persons with Disabilities", and from payment for services provided by budgetary institutions, which are maintained at the expense of the State Budget of Ukraine and other sources specified by law, including funds from the sale of assets belonging to the state or enterprises, institutions and interest and dividends on the share of property owned by the state in the property business partnerships; grants and gifts in value; intergovernmental transfers from local budgets.

Expenditures of the State Budget of Ukraine include budgetary allocations established by the Law on the State Budget of Ukraine for specific purposes related to the implementation of state programs, the list of which is defined by the Budget Code of Ukraine.

There are different types of local budgets in Ukraine which depend on which entity they serve (See Table 1.1).

Table 1.1

The amount of local budgets by type in Ukraine, 2020

Types of local budgets	Total local budgets	out of them have relations to the state budget
Oblast' budgets, autonomous republic of Crimea	25	24
budgets of cities of republican or oblast' importance	185	148
district budgets	488	449

budgets united territorial communities	782	782
budgets of districts in cities of district importance	40	0
budgets of cities of district importance	171	0
budgets of villages of city type	521	0
budgets of villages	6927	0
Total	9139	1403

Source: created by the author based on the information from the Ministry of Finance of Ukraine [26].

As stated above, the process of decentralization is ongoing in the modern Ukraine, providing local governments with more freedom and power. Let's define the main reasons and goals of this ambitious reform.

The main trends that determine the need for local government reform are the demographic change and technology development. Their effects are internal and external migration, an increase of urbanization, aging of the population, increase of tax burden, rise in price management costs while expanding the possibilities of providing public services remotely.

To sum up, the main reasons for decentralization in Ukraine as an answer to the current realities are:

- «deterioration in the quality and accessibility of public services due to resource failure of the vast majority of local governments to carry out their own and delegated power;
- deterioration of thermal, sewerage, water supply and housing, and risk of occurrence of man-made disasters in conditions of limited financial resources of the local municipality;
- difficult demographic situation in most territorial communities (population aging, depopulation of rural areas and mono-functional cities);
- reducing the level of professionalism of local government officials, in particular due to the low competitiveness of local governments in the labor market,

reducing the level of prestige of positions, which leads to low efficiency of managerial decisions;

- inconsistency of local policies on socio-economic development with real interests of territorial communities;
- underdeveloped forms of direct democracy, inability of community members to stand in solidary actions aimed at protecting their rights and interests, in cooperation with local governments, and local executive authorities and the achievement of common goals for community development;
- excessive centralization of the powers of the executive authorities and financial and material resources;
- corporatization of local self-government bodies, closedness and opacity of their activity, high level of corruption, which leads to lower resource efficiency, deterioration of investment attractiveness of territories, increase of social tension;
- removal of local self-government from the resolution of issues in the field of land relations, increased social tensions among rural populations due to lack of responsibility of the local government.» [30]

To sum up, the role of local governments should not be underestimated in modern Ukraine. The power of local authorities is as high as never before in the history of independent Ukraine and it is still growing rapidly due to the process of decentralization.

1.2. Specifics of city budgeting policy in Ukraine

Accordingly to the general principals of budgets, local budgets consist of two main parts- revenues and expenses.

The local budget revenues consist of the revenues needed to fulfill their own powers and the revenues necessary to ensure the execution of the powers delegated by law by the executive authorities. The local budget is divided into the current budget and the development budget.

Own sources of money for a local budget are *local taxes and fees*.

Local taxes include: - *property tax*; - *single tax*.

Local fees include: - *parking fees for vehicles*; - *tourist tax*.

Local councils are obliged to establish *a single tax and property tax* (in respect of transport tax and land payments).

Local councils, within the limits of their powers, resolve issues in accordance with the requirements of the Tax Code on the establishment of property tax (in the part of the real estate tax, other than land) and the establishment of a fee for parking spaces, tourist tax.

The imposition of local taxes and fees not provided for in the Tax Code is prohibited.

However, except for local taxes, local budgets are also filled by money from personal income tax. The earnings from it are separated in a proportion.

According to the article 69 of the Budget Code of Ukraine, the revenues of budgets of cities of district importance, of rural areas, villages budgets will not be filled by the personal income tax (PIT).

The personal income tax paid (converted) in accordance with the Tax Code of Ukraine (PC) in the relevant territory of Ukraine (except the personal income tax accrued as interest on a current or deposit bank account, interest on the deposit of a credit union member in a credit union) will be split between budgets in the following sizes:

25% - revenues of the State Budget of Ukraine;

15% - revenues of the budget of the Autonomous Republic of Crimea and corresponding regional budgets;

60% - revenues of the budgets of cities of the republican Autonomous Republic of Crimea and regional significance, district budgets, budgets of the united territorial communities.

The territories of the cities of Kyiv and Sevastopol are not included in this division, for which the tax distribution is determined differently due to their higher level of income.

The PIT that paid in the city of Kyiv will be distributed between budgets in the following amounts:

60% - revenues of the State Budget of Ukraine;

40% - revenues of the city budget of Kyiv.

The personal income tax payable (recalculated) in the city of Sevastopol will be fully paid into the budget of this city.

The income of the State Budget of Ukraine is treated in full by personal income tax, accrued in the form of interest on the current or deposit bank account, interest on the deposit of a credit union member in the credit union.

Apart from that, about 10 per cent of the *income* of local budgets on average is earned by *non-tax operations*:

- *«income from property and business*- The part of the net profit (income) of state or communal unitary enterprises and their associations, which is withdrawn to the relevant budget, and dividends (income) accrued on shares (shares, units) of companies in which the authorized capital is state or communal property; - other receipts; - proceeds from compensation of losses of agricultural and forestry production;
- *administrative fees and payments, income from non-commercial business activities*- fee for providing administrative services; - child support fees for boarding schools; - proceeds from the rent for the use of the whole property complex and other state property;
- *rent for water bodies* (their parts), which are leased for use by the Council of Ministers of the Autonomous Republic of Crimea, oblast, district, Kyiv and Sevastopol city state administrations, local councils.
- *other non-tax revenues*- receipts of accounts payable and depositor debts of enterprises, organizations and institutions for which the statute of limitations has expired; - other receipts; - income from lending and guarantee operations; - concession payments.

- *own revenues of budgetary institutions*- proceeds from the payment for services provided by budgetary institutions in accordance with the law; - other sources of own resources of budgetary institutions.» [31]

It's worth emphasizing that non-tax revenues are almost never perceived as the main source of money for any governmental entity.

Logically with all the above said, for the revenue part of the local budgets the budget instruments or ways to influence on the level of revenues of local governments are changing the tax rates on local taxes, mainly- property tax.

On the other hand, local governments can also have an impact on its economics by changing its *expenditures* plan.

Due to economic instability in Ukraine most of local expenditures are money spent on consumption: social payment, healthcare, education and salaries of budget workers, with almost nothing being spent on investment.

According to the norms of the Budget Code of Ukraine, the budget classification of expenditures of local budgets is used for drawing up and executing budgets, reporting on their execution, exercising control over the financial activities of local governments and other spending units, conducting financial analysis of organizational, functional and economic categories of expenditures.

One of the components of the budget classification is the classification of expenditures and lending to the budget, according to which expenditures are classified by:

- budget programs (program classification of expenditures and lending to the budget);
- a sign of the chief spending unit (departmental classification of expenditures and budgeting);
- the functions related to the execution of which are related to expenditures and crediting of the budget (functional classification of expenditures and crediting of the budget);
- economic characteristics of operations carried out in their conduct (economic classification of budget expenditures).

The reform of intergovernmental budgetary relations in Ukraine has made it possible to systematize the spending powers and to secure for each local government unit the respective functions and financial resources necessary for their implementation. Local governments have a recognized list of powers delegated to them for implementation and the financial resources needed to exercise such powers, which come in the form of intergovernmental transfers.

The main ways of influence for local governments from the side of *expenditures* is *investment*, as the parts of the budget spent on consumption, except from a minor reinforcing effect they have, do not pay back in the long run.

The process of decentralization has made a major impact on the cities budgets in Ukraine. It's clearly visible on the Figures showing the statistics of the local budget revenues dynamics in the country since the beginning of the reform. The main sources of the revenues for local government have been recently rising. (See Figure 1.2).

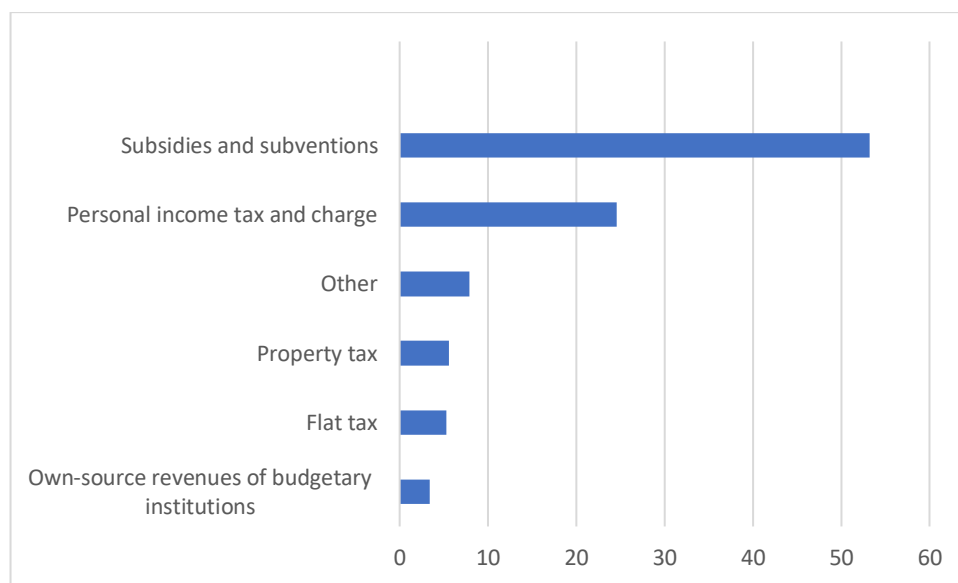


Figure 1.2. The distribution of revenues of local budgets in Ukraine, 2018, per cent
Source: created by the author based on the information from the Ministry of Finance of Ukraine [26].

Every part of the revenue Figure has its own dynamics. First, personal income tax. (See Figure 1.3)

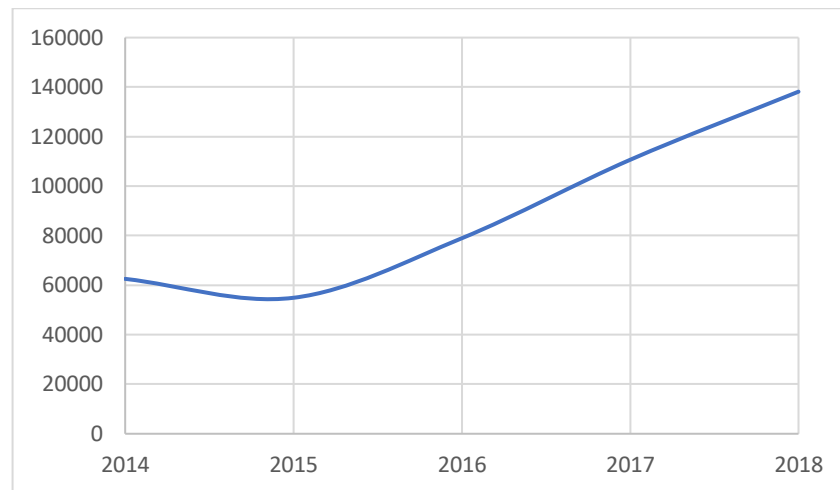


Figure 1.3. The dynamics of personal income tax revenues in local budgets in Ukraine in 2014-2018, mln UAH

Source: created by the author based on the information from the Ministry of Finance of Ukraine [26].

As seen from the Figure above the dynamic for personal income tax is positive, it exceeds the inflation rate. A slight drop in 2015 can be explained by the effects of 2014 crisis, major consumption drop and high inflation rate at that period.

Except from personal income tax, another source of revenue (however, for the state budget) is corporate profit tax. (See Figure 1.4)

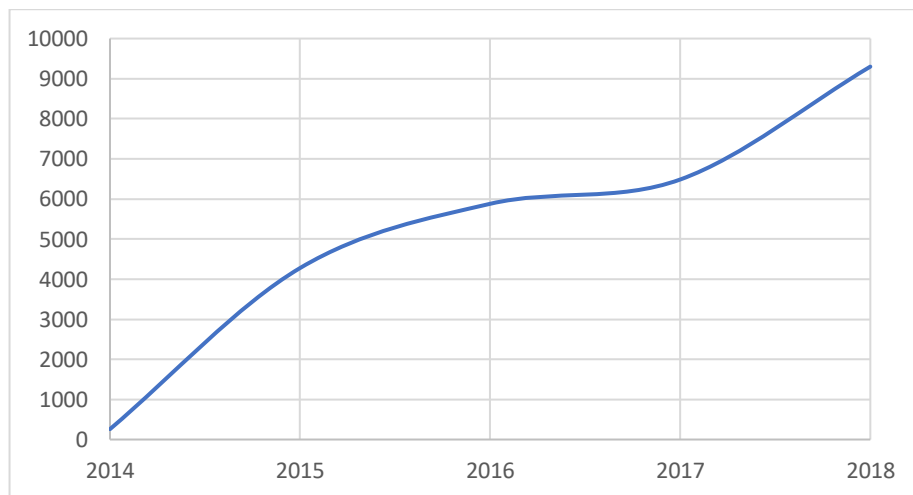


Figure 1.4. The dynamics of corporate profit tax revenues in local budgets in Ukraine in 2014-2018, mln UAH

Source: created by the author based on the information from the Ministry of Finance of Ukraine [26].

It can be seen above that the revenues from corporate tax have risen from almost zero before the begging of the reform to more than 9 billion UAH in 2018. Apart from it, local rent and fees are another major part of local revenues. (See Figure 1.5)

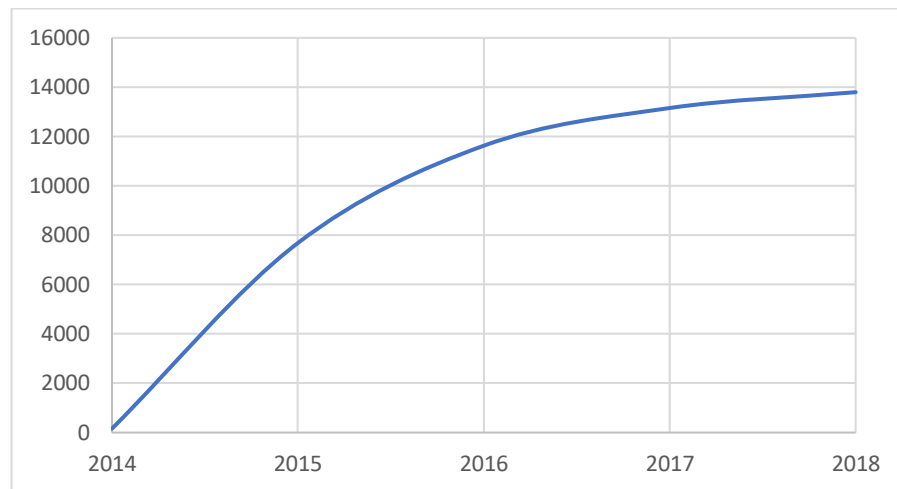


Figure 1.5. The dynamics of local fees and rent revenues in local budgets in Ukraine in 2014-2018, million UAH

Source: created by the author based on the information from the Ministry of Finance of Ukraine [26].

Due to the reform the decisions on rates of local fees and rent is taken by local governments since 2014, which caused a major drop in revenues from these fees in the recent years. However, it didn't make the overall revenues dynamics negative.

Last, but not the least are excise tax revenues. (See Figure 1.6).

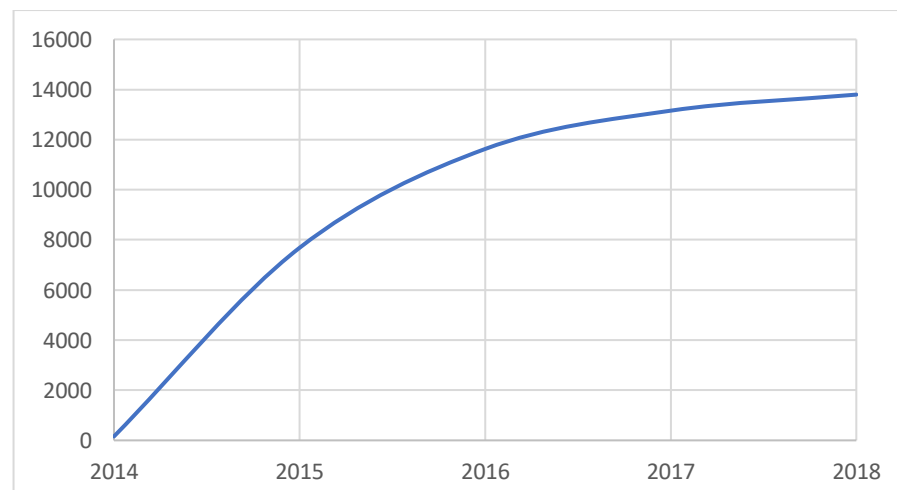


Figure 1.6. The dynamics of excise tax revenues in local budgets in Ukraine in 2014-2018, million UAH

Source: created by the author based on the information from the Ministry of Finance of Ukraine [26].

Even though the revenues are rising, the rate does not excessively exceed inflation, so in real values it is almost staying constant.

Conclusions to Part 1

To sum up, the topic of cities budgeting is extremely relevant nowadays due to an increasing role of local government in the context of decentralization process. By influencing both -revenues and expenditures- local governments can develop their cities, help their communities, stimulate business.

The biggest sources of revenues for small cities or villages in modern Ukraine are:

- personal income tax (even though it is not fully transferred to local budgets);
- corporate tax (also partially filling local budgets and mostly- the state budget);
- local rent and fees;
- excise tax.

Due to economic crisis expenditures of local budgets mostly consist of consumption and not investment.

As for 2018 statistics show a positive impact of the decentralization reform on the revenues of local governments.

The corruption among the cities government negatively impact the economical well-being of the citizens. It is one of the biggest budgeting problems in Ukraine nowadays.

The decentralization reform implements the transition of power, finances for their implementation and responsibility for their implementation from the central government to local self-government bodies like cities, to the leadership (local councils and their heads) that the residents of cities choose for themselves. The starting point of the decentralization reform is the implementation that on the ground they are better oriented to local problems and can use funds more effectively to solve them.

Before the decentralization reform 77% of the revenues collected in the cities were transferred to the state budget and the remaining 23% shaped 48% of all revenues of the cities.

PART 2

SPECIFICS OF CITIES BUDGETING POLICIES USE IN UKRAINE IN THE CONTEXT OF ECONOMICS REFORMS

2.1. The purpose and background of decentralization reform implementation in Ukraine

One of the largest reforms, decentralization reform, has been going on in Ukraine since 2014. As a result of its implementation, more than 800 joint territorial communities (JTC) were created, which covered almost one third of the territory of Ukraine and included cities of various meanings and sizes.

Own revenues of local budgets (joint territory communities, cities) are typically formed:

- tax revenues (provide more than 88% of the total amount of own revenues of local budgets): part of national taxes and fees (personal income tax, income tax, rent) (for subsoil use, mining, etc.), excise duty on fuel, etc.), local taxes and fees (property tax, single tax, tourist tax, etc.);
- non-tax revenues (slightly more than 10% of the total amount of own revenues of local budgets): fees for issuing licenses and permits, rent, state duties, fines;
- other receipts: funds from the sale of fixed assets, trust funds, donor funds received from the EU and international organizations, etc.

The importance of a particular source of revenue in the structure of a particular local budget is due to the specifics of the distribution in the Budget Code of taxes and fees between local budgets at different levels. For example, the personal income tax (PIT) goes to the budgets of joint territorial communities (JTG), cities of regional significance, district and regional budgets, and to rural, settlement budgets and budgets of cities of district significance - no. The latter "live" mainly on local taxes.

The newly formed communities received more financial resources, direct relations with the State Budget, and, at the same time, broader powers and responsibilities.

The decentralization reform envisages the transfer of powers, finances for their implementation and responsibility for their implementation from the central government to local self-government bodies (LCGs), for instance, to the leadership (local councils and their heads) that the residents of territorial communities choose for themselves. The starting point of the reform is the realization that on the ground they are better oriented to local problems and can use funds more effectively to solve them.

The purpose of decentralization is to bring the government closer to the residents and the residents to the authorities in order to increase the accessibility and quality of educational, medical, cultural, administrative, communal and social services received by the same residents of the communities.

The reform is carried out through the amalgamation of basic territorial communities (cities, villages, settlements) into consolidated territorial units - the so-called joint territorial communities (JTC). The merger takes place on a voluntary basis (at least until 2020).

To prevent chaos, the state (represented by regional state administrations and with the participation of the public, local self-government bodies, experts) has developed the association's guidelines - long-term plans for the formation of community territories in each region of Ukraine. However, because the association is voluntary, communities can initiate informed changes to long-term plans and unite in a different way than originally planned.

As a result of the merger, joint territory communities local governments have much greater opportunities for development (powers and funds) than individual villages or towns. This is due to a change in the administrative-territorial vertical. Prior to joining the joint territory communities, cities, villages and settlements (as basic territorial-administrative units) were part of the district (the administrative units of the intermediate level, which in turn was part of the region).

After the unification into joint territory communities, the villages and cities received not only elected governing bodies competent to solve all local issues, but also funds from the state budget for development, which fall into the joint territory communities directly from the state budget, and not indirectly, as before the unification (through budget of the region, then the district and only then to the village).

The National Reform Council is responsible for the strategy of promoting decentralization reform at the national level. It is she who makes strategic decisions on the decentralization of power in various fields (education, medicine, social protection, etc.).

The Deputy Prime Minister and the Ministry of Regional Development (responsible coordinator) are responsible for implementing the reform at the national level. In order to make strategic and operational decisions on the implementation of the reform, the Target Reform Team has been established under the Ministry of Regional Development, which includes representatives of ministries and departments, MPs, members of the public and local self-government, scientists and experts, and donor organizations.

At the regional level, the deputy heads of regional state administrations, the Regional Development Agency, and the Center for Local Self-Government Development are responsible (it has separate subdivisions in all regional centers of Ukraine). They support the reform on the ground: provide information, legal advice, organizational, methodological and developmental support to communities, organize training and expert events in the regions, and so on.

The formation of the joint territory communities involves the creation of a new administrative center for all towns, cities, villages and settlements that are part of it, and elections of governing bodies of the joint territory communities (chairman and deputies of the joint territory communities council, as well as elders who will represent the interests of the village - provided that the number of its inhabitants is more than 50 people - or several villages in the governing bodies of joint territory

communities). The number of deputies in the council depends on the number of voters. The council is subordinated exclusively to the community.

The direct management of the joint territory communities (including financial management) is carried out by the executive committee established by the council. It consists of the chairman of the council, his deputy on the activities of the executive bodies of the council, the secretary of the executive committee, heads of departments and administrations, the secretary of the council, elders, other persons (entrepreneurs, public activists, politicians, etc., except local council deputies). The council and the executive committee are almost at the same hierarchical level, but despite this in addition the executive committee is accountable to and under the control of the council.

2.2. Analysis of main city budgeting indicators in Ukraine

In 2014 the Ukrainian government started a program named ‘National decentralization program’. The program was a part of the policies applied to follow the chosen direction towards cooperation with European Union (joint market as well as joint government power systems, consolidation of laws and governmental structure).

The ministry of regional development, construction and housing and communal services of Ukraine is the institution responsible for the ‘National decentralization program’. On a yearly basis the ministry makes a report dedicated to the results of the process of decentralization of power and reformation of local governments so far and the future plans of the ministry in this regard.

A part of the program is dedicated to creating of joint territory communities, consisting of cities of various sizes, as new entities empowered to control their own budgets, therefore, expenses and most of the income.

As for January 2020 there were 1441 joint territory communities submitted by the government to be established, which cover 10075 territory communities already established. Together these covered 519,6 thousands of square kilometers and 90,3%

of the territory of Ukraine (not including occupied territories of Crimea) or 39,2 million of citizens, which makes up to 86,9% of the overall number of citizens of Ukraine (not including occupied territories of Crimea).

In each of the newly established joint territory communities elections need to be held in order to fulfil the right of its citizens to choose their own local governments. As for January 2020 out of 1029 already established in 980 elections were already held, 49 still awaited for the results of their elections.

On average 192 joint territory communities (JTC) were established per year with the highest deviation of -51 joint territory communities in 2018. The dynamics of joint territory communities creation is described below (See Table 2.1)

Table 2.1

**Establishment of joint territory communities (joint groups of cities) in Ukraine
in 2015-January 2020**

Year	Number of existing JTC	Change since previous time period
2015	159	159
2016	366	207
2017	665	229
2018	806	141
2019	1029	223
January 2020	1049	20

Source: created by the author based on the information from the press center of Decentralization initiative [37].

The average number of citizens of a joint territory community as for 2019 was 15269, majorly higher than the average number of citizens throughout the decentralization project realization (2015-2019) – 11388 per average joint territory community.

The impact of the reform on the revenues can be noticed in the dynamics of the part (percentage) of GDP formed by the local budgets tax revenues (see Table 2.2). Note: the value for 2019 consists of actual data for January-November and forecast data for December.

To define the actual dynamics of local budgets revenues in real value, calculation of multiplication by the GDP deflator has to be performed.

Table 2.2

**The dynamics of the local budgets (including cities budgets) revenues in 2014
(initial value before the reform)-2019**

Year	Local budgets revenue as a percentage of GDP	Local budgets revenue in billion UAH
2014	5,1	68,6
2015	5,1	98,2
2016	6,2	146,6
2017	6,5	192,7
2018	6,6	234,1
2019	6,8	267

Source: created by the author based on the information from the press center of Decentralization initiative [37].

However, the change of consumer price index (CPI) in the research period and the dynamics of GDP are not taken into consideration in the data above. See the data on GDP deflator in the research period of 2014-2019 used for calculations below in the Table 2.3. (See Table 2.3)

Table 2.3

**GDP deflator as a percentage in Ukraine dynamics in 2014-2019 (the base year
2010's value is 100 percent)**

Year	2014	2015	2016	2017	2018	2019
GDP deflator, %	148,87	206,75	242,1	295,55	341,11	382,12

Source: created by the author based on the information from the official web-site of the World Bank [53].

Based on the data above after short calculation the real values of local budgets revenues and their dynamics which show realistic results of the reform so far as for the end of 2019. (See the Figure 2.1)

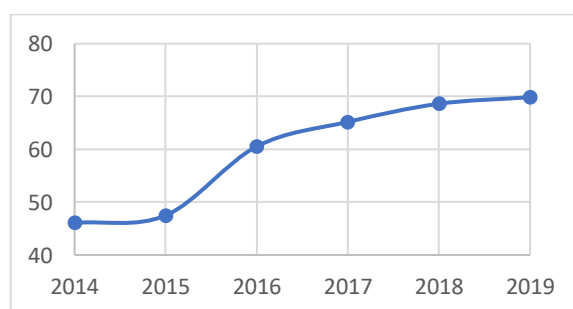


Figure 2.1. The real total values of local budgets revenues in Ukraine during 2014-2019, billion of UAH

Source: created by the author.

The impact of the reform reached the highest change of 13 billion UAH (in real UAH 2010) in 2016, which can be caused by the rapid establishment of new joint territory communities and a major change in the list of the taxes transferred to the local budget instead of the state budget in 2015. After 2017 stagnation of the effect is observed.

As the internal and external migration processes can also impact the data making it less representative, the data per capita (per one citizen) shows the dynamics of the revenues of cities budgets better. See Table 2.4.

Table 2.4

Revenue of local budgets (including cities) per citizen, UAH

Year	2016	2017	2018	2019
Revenue	3386	4489	5481	6764

Source: created by the author based on the information from the press center of Decentralization initiative [37].

To change the nominal values of local budget per citizen to real values, the same calculations as previously of dividing by GDP deflator need to be established. See Figure 2.2.

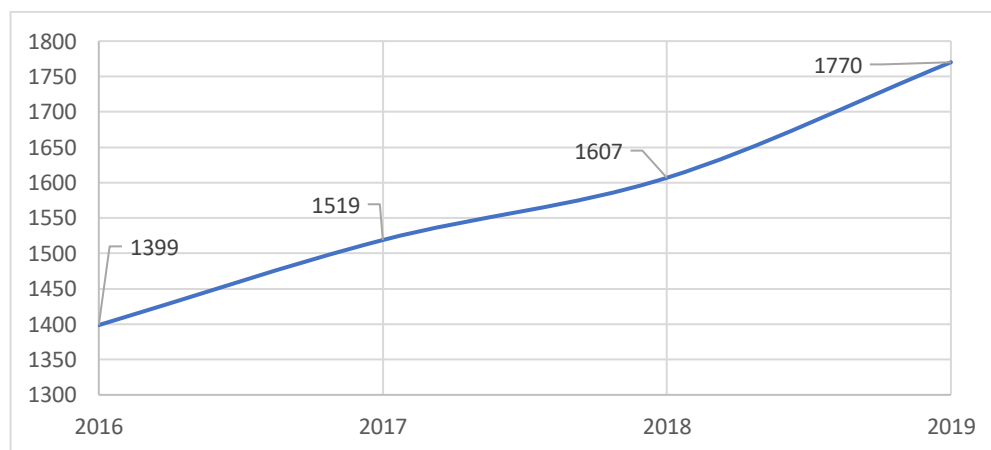


Figure 2.2. The dynamics of real revenues of a city per citizen, fixed currency of UAH 2010

Source: created by the author.

Therefore, the trends show that the decentralization has a positive impact on cities economies.

2.3. Impact of the decentralization reform on the cities budgeting processes

The amount of taxes that are going through the cities budgets as a percentage of all revenues of the state in Ukraine is higher than in most developed European countries.

However, Ukrainian local budgets, unlike in the vast majority of European countries, are mostly filled not by the efforts of local governments, but by the part of the revenues that is given from above.

In 2019, wealthy communities "gave" to support the poorer 6.8 billion UAH. This is the amount of reverse subsidy laid down in the draft State Budget for 2019 in the framework of horizontal equalization of tax capacity of local budgets.

For the average Ukrainian, the terms "horizontal equalization of the tax capacity of local budgets" as well as "reverse and basic subsidies" are unclear and need to be clarified. These terms have appeared in Ukrainian legislation relatively recently and are related to decentralization reform. One of the goals of this reform is to increase the capacity of local communities and give them more powers both in the formation of the revenue side of local budgets and in the issue of financing expenditures. As a result, the state began to leave more taxes "on the ground", in cities. Earlier, the collected taxes and revenues were sent to the State Budget and then redistributed to the local level. At the same time, a number of expenditures that were previously financed through the State Budget began to be financed from local budgets. In this way, the state made communities and cities more independent, giving them not only more rights, but also responsibilities.

In practice, it turned out that not all communities can finance their needs with the money earned and need financial assistance. In other words, there are a number of cities that can be considered "poor" and financially insolvent. The existence of such cities is due to a number of factors. In particular, there is a difference in the level of socio-economic development of cities and tax features, including the concentration of tax base in individual cities.

In other words, equalization is carried out by withdrawing funds to the State budget from some local budgets ("reverse" grant) to provide them in the form of a "basic grant" from the State budget to other local budgets.

The so-called "reverse" subsidy in practice is not a subsidy in the classical sense, but a kind of financial assistance, which is withdrawn from more successful communities and cities in favor of the "poorer". A city can do without a reverse or basic subsidy if its income is just enough to cover expenses. In this case, the city is subsidized.

The criterion for determining the subsidy of the city is the index of its tax capacity - a coefficient that determines the level of tax capacity of a particular budget compared to a similar average for all budgets per capita.

This index is calculated separately for regional budgets and lower-level budgets (cities of regional significance, districts and JTC). The calculation is based on the number of inhabitants of a particular community, revenues to its budget PIT and income tax of private enterprises.

If the value of the tax capacity index of the respective local budget is lower than 0.9 of the average value of the index in Ukraine, the local self-government bodies are provided with a basic subsidy from the state budget. The amount of the subsidy is 80% of the amount, which is not enough to reach 0.9 of the average value of the index in Ukraine. If the value of the index is greater than 1.1 of the average value, then use a reverse subsidy. In this case, only 50% of the excess amount is withdrawn. But budgets, the index of tax capacity of which is in the range of 0.9-1.1 of the average Ukrainian value, do not fall under equalization. They can be considered conditionally self-sufficient or non-subsidized.

Through local budgets Ukraine redistributes the amount of taxes and fees equivalent to 6.5% of GDP. This is even more than in most developed European countries.

At the same time, almost a quarter (23.6%) of all tax revenues and fees in Ukraine pass through local budgets. In Hungary, the Czech Republic and Slovakia,

on the other hand, local budgets account for less than 10% of all taxes and fees collected.

The analysis of the structure of tax revenues of local budgets indicates the lack of a universal approach to its formation in terms of European countries, as all of them have different percentage of a particular type of tax or fees revenue to total revenue. (See Figure 2.3)

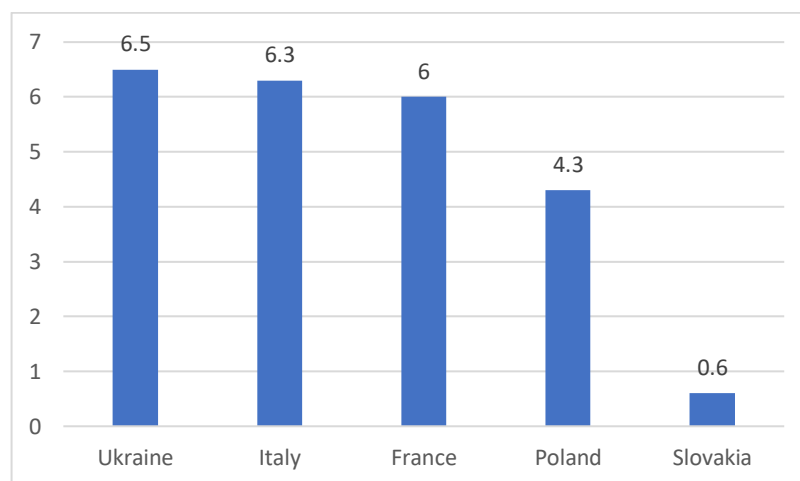


Figure 2.3. The percentage of the total local budgets (including cities budgets) revenues to total gross domestic product in a country in 2019, %

Source: created by the author based on the information from organisation for economic co-operation and development [37].

To define the main sources of revenues of local budgets in Ukraine as for 2019 the stratification of all revenues by type of income has to be proceeded. See Figure 2.4.

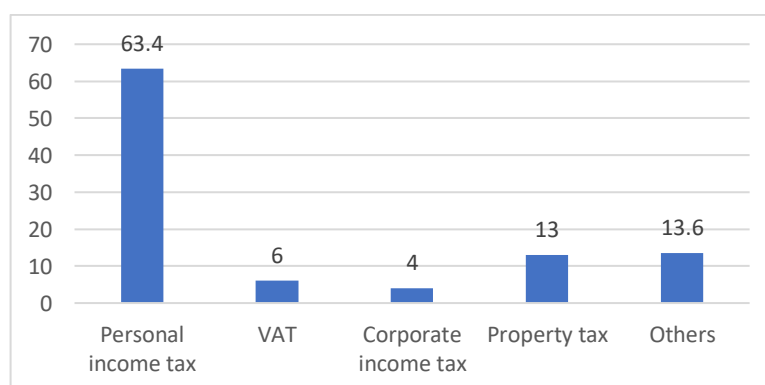


Figure 2.4. Stratification of total local budget revenues in Ukraine by type of income sources in 2019, %

Source: created by the author based on the information from the press center of Decentralization initiative [37].

The majority of tax revenue local budgets receive from individuals, despite the fact that about the half of the employees work in shadow (do not pay taxes) according to World Bank estimations.

Therefore, as the tax rates for corporate income only differ slightly than for personal income, a conclusion can be made that corporative tax evasion even exceeds the estimate of shadow salaries, valued more than 50%.

Taking into account the fact that VAT is also indirectly paid by the individuals and not corporation, the difference in the amounts of taxes individuals pay to the local budgets and the one corporations do reaches unexpectedly high values, which needs to be changed. One way to change it is to implement progressive tax scale for corporations.

Local budgets in European countries are mostly filled with revenues from real estate taxation (including land), the share of which reaches a third or even more than half of all tax revenues of local budgets. In Ukraine, it is relatively low - 13% (including almost 10% - from land taxation).

In terms of the structure of tax revenues, local budgets of Ukraine are most similar to Polish ones. However, in Ukraine, in contrast to Poland, the weight of personal income tax exceeds three quarters of all collected to local budgets through taxes and fees.

Such a high share of this tax is due to the fact that there is no single tax in European countries. Instead, the income of self-employed people there is taxed on a general basis with the application of tax refunds for the year. Therefore, revenues from the single tax - other taxes we attributed to the group - can be equated to personal income tax.

Given that in the structure of total tax revenues the single tax is almost 13%, we get almost the only really significant source of filling local budgets in Ukraine – personal income tax. And one more. If wage arrears decrease, the share of personal income tax in the structure may reach even higher.

Other sources that are important in filling local budgets in some countries include the taxation of vehicles (Italy, the Czech Republic, Poland) and the taxation of financial and capital transactions (France).

Therefore, it is time for cities governments to think about diversifying tax revenues through real estate taxation, as they do in European countries. This is not about setting sky-high real estate tax rates for individuals. To begin with, it is necessary to abolish land payment benefits for "individual" enterprises, or more precisely, their owners. And only then to establish at least the minimum - not zero - tax rates on real estate other than land.

Conclusions to Part 2

To sum up, in the context of the decentralization process cities emerged to joint territory communities, creating bigger entities with their own governments and more responsibilities and instruments.

The overall trends shows that regions benefit from the program of decentralization. The creation of joint territory communities has led to a major increase in revenue of cities budgets per citizen. The statistics shown in government official sources describe the dynamics of revenues in nominal values, which makes the information less representative.

Personal income tax, as a basis for filling the local budgets of Ukraine, is a fairly stable source, if you look at the country as a whole. However, its high share in the individual city indicates a strong dependence of its budget revenues on the availability of business structures and official employment. And not every city can boast of this.

To remedy the situation, the state has provided a mechanism that allows it to "pull up" poorer cities and provide them with financial resources to finance the needs of the city. This mechanism is called "horizontal equalization of tax capacity of local budgets." Its peculiarity is that the funds needed for "poor" cities are obtained from more "rich" cities.

The positive impact of decentralization on the county's economy is already clearly visible as for the beginning of 2020. There are many reasons of that, the most obvious ones are:

- local governments understand the needs of the community much better than the state government;
- state government is ignorant about the local specifics and needs, strengths and weaknesses;
- positive reinforcement of the obvious impact of the correct policies on future income, which became majorly stronger after the realization of the reform;

- the reform helps local states representatives to clearly see how their decisions influence the incomes as most of the tax revenues stay in the region and are not transferred to the state budget directly any more, by creating positive conditions for local business the local governments increase the revenues of the future periods.

PART 3

DEVELOPMENT OF CITIES IN UKRAINE IN THE CONTEXT OF CONTINUOUS DECENTRALIZATION PROCESS

3.1. The indicators of effectiveness of cities budget expenditures

The data on the governance of city budgets and local budgets expenditures and their effect on the state's economical well-being is extremely limited. Especially, in the regard of the shortness of the decentralization process.

Except for the general macroeconomic values, the state citizens' perception of economical well-being would also help to estimate the results of the reform so far, but, unfortunately, this kind of data is reported rarely or not reported at all for many indexes.

One of the indexes mentioned above is 'Ease of doing business score', which describes "distance to frontier score illustrates the distance of an economy to the "frontier," which represents the best performance observed on each Doing Business topic across all economies and years included since 2005. An economy's distance to frontier is indicated on a scale from 0 to 100, where 0 represents the lowest performance and 100 the frontier. For example, a score of 75 in 2012 means an economy was 25 percentage points away from the frontier constructed from the best performances across all economies and across time. A score of 80 in 2013 would indicate the economy is improving." [53]

The score of ease of doing business in Ukraine has been growing linearly throughout the whole period of its calculations (since 2015 until 2019). See Figure 3.1.

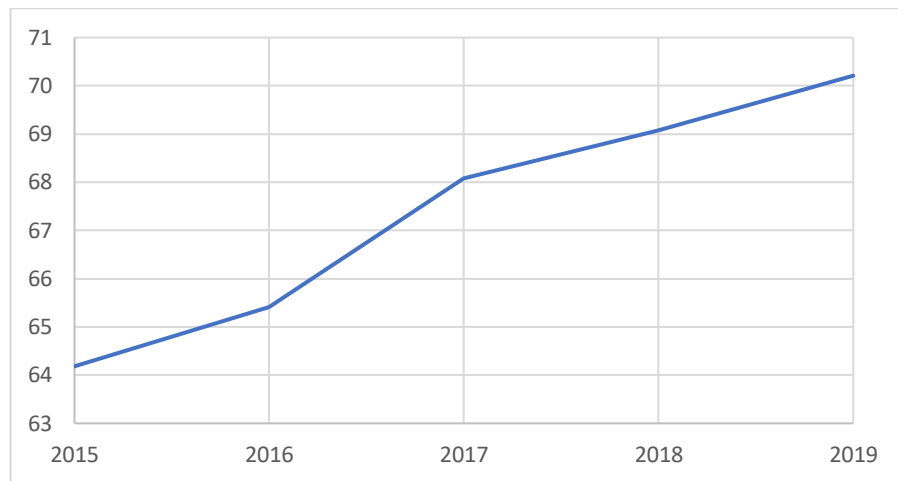


Figure 3.1. The ease of doing business score in Ukraine during the period of 2015-2019, points

Source: created by the author based on the information from the official web-site of the World Bank [53].

Despite the fact the score is relatively new, therefore, it is impossible to use it for economical modeling purposes, it can easily be seen that the overall dynamics of the score are positive during the period with the decentralization reform already in place.

A major variable that is used in the following model, proving the efficiency of decentralization- new business density (new registrations per 1,000 people ages 15-64). Small business growth is one of the main goals of Ukrainian years in the current years.

“Entrepreneurship is a critical part of every country’s economical development and growth and important for the continued dynamism of the modern economy. To measure entrepreneurial activity, the annual data is collected directly from 139 company registrars on the number of newly registered firms over the past seven years. The data shows the trends in new firm creation across regions, the relationship between entrepreneurship and the business environment and financial development, and the financial crisis' effect on the entrepreneurial activity in the formal sector.

Private sector development and investment - tapping private sector initiative and investment for socially useful purposes - are critical for poverty reduction. In parallel with public sector efforts, private investment, especially in competitive

markets, has tremendous potential to contribute to growth. Private markets are the engine of productivity growth, creating productive jobs and higher incomes.

With government playing a complementary role of regulation, funding, and service provision, private initiative and investment can help provide the basic services and conditions that empower poor people - by improving health, education, and infrastructure.” [53]

Unfortunately, this data excludes shadow economy, but it still corresponds to overall dynamics. It is clear from the density of new businesses started has not always grown in independent Ukraine. The most major decrease occurred in 2007-2008 due to the worldwide financial crisis.

However, since the decentralization process has started in Ukraine, the density of new businesses started per capita has only increased and never decreased. See Figure 3.2.

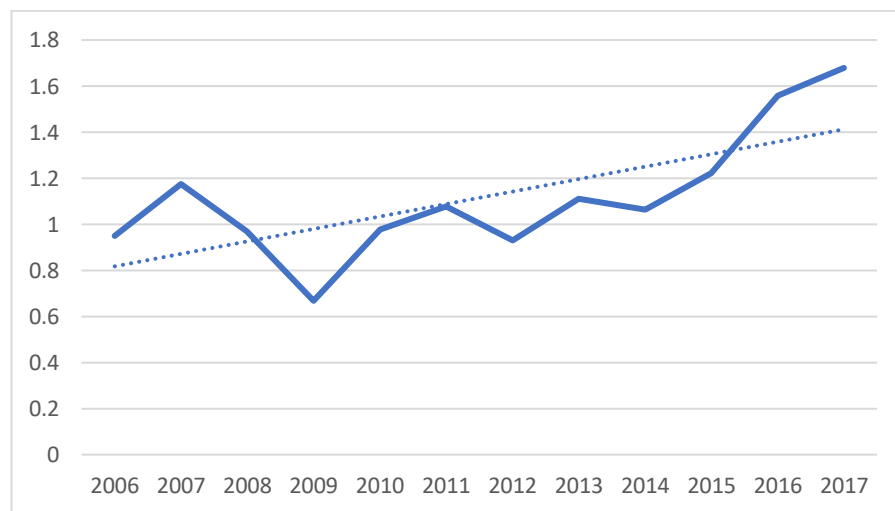


Figure 3.2. New business density (new registrations per 1,000 people ages 15-64) in Ukraine in 2006-2017, with trend

Source: created by the author based on the information from the official web-site of the World Bank [53].

3.2. Modelling of connections between main budget indicators of city development

The purpose of this thesis modeling analysis is to determine the relationships between the processes of cities' economical life and cities' budgeting processes, their values.

The main assumption is the balance between the cities expenditures and revenues.

The modeling approach is system dynamics.

“System Dynamics is a computer-aided approach to policy analysis and design. It applies to dynamic problems arising in complex social, managerial, economic, or ecological systems—literally any dynamic systems characterized by interdependence, mutual interaction, information feedback, and the circular causality.

The approach begins with defining problems dynamically, proceeds through mapping and modeling stages, to steps for building confidence in the model and its policy implications.” [43]

Below you can see a causal loop diagram describing the relationships between the economic parts of the stakeholders in a city. It defines the impact that each of the variables plays on the others and shows the loops existing in the system. See Figure 3.3.

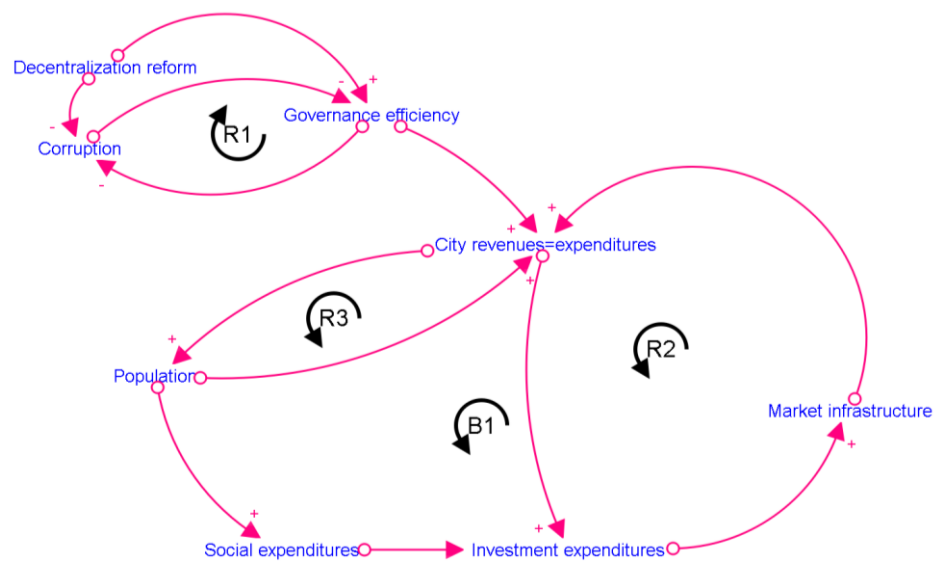


Figure 3.3. The causal loop diagram of the impact of the decentralization reform on cities revenues

Source: created by the author

Balancing loop numbered 1 describes the relationships between the city's population, its expenditures, the part of expenditures paid for investment programs, market infrastructure and city revenues, which by the assumptions are equal to expenditures.

An increase of population of the city drives the social part of expenditures to rise, which leads to a decrease in investment part of the expenditures.

Higher investment expenditures lead to better market infrastructure, which makes it easier for people to start a new business, therefore, it drives economy growth, which leads to rising city revenues. This allows the city to spend more, increase expenditures.

The city's revenues define city's economical well-being, which motivates people to build bigger families and attract internal and external immigrants, therefore, increases population.

Reinforcing loop numbered 1 describes the relationships between the city's corruption level and the city government expenditures.

Corruption decreases the level of city government efficiency and the more efficient the city's government is, the better it fights corruption, creating less opportunities for fraud activities.

Reinforcing loop numbered 2 describes the relationships between the city's expenditures, the part of expenditures paid for investment programs, market infrastructure and city revenues, which by the assumptions are equal to city's expenditures.

An increase in investment expenditures leads to better market infrastructure, which makes it easier for people to start a new business, therefore, it drives economy growth, which leads to rising city revenues. This allows the city to spend more, increase expenditures, including investment expenditures.

Reinforcing loop numbered 3 describes the relationships between the city's expenditures and population.

The city's revenues define city's economical well-being, which motivates people to build bigger families and attract internal and external immigrants, therefore, increases population.

The population provides the city with taxation base both individually and by creating companies.

Some mathematical connections between variables in the model above are basic and obvious, while others need to be clarified and statistically proven in this thesis.

To be precise, the impact of the decentralization reform realization on the cities corruption rates and on the cities' management efficiency needs to be examined precisely and the connection between them will be proven in this work.

For all the models below (except for the assumption already stated above) there is a common **assumption**: the reform of decentralization can not happen in no time. The power of cities governments is growing over time, new communities are formed, the investment is paying off over time to build higher quality market infrastructure.

The above mentioned assumption follows one of the basic principals of system dynamics- things develop over time and do not occur immediately, the time delays need to be included in the systems and consider to have their own impact on the dynamics of each of the variables.

Therefore, the variable describing the decentralization reform process mentions the quantity of the years the reform is already actively in place. As the reform has started in 2014, the value of the variable as for 2014 is 1, for 2015 – 2, for 2016- 3 and so on.

The stated approach might be imperfect for the situations when the reform has already lasted a while and all measures were already set, but in regard to the decentralization reform in Ukraine, the assumption that the reform measures were gradually accepted in the period of 2014-2019 and reached its maximum in 2019 is widely acceptable.

The existence of the impact of the reform on the corruption rate of cities can be tracked by existence the correlation of the variable of years of the reform in place and the corruption perception index (CPI, not to be confused with consumer price index).

“The CPI scores and ranks countries/territories based on how corrupt a country’s public sector is perceived to be by experts and business executives. It is a composite index, a combination of 13 surveys and assessments of corruption, collected by a variety of reputable institutions. The CPI is the most widely used indicator of corruption worldwide.” [43]

The CPI score is measured by the principal that a higher score means less corrupt public sector.

The data on corruption in Ukraine is extremely limited. Unlike in many other cases this is not due to lack of statistical institution in the country, but due to specifics of the corruption tracking in general. It is extremely complicated to measure corruption and it does not change as rapidly as most economic indexes or rates, therefore, measuring CPI on a quarter basis would be neither statistically accurate nor meaningful. Only observations of CPI in the period of 1998 to 2019 on a yearly basis are available for Ukraine, which makes the quality of the model slightly lower, but is still enough to determine if correlation is present.

Additionally, the data on corruption perception is measured per the whole state and not for the cities management specifically. Therefore, another assumption is made that the overall corruption level in Ukraine is proportional to the level of corruption in local cities governments.

The experiment is not biased as the regression can show both a positive and a negative impact of the independent variable (the years of the decentralization reform in place) on the dependent variable (the corruption perception index). The hypothesis of this analysis is that the impact is positive. Note: due to scientific approach the assumption was made before the analysis.

This model is used only to prove there is a positive impact of the reform on the absence of corruption in cities management, therefore, there are only two

variables in it. However, it will be followed by a more complicated model taking into account multiple variables.

The data on corruption perception index used for the model is given below in a form of a graph. See Figure 3.3.

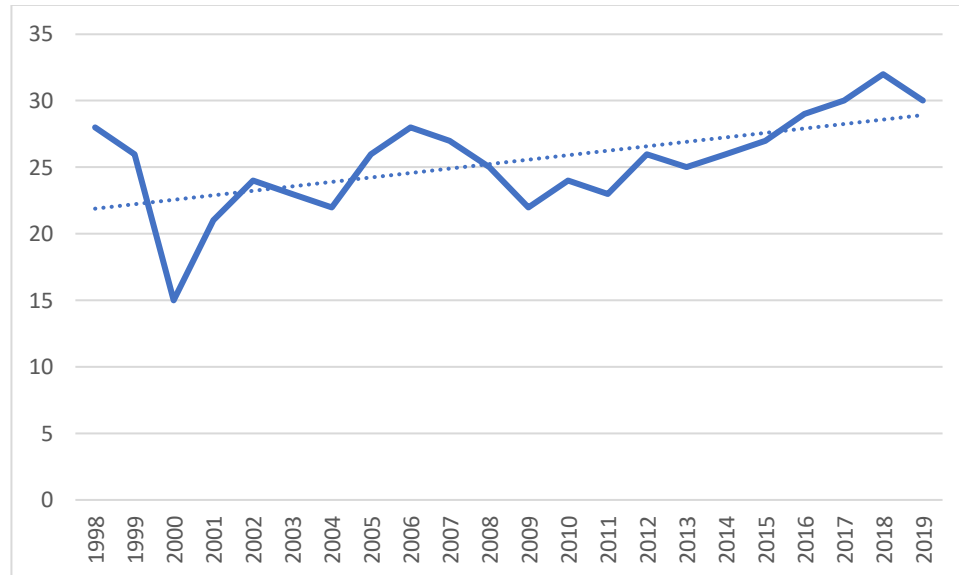


Figure 3.3. The corruption perception index dynamics, Ukraine, in the period of 1998-2019, of maximum 100

Source: created by the author based on data from the Transparency International 2020 official web-site [55]

Based on least squared error method an analysis of correlation between the corruption perception index (COR) and the variable of years of the decentralization reform in place (REF). See Figure 3.4.

Dependent Variable: COR				
Method: Least Squares				
Date: 05/23/20 Time: 22:32				
Sample: 1998 2019				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	24.15247	0.687905	35.11018	0.0000
REF	1.316464	0.338235	3.892153	0.0009
R-squared	0.430991	Mean dependent var		25.40909
Adjusted R-squared	0.402541	S.D. dependent var		3.685998
S.E. of regression	2.849109	Akaike info criterion		5.018398
Sum squared resid	162.3485	Schwarz criterion		5.117584
Log likelihood	-53.20238	Hannan-Quinn criter.		5.041763
F-statistic	15.14885	Durbin-Watson stat		1.436624
Prob(F-statistic)	0.000905			

Figure 3.4. Correlation analysis of the corruption perception index and the variable of years of the decentralization reform in place

Source: created by the author in statistical software- EViews

From this analysis the conclusion is made that the initial hypothesis was correct: the corruption perception index is influenced positively by the gradually accumulating effect of the decentralization reform.

Multiple tests were performed to check the quality of the model:

- R^2 value is relatively low, but for this model the purpose was to prove there is an existing connection, not to determine all of variables impacting the dependent variable, so R^2 value is acceptable;
- F- and t-statistics (Fisher) is below 5%, which is an acceptable level for this particular test;
- Multicollinearity is absent as the number of independent variables is limited by one;
- Heteroscedasticity is absent. See Figure 3.5.

Heteroskedasticity Test: White				
F-statistic	0.465006	Prob. F(2,19)	0.6351	
Obs*R-squared	1.026606	Prob. Chi-Square(2)	0.5985	
Scaled explained SS	2.310559	Prob. Chi-Square(2)	0.3150	
Test Equation:				
Dependent Variable: RESID^2				
Method: Least Squares				
Date: 05/24/20 Time: 21:08				
Sample: 1998 2019				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.535425	4.480095	2.128398	0.0466
REF	-6.222395	8.175159	-0.761134	0.4559
REF^2	0.914719	1.580413	0.578785	0.5695
R-squared	0.046664	Mean dependent var	7.379477	
Adjusted R-squared	-0.053687	S.D. dependent var	17.62754	
S.E. of regression	18.09454	Akaike info criterion	8.755221	
Sum squared resid	6220.832	Schwarz criterion	8.903999	
Log likelihood	-93.30743	Hannan-Quinn criter.	8.790269	
F-statistic	0.465006	Durbin-Watson stat	2.004777	
Prob(F-statistic)	0.635093			

Figure 3.5. Heteroscedasticity test (White) for the model of the decentralization reform impact on corruption in Ukraine

Source: created by the author in statistical software- EViews

- Normality test is not fully successful, but the residuals deviation is close enough to normal to prove the existence of the correlation in the model. See Figure 3.6.

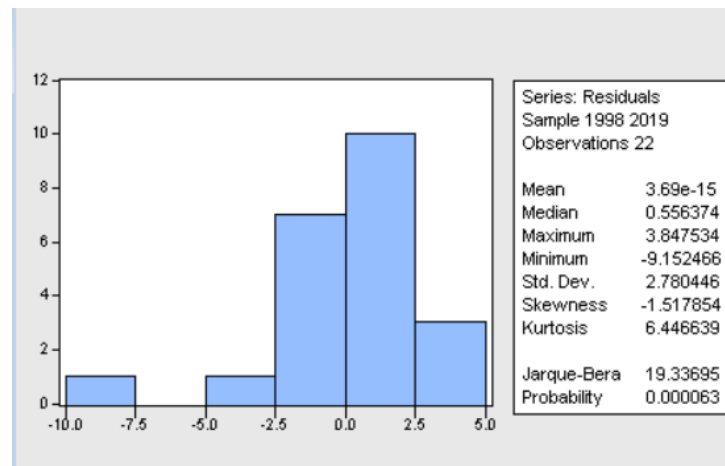


Figure 3.6. Residuals normality test for the model of the decentralization reform impact on corruption in Ukraine

Source: created by the author in statistical software- EViews

- Autocorrelation in residuals is absent. See Figure 3.7.

Breusch-Godfrey Serial Correlation LM Test				
F-statistic	1.651320	Prob. F(2,18)	0.2196	
Obs*R-squared	3.410755	Prob. Chi-Square(2)	0.1817	
Test Equation:				
Dependent Variable: RESID				
Method: Least Squares				
Date: 05/24/20 Time: 22:02				
Sample: 1998 2019				
Included observations: 22				
Presample missing value lagged residuals set to zero.				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.015521	0.667488	-0.023253	0.9817
REF	-0.001598	0.332439	-0.004805	0.9962
RESID(-1)	0.312556	0.228087	1.370333	0.1874
RESID(-2)	-0.338562	0.228725	-1.480216	0.1561
R-squared	0.155034	Mean dependent var	3.69E-15	
Adjusted R-squared	0.014207	S.D. dependent var	2.780446	
S.E. of regression	2.760625	Akaike info criterion	5.031757	
Sum squared resid	137.1789	Schwarz criterion	5.230128	
Log likelihood	-51.34933	Hannan-Quinn criter.	5.078487	
F-statistic	1.100880	Durbin-Watson stat	1.824176	
Prob(F-statistic)	0.374466			

Figure 3.7. Autocorrelation test for the model of the decentralization reform impact on corruption in Ukraine

Source: created by the author in statistical software- EViews

Therefore, the hypothesis of the existence of the positive impact of the decentralization reform on the absence of corruption in public services in Ukraine, including city management specifically.

To prove the **second hypothesis**, saying that the reform is positively impacting the cities governments effectivity, but this occurs with a time delay as the reform is

gradually setting to reality, other variables are added: cities revenues (REV) and new business density level (BUS).

When added to the model, the above-mentioned variables create multicollinearity with the corruption perception index. Therefore, it was deleted from the model in order to make the model more representative. However, it does not deny the previous results: the reform of decentralization does have a positive impact on corruption fighting in Ukraine, but CPI is not used in the following model. Because of the fact correlation analysis does not include causality, a reverse modelling method can be used in this case (the variable of years of the decentralization reform in place is the dependent variable in this case). See Figure 3.8.

Dependent Variable: REF				
Method: Least Squares				
Date: 05/25/20 Time: 00:34				
Sample: 1998 2019				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.090673	0.643059	-4.806203	0.0001
REV	3.53E-06	1.69E-06	2.088237	0.0505
BUS	3.040919	0.817663	3.719039	0.0015
R-squared	0.926878	Mean dependent var		0.954545
Adjusted R-squared	0.919181	S.D. dependent var		1.838148
S.E. of regression	0.522563	Akaike info criterion		1.665980
Sum squared resid	5.188363	Schwarz criterion		1.814759
Log likelihood	-15.32578	Hannan-Quinn criter.		1.701028
F-statistic	120.4192	Durbin-Watson stat		0.942543
Prob(F-statistic)	0.000000			

Figure 3.8. Correlation analysis of the new business density index, cities revenues and the variable of years of the decentralization reform in place

Source: created by the author in statistical software- EViews

From this analysis the conclusion is made that the initial hypothesis was correct: the corruption perception index is influenced positively by the gradually accumulating effect of the decentralization reform.

Multiple tests were performed to check the quality of the model:

- R^2 value is extremely high- 92%, proving high quality of the present model;
- F- and t-statistics (Fisher) is below 5%, which is an acceptable level for this particular test;
- Multicollinearity is absent. See Figure 3.9.

Coefficient Covariance Matrix			
	C	REV	BUS
C	0.413525	9.08E-07	-0.509284
REV	9.08E-07	2.86E-12	-1.29E-06
BUS	-0.509284	-1.29E-06	0.668572

Figure 3.9. Multicollinearity for the model of the new business density index, cities revenues and the variable of years of the decentralization reform in place

Source: created by the author in statistical software- EViews

- Heteroscedasticity is absent. See Figure 3.10.

Heteroskedasticity Test: White				
F-statistic	0.533717	Prob. F(5,16)	0.7478	
Obs*R-squared	3.144794	Prob. Chi-Square(5)	0.6777	
Scaled explained SS	1.764233	Prob. Chi-Square(5)	0.8807	
Test Equation:				
Dependent Variable: RESID^2				
Method: Least Squares				
Date: 05/25/20 Time: 00:43				
Sample: 1998 2019				
Included observations: 22				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.699296	1.415867	0.493899	0.6281
REV	-1.05E-06	8.68E-06	-0.120867	0.9053
REV^2	-1.45E-11	1.72E-11	-0.842182	0.4121
REV*BUS	5.72E-06	1.32E-05	0.432574	0.6711
BUS	-0.541449	3.948954	-0.137112	0.8927
BUS^2	-0.174271	2.880200	-0.060507	0.9525
R-squared	0.142945	Mean dependent var	0.235835	
Adjusted R-squared	-0.124884	S.D. dependent var	0.296057	
S.E. of regression	0.314000	Akaike info criterion	0.748151	
Sum squared resid	1.577533	Schwarz criterion	1.045708	
Log likelihood	-2.229666	Hannan-Quinn criter.	0.818247	
F-statistic	0.533717	Durbin-Watson stat	2.309379	
Prob(F-statistic)	0.747841			

Figure 3.10. Heteroscedasticity test (White) for the model of the new business density index, cities revenues and the variable of years of the decentralization reform in place

Source: created by the author in statistical software- EViews

- Normality test is not fully successful, but residuals deviation is close enough to normal to prove existence of correlation in model. See Figure 3.11.

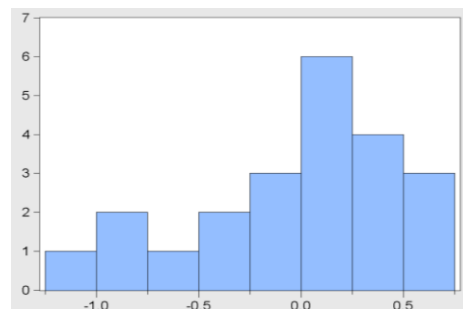


Figure 3.11. Residuals normality test for the model of the new business density index, cities revenues and the variable of years of the decentralization reform in place

Source: created by the author in statistical software- EViews

- Autocorrelation in residuals is present in the first lag, but it does not impact the quality of the model and can be explained by the inflation of the revenues. See Figure 3.12.

Breusch-Godfrey Serial Correlation LM Test				
F-statistic	4.109260	Prob. F(2,17)	0.0350	
Obs*R-squared	7.169629	Prob. Chi-Square(2)	0.0277	
Test Equation:				
Dependent Variable: RESID				
Method: Least Squares				
Date: 05/25/20 Time: 00:45				
Sample: 1998 2019				
Included observations: 22				
Presample missing value lagged residuals set to zero.				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.121642	0.739621	1.516509	0.1478
REV	3.11E-06	2.01E-06	1.549414	0.1397
BUS	-1.504241	0.964747	-1.559208	0.1374
RESID(-1)	0.630975	0.241638	2.611245	0.0183
RESID(-2)	0.168949	0.269844	0.626099	0.5396
R-squared	0.325892	Mean dependent var	-8.88E-16	
Adjusted R-squared	0.167279	S.D. dependent var	0.497056	
S.E. of regression	0.453582	Akaike info criterion	1.453433	
Sum squared resid	3.497516	Schwarz criterion	1.701397	
Log likelihood	-10.98776	Hannan-Quinn criter.	1.511846	
F-statistic	2.054630	Durbin-Watson stat	1.439207	
Prob(F-statistic)	0.131993			

Figure 3.12. Autocorrelation test for the model of the new business density index, cities revenues and the variable of years of the decentralization reform in place

Source: created by the author in statistical software- EViews

Therefore, the hypothesis of the existence of the positive impact of the decentralization reform on the new business density in cities and their revenues is proven.

The conclusion to both correlation models is proof of the initial hypothesis that the decentralization influences the cities' economical well-being positively and the process of the decentralization should be continued and possible reinforced on a higher scale.

3.3. Recommendations concerning future reforms of cities budgeting policies in Ukraine

In the previous parts of this research it was proven that the policies cities used by the cities' governments for budgeting became more effective as they were given

more power and more fixed own revenues in the process of decentralization. The described correlation proves that on a bigger scale providing the local (cities) governments with more tools and instruments pays off in the long run, creating higher quality economical infrastructure for cities citizen, which motivates them to create new businesses.

Furthermore, there is also a present correlation between the absence of corruption in Ukraine and the gradually accumulating effect of the decentralization reform started in 2014.

Therefore, it is recommended to continue expanding the power of cities governments.

Moreover, the amount (percentage) of own tax revenues of cities, especially small cities, should be further increased, as the local governments have already proven that they operate with revenues better than the state as they know their city's specifics, needs, circumstances and traditions.

Except for increasing the percentage of the tax revenues staying in local budgets, including cities' budgets, an increase of the taxation base would also positively affect the cities revenues. For instance, it is possible to change the corporate taxation rules.

Even though low tax rates for corporations can stimulate small business and startups, big corporations use it for their own good as well. Therefore, the only way of developing a tax system more fair to individuals, Ukraine has to implement a progressive tax scale.

The exceeding value of the tax revenues needs to be directed to local budgets and not the state budgets, to continue the decentralization process and stimulate local businesses.

It should be noted that, although in Ukraine the nominal corporate tax rate is fixed, legal entities may belong to the third and fourth groups of simplified taxation, if they meet their requirements, as well as individual entrepreneurs, and therefore have a lower tax rate.

Corporate tax is in most cases used to regulate commercial activities. Among entrepreneurs, the countries with the lowest rates logically look the most attractive for business, the least attractive - with the highest rates. However, if the state has a favorable economic and legal system for business, entrepreneurs may tend to choose countries with relatively higher fiscal burdens.

In world's practice, there are two types of progressive tax scales: simple and complex.

With a simple progression, the rate increases with the level of income for its full amount. That is, the higher the income, the higher the rate at which it is taxed in full.

Under a complex progression, income is divided into parts. Each of these parts is taxed at its own rate. In such cases, the scale is not always increasing. A clear example of a complex progression in the tax scale is the corporate income tax scale in the United States.

The system of simplified taxation created in Ukraine is a step towards a simpler, more effective and more transparent fiscal system and meets the needs of the state economy.

Without stopping at this, by introducing a progressive scale and local taxes, Ukraine will be able to use fiscal instruments as rationally as possible, which will help achieve economic well-being for citizens.

To avoid concentration of business in big cities, it is possible to implement tax discounts for small cities, making the rates of corporate income tax lower in smaller cities.

To sum up, main recommendations for the state to increase cities economical infrastructure following this research are:

- continue of the decentralization reform;
- increase the intensity of the decentralization reform with reinforcement of the power of cities governments;
- increase the percentage of the tax revenues staying in local budgets, specifically in cities budgets;

-implement a progressive scale of corporate income tax in cities with lower rates in smaller cities.

Conclusions to Part 3

There are many indicators describing the city budgeting processes in Ukraine, various combinations of social and economic indicators amounting the expenditures and the revenues parts of cities budgets.

However, there are very few indicators how effectively the budget money of cities are spent, where it goes and whether it pays off to the city, its citizens and the economic atmosphere in the region.

Some of those are the density of new businesses created in the cities, corruption perception index and city revenues level.

The existence of correlation between these indicators and an indicator created by the author describing the number of years of the decentralization process in place, which has an accumulating effect due to the system dynamic approach of time delays in the systems.

Unfortunately, even this data is limited by a relatively small quantity of observations, which is a disadvantage of the model.

The experiment was not biased as the regression could've shown both a positive and a negative impact of the independent variable (the years of the decentralization reform in place) on the dependent variables (the corruption perception index, revenues level and the density of new businesses).

The hypothesis of this analysis is that the impact is positive. An additional hypothesis stated that there are some connection present in the system between revenue of city budgets, expenditures, corruption in the cities governments and the decentralization reform.

The model has shown that the initial hypothesis was correct, in addition all needed tests to the model were performed and they proved the correctness of the model.

CONCLUSIONS

Ukraine has 5 cities with more than a million people, 41 cities with between 100,000 and 1 million people, and more than 300 cities with between 10,000 and 100,000 people.

The topic of cities budgets is extremely relevant nowadays in Ukraine, where the role of cities' governments is growing in the recent years together with the part of the tax revenues staying in places instead of going to the state budget.

In 2014 one of the biggest reforms in the history of independent Ukraine was launched- the decentralization reform, making cities' governments stronger in power, giving them more responsibility and providing with more own revenues from taxes than before.

As for the beginning of 2020 it is clear that the decentralization reform was not only one of biggest ones, but also the most successful ones. The main impact it made was due to:

- cities governments were not ignorant of the specifics of their city and its citizens like the state government was previously;
- positive reinforcement of the obvious impact of the correct policies on future income, which became majorly stronger after the realization of the reform;
- the reform helps local states representatives to clearly see how their decisions influence the incomes as most of the tax revenues stay in the region and are not transferred to the state budget directly any more, by creating positive conditions for local business the local governments increase the revenues of the future periods.

The decentralization reform has lowered the overall level of corruption in the country and in the cities specifically. This is proven by a regression model in this bachelor thesis.

The reform has also positively affected the creation of new businesses in the country, achieving one of the main current goals of Ukrainian government -stimulation of small business, making the taxation base of the cities bigger.

Furthermore, the decentralization process has increased the level of revenues of cities budgets.

The above-mentioned facts lead to the conclusion that the overall impact of giving more power to the cities authorities is beneficial for the country in general and cities specifically.

It would be also beneficial for the country to continue and deeper the decentralization and give a bigger part of the revenues to the cities, providing them with relevant independence.

Another way of increasing revenues of cities is to make a bigger taxation base, which can be achieved through implementing of a progressive scale of corporate income tax, making big corporations pay more. These revenues need to be changed to own revenues of the cities.

To avoid concentration of business in big cities, it is possible to implement tax discounts for small cities, making the rates of corporate income tax lower in smaller cities.

There are very few indicators how effectively the budget money of cities are spent, where it goes and whether it pays off to the city, its citizens and the economic atmosphere in the region.

Some of those are the density of new businesses created in the cities, corruption perception index and city revenues level.

The existence of the correlation between these indicators and an indicator created by the author describing the number of years of the decentralization process in place.

In the previous parts of this research it was proven that the policies cities used by the cities' governments for budgeting became more effective as they were given more power and more fixed own revenues in the process of decentralization. The described correlation proves that on a bigger scale providing the local (cities) governments with more tools and instruments pays off in the long run, creating higher quality economical infrastructure for cities citizen, which motivates them to create new businesses.

Furthermore, there is also a present correlation between the absence of corruption in Ukraine and the gradually accumulating effect of the decentralization reform started in 2014.

Therefore, it is recommended to continue expanding the power of cities governments.

Moreover, the amount (percentage) of own tax revenues of cities, especially small cities, should be further increased, as the local governments have already proven that they operate with revenues better than the state as they know their city's specifics, needs, circumstances and traditions.

Also, there is also an option of creating a progressive scale of corporate income tax.

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