

Fiscal Incidence in Ukraine

A Commitment to Equity Analysis

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Abstract

The paper employs the Commitment to Equity framework to present a first attempt at a comprehensive fiscal incidence analysis for Ukraine, encompassing the revenue and expenditures components of the fiscal system, including direct and indirect taxes, as well as direct, indirect, and in-kind transfers. The fiscal system in Ukraine has high redistribution effects, decreasing the Gini inequality index by 21 percentage points, and the official measure of poverty incidence by 27.6 percentage points (considering all fiscal interventions including in-kind transfers). As in many other

countries in the region, pensions are the main contributor to the redistribution effect of fiscal policy. However, Ukraine stands out due to the relatively high equalizing effect of direct transfers. Fiscal policy in Ukraine is pro-poor, with the lowest income decile benefiting the most. Overall, 60 percent of the population of Ukraine are net recipients from the fiscal system, the main categories of recipients being households with two or more children, single-parent households, and retirees.

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Fiscal Incidence in Ukraine: A Commitment to Equity Analysis

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1. Introduction

The Ukrainian economy is still recovering from the severe recession of 2014-2015, which has had a notable negative effect on real incomes. While the households at the lower end of the income distribution have been less affected by the recession than an average household, poverty rates spiked nonetheless. Over one-quarter of the population are still not meeting their basic needs. Rural households and families with children face particularly high risks of poverty. Even after the end of the recession, in 2016, almost 80 percent of the Ukrainian population remained vulnerable to poverty, facing a greater than 10 percent chance of falling into poverty, according to the World Bank definition. Any reforms in the government social expenditure need to address these vulnerabilities.

The government, faced with the need to service the growing government debt, has implemented several reforms to consolidate the budget and curb budget deficits. Nevertheless, government social expenditure is still significant, amounting to 19 percent of GDP in 2017. Further budget consolidation needs to be informed by an analysis of the efficiency of social expenditure, as well as the effects of different types of taxation on poverty and inequality. The Commitment to Equity (CEQ) methodology employed in this paper – a fiscal incidence analysis with the focus on the equalizing and poverty alleviating effects of the fiscal programs – may provide guidance on optimal fiscal policy reforms. First outlined in Lustig and Higgins (2013) and further developed in Lustig (2018), the CEQ uses fiscal incidence analysis to evaluate the redistributive effects of different fiscal programs. Each program gets assigned to individuals or households, and incomes of the individuals/households before and after the programs are used to evaluate the redistribution effects, as well as the effect in terms of implied changes in observed poverty and inequality measures. The analysis encompasses direct and indirect taxes and transfers as well as in-kind transfers. In the case of Ukraine, the analysis includes 94 percent of all direct transfers, 69 percent of direct taxes and 99 percent of indirect taxes, as well as indirect utilities subsidies and in-kind transfers for health care and education.

The CEQ analysis has important limitations. First of all, not all of the transfers and taxes are modeled. The CEQ methodology only considers social expenditure (direct transfers, indirect subsidies and health and education), not including other types of expenditure like defense, infrastructure or culture. These types of expenditure on public goods have universal coverage and do not have large redistribution effects. The CEQ analysis also omits the modeling of direct taxes paid by firms as they are not easily attributable to the households. Another limitation is the non-dynamic nature of the CEQ analysis, which does not allow us to look at how well the fiscal system responds to aggregate income or inequality shocks over time.

The CEQ assessment has already been carried out in many developing and developed countries, including the countries of the CEE region: Belarus (Bornukova et al., 2017), Poland (Goraus and Inchauste, 2016), Romania (Inchauste and Militaru, 2018) and the Russian Federation (Popova et al., 2018). The majority of CEE countries, which share some characteristics of the transitional economies, are notable for the high redistributive role of pensions. Most of the current retirees in these countries rely on the state-provided pensions as their sole or major source of income, which explains both the size and the high redistributive effect of pensions. The availability of comparable CEQ analyses for countries such as Belarus, Poland, Romania and Russia, as well as for many other countries around the world, allows for convenient benchmarking of the Ukrainian fiscal system against relevant peers.

We find that the fiscal system in Ukraine has high redistribution effects, decreasing the Gini inequality index by 21 percentage points, and official measure of poverty incidence by 27.6 percentage points (considering all fiscal interventions including in-kind transfers). As in many other countries in the region, pensions¹ are the main contributor to the redistribution effect of fiscal policy. However, Ukraine stands out due to the relatively high equalizing effect of direct transfers. Fiscal policy in Ukraine is pro-poor, with the lowest income decile benefiting the most. Sixty percent of the population are net receivers² from the fiscal system; the main receivers are households with two or more children (16.3 percent of the population) and retirees (24 percent of the population).

The paper is structured as follows. Section 2 outlines macroeconomic and social context underlying the CEQ analysis. Section 3 describes the methodology of CEQ assessment, including the definitions of different income concepts that the analysis operates with, and the assumptions employed in their construction. The details of fiscal

¹ Since old age pensions in Ukraine are financed by a pay-as-you-go scheme, and the Pension Fund also receives significant transfers from the budget, we model pensions as a government transfer.

² Note that net receivers here are defined through the lens of the CEQ analysis, not considering some of the fiscal programs like corporate taxation; and also attributing in-kind transfers through education and health care spending.

incidence analysis by each program are described in Section 4. Section 5 presents the main results of the analysis, while Section 6 offers some concluding remarks.

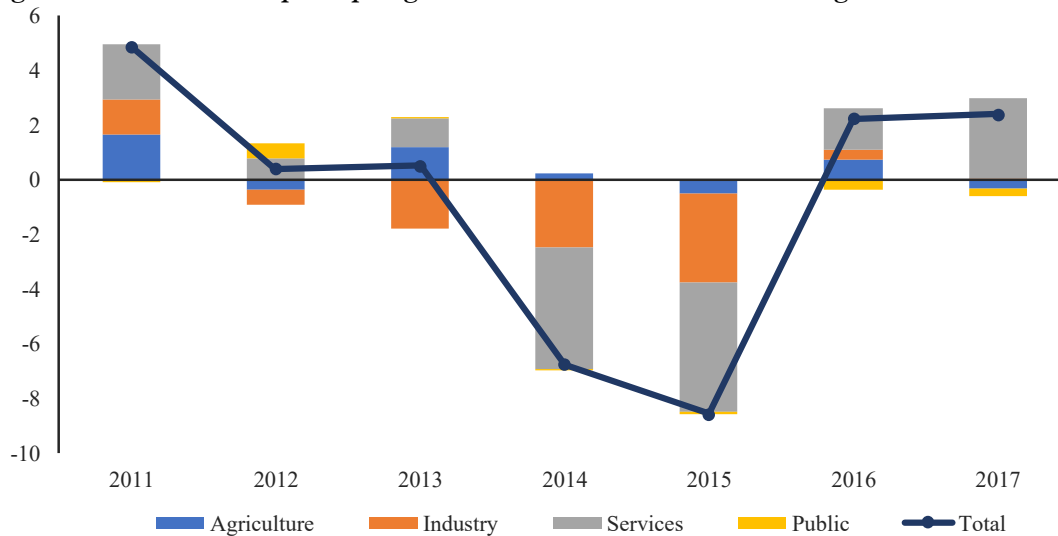
2. Macroeconomic Context

2.1. Poverty, growth incidence, and trends in inequality³

In 2014, with the recovery from the global recession of 2008/09 still incomplete, the economy saw the beginning of a new recession (Figure 1). Following the Maidan, which came to a dramatic conclusion in early 2014, and the beginning of the conflict, growth declined by 7 percent in 2014 and by 9.3 the following year. Inflation spiked over this period, reaching 49 percent in 2015 (annual average), though it later stabilized and now is estimated at 14 percent in 2016 and 2017.

Since 2016, growth has been positive but sluggish, driven by the services sector in 2016 and 2017, the sector that was hit the most during the crisis. The employment rate decreased significantly in 2014 (56.6 percent for age 15-70 compared to 60.2 percent in 2013) and is yet to recover, while the unemployment rate remained high at around 9.5 percent in 2017. Real wages started to grow in 2016 and accelerated in 2017, with the fastest wage growth recorded in the public sector (public administration and defense, health and education), driven partly by the sharp increase in the minimum wage in 2017 and increase in the budget sector wages.

Figure 1. Trends in GDP per capita growth and sectoral contributions to growth



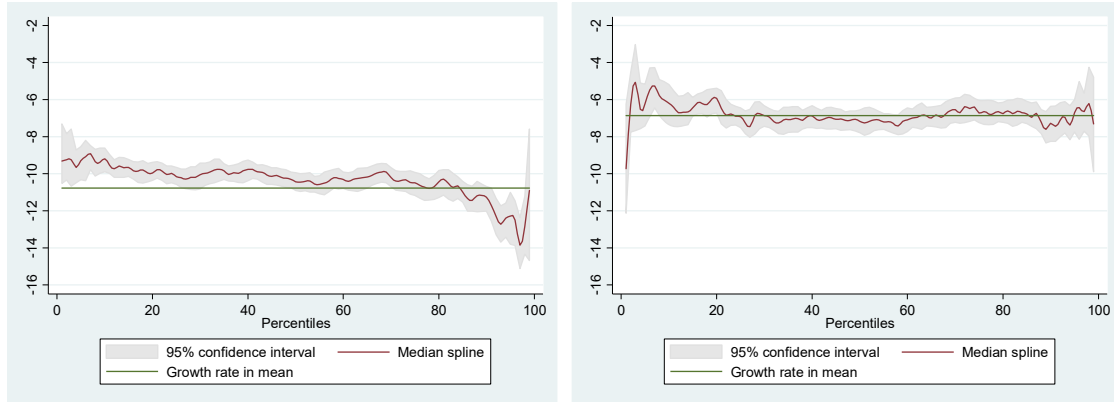
Source: SSSU, Haver Analytics and authors' calculations.

Behind overall macro trends, there is some heterogeneity across the population in the dynamics of welfare during the recent years. Since the Maidan, household welfare contracted significantly, though lower incomes were relatively protected (Figure 2). Rural households generally experienced less of an erosion to their living standards, reflecting the growth of agriculture over the period (3.5 percent), which contrasts with the strong decline in sectors most associated with urban areas such as finance, wholesale and retail trade, manufacturing, and construction.⁴

³ This section is built on the Ukraine Poverty and Shared Prosperity Update prepared by the World Bank Poverty and Equity team (mimeo).

⁴ Here and subsequently in this paper for comparability purposes, the analysis does not include Crimea for all years, as the region as a whole is not covered by the recent rounds of HBS data.

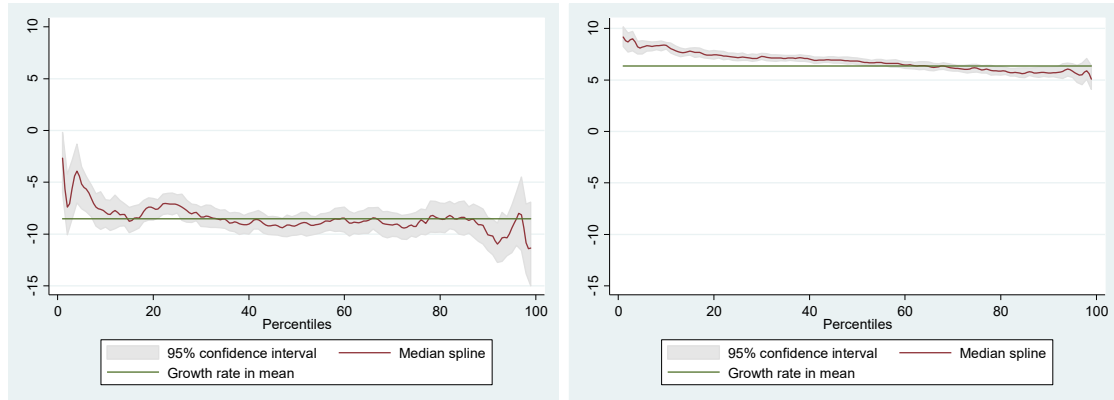
Figure 2 Real annual growth rates across the income distribution (Growth Incidence Curve), 2013-2016, urban (left panel) and rural (right panel)



Source: authors' calculations using HLCS data.

The smaller impact at the lower end of the welfare distribution mirrors the dynamics of the earlier recession. During the great recession (2008-09) the bottom 40 percent proved more resilient than richer income groups, and this group has similarly experienced higher rates of income growth during the 2009-2014 period once economic growth resumed (Figure 3). The latter period was also one in which the population in the bottom of the welfare distribution experienced higher growth in salaries, social assistance and pensions compared to the rest of the population. The Subsistence Minimum (SM), or the government-sanctioned cost of a basket of goods needed to cover basic needs, which acts as a peg for pensions and most social assistance programs, proved a key policy tool for redistribution as it grew faster than general inflation.

Figure 3. Income real annual growth rates across the income distribution (Growth Incidence Curve), Ukraine 2008-2009 (left panel) and 2009-2013 (right panel)

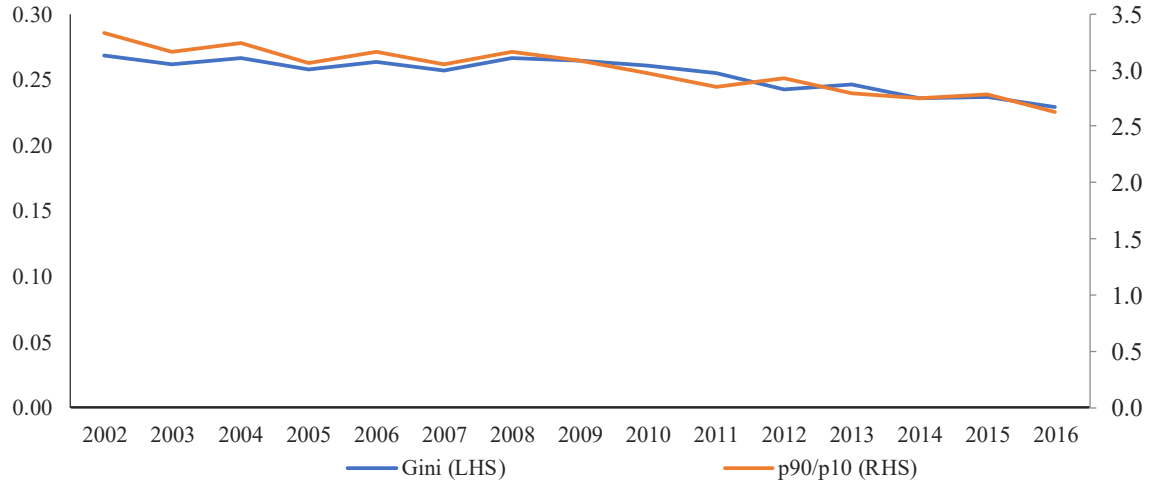


Source: authors' calculations using HLCS data.

As lower income families were less affected by the recession than the rest of the population, inequality continued to decline. The Gini index and other measures of inequality such as the ratio of the incomes of the 90th decile to the 10th decile fell significantly since 2011 (Figure 4). The inequality decline partly reflects a hollowing out of the middle of the distribution – a suggestion which is further heightened by concerns that the survey fails to capture a large part of the upper tail of the income distribution, possibly as large as the top third.⁵

⁵ The view that up to one-third of the distribution might be missing from the data is common across local experts, and is voiced also by officials from the National Statistical Services of Ukraine.

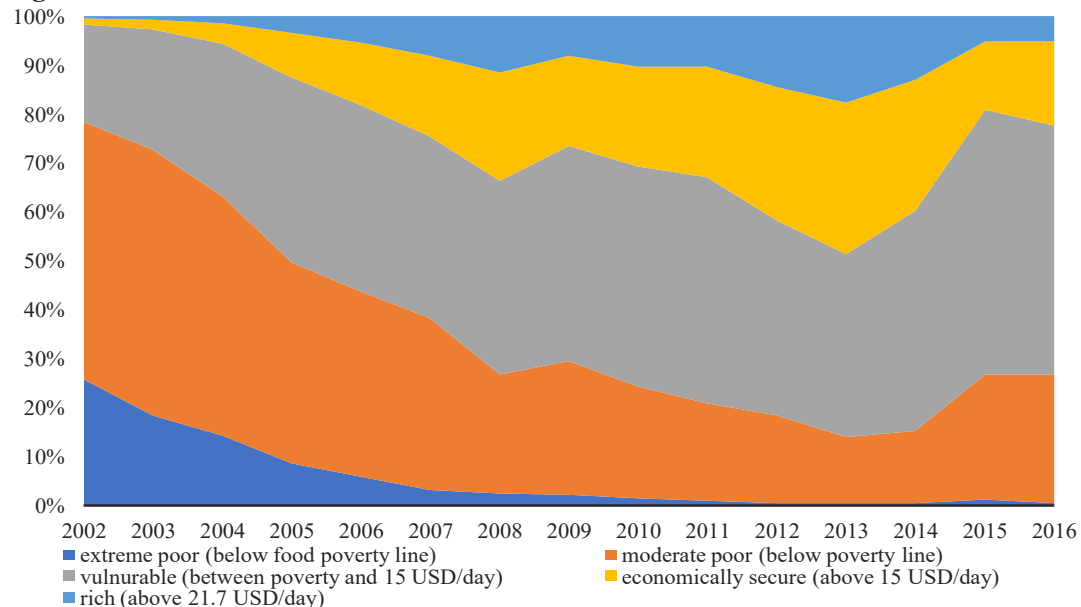
Figure 4. Trends in inequality: Gini and the ratio of income per capita for the 90th percentile over the 10th percentile, 2002-2016



Source: authors' calculations using HLCS data.

A complementary way of visualizing what happened to the income distribution is through the lens of economic class dynamics, which allows us to split the entire income distribution into several groups defined by several thresholds that parse households between categories such as poor, vulnerable or economically secure (see Box 1 for definitions). The year 2013 clearly marks the end of the decline in poverty incidence, which had been underway after the 2009 peak (Figure 5). It also marks a sharp contraction in the economically secure population (defined as the income level beyond which one faces a low probability to fall into poverty), a group that had been expanding steadily over the previous decade. As the crisis deepened in 2015 poverty rose steeply and so did vulnerability, which for the first time since 2002 affected over half of the population. While the improved macro situation left poverty unchanged in 2016, the share of people in economic security started inching up again, but remains at the level of 2006, and much lower than that achieved by 2013.

Figure 5 The evolution of economic class over time in Ukraine



Source: authors' calculations using HLCS data.

Box 1. Looking at the income distribution through the lens of economic class

Developments in the policy literature over the last decade, such as a growing attention to inequality and to the role that the middle class can play in growth and development process, have led to a renewed focus on the concept of economic class. Partitioning the income distribution into several economic classes has the advantage of broadening distributional concerns from the key distinction between poor and non-poor, while reflecting concerns for mobility and economic security which are clearly voiced in opinion surveys around the world.

This approach, which has been used in a number of regional and country level reports (Ferreira et al. 2013; Cancho et al., 2015; Ruggeri Laderchi et al., 2017; World Bank, 2018a) has been adopted to the Ukraine context by identifying 5 separate economic classes:

The **extreme poor**, defined as those living below the food poverty line according to the World Bank poverty methodology for Ukraine.

The **moderate poor**, defined as those who could afford to cover their food needs but at the expense of other basic needs, according to the World Bank poverty methodology for Ukraine.

The **vulnerable**, defined as those who live with a chance greater than 10 percent of falling back into poverty. Based on estimates from panel data in middle income countries, and consistent with the literature on the definition of the middle class, this line has been identified as living with less than 15 USD a day PPP (2011). This has been recognized as being broadly comparable to the 10 USD a day PPP (2005) which has been used in the international literature, including Cancho et al (2015) on economic mobility in ECA, and has been used by the Ukrainian Presidential Administration to identify a target in terms of growth of the middle class.

Finally, those living in **economic security** (i.e. with a less than 10 percent chance of falling into poverty, that is living on more than 15 USD a day PPP 2011) can be identified as **middle class**, though some studies have partitioned this class reserving this label for the upper end of that class.

Upper class is sometimes defined as share of population with per capita income above the high-income poverty line (21.7 USD in 2011 PPP, Jolliffe and Prydz (2016)).

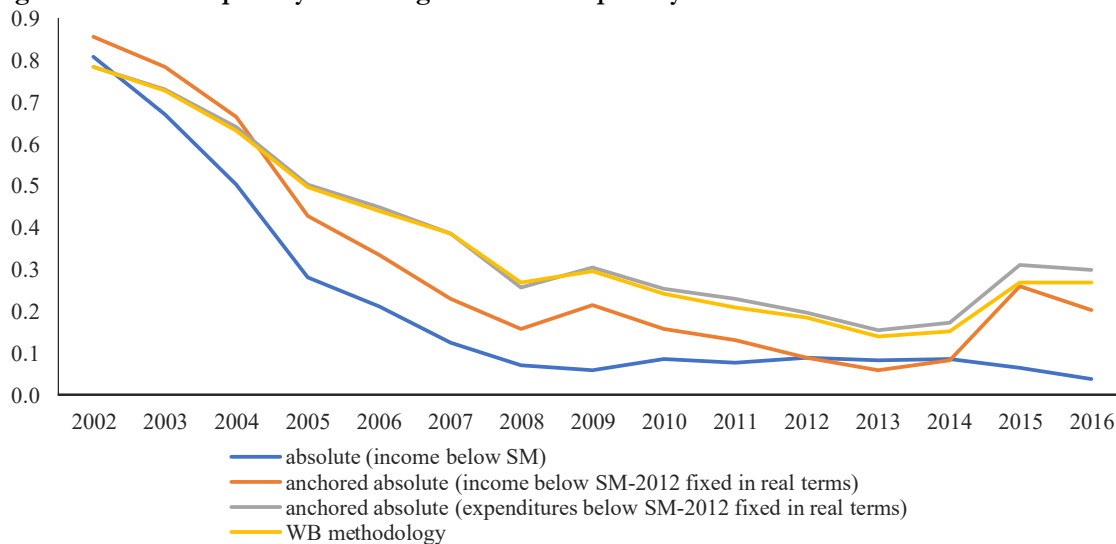
Poverty spiked after the large contraction of the economy in 2014-2015 and remains high, with over one-quarter of the population (26.7 percent) unable to meet its basic needs.⁶ It remains higher in rural than in urban areas (31 percent versus 25) and among younger families,⁷ particularly rural ones. As a result, child poverty (poverty among those under 18) is about 38 percent in rural areas, and 31 percent in urban areas. Pensioners are affected by poverty to the same degree as the working age population. These estimates are sensitive, however, to the type of equivalence scale used, and therefore may differ if one were to apply the equivalence scales used by the social assistance system. In any case, the rapid increase of poverty raises questions about the effectiveness of the Ukraine social assistance system in protecting the population from shocks.

The poverty trends we report differ from published poverty rates (Figure 6), though they concur with other non-official poverty estimates from SSSU. Ukraine officially reports poverty based on several absolute and relative definitions. The headline figure, though, is provided by those living on an income below the SM. As this poverty definition is anchored to a policy variable which has been actively adjusted to respond to budget considerations, and in particular was frozen over 2014-15 to rein in pension spending, it does not allow for meaningful comparisons over time. To obviate these challenges, the World Bank poverty team has adopted a different poverty line, derived with the 2012 household survey of living conditions, whose purchasing power is constant and fixed at 1,042.4 UAH per adult equivalent in 2012 (1,795.6 UAH in 2016). This “World Bank methodology” poverty line replaces the stop-gap measure of using the 2012 SM updated for inflation as a poverty line. SSSU has recently started to publish poverty estimates based on an alternative line with constant purchasing power, and the trends are very similar to the ones provided by the World Bank methodology.

⁶ The data on which these estimates are based do not cover the populations living in areas outside government control, nor are especially designed to identify or monitor the living conditions of internally displaced populations, likely to be one of the most vulnerable groups in the country today. It is likely, for this reason, that they underestimate the levels of poverty in the country.

⁷ The average child dependency ratio for the poor is 52 percent, against 36 percent for the non-poor.

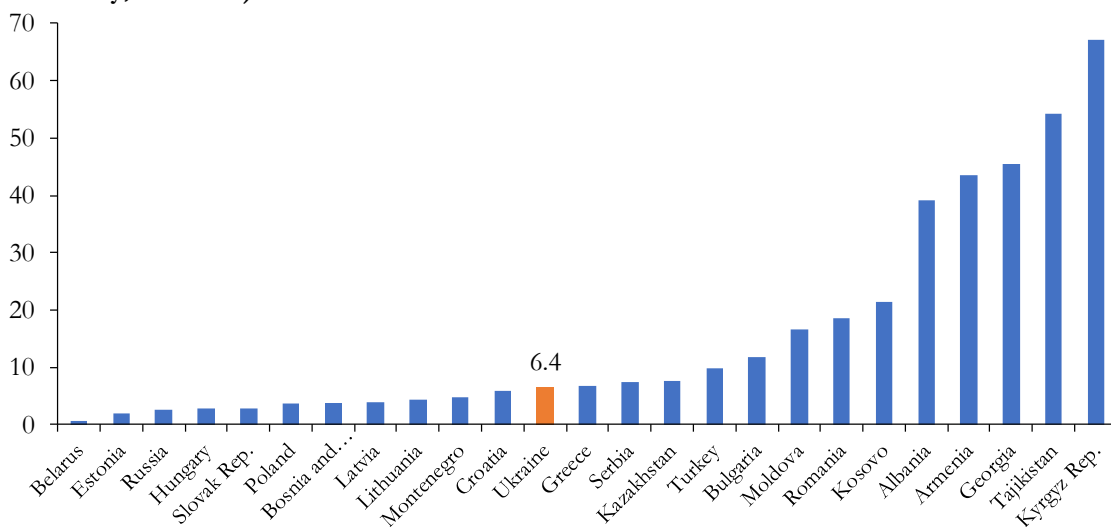
Figure 6. Trends in poverty according to alternative poverty definitions



Source: SSSU and authors' calculations using HLCS data.

Despite recent increases, Ukraine continues to compare favorably to Europe and Central Asia and to lower middle-income countries in terms of poverty incidence. Using the newly developed international poverty line for lower middle-income countries (World Bank, 2018b) of per capita consumption below 3.2 USD/day in 2011 PPP terms results in a poverty incidence of less than 1 percent for Ukraine – a very low poverty incidence when compared to countries at this income level. But even using the upper income poverty line results in relatively low incidence when compared, for example, to Europe and Central Asia (6.4 percent; Figure 7).

Figure 7. Poverty incidence in ECA – international poverty line for upper middle income countries (5.5 USD a day, 2011 PPP)



Source: World Bank estimates using ECAPOV data.

2.2. Revenues and expenditures of the general government

Government revenues

The tax revenues of general government of Ukraine were around 33 percent of GDP in 2016 and 34 percent in 2017, which is comparable to the countries of the same level of development. For example, in 2016, the tax to GDP ratio in Poland was 33.6 percent, in Latvia – 30.2 percent, in Czech Republic 34.0 percent, in Estonia 34.7 percent.⁸

⁸ <https://www.oecd.org/tax/tax-policy/revenue-statistics-highlights-brochure.pdf>

In Ukraine, as in many other countries, the budget-generating taxes are Value-added tax (VAT), Personal-income tax (PIT), Unified Social Contribution tax, Excises, and enterprise-profits tax (EPT). The revenues from the aforementioned taxes constitute roughly ¾ of total general government revenues. The tax base was substantially broadened in 2014-2015 and tax administration was strengthened. Nevertheless, the share of the shadow economy remains high, and there is further room for improvements of tax administration, and tax base broadening.

Non-regular incomes, such as the temporary import duty, revenues from confiscation of corruption property, and revenues from the sale of licenses for mobile operations, have been playing a bigger role in recent years. The revenues in the form of NBU profits are also very significant. In 2016 and 2017, the share of GDP redistributed through budget and off-budgetary funds was 38 percent and 40 percent of GDP respectively.

Table 1. General government revenue (UAH m)

	2016 UAH	2016 % GDP	2017 UAH	2017 % GDP
Consolidated budget revenues	782 859.5	33%	1 016 788.3	34%
Tax revenues	650 781.68	27%	828 158.82	28%
Personal income tax	138 781.8	6%	185 686.1	6%
Enterprise profits tax	60 223.2	3%	73 396.8	2%
Rent payment for the use of earth interior	40 780.8	2%	44 978.7	2%
Excises from domestic products	55 116.3	2%	67 774.2	2%
Excises from imported products	35 006.2	1%	47 674.4	2%
Retail excise	11 628.0	0%	6 000.0	0%
VAT tax total including	235 506.0	10%	313 980.6	11%
VAT (domestic) less VAT refund	54 052.7	2%	63 450.4	2%
VAT from domestic products	148 458.2	6%	183 511.0	6%
VAT reimbursement	-94 405.4	-4%	-120 060.6	-4%
VAT from imported products	181 453.3	8%	250 530.2	8%
Property taxes	24 989.4	1%	29 056.08	1%
including Land payment	23 323.6	1%	26 384.5	1%
Import duty	20 001.3	1%	23 898.4	1%
Simplified tax	17 167.10	1%	24 083.43	1%
Non-tax revenues	125 391.93	5%	154 370.87	5%
Profit and dividends of state enterprises	11 956.00	1%	24 789.76	1%
National Bank profits	38 163.78	2%	44 378.83	1%
Own revenues of budget entities	48 949.7	2%	52 477.6	2%
Foreign exchange transaction tax	377.9	0%	2.61	0%
Tax on the price of a new car	2 230.4	0%	3 031.59	0%
Tax on the acquisition of immovable property	873.1	0%	991.54	0%
Tax on mobile communication services	1 593.0	0%	1 862.83	0%
Confiscation of funds received via corruptive actions	0.2	0%	29 667.2	1%
Unified Social Contribution Tax	131 826.8	6%	180 805.2	6%
Taxes of consolidated budget+Unified social contribution tax	782 608.4	33%	1 008 964.0	34%
General government revenues	919 444.9	38%	1 197 593.5	40%
GDP	2 385 367		2 982 920	

Source: State treasury reports, State Statistics Committee, Ministry of Finance statistics yearbook

Government expenditures

The debt service burden is high (it exceeds 4 percent of GDP) and antiterrorist operations consume a substantial part of the budget (expenditures on defense, public order and safety constituted 5.5 percent of GDP in 2016-2017). Nevertheless, Ukrainian social expenditures remain of high priority and are high relative to other countries in the ECA region. According to GFS statistics, total social expenditures of the general government in 2016 constituted 19.4 percent of GDP or 61 percent of general government expenditures (19.0 percent of GDP or 60 percent of general government expenditures in 2017). According to the National social accounts data (according to the ESSPRO methodology) Ukraine has social expenditures that are high for the European region and even for high income countries.

Traditionally, pension expenditures have dominated the Ukrainian social protection budget, accounting for 11 percent of GDP (UAH 258.5 bn) or nearly 26.6 percent of general government expenditures in 2016.⁹ Both the share of pension expenditures in the general government expenditures and in relation to GDP are high in comparison to European countries. The second biggest program among social protection expenditures is comprised of the housing subsidies and privileges that cover nearly half of the population in Ukraine, and on which

⁹ Pension fund expenditures and pension expenditures of the consolidated budget code 1020 excluding transfers to PFU.

the government spent UAH 46.4 bn or 1.9 percent of GDP in 2016 (UAH 72.4 bn or 2.4 percent of GDP in 2017). Ukrainian social protection expenditures are also characterized by relatively high expenditures on social support of families and children (2 percent of GDP or 5 percent of general government expenditures). The expenditures on education are also high by international standards. At the same time, expenditures on health care are relatively low -- only 3.2 percent of GDP or 8.0 percent of general government expenditures in 2016.

In addition, the Ukrainian economy is notable for high quasi-fiscal activities. For instance, despite significant energy tariff increases, the average annual energy and utility tariffs for residential consumers was below the market level, this being offset by sizeable quasi-fiscal activities.

Table 2. General government expenditures (UAH m)

	2016	2016 % of GDP	Structure	2017	2017 % of GDP
Consolidated budget expenditures (local and central budgets)	835 832.1	35.0%	86.1%	1 056 759.9	35.4%
General government services	38 151.7	1.6%	3.9%	55 670.6	1.9%
Debt servicing	96 105.2	4.0%	9.9%	110 578.2	3.7%
Defense	59 359.1	2.5%	6.1%	74 360.4	2.5%
Public order and safety	72 056.6	3.0%	7.4%	88 479.8	3.0%
Economic activity	66 191.3	2.8%	6.8%	102 883.4	3.4%
Environment protection	6 255.4	0.3%	0.6%	7 349.3	0.2%
Utility and amenities	17 547.5	0.7%	1.8%	27 187.5	0.9%
Health care	75 503.4	3.2%	7.8%	102 391.6	3.4%
Culture	16 897.8	0.7%	1.7%	24 342.3	0.8%
Education including	129 437.7	5.4%	13.3%	177 755.7	6.0%
pre-primary	20 115.0	0.8%	2.1%	28 207.0	0.9%
general secondary	56 531.0	2.4%	5.8%	84 346.0	2.8%
vet	6 181.0	0.3%	0.6%	8 278.8	0.3%
higher	35 233.0	1.5%	3.6%	38 681.0	1.3%
Social protection (consolidated budget) including	258 326.1	10.8%	26.6%	285 761.2	9.6%
Pension expenditures from the Consolidated budget (1020)	147 611.0	6.2%	15.2%	140 227.0	4.7%
Transfer to the PFU	142 586.0	6.0%	14.7%	133 458.6	4.5%
Housing subsidies and privileges	46 399.9	1.9%	4.8%	72 373.5	2.4%
Support of families and families with children	47 153.8	2.0%	4.9%	51 591.8	1.7%
Pension fund expenditures (less transfers)	110 862.0	4.6%	11.4%	158 008.0	5.3%
Other off-budget social expenditures	24 419.1	1.0%	2.5%	28 850.2	1.0%
Total social protection of general government	393 607.3	16.5%	40.5%	472 619.4	15.8%
Total social expenditures of general government *	598 548.4	25.1%	61.6%	752 766.7	25.2%
GDP	2 385 367			2 982 920	

Source: State treasury reports, State Statistics Committee, Ministry of Finance statistics yearbook

*This category includes social protection, Health care and educational expenditures of general government

3. Methodology of the analysis

3.1. CEQ approach to income concepts construction

This paper evaluates the effect of fiscal policy in Ukraine on poverty and inequality using the CEQ framework for fiscal incidence analysis. This methodology allocates taxes and benefits (both cash and in-kind) to individuals in the household survey so that one can compare incomes before taxes and transfers with incomes after taxes and transfers (Lustig, 2018) and (Figure 8). Such comparisons across different income concepts allow for an assessment of individual contributions of individual taxes and expenditure programs on poverty and inequality alleviation. In addition, this also allows for insight into the incidence of various taxes and programs in the population, and hence for the profile of contributors and beneficiaries of different programs.

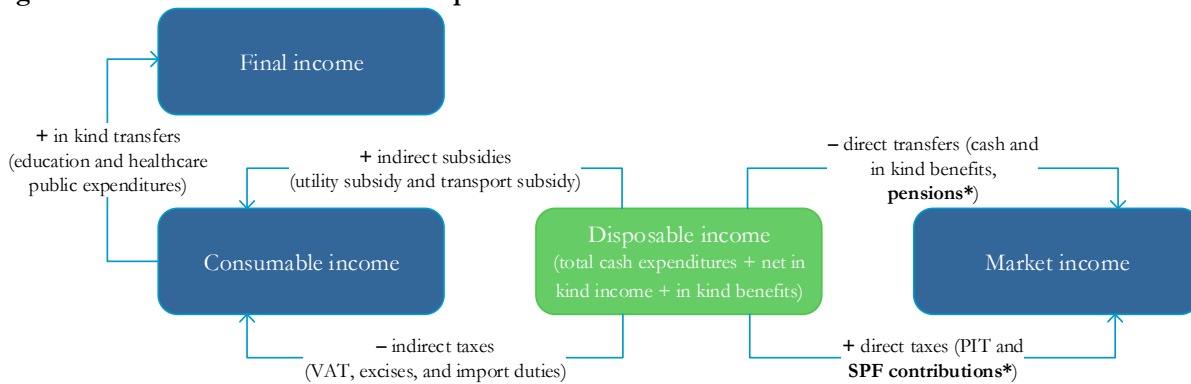
Four income concepts are used in the analysis (Figure 8). Our starting point is *market income*, i.e. household income before any tax-benefit interventions have taken place. It comprises income from all forms of employment, capital income (rent and dividends) and private transfers. The next level is *market income plus pensions*, which includes contributory pensions and excludes the respective pension contributions. By subtracting direct taxes and social

insurance contributions other than pension ones and adding direct cash transfers (and other social benefits except pensions) we arrive at *disposable income*. Typically, fiscal analysis stops here. In our case we compute two more income concepts. By subtracting indirect taxes (VAT and excises) and adding subsidies we arrive at *post-fiscal income* which reflects the actual amount of market goods and services consumed by households. Our *final income* includes the cash equivalent of the cost of public health and education services consumed by households.

Given the overwhelming weight of the pension system, both as a source of revenue (Unified Social Contribution tax represent 15-17 percent of total government tax revenues) and as a component of social spending (spending on pensions is 42 percent of total social spending), this paper analyzes the redistributive and poverty reducing effect of the fiscal system under two extreme assumptions: contributory pensions are treated as direct transfer, contributions to the pension system are subtracted from gross income - *pension as government transfers (PGT) scenario*; and contributory pensions are treated as a part of market income, contributions to the pension system are treated as lifetime earnings and not subtracted from gross income - *pension as deferred income (PDI) scenario*. In reality, the distinction between contributory and non-contributory pensions in Ukraine is quite arbitrary because a large share of the budget of the Pension Fund (56 percent in 2016) is covered by transfers from the State Budget. Hence, these two scenarios can be considered as an upper and a lower bound of a true estimate of the distributional impact of the pension system. The further analysis mostly relies on the PGT scenario, however, the results for the alternative could be easily received if market income plus pensions is considered as initial level.

The analysis used here is at a given point-in-time and does not incorporate behavioral or general equilibrium effects. The analysis is based on economic rather than statutory tax incidence. For example, it is assumed that personal income taxes and contributions are borne by labor in the formal sector. Individuals who are not contributing to social security are assumed to pay neither direct taxes nor contributions. Consumption taxes are fully shifted forward to consumers. The welfare indicator used is income per capita in accordance with the national statistical practice. Finally, it is worth noticing that the CEQ framework is aimed at incidence analysis using amounts reported in the survey, therefore the annual amounts of tax revenues and social spending do not necessarily coincide with those found in other sources, in particular National Accounts.

Figure 8. Construction of income concepts



Note. * Pensions and SPF contributions are included into direct transfers and taxes respectively only within PGT approach.
Source: own elaboration.

The progressivity/regressivity of taxes and transfers in this paper is consistent with the CEQ methodology. The common definition of tax progressivity is the situation when high-income groups face a higher average tax rate than low-income groups (relative progressivity). Similarly, cash transfers are considered to be progressive when they account for a larger share of the low-income groups' income (Joumard, 2012). However, the strict criteria for progressivity is the Kakwani index (Kakwani, 1977; Lustig, 2018) – positive value of the index corresponds to progressive tax or transfer, while negative – to regressive. For simplicity and illustration purpose below in the paper the simplified approach for defining progressivity is used. Progressivity in case of taxes is understood as the tax share of disposable income increasing for higher deciles. In the case of benefits the progressivity is understood as benefits accounting for a larger share of income for lower deciles. Deciles are defined based on disposable income plus taxes for direct taxes, disposable income minus transfer for direct transfers and pensions, and pure disposable income in other cases. However, whenever the tax/transfer or set of interventions is called progressive or regressive it is consistent with the values of the Kakwani index.

3.2. Data

The analysis is based on the Household Living Conditions Survey (HLCS) for 2016 -- the latest year of microdata available at the time of analysis. This is the official survey conducted by the State Statistical Service of Ukraine for purposes of poverty and inequality monitoring, among other desiderata. The survey sample covers 8,168 households or 18,255 individuals and is representative at least at the national level. It includes multiple questions about incomes, expenditures of households, as well as some social, demographic and labor market characteristics. Some variables are slightly modified for anonymization purposes. The CEQ analysis relies as much as possible on information about social transfers and taxes reported in the survey. If the survey does not include questions on certain items, the values were either simulated or imputed. The numbers on total fiscal revenues and expenditures were taken from the administrative budget data, presented in State treasury reports and Ministry of Finance statistics yearbook, Ministry of social policy social reports and State statistics Service publications on social protection.

It should be noted that in this paper we do not fully account for the difficulties of conducting the household survey data collection in conflict-affected parts of the country. The Republic of Crimea and Sevastopol city are completely excluded from the analysis as they are not covered by any source of recent statistics – neither HBS, nor national accounts, nor administrative budget numbers. The Donetsk and Luhansk oblasts, part of the country, which is where the conflict is situated, is covered albeit imperfectly by the survey and is therefore included in the analysis. The State Statistical Services of Ukraine adopts the same strategy in limiting the geographical coverage of their analysis. In terms of population the uncontrolled territories of Crimea and Donbass represent around 2.5 million of the total population of 45 million.

4. Simulations by Components of the Tax-Benefit System in Ukraine

4.1. Direct taxes and social contributions

Three main direct taxes were included in the analysis: Personal Income Tax (PIT), Temporary military tax and Simplified tax for entrepreneurs. Social Security Contributions (SSC) were divided into two components: (i) related to pensions and (ii) other. The simulated direct taxes included in the analysis represent almost 70 percent of all direct taxes in the Ukraine tax system (Table 4). A detailed description of the direct taxes system in Ukraine is available in Annexes 8.1 and 8.2.

Direct taxes and SSC are not available in the survey, so they were simulated according to the respective formulas using information about the bases, rates and deductions. A comparison of the aggregate results of our simulated programs with administrative data suggests that major direct taxes and SSC are simulated fairly well in our models (Table 3). The SSC are simulated almost precisely. The proportion between pensions and other contributions is the same by construction: as there was no way to separate pension contributions in the survey from other SSC, they were allocated proportionally using the same share as in the administrative data.

Direct taxes are underestimated by 15-25 percent. This mainly happens because of survey sample bias towards low income households and misreporting of income across the distribution. This is less of an issue for SSC, which are capped at a certain level. The main exception here is the simplified tax for entrepreneurs, for which the simulated amount equaled only 12 percent of the total figure from the administrative data. The main reason for this underestimate is the lack of information in the survey related to entrepreneurial activity.

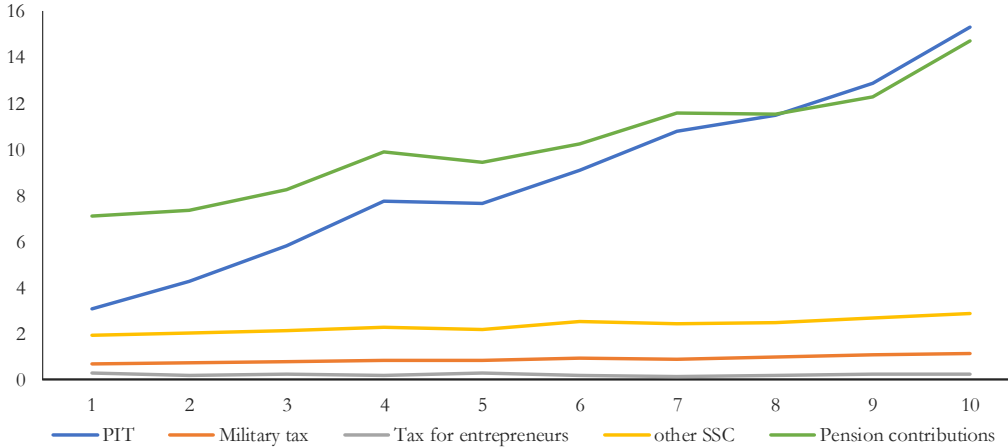
Table 3. Simulated direct taxes, 2016.

		administrative data, mln UAH (a)	total in the analysis, mln UAH (b)	ratio (b)/(a), percent (c)
(1)	SSC: pensions	107,148	105,841	99
(2)	SSC: other	24,679	24,378	99
(3)=(1)+(2)	Social Security Contributions (SSC): total	131,827	130,219	99
(4)	Personal Income tax (PIT)	127,325	98,652	77
(5)	Temporarily military tax	11,457	9,421	82
(6)	Simplified tax for entrepreneurs	17,167	2,102	12
(7)=(2)+(4)+(5)+(6)	All taxes and non-pens SSC	180,628	134,552	74
(8)=(1)+(7)	Total simulated direct taxes and SSC (sum of above)	287,776	240,393	84
(9)	All direct taxes + SSC	419,597		
(10)=(8)/(9)	Share of direct taxes included in the analysis, percent	69		

Source: MinFin, SSSU, authors' calculations using HLCS-2016 data.

The incidence of direct taxes in Ukraine is very high; 82.5 percent of people live in households that pay at least some direct taxes. For PIT this share is 71.5 percent and for SSC – 76.5 percent. Direct taxes in Ukraine are progressive. If measured at the level of disposable income, higher deciles pay a much higher share of their income. While the first decile pays only 10 percent of its disposable income as direct taxes and SSC, for the tenth decile this share goes as high as 38.5 percent. The two major components of direct taxes in the SSC system – Personal income tax (PIT) and pension contributions are also highly progressive (Figure 9).

Figure 9. Direct taxes as share of disposable income, percent



Note: Taxes are indicated as positive amounts. Progressivity in case of taxes is understood as the tax share of income increasing for higher deciles. Deciles are defined based on disposable income plus respective tax.

Source: authors' calculations using HLCS-2016 data.

4.2. Direct transfers and pensions

The analysis includes major components of the system of direct transfers; eight major direct transfers and two categories of pensions are included, covering almost fully (94 percent of total) the total spending on social protection in Ukraine (Table 4). Detailed description of pensions and direct transfers systems in Ukraine is available in Annexes 8.3 and 8.4 respectively.

The information on the total amount of pensions received was taken from the actual reported data. However, the division for contributory (labor) and non-contributory (social) pensions was simulated using the information about the age and gender of recipients. The assumption here is that people above the official retirement age are eligible for labor pensions, while all others receive social pensions. A more sophisticated approach was not feasible due to limited information in the survey.¹⁰ Nevertheless, the total amount of pensions received was replicated reasonably well (Table 4). Overall, pensions included in the analysis represent 83 percent of administrative data, while for contributory and non-contributory pensions the shares are 81 and 95 percent respectively.

Major direct social transfers were taken from the actual data and not simulated. The two biggest categories (child benefits and Household utility subsidies (HUS)) were replicated fairly well – they match administrative numbers by 75 and 94 percent respectively (Table 4). However, for other programs included in the analysis the match is less precise. Two programs (scholarships and non-utility privileges) were overestimated, while others were underestimated by some significant amounts. On average, the total match is quite high – 86 percent.

¹⁰ This assumption was tested using the HBS for earlier years (e.g. 2012) where information regarding the actual type of pension is available. The distribution of pensions between labor and other (social) was simulated very accurately – it was correctly matched for more than 92 percent of pension receivers.

Table 4. Simulated direct transfers and pensions, 2016.

		administrative data, mln UAH (a)	total in analysis, mln UAH (b)	the ratio (b)/(a), percent (c)
(1)	Contributory pensions: old age and labor	213,247	172,893	81
(2)	Non-contributory pensions: social	43,298	41,146	95
(3)=(1)+(2)	All pensions	256,545	214,039	83
(4)	Child allowances	28,084	21,127	75
(5)	Social assistance to poor families	10,813	3,967	37
(6)	Unemployment benefits	6,543	3,101	47
(7)	Scholarships	5,385*	5,638	105
(8)	Household utility and fuel subsidies (HUS)	52,600	49,277	94
(9)	Household utility and fuel privileges	7,800	4,502	58
(10)	Transport, recreation and other privileges	2,200**	4,132	188
(11)	Other benefits		5,754	
(12)=(4)+...+(11)	Direct transfers excl. non-contr pensions	113,424	97,498	86
(13)=(2)+(12)	Direct transfers + non-contr pensions	156,722	138,644	88
(14)=(1)+(13)=(3) +(12)	Total simulated direct transfers and pensions	369,969	311,537	84
(15)	All social protection	393,607		
(16)=(14)/(15)	Share of direct transfers included in the analysis, percent	94		

Source: MinFin, SSSU, authors' calculations using HLCS-2016 data.

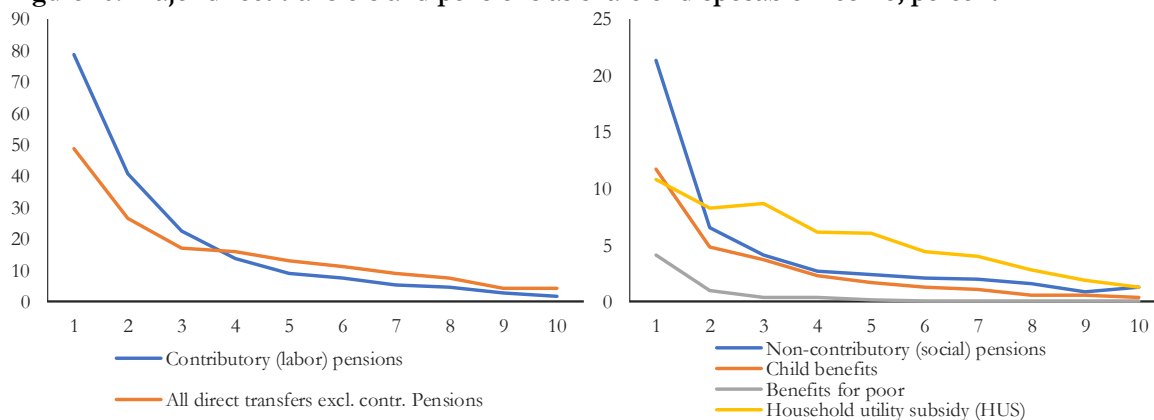
*Not all scholarship funding is included in this number due to reporting conventions

**The number in transport, recreation and other privileges is a government estimate, as no exact data is collected

The incidence of direct transfers is very high; 82.4 percent of people live in household that receive some part of their disposable income through one of the direct transfers or pensions. For direct transfers excluding contributory pensions this share is also high – 76.5 percent. The highest coverage is for labor pensions (41.3 percent) and for HUS (40.9 percent).

Direct transfers in Ukraine are progressive. Lower deciles (defined based on disposable income net of the investigated program) receive a much higher share of the disposable income through direct transfers. This applies to both types of pensions (contributory and non-contributory), child benefits, poverty allowances or Guaranteed Minimum Income (GMI) and HUS as well as most of the other programs (Figure 10). The most progressive in this sense are labor pensions if counted as transfers. A major source income for recipients, they account for up to 79 percent of disposable income for the bottom decile, while for the top decile this share is below 2 percent. All together direct transfers and pensions account for 97 percent of disposable income in the bottom decile and only 5.5 percent in the top one. For direct transfers excluding contributory pensions, these numbers are 49 and 15 percent respectively.

Figure 10. Major direct transfers and pensions as share of disposable income, percent



Note: Progressivity in the case of benefits is understood as benefits accounting for a larger share of income for lower deciles. Deciles are defined based on disposable income minus respective transfer.

Source: authors' calculations using HLCS-2016 data.

4.3. Indirect taxes

Three main types of indirect taxes are included in the analysis: Value-Added Tax (VAT), import duties and excises. The simulated indirect taxes included in the analysis represent 98 percent of all indirect taxes in the Ukraine tax system (see Table 5). A detailed description of the indirect taxes system in Ukraine is available in Annex 8.5.

VAT, import duties and excises are not available in the survey, so they were simulated using information about the bases, rates and deductions. In addition, to calculate the effective incidence of these indirect taxes, we rely on an input-output matrix, which contains 42 sub-sectors of the economy, which we match to the 22 expenditure groups in HCLS. We incorporate all the exemptions to the VAT into the input-output matrix to compute the effective VAT rates by industry. This allows us to apply the effective VAT rates to the matched household expenditure groups. To adjust for the de-facto collection rate of 13.3 percent, we apply a scaling coefficient which equates the de-facto VAT rate in the macro data and in our simulation.

Excises are significantly underestimated as our analysis does not cover all the excise types due to the characteristics of the available data. Moreover, those excises which we do simulate could be underestimated due to underreporting. Due to data limitations we only simulate excises on tobacco, alcohol and electrical energy. The HCLS data do not allow us to compute the excises on fuel and purchase of new vehicles, as these expenditures are consolidated in the transport expenditure category, which also includes expenditure on public transportation etc.

We use the data on the expenditure on different types of alcohol and tobacco and average prices of tobacco and alcohol products as reported by SSSU to compute the corresponding excises. We also use data on the utilities expenditure to estimate the excise on the electrical energy consumed. Only 52 percent of the households report expenditure on alcohol, which might suggest a sizable underreporting - according to WHO, 62 percent of the adult population of Ukraine consume alcohol (WHO 2018). Simply scaling up the alcohol expenditure to match aggregate numbers on consumption would result in a bias, as we usually observe underreporting not only through the diminishing of the de facto volumes of consumption, but mostly failing to report the consumption altogether (Stockwell et al., 2004). Hence, scaling up would lead to significant misallocation of the burden of excises in our simulations.

We use HCLS data on purchases of foreign currency and real estate to compute the “luxury” tax on the acquisition of immovable property.

Our analysis covers only 37 percent of collected indirect taxes as we are able to simulate indirect taxes only on part of its base (i.e. on household consumption, but not on public consumption and private investment), and as there is a significant underreporting of alcohol consumption, The aggregate results of our simulated indirect taxes and the administrative data are compared in Table 5. We are able to account for around half of the VAT and import duties, compatible with the fact that a part of these is paid by importers and public consumption. Since the HCLS data do not capture top incomes, the “luxury” tax on acquisition of immovable property is underestimated in our simulation, and we are able to capture only 26 percent of it.

Table 5. Simulated indirect taxes, 2016.

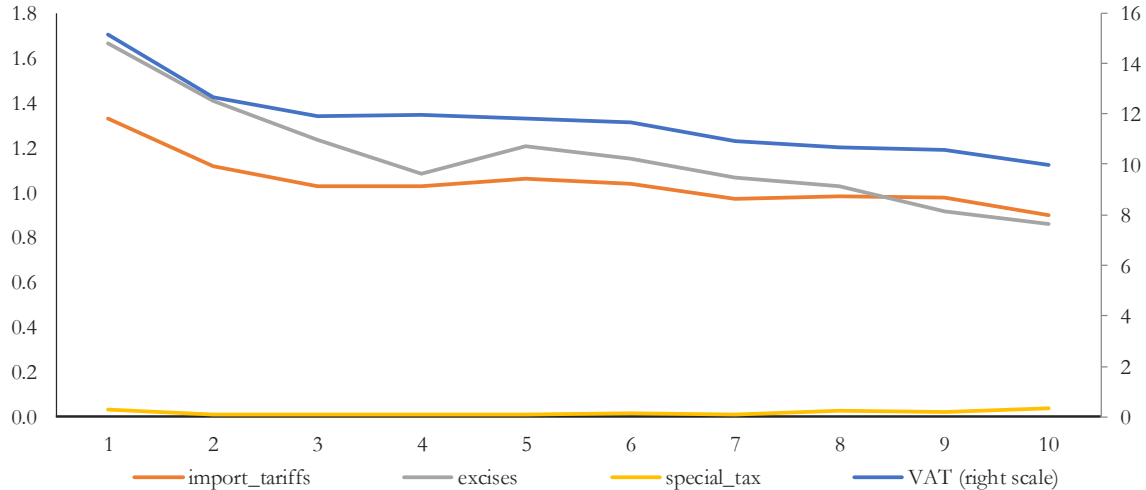
		administrative data, mln UAH (a)	total in the analysis, mln UAH (b)	ratio (b)/(a), percent (c)
(1)	VAT	235,506	111,427	47
(2)	Import duties	20,001	9,960	50
(3)	Excises	101,751	10,666	10
(4)	Tax on the acquisition of immovable property	873	231	26
(5)=(1)+(2)+(3)+(4)	All indirect taxes included in the analysis	358,131	132,284	37
(6)	Tax on the price of a new car	2,230		
(7)	Tax on mobile communication services	1,593		
(8)=(5)+(6)+(7)	All indirect taxes	361,954		
(9)=(5)/(8)	Share of indirect taxes included in the analysis, percent	99		

Source: MinFin, SSSU, authors' calculations using HLCS-2016 data.

The indirect taxes are universal –100 percent of people live in households that pay VAT and/or import duties, and 98 percent pay excises (for excises the coverage is high dues to excise on electrical power). Only 15 percent people overall (versus 25 percent of the people in the top decile) pay the “luxury” tax on the acquisition of immovable property, which also covers the purchases of foreign currency.

The indirect taxes in Ukraine are regressive. As can be seen on Figure 11, lower deciles pay a higher share of their disposable income in indirect taxes. This result is common for the consumption-based taxes, and stems from the fact that the consumption share is higher for lower income deciles. The first decile pays 15 percent of its disposable income as VAT, while the top decile only pays 10 percent. The only exception is the “luxury” tax which is progressive.

Figure 11. Indirect taxes as share of disposable income, percent



Note: Taxes are indicated as positive amounts. Progressivity in case of taxes is understood as the tax share of income increasing for higher deciles. Deciles are defined based on disposable income.
Source: authors' calculations using HLCS-2016 data.

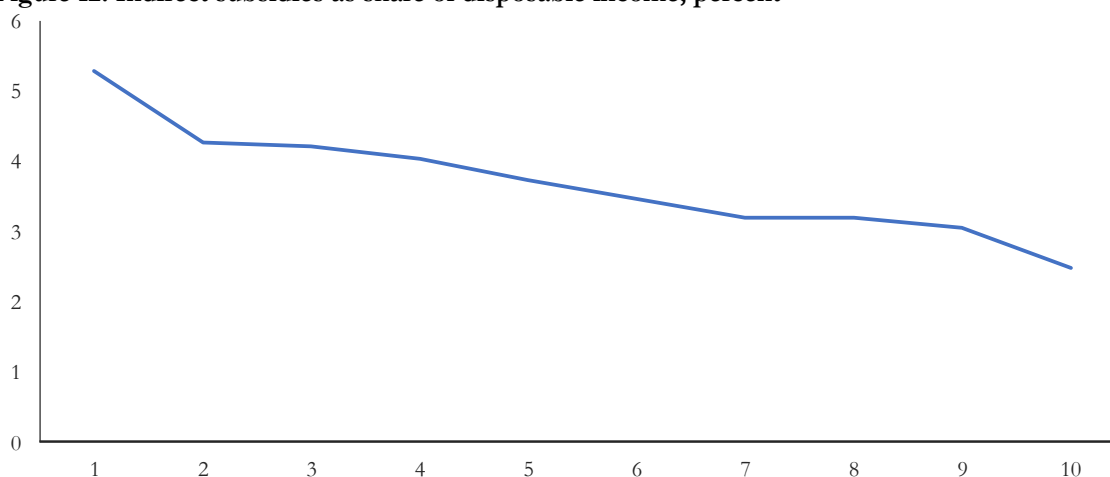
4.4. Indirect subsidies

A major type of indirect subsidies in Ukraine are utility subsidies in the form of lower (below cost) tariffs. To calculate the indirect subsidies received by households, we used the estimates of the World Bank for the cost coverage of the tariffs, and HLCS-2016 data on the utility expenditures.

Indirect utilities subsidies are substantial in size. The administrative data do not offer evidence in this regard, as cost subsidies and cross-subsidies are scattered throughout the production and distribution chain. This complicated structure of subsidies and cross-subsidization makes it difficult to keep track of these expenditures administratively. Our estimates suggest that the size of the indirect subsidies is comparable to the size of the largest direct transfer programs: the total estimated size of the indirect utilities subsidies is 33,412 mln UAH, while the child benefit program amounts to 21,127 mln UAH, and direct HUS are 49,277 mln UAH.

Indirect utilities subsidies in Ukraine are progressive. The first decile obtains the equivalent of 5.3 percent of its disposable income as an indirect subsidy, while the 10th decile only get 2.5 percent (Figure 12). However, this result is driven only by the fact that the expenditures on utilities are a greater share of income for lower deciles. In absolute numbers the top deciles receive significantly higher indirect transfers in the form of indirect subsidy as compared to lower deciles: on average, a person from the first decile obtains 562 UAH annually in indirect utilities subsidy, while a person from the 10th decile obtains 1,259 UAH in 2016.

Figure 12. Indirect subsidies as share of disposable income, percent



Note: Deciles are defined based on disposable income.

Source: authors' calculations using HLCS-2016 data.

4.5. In-kind transfers: Health care

Ukraine has a universal free health care system, and all public health care expenditures are included in this analysis. Public health care expenditures amounted to 3.2 percent¹¹ of GDP in 2016. The health care system is built on two pillars: primary and secondary care is provided through policlinics; while a network of hospitals provides tertiary care (see World Bank, 2018c for more details on the organization of health care system in Ukraine). Administrative data offer a functional disaggregation (primary & secondary, tertiary care and other costs) and regional disaggregation of budgetary expenditure, but not both simultaneously. We distribute other costs proportionally to primary & secondary and tertiary care costs; and then assign them to regions proportionally to the regional distribution of health care expenditure. We use two standard approaches to allocate health care costs by households: (1) allocating health expenditure proportionally to doctor visits (for primary & secondary) and hospitalizations; and (2) allocating health expenditure equally to everyone, considering only the functional/regional differences from the administrative data (Bastagli et al., 2015). The first approach offers a better reflection of the difference in need (for example, higher use of health care in regions with older population) and availability of health care services (for example, in rural areas access to certain health care services might be limited or require travel). The second approach reflects the universal character of health care. We use the first approach as a baseline. As suggested by the CEQ handbook (Lustig, 2018), we scaled down the health care expenditures so that the ratio of health transfers to disposable income in the survey equals the corresponding ratio from national accounts (the resulting scaling factor is 0.73).¹² By design, we model all the health care expenditure reported in administrative data, and we match 73 percent of it (due to scaling).

Almost everyone uses health care services in Ukraine. This is driven first of all by the very high access rate of primary and secondary care: 94 percent of people have visited a doctor in 2016, according to HLCS. As for tertiary care, access is significantly lower: only 24 percent of people stayed in hospitals. There is no clear relationship between access to health care and disposable income decile.

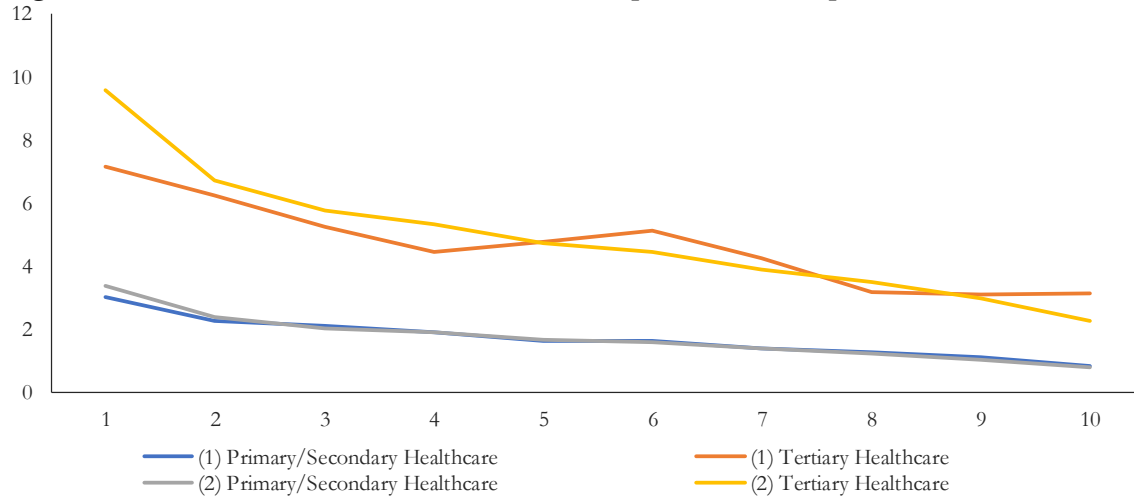
In-kind health care transfers in Ukraine are progressive. Lower disposable income deciles enjoy relatively higher health care transfers. This pattern persists even if we use the second, more equalizing approach (see Figure 13). Under the first approach the first decile receives a total in-kind health care transfer of 10.2 percent of disposable income, while the 10th decile receives only 3.9 percent. In absolute numbers, however, these transfers translate into UAH 1081 and UAH 1944 for the first and 10th decile correspondingly. The higher absolute value of transfers to the upper deciles of disposable income can be explained by higher health care expenditure in regions with wealthier population: urban areas, wealthier regions, and, in particular, Kyiv city. This finding – higher in-kind transfers to

¹¹ The administrative expenditure data do not include the uncontrolled territories of Crimea and Donbass, corresponding in coverage to HLCS.

¹² The scaling down of education and health expenditure aims to avoid overestimating of their redistributive effects. Other taxes and transfers in the survey are not directly linked to administrative data in national accounts. Hence, the in-kind transfers are also scaled down so that the share of transfers in disposable income according to national accounts is equal to the share of transfers in disposable income in the household data.

higher-income areas – is common for many other countries; however, in Ukraine health care transfers represent a higher share of income for lower deciles.

Figure 13. In-kind health care transfers as share of disposable income, percent



Note: Deciles are defined based on disposable income. (1) and (2) refer to different allocation approaches
Source: authors' calculations using HLCS-2016 data.

4.6. In-kind transfers: Education

All public education expenditures are included in the analysis. In 2016 the Ukrainian government spent 5.4 percent¹³ of GDP on education. Administrative data provide the expenditure disaggregation on the regional and functional levels; as in our approach to health care, we make the proportionality assumption and distribute expenditures accordingly by type (primary, secondary, etc.) and region. Again, similarly to health care, we apply a scaling factor to education expenditure. Hence, by design, we model 100 percent of the education expenditure reported in the administrative data, but only match 73 percent due to scaling.

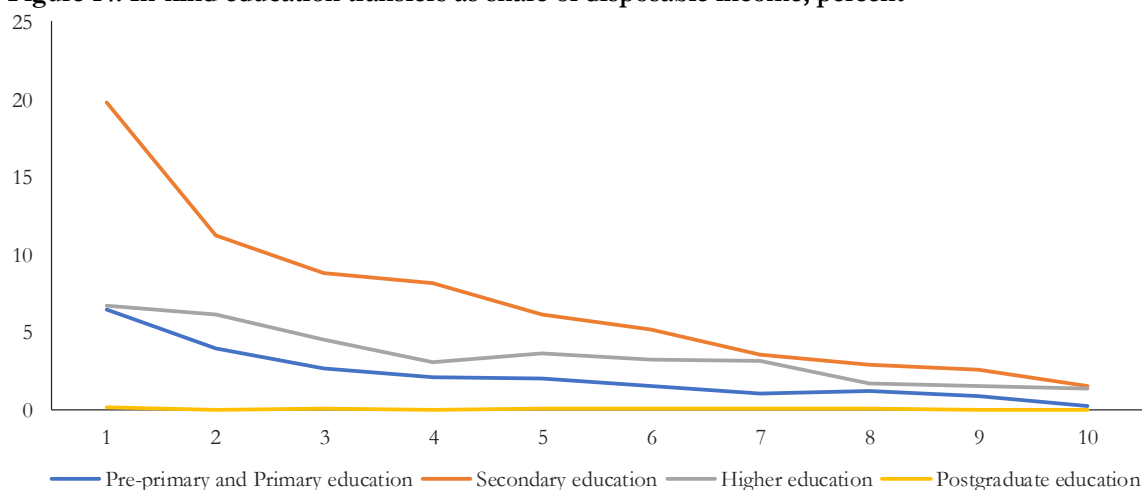
Education expenditure is allocated to its users – pupils and students at corresponding education levels. Since the HLCS-2016 data do not provide information on student status, we model with a probit regression student status in the HLCS-2012 data, which still has the student status information, and then apply the model to approximate the probability of student status in 2016. The explanatory variables were age, family status, level of education, residence type and region. The pupil status was assigned by age.

Two-thirds of the population are direct recipients of the education in-kind transfer. The recipients are concentrated in the lower deciles of the income distribution, where the share of households with children, which are the main education recipients, is the highest. This pattern, although less pronounced, persists even for higher education expenditure.

In-kind education transfers are strongly progressive. This is especially true for secondary education transfers, which are as high as 19 and 11 percent of disposable income for the first and second deciles; and only 2.5 percent for the 10th decile (Figure 14). Progressivity is also evident from the distribution of absolute amounts. The first and second deciles on average receive 3447 UAH and 3290 UAH as annual in-kind education transfers, while the 10th decile receives only 1501 UAH.

¹³ The administrative expenditure data do not include the uncontrolled territories of Crimea and Donbass, corresponding in coverage to HLCS.

Figure 14. In-kind education transfers as share of disposable income, percent



Note: Deciles are defined based on disposable income.

Source: authors' calculations using HLCS-2016 data.

5. Results and Discussion

5.1. Main results

Most households contribute and benefit from the system at the same time, but the net effect is not the same for all. On average, households are net receivers from the tax-benefit system in Ukraine - they receive 12 percent of their final income as net benefits from the system (Table 6, Figure 15).¹⁴ The most important components of the benefit system are pensions, other direct transfers and education (17, 13 and 9 percent of final income respectively). Indirect subsidies and in-kind health transfers are relatively less important. The average burden of direct taxes, pension contributions and indirect taxes is similar (13, 10 and 13 percent of the final income respectively).

The tax-benefit system is quite pro-poor in Ukraine in the sense that 60 percent of the population are net recipients and only 40 percent are net payers into the system. However, the degree of reliance on the system varies a lot with income levels. The poorest decile depends almost entirely on transfers and other benefits. Households in this income group get as much as 97 percent of their final income as net benefits. For the second decile this share is almost 80 percent of the total and even in the third decile one receives more than half of one's final income as net benefits (Table 6, Figure 15). Meanwhile, the top two deciles contribute 25 and 39 percent of their final income as net taxes into the redistributive system in Ukraine.¹⁵

The relative importance of each intervention also varies significantly by income groups. Pensions and other direct transfers are highly progressive in the sense that their shares in final income decrease with market income level. Lower deciles defined by market income rely on these two interventions – their shares in the final income for the bottom decile are almost 70 and 25 percent respectively (Table 6, Figure 15). For the top decile, their role is much smaller – together they account for less than 6 percent of the final income. In-kind health benefits are also more important for the lower part of the original income distribution. Indirect subsidies are slightly progressive in this sense. The middle of the distribution benefits most of all from in-kind education transfers. They account for 15 and 14 percent of final income for the third and fourth deciles respectively and only 2 percent of final income for the bottom decile and 4 percent for the top deciles. Direct taxes and pension contributions are highly progressive in the sense that higher deciles pay a much higher share of their income for these types of taxes, while indirect taxes (mainly VAT) are almost neutral.

¹⁴ This section relies on the scenario when pensions are treated as transfers. The redistribution effect of the tax-benefit system in Ukraine is much smaller in the alternative case when pensions are treated as deferred income. The magnitude of redistribution power under that case could be received from Table 8, if market income plus pension is considered as initial level.

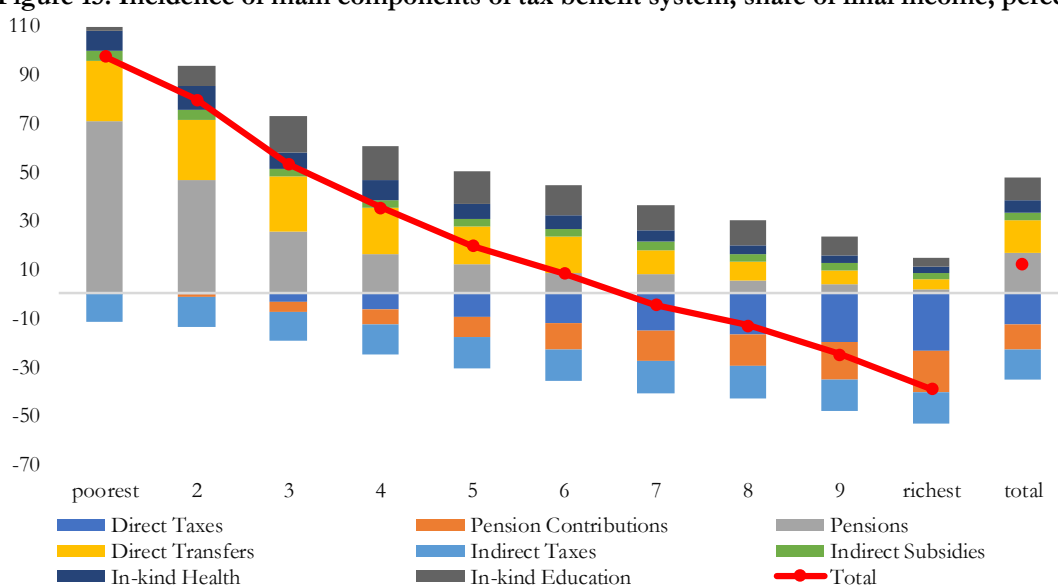
¹⁵ Because of the survey bias the top deciles do not fully cover the richest class in Ukraine as in many other countries.

Table 6. Incidence of main components of tax benefit system, share of final income, percent.

decile	Direct Taxes	Pensio Contribution	Pensions	Direct Transfers	Indirect Taxes	Indirect Subsidies	In-kind Health	In-kind Education	Total
poorest	0.0	0.0	70.4	25.2	-11.9	4.1	8.0	1.6	97.4
2	-0.6	-1.0	46.2	25.0	-12.3	3.9	10.0	8.3	79.5
3	-3.7	-4.0	25.1	22.9	-12.0	3.2	6.6	14.7	52.9
4	-6.6	-6.3	16.2	18.9	-12.3	3.2	7.9	14.2	35.2
5	-9.7	-8.5	11.8	15.8	-12.5	3.1	5.9	13.7	19.5
6	-12.4	-10.6	8.2	14.9	-13.1	3.2	5.5	12.4	8.1
7	-15.6	-12.3	7.7	10.0	-13.1	3.3	4.6	10.5	-4.8
8	-17.1	-12.9	5.1	7.6	-13.1	3.2	3.7	10.3	-13.3
9	-20.1	-15.2	3.5	5.9	-12.9	3.0	3.0	7.8	-25.0
richest	-23.6	-17.3	1.7	3.9	-12.6	2.6	2.6	3.5	-39.1
total	-12.8	-10.1	16.5	13.2	-12.6	3.2	5.3	9.1	11.7

Note: deciles are defined based on market income.

Source: authors' calculations using HLCS-2016 data.

Figure 15. Incidence of main components of tax benefit system, share of final income, percent.

Note: deciles are defined based on market income.

Source: authors' calculations using HLCS-2016 data.

If decomposed by types of households, there are only two categories of net payers, while all others benefit from the system (Table 7, Figure 16). The two categories of net payers are households with no children, and no pensioners, and families that consist of two working age adults and only one child. They do benefit from the system through direct transfers, in-kind health and education, but the amount of their contributions through direct and indirect taxes is higher than the benefits they receive. On net they contribute 22 and 17 percent of their final incomes respectively. These two types of families are among the least vulnerable.

The main beneficiaries are retirees-only households that get 85 percent of their final income as net benefits from the system, mainly through pensions (68 percent) and other direct transfers (17 percent). The households in this category are also the main beneficiaries of the health system in relative terms (8 percent of their final income is coming from this source). However, for obvious reasons, they do not benefit from the education system.

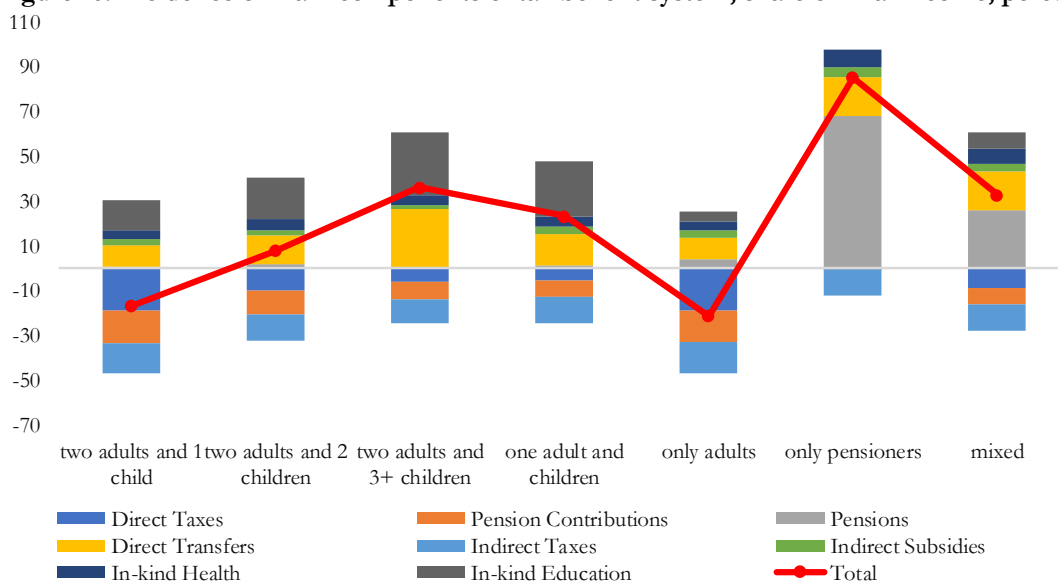
Another important category of beneficiaries includes families with children, except for families with two adults and only one child (Table 7, Figure 16). Two vulnerable groups – families with three or more children or families with only one adult and children are benefiting 36 and 23 percent of their final income respectively. It mostly comes in the form of direct transfers and in-kind education. These two categories are relying the most on in-kind education transfers, which account for more than one-quarter of their final income. Mixed families where all three generations live together are also benefiting and receiving up to one-third of their final income from the benefit system (Table 7, Figure 16). These benefits come from various sources: pensions (26 percent), direct transfers (18 percent), education (8 percent) and health (7 percent).

Table 7. Incidence of main components of tax benefit system, share of final income, percent.

	Direct Taxes	Pension Contributions	Pensions	Direct Transfers	Indirect Taxes	Indirect Subsidies	In-kind Health	In-kind Education	Total
two adults and 1 child	-19.2	-14.7	0.5	9.5	-13.1	2.8	3.8	13.5	-16.9
two adults and 2 children	-10.4	-10.5	1.7	12.6	-12.0	2.5	5.1	18.5	7.6
two adults and 3+ children	-6.2	-7.7	0.2	25.9	-10.8	2.1	4.3	28.0	35.9
one adult and children	-5.7	-7.0	0.9	14.1	-11.7	3.3	4.7	24.4	23.0
only adults	-19.0	-14.1	3.7	9.8	-13.8	3.5	4.0	4.5	-21.6
only pensioners	-0.4	0.0	67.8	17.2	-12.0	4.3	8.1	0.0	85.0
mixed	-9.2	-7.3	25.7	17.5	-11.8	3.0	6.7	7.8	32.4

Source: authors' calculations using HLCS-2016 data.

Figure 16. Incidence of main components of tax benefit system, share of final income, percent.



Source: authors' calculations using HLCS-2016 data.

5.2. Distributional impact and marginal contributions of fiscal interventions

The tax benefit system in Ukraine significantly reduces income inequality. The Gini index falls from 43.3 percent for market income to 22.3 percent for final income (Table 8) or by 21 percentage points. This is also equivalent to a reduction by 49 percent. The biggest decline of inequality comes from pensions – Gini at the level of market income plus pensions is 12 percentage points or 28 percent lower than at the original level. After direct taxes and transfers the Gini index falls further by 7 percentage points or another 23 percent. However, the next layer – indirect interventions (taxes and subsidies) is dis-equalizing in the sense that these components increase the Gini index marginally by less than one percentage point. After in-kind transfers, the Gini index falls further by another 2 percentage points.

Poverty declines rapidly after tax-benefit interventions in Ukraine. Depending on the poverty line, the poverty headcount falls by 20-60 percent from market income to consumable¹⁶ (Table 8). The effect is stronger for the lower lines – for the international line¹⁷ and official subsistence minimum¹⁸ the poverty rate goes down by 59-64 percent. For the moderate line¹⁹ the effect is less pronounced, but still high and reaches 20 percent. Unlike in the case of inequality, the biggest relative reduction of poverty happens not through pensions, but through other direct transfers minus direct taxes, although pensions still contribute to a notable absolute reduction in poverty incidence (Table 8).

The results for alternative scenario PDI, when pensions are treated as deferred income, are much more moderate. The Gini index falls from market income plus pensions to final by 9 percentage points or 28 percent. The poverty headcount under the international line and official subsistence minimum falls by 4 percentage points or around

¹⁶ The poverty is usually not reported at the level of final income in the CEQ studies.

¹⁷ 5.5 USD/day in 2011 PPP or 1,054.5 UAH per capita.

¹⁸ 1,388.1 UAH per month per adult equivalent.

¹⁹ Calculated by the World Bank using cost of basic need approach and equals to 1,795.6 UAH per month per adult equivalent.

one-fourth. While for the moderate poverty line there is almost no decline in poverty between market income plus pensions and consumable income.

Table 8. Poverty and inequality at various levels of income in Ukraine.

		Income concept				
		market	market + pensions	disposable	consumable	final
Inequality	Gini index	43.3	31.1	24.1	24.7	22.3
Poverty	International	31.7	15.8	6.7	11.4	
	Official	32.9	17.7	8.0	13.6	
	Moderate	41.7	33.3	22.8	32.9	

Notes:

International poverty - below the international line (5.5 USD/day in 2011 PPP or 1054.5 UAH per month per capita);

Official poverty - below official subsistence minimum (1388.1 UAH per month per adult equivalent);

Moderate poverty- below the cost of basic needs line (1795.6 UAH per month per adult equivalent).

Source: authors' calculations using HLCS-2016 data.

Pensions are the most progressive component of the tax-benefit system in Ukraine with the Kakwani index of 0.93 (Table 9). They are followed by direct transfers, in-kind health and education benefits and indirect subsidies. Direct taxes and pension contributions are also slightly progressive, while indirect taxes (mainly VAT) is the only regressive component of tax-benefit system in Ukraine. Pensions also have highest marginal contribution to poverty and inequality reduction followed by other direct transfers. Obviously, all benefits positively contribute to poverty reduction. In the case of inequality, the results are similar - direct taxes, pension contributions and in-kind benefits reduce inequality, while indirect taxes increase inequality.

Table 9. Progressivity and redistributive effect by types of interventions.

	Progressivity		Marginal contributions, p.p.		
	Kakwani index	to Gini index	to international poverty	to official poverty	to moderate poverty
Direct Taxes	0.087	1.7	-1.0	-1.4	-4.0
Pension Contributions	0.049	0.8	-1.0	-1.5	-3.7
Pensions	0.931	9.5	17.8	18.7	17.9
Direct Transfers	0.643	4.4	10.0	11.4	16.4
Indirect Taxes	-0.279	-0.7	-2.1	-3.0	-7.9
Indirect Subsidies	0.364	0.4	1.3	1.3	3.2
In-kind Health	0.544	0.4	1.9	1.9	4.1
In-kind Education	0.365	2.0	5.1	5.5	10.0

Notes:

Kakwani index is the measure of progressivity. The higher the value is the more progressive is the program.

Marginal contributions are measured at the level of final income.

International poverty - below the international line (5.5 USD/day in 2011 PPP or 1054.5 UAH per capita);

Official poverty - below official subsistence minimum (1388.1 UAH per month per adult equivalent);

Moderate poverty- below the cost of basic needs line (1795.6 UAH per month per adult equivalent).

Source: authors' calculations using HLCS-2016 data.

At the level of specific direct transfers, the most progressive transfers are social assistance to poor families (Table 10). However, all other analyzed direct transfers are also highly progressive. The highest effect on inequality and poverty reduction comes from social pensions, HUS and child allowances. Despite a very high level of progressivity, social assistance transfers to poor families have a relatively small effect on poverty – on their own they decrease poverty by less than 1 percentage point; this is 3-4 times lower than three of the aforementioned programs with the highest effect. This moderate effect is mainly explained by the relatively small size of the program (Table 4).

Table 10. Progressivity and redistributive effect by direct transfers.

	Progressivity		Marginal contributions, p.p.		
	Kakwani index	to Gini index	to international poverty	to official poverty	to moderate poverty
Non-contributory pensions: social	0.663	1.5	3.4	3.8	4.7
Child allowances	0.525	1.1	2.4	2.7	3.3
Social assistance to poor families	0.944	0.3	0.8	0.8	0.9
Unemployment benefits	0.585	0.1	0.4	0.5	0.4
Scholarships	0.384	0.1	0.2	0.4	1.0
Household utility and fuel subsidies (HUS)	0.678	1.3	2.9	3.8	7.3
Household utility and fuel privileges	0.750	0.0	0.1	0.1	0.4
Transport, recreation and other privileges	0.516	0.0	0.1	0.1	0.2
Other benefits	0.713	0.1	0.4	0.4	0.6

Notes:

Kakwani index is a measure of progressivity. The higher the value is the more progressive is the transfer.

Marginal contributions are measured at the level of disposable income.

International poverty - below the international line (5.5 USD/day in 2011 PPP or 1054.5 UAH per capita);

Official poverty - below official subsistence minimum (1388.1 UAH per month per adult equivalent);

Moderate poverty- below the cost of basic needs line (1795.6 UAH per month per adult equivalent).

Source: authors' calculations using HLCS-2016 data.

5.3. Regional differences in fiscal policy

We define the larger geographical regions in Ukraine following Bashtannik (2000). According to the pre-fiscal (market) income per capita, South and North (which includes the capital city of Kyiv) regions have relatively higher incomes, although South has poverty rates comparable to those of poorer West and Center regions (see Table 11). The urban/rural divide is also clearly present in Ukraine, with the average urban market income per capita being 48 percent higher than rural, and poverty rates less than half those observed in rural areas, depending on definition.

Table 11. Fiscal programs in Ukraine by region and residence type

	West	North	South	Center	East	Urban	Rural	All country
Market income, avg annual UAH	22,009	26,277	26,580	22,004	23,469	26,774	18,057	23,818
Poverty rate, official	7.9	6.1	7.7	9.4	9.0	5.6	12.7	8.0
Moderate poverty rate	24.9	20.4	24.3	24.7	21.2	18.3	31.7	22.8
International poverty rate, \$5.5 PPP daily	4.6	3.3	4.1	4.5	4.7	2.6	7.7	6.8
Average size of program per capita, annual UAH								
Direct taxes and SSC	5,299	7,154	6,950	5,543	6,332	7,380	3,868	6,189
Labor Pensions	3,619	4,723	4,066	4,694	5,106	4,506	4,344	4,451
Direct transfers	3,916	3,678	2,349	4,299	3,316	3,332	4,033	3,569
Indirect taxes	3,258	3,627	3,458	3,270	3,430	3,713	2,806	3,406
Indirect Subsidies	704	829	960	786	1,029	912	758	860
Health	1,260	1,760	1,241	1,405	1,431	1,422	1,436	1,426
Education	2,521	2,676	2,364	2,492	2,200	2,632	2,071	2,442
Marginal effects on moderate poverty, percentage points								
Direct taxes and SSC	-9.5	-8.2	-8.0	-8.2	-6.2	-7.7	-8.5	-8.0
Labor Pensions	17.4	19.6	16.1	19.4	20.7	18.9	18.9	18.9
Direct transfers	22.2	17.3	9.6	18.9	18.1	15.9	22.5	18.2
Indirect taxes	-15.7	-14.5	-13.5	-11.6	-11.4	-13.1	-14.1	-13.5
Indirect Subsidies	4.0	3.6	3.7	4.7	8.6	4.7	6.2	5.2
Health	4.8	3.9	3.2	3.8	4.1	3.7	4.9	4.1
Education	10.1	10.8	10.6	9.0	9.4	9.8	10.4	10.0

Note: West includes Volyn, Zakarpattya, Ivano-Frankivsk, Lviv, Rivne, Ternopil, Khmel'nitsk and Chernivtsi oblasts. North includes Zhitomir, Kyiv, Sumy, Chernigiv oblasts and the city of Kyiv. South includes Mykolaiv, Odesa, Kherson. Center includes Vinnitsa, Kirovograd, Poltava and Cherkasy oblast. East includes Dnipro, Donetsk, Zaporizhzhya, Luhansk and Kharkiv oblasts.

Moderate poverty- below the cost of basic needs line (1795.6 UAH per month per adult equivalent).

Poverty rates are estimated at disposable income. The first three poverty measures take into account economies of scale.

Marginal effects are calculated as difference in poverty rates in disposable income with and without the program for direct taxes and transfers; consumable income for indirect taxes and subsidies; and final income for health and education.

Source: authors' calculations using HLCS-2016 data.

Higher-income regions pay more in taxes and receive less in transfers. People residing in richer regions or in urban areas pay more in direct and indirect taxes, although the difference is more pronounced for direct taxes. Due to demographic differences, 41 percent of people in the Center region live in households receiving labor pensions, compared to 31 percent in North and South. Direct transfers are higher in the Central and West regions of Ukraine, where 80 percent of people reside in households obtaining some kind of direct transfer, and where transfers constitute 18 percent of disposable income. People residing in the South region receive only 10 percent of their disposable income in the form of direct transfers; only 60 percent of people in the South reside in households receiving any direct transfer. These differences in direct transfer coverage are mostly explained by differences in non-contributory pensions coverage (19.7 in the West versus 12.9 in the South) and child-related benefits (25.8 and 18.7 correspondingly). Another benefits program where the regional differences are very pronounced is the direct housing utility subsidies (HUS). The lowest coverage by HUS (24.8 percent) is in the South, while the coverage in the Center is more than two times higher (54.9 percent). The lowest amounts of indirect subsidies go to the low-income West and Center regions, indicating a possible inefficiency of the program.

Pensions and transfers play a crucial role in fighting poverty across all regions. Direct transfers play a larger role in alleviating poverty in the West and in the rural areas. For other regions labor pensions play a greater role. The difference is most pronounced for the South, where the marginal effect of pensions on poverty is 16.1 percentage points, and the effect of direct transfers is only 9.6 percentage points, less than that of education. The regional differences in coverage for the direct housing utility subsidies (HUS) result in differences in marginal effects, ranging from 3.17 in the South to 9.44 in the West and 9.85 in the Center. Despite the lower size of direct and indirect taxes paid by the low-income West and Center, these taxes have large impoverishment effects. Indirect subsidies have the largest marginal effect in the East, where the per capita program size is highest, reducing poverty by 8.6 percentage points (compared to only 5.2 percentage points in the country on average).

5.4. Vulnerable groups and fiscal redistribution in Ukraine

Two types of households can be identified as potentially vulnerable: retiree-only households and households with children. These households could be identified as vulnerable as they face high poverty risks and do not have reliable market income sources. In retiree households, typically, the number of earners is zero, and they rely completely on pensions as their sole source of income. Indexation of pensions might present a special vulnerability. For households with children, the number of earners is lower than the number of people in the household so that income has to be split among more people. This is especially pronounced for households with two or more children, or for households with children and only one adult. The unemployed and people with disabilities also fall into the vulnerable category, however the HLCS does not allow identifying households with these vulnerable groups. Households with three or more children are the most vulnerable, as they have the lowest per capita income and highest poverty rates. Retiree-only households, on the other hand, have the lowest poverty and the highest average disposable income due to pensions.

Retiree-only households benefit mostly from pensions, but also receive direct transfers (primarily, HUS) and in-kind health transfers. Labor pensions constitute 70.7 percent of disposable income of retiree-only households on average, while HUS account for 9.6 percent. Retiree-only households are also the major target groups of utility privileges and other privileges. Retirees are among major beneficiaries of in-kind health transfers, receiving the largest per capita transfers among the target groups. Since many retirees have zero market income and rely on pensions only, fiscal transfers have high marginal effects on poverty in this group – the change in the poverty rate on account of labor pensions is 72.2 percentage points; in the case of direct benefits it is 26.2 (among them HUS have the highest marginal effect of 17.8 percentage points).

Table 12. Fiscal programs for vulnerable groups in Ukraine, by household type

	Retiree-only households	Households with one child	Households with two children	Households with three and more children
Disposable income, avg annual UAH per capita	26,575	23,450	20,774	16,533
Poverty rate, official national definition	2.3	7.8	15.9	25.4
Poverty rate, moderate	19.2	22.9	38.4	46.4
Poverty rate, international (\$5.5 PPP daily)	0.5	6.5	16.2	26.3
Average size of program per capita, annual UAH				
Direct taxes and SSC	103	7,292	4,399	2,669
Labor Pensions	18,079	1,550	1,222	529
Direct transfers	4,596	3,010	3,399	5,724
Indirect taxes	3,195	3,238	2,839	2,272
Indirect Subsidies	1,139	726	597	462
Health	2,153	1,170	1,321	1,089
Education	-	3,519	4,519	5,973
Share in total program volume, percent				
Direct taxes and SSC	0.2	44.2	10.1	0.9
Labor Pensions	52.3	13.1	3.9	0.2
Direct transfers	16.6	31.7	13.6	3.4
non-contributory pensions	15.0	24.1	5.8	0.5
child benefits	0.0	51.8	37.8	10.4
poverty benefits	0.2	26.7	35.6	36.3
unemployment benefits	0.0	23.4	17.8	0.5
Scholarship	0.0	34.4	5.5	1.1
HUS	27.0	31.6	9.6	0.9
utility privileges	34.1	21.0	3.9	2.3
other privileges	25.9	29.6	8.0	2.1
other benefits	15.5	27.2	16.0	2.0
Indirect taxes	12.1	35.7	11.9	1.4
Indirect Subsidies	17.0	31.7	9.9	1.1
Health	19.4	30.8	13.2	1.6
Education	0.0	54.1	26.4	5.1
Marginal effects on moderate poverty, percentage points				
Direct taxes and SSC	-0.1	-10.8	-14.5	-8.9
Labor Pensions	72.2	9.3	6.6	1.7
Direct transfers	26.2	19.1	15.2	38.2
non-contributory pensions	5.8	4.9	0.6	2.5
child benefits	0.0	5.4	5.9	22.5
poverty benefits	0.0	0.5	2.6	14.0
unemployment benefits	0.0	0.4	0.0	0.0
scholarship	0.0	1.6	0.3	0.6
HUS	17.8	7.7	5.8	4.3
utility privileges	1.0	0.2	0.0	0.3
other privileges	0.3	0.1	0.1	1.5
other benefits	0.3	0.5	1.0	0.1
Indirect taxes	-15.2	-17.8	-12.0	-19.8
Indirect Subsidies	6.0	6.6	4.8	4.0
Health	5.6	3.8	5.4	5.1
Education	0.0	13.8	23.7	34.3

Note: Moderate poverty- below the cost of basic needs line (1795.6 UAH per month per adult equivalent).

Marginal effects are calculated as difference in poverty rates in disposable income with and without the program for direct taxes and transfers; consumable income for indirect taxes and subsidies; and final income for health and education.

Source: authors' calculations using HLCS-2016 data.

Households with children are the main recipients of different types of benefits and in-kind education transfers. Households with two children and households with three or more children face the highest risks of poverty. Households with three or more children receive the highest amounts of direct transfers in absolute terms, and direct transfers constitute 36 percent of their disposable income. Aside from child benefits, households with children are also the major recipients of poverty benefits. The amount of child benefits per capita increases with the number of children in the household, and for households with three children it accounts for 17.7 percent of their disposable income. Poverty benefits constitute 10.6 percent of disposable income of households with 3 or more children, reflecting high poverty risks in this group.

Child benefits and poverty benefits are also the two programs with the largest marginal effect on poverty for households with three children, decreasing the poverty headcount by 22.5 and 14 percentage points correspondingly. The HUS program plays an important anti-poverty role for households with children, but this role decreases with the increase in the number of children. In particular, a household with one child obtains, on

average, a transfer of 1,067 per capita in HUS; for a household with three children this number would be only 545 UAH. This is due to the fact that households with three or more children have lower coverage by HUS subsidies: only 35% of people from this type of households receive HUS (compared to 40.9% average coverage, and 41.3% for people from one-child households). As a result, HUS have a low marginal effect on poverty for the most vulnerable group -- households with three children. Education is also a very important program for households with children, surpassing direct transfers in absolute amounts, and having high marginal effects on poverty for all types of households with children.

5.5. Efficiency of fiscal transfers

While absolute effects of the programs matter, a policy maker would also be interested in their cost and cost efficiency. We calculate the costs of reducing poverty by 1 percent through each transfer program, and we also calculate tax collections per each percent of generated poverty for taxes. We also look at how well the programs are targeted by looking at the shares of the program going to (or taxing) the poor; to the bottom 40 percent; and to the top 10 percent in income. We focus only on direct transfers and indirect subsidies for the expenditure side, as their primary goal is to alleviate poverty and inequality. Health and education expenditure pursue other goals, and hence we cannot evaluate their efficiency based only on the effects on poverty and inequality.

Table 13. Measures of efficiency of transfers in Ukraine

	Cost of 1 p.p. reduction in				Share to		
	official poverty	moderate poverty	international poverty	Gini	bottom 40%	Moderate poor (before transfer)	top 10%
Labor pensions	8,489	9,156	8,962	18,634	76.5	79.2	2.4
Direct transfers	9,787	7,638	10,928	26,675	56.3	58.8	6.4
non-contributory pensions	10,874	8,691	12,202	27,896	64.9	56.7	7.5
child benefits	7,724	6,308	8,800	18,825	69.6	51.5	3.5
poverty benefits	5,052	4,655	4,763	11,695	93.6	79.5	0.5
unemployment benefits	6,781	8,508	8,311	23,540	59.1	42.1	2.6
Scholarship	15,907	5,396	25,052	38,676	49.3	40.5	10.9
HUS	12,983	6,711	17,250	37,172	50.0	43.3	5.1
utility privileges	32,436	11,752	48,481	205,26	31.8	19.5	15.9
other privileges	68,219	21,607	52,889	(184,93	21.0	10.8	18.0
other benefits	13,834	9,273	13,507	54,629	49.5	31.7	11.0
Indirect subsidies	11,511	6,397	16,225	69,140	33.0	32.8	14.1

Notes: Costs are in mln. UAH

International poverty - below the international line (5.5 USD/day in 2011 PPP or 1054.5 UAH per capita);

Official poverty - below official subsistence minimum (1388.1 UAH per month per adult equivalent);

Moderate poverty- below the cost of basic needs line (1795.6 UAH per month per adult equivalent).

Marginal effects were calculated as difference in poverty rates in disposable income with and without the program for direct taxes and transfers; consumable income for indirect taxes and subsidies; and final income for health and education.

Income deciles were defined on the basis of disposable income without the transfer for direct transfers; consumable income without the transfer for indirect taxes and subsidies.

For inequality calculations Gini was multiplied by 100. Hence, decreasing Gini from 0.25 to 0.26 would be described as 1 p.p. reduction

*Other privileges increase inequality

Source: authors' calculations using HLCS-2016 data.

Labor pensions, while non-conditional on income by construction, are efficient. Since many of the retirees rely on pensions as the only or major source of income, labor pensions, despite high cost, generate large marginal effects. Hence, the cost of reducing poverty and inequality through labor pensions is relatively low. Pensions are also very well targeted despite the absence of the targeting mechanism in the design: 79.2 percent of labor pensions go to the poor, and only 2.4 percent goes to the top income decile.

The targeted benefits are most efficient. Of all the types of direct transfers, poverty benefits have the lowest cost of fighting poverty and inequality – 79.5 percent of poverty benefits go to the poor (measured as disposable income and with the moderate poverty line). Child benefits and unemployment benefits also perform well cost-wise, although they are not that well-targeted. Different types of privileges, including utility privileges, are very cost-inefficient, and also poorly targeted, with a disproportionately low share of the privilege programs going to the bottom 40 percent.

Direct utility subsidies (HUS) are better targeted than indirect utility subsidies. The bottom 40 percent of the income distribution receive 50 percent of total HUS, and only 33 percent of total indirect utility subsidies. However, surprisingly, indirect utility subsidies deliver higher cost efficiency in fighting poverty. We should treat this result with caution, however, as the basis of the poverty calculation is different: consumable income for the

indirect utility subsidies and disposable income for HUS. In all measures other than the cost of reducing poverty, HUS is superior to indirect utility subsidies.

There is room for improvement in terms of targeting. Currently, many programs designed to support low-income groups transfer non-negligible shares of their budgets to the top income decile. If there were a way to restrict access of the top income decile to direct transfers, total savings could amount to 8,890 mln UAH annually. Eliminating this inefficiency in indirect subsidies would save another 4,710 mln UAH.

Table 14. Measures of efficiency of taxes in Ukraine

	Tax collection per 1 p.p. increase in SM poverty	Tax collection per 1 p.p. increase in moderate poverty	Tax collection per 1 p.p. increase in 5.5 poverty	Tax collection per 1 p.p. increase in Gini	Share to bottom 40%	Share to poor (before transfer)	Share to top 10%
All direct taxes	82,116	26,078	104,360	-73,507	14.2	3.3	29.9
PIT	86,756	26,651	104,674	-63,626	13.4	3.2	30.6
Military tax	56,059	12,898	81,619	-129,480	20.5	8.2	24.6
Entrepreneur tax	56,558	11,921	35,282	1,116,196	24.3	11.1	21.7
Other SSC	45,303	15,832	71,373	-180,606	21.5	8.1	23.8
SSC pension contributions	59,274	20,380	69,648	-135,874	18.7	5.1	26.8
All indirect taxes	19,441	9,821	23,722	139,985	28.1	12.3	18.0
VAT	18,408	9,710	22,548	140,929	28.2	13.9	18.0
Import duties	16,061	7,857	17,010	121,554	29.0	21.8	17.0
Excises	12,656	11,504	14,248	61,852	32.6	25.0	14.5
Special "luxury" tax	192,357	192,357	-	-40,608	14.7	12.7	39.5

Notes: Tax collections are in mln. UAH; negative tax collection means that the tax is equalizing

Poor – those in moderate poverty, (1795.6 UAH per month per adult equivalent).

Marginal effects were calculated as difference in poverty rates in disposable income before and after the program for direct taxes and transfers; consumable income for indirect taxes and subsidies.

Income deciles were defined on the basis of disposable income plus the tax for direct taxes; consumable income plus the tax for indirect taxes.

For inequality calculations Gini was multiplied by 100. Hence, decreasing Gini from 0.25 to 0.26 would be described as 1 p.p. reduction

Source: authors' calculations using HLCS-2016 data.

PIT is the most efficient direct tax in terms of redistribution effects. PIT decreases inequality and has the highest tax collection for one point of poverty increase. In other words, it causes the least increase in poverty per one dollar collected. It also has the largest share of collections paid by the top income decile (30.6 percent), while the bottom 40 percent of the income distribution contribute only 13.4 percent. Other direct taxes, as well as pension SSC contributions, do not have exemptions and deductions for low-income and vulnerable individuals, and their efficiency in terms of redistribution is lower.

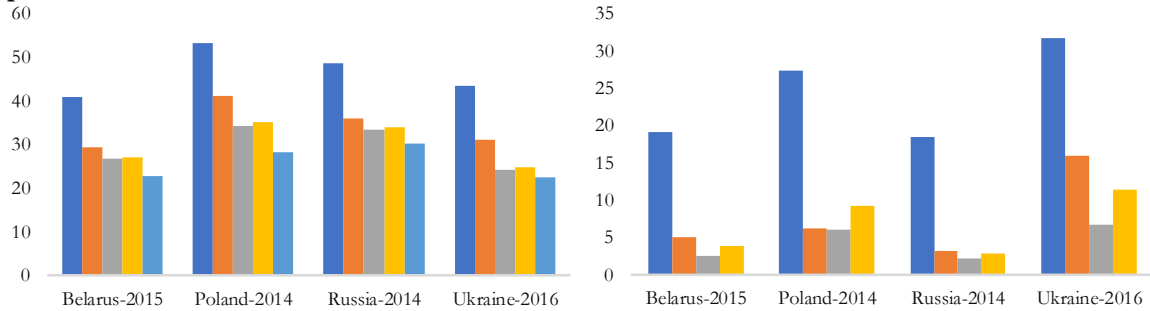
Indirect taxes are significantly less efficient in terms of redistribution. Aside from the special “luxury” tax, which is equalizing, indirect taxes increase inequality and have relatively low collection levels per one percentage point increase in poverty. VAT, for example, generates 28.2 percent of collections from the bottom 40 percent of the income distribution; while the top income decile only contributes 18 percent of collections. Indirect taxes are inferior to direct taxes in terms of redistribution efficiency.

5.6. Cross-country comparisons

In order to place the Ukraine analysis in the international context, the results were compared to similar CEQ analysis in three peer countries with similar levels of economic development and tax-benefit system: Belarus (Bornukova et al., 2017), Poland (Goraus and Inchauste, 2016) and Russia (Popova et al., 2018).

The redistribution effect of Ukraine’s tax-benefit system is similar to other countries in the region. Inequality at market income level is slightly higher than in Belarus, but lower than in Poland and Russia (Figure 17, left panel). The redistributive effect of the welfare system is also similar – the Gini index in Ukraine falls by 21 percentage points - higher than in Belarus and Russia (18 percentage points), but lower than in Poland (21 percentage points). The inequality reduction at the level of disposable income in Ukraine is comparable to that of Poland, but higher than in Belarus and Russia. Indirect interventions increase the Gini index in all four countries and the effect of in-kind transfers in Ukraine is smaller than in peer countries. Poverty rates are relatively higher in Ukraine than in neighboring countries but become close at the level of disposable income (Figure 17, left panel). This occurs because pensions are relatively less efficient in reducing poverty in Ukraine, but this is compensated by a higher effect of direct transfers.

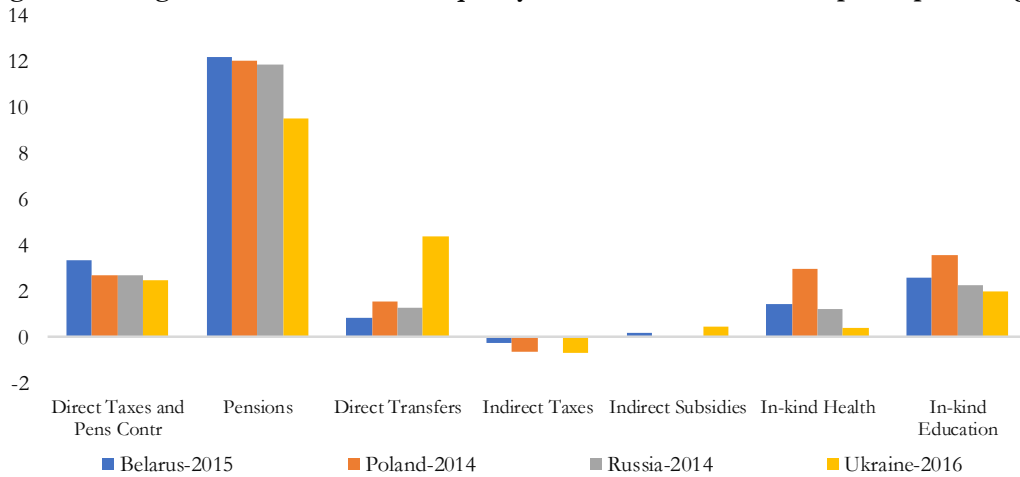
Figure 17. Gini indices (left) and international poverty rates (right) in Ukraine and peers by income levels, percent



Note: The international poverty line: Belarus – 10 USD/day in 2005 PPP, Poland – 5 USD/day in 2005 PPP, Russia – 4 SUD/day in 2005 PPP, Ukraine – 5.5 USD/day in 2011 PPP.
 Source: authors' calculations using HLCS-2016 data for Ukraine and respective CEQ analysis for other countries: Belarus – Bornukova et al., 2017; Poland - Goraus and Inchauste, 2016; Russia – Popova et al., 2018.

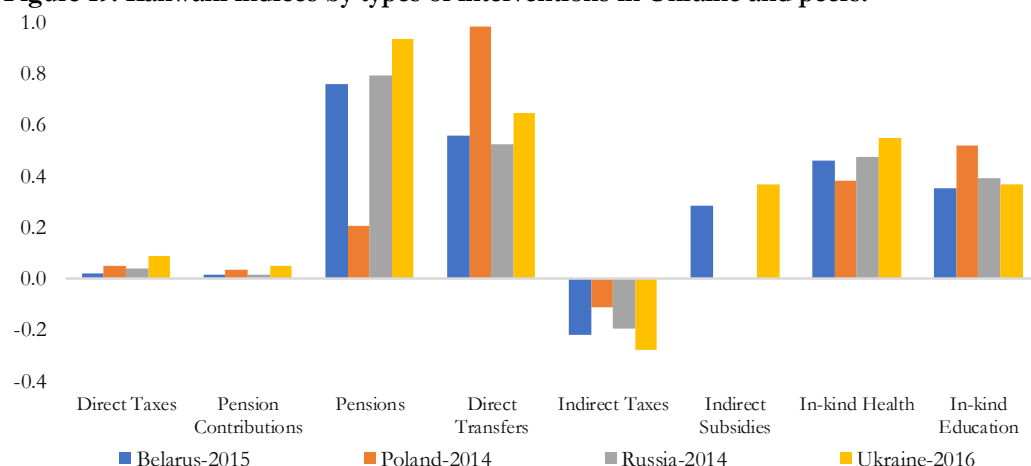
As in other countries, among the various fiscal interventions, pensions in Ukraine are the main contributor to inequality reduction (Figure 18). However, this effect is relatively lower than in the other three countries and this is despite the fact that pensions in Ukraine are the most progressive (Figure 19). At the same time, direct transfers have a much higher effect on inequality reduction than in peer countries (Figure 18). In-kind health benefits are relatively less effective in inequality reduction in Ukraine, while other interventions have similar marginal contributions to Gini index reduction (Figure 18). In terms of progressivity, most interventions are similar in Ukraine, Belarus, Poland and Russia (Figure 19).

Figure 18. Marginal contributions to inequality reduction in Ukraine and peers, percentage points.



Note: Some numbers on this chart are estimated using backward calculations from the original source and might be not fully precise.
 Source: authors' calculations using HLCS-2016 data for Ukraine and respective CEQ analysis for other countries: Belarus – Bornukova et al., 2017; Poland - Goraus and Inchauste, 2016; Russia – Popova et al., 2018.

Figure 19. Kakwani indices by types of interventions in Ukraine and peers.



Note: Kakwani index is a measure of progressivity. The higher the value is the more progressive is the transfer.

Source: authors' calculations using HLCS-2016 data for Ukraine and respective CEQ analysis for other countries: Belarus – Bornukova et al., 2017; Poland - Goraus and Inchauste, 2016; Russia – Popova et al., 2018.

6. Conclusions

The fiscal incidence analysis based on the CEQ methodology reveals that the tax-benefit system in Ukraine is quite pro-poor in the sense that the first 6 deciles of population are net recipients from the system and the top 4 deciles are net payers into the system if pensions are treated as government transfers. The poorest decile almost completely depends on transfers and other benefits, first of all on pensions. Most of the components of the tax-benefit system in Ukraine (pensions, other direct transfers, direct taxes and pension contributions and in-kind health benefits) are progressive in the sense that their share in final income decreases (increases in case of taxes) with market income level. Indirect taxes, subsidies and in-kind education benefits have less pronounced redistributive effects by comparison. The relative importance of each intervention varies significantly by income groups. If decomposed by types of households, there are only two categories of net payers - households with no children and no pensioners, and families that consist of two working age adults and one child, while all others – households with two or more children, single parents and households with pensioners (or pensioners only) are net recipients of the tax-benefit system.

The tax benefit system in Ukraine significantly reduces income inequality. The Gini index falls from 43.3 percent for market income to 22.3 percent for final income or almost by half. Poverty also declines rapidly after tax-benefit interventions. Depending on the poverty line, the poverty headcount falls by 60-90 percent. The effect is stronger for the lower lines. Pensions have the highest marginal contribution to poverty and inequality reduction, followed by other direct transfers. If we consider pensions as deterred income, the rest of the fiscal system decreases the Gini from 31.1 (at market income plus pensions) to 22.3 percent (at final income), still achieving a considerable reduction in inequality. All benefits positively contribute to poverty reduction. Direct taxes, pension contributions and in-kind benefits reduce inequality, while indirect taxes increase inequality.

The current pension system in Ukraine is based on the pay-as-you-go scheme (PAYG), hence pension is an intergenerational transfer. The ageing of the population has resulted in the deficits of the Pension fund, and these deficits are currently compensated from the budget. The fiscal woes of the pension system create pressure for reforms. The results of the CEQ analysis suggest that pensions play the major role in fighting poverty and inequality in Ukraine. Any reform of the pension system should bear in mind its role in redistribution, and carefully consider the consequences for poverty and inequality.

The fiscal system also contributes to an amelioration of spatial disparities. Higher-income regions pay more in taxes and receive less in transfers. People residing in richer regions or in urban areas pay more in direct and indirect taxes, although the difference is more pronounced for direct taxes. Direct transfers are higher in the Central and West regions of Ukraine, where 80 percent of people reside in households obtaining some kind of direct transfer, and where transfers constitute 18 percent of disposable income, compared to 10 percent in the South region. Pensions and transfers play a crucial role in fighting poverty across all regions. Direct transfers play a larger role in alleviating poverty in the West and in rural areas. For the rest of the regions, labor pensions play a more prominent role. The difference is most pronounced for the South.

Two types of households can be identified as potentially vulnerable: retiree-only households and households with children. These households could be identified as vulnerable as they face high poverty risks and do not have reliable market income sources. And both of these categories rely heavily on various transfers and benefits. Retiree-only households benefit mostly from pensions, but also receive direct transfers and in-kind health transfers. Households with children are the main recipients of different types of benefits (not only child-related, but also poverty allowances) and in-kind education transfers.

Our analysis also considers the efficiency of the fiscal programs in terms of reductions in poverty and inequality per each hryvnia spent. Targeted benefits (like means-tested poverty benefits) are the most efficient among the different components of the fiscal system. Of all the types of direct transfers, poverty benefits have the lowest cost of fighting poverty and inequality. Child benefits and unemployment benefits also perform well cost-wise, although they are not as well-targeted. Labor pensions, while not conditional on income by construction, are efficient. Since many of the retirees rely on pensions as the only or major source of income, labor pensions, despite high cost, generate large marginal effects. Direct utility subsidies are more efficient than the indirect utility subsidies or utility privileges.

Nevertheless, there is room for improvement in terms of targeting and elimination of leakages. Currently, many programs designed to support low-income groups transfer non-negligible shares of their budgets to the top income decile. If there were a way to restrict access of the top income decile to direct transfers, total savings could amount to 8,890 mln UAH annually. Eliminating this inefficiency in indirect subsidies would save another 4,710 mln UAH.

The redistributive effect of the fiscal system in Ukraine is on par with that of peer countries like Belarus, Poland, and Russia. As in other countries, in Ukraine pensions are the main contributor to inequality reduction, in comparison with other types of interventions. However, this effect is relatively lower than in peer countries, even though pensions in Ukraine are the most progressive. At the same time, direct transfers have a much higher effect on inequality reduction in Ukraine than in peer countries in the ECA region.

Exploring the reaction of the fiscal system in Ukraine to various economic shocks would be a natural extension of this paper. Doing the CEQ analysis across several years, including the periods of crises, would allow estimating how the fiscal system helps absorb the shocks or propagates them. Moreover, the analysis over time would also allow looking at the effects of the social reforms Ukraine undertook after the Revolution of Dignity. Deeper study of international differences in the efficiency of fiscal redistribution is another possible venue for exploration.

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8. Annex 1. Description of the tax-benefit system in Ukraine

8.1. Direct taxes

Personal income tax

Tax base. Starting from the year 2004, Ukraine applies a flat rate personal income tax. De-jure, the tax is levied on world-wide income received in cash and in kind. The taxable income does not include amounts of state and social assistance, targeted aid, housing and other subsidies, compensations (unemployment allowance, maternity allowance) and remunerations (except for wages) that are paid in accordance with the legislation of Ukraine from state/local budgets and funds of state social insurance, value of government awards and premiums, stipends (up to 1.4 subsistence minimum), pensions (up to 10 subsistence minimums). The taxable income also does not include gifts (up to 25% of minimum wage per month), income from the sale of agricultural products of own production (up to 50 minimum wages per year from land plots up to 2 hectares), alimonies, inheritance and gifts received from close relatives, charity (with certain restrictions). The social security contribution made by the employer, amounts paid by an employer for education of an individual if the monthly amount of such payment does not exceed 3 minimum wages per month (in 2017 – UAH 9600) are also not subject to PIT.

Tax rates. The standard tax rate for income received in the years 2011-2014 in the form of salary and other employment income constituted 15% for income up to 10 subsistence minimums and 17% for income exceeding 10 subsistence minimums. In the year 2015, the highest PIT rate was temporarily increased to 20% (for details see table 1). Starting from January 1, 2016 Ukraine replaced the two-bracket system with a single 18% rate tax. The tax code of Ukraine envisages special rates for income received in the form of gifts/inheritance, dividends, interest and royalties.

Tax deductions. Tax legislation also envisages some tax privileges. The most widely applied one is the income deduction for low-income persons. Thus, any person whose income does not exceed 1.4 subsistence minimums has a right to deduct 50% of subsistence minimum from their taxable income. A taxpayer, who supports two or more children under 18 years, may also deduct 50% of subsistence minimum per each such child. In case of a single mother/father/foster parent/curator and/or disabled child a taxpayer may deduct up to 75% of subsistence minimum per each such child. The same deduction is applied to the income of pupil, student, post-graduate student and persons with disabilities of group I or II, including since childhood.²⁰

A resident taxpayer may also claim a deduction from annual taxable income for documented expenses incurred in the reporting year for education, mortgage interest expenses, charitable contributions, and some health care expenditures.

²⁰ Except for participants of military action.

Table 15. PIT rates and tax base (UAH/%)

	2014	2015	2016	2017
TAX RATES				
PIT rates	15% for income up to 12 180 UAH	15% for income up to 12 180 UAH	18%	18%
PIT rates	17% for income exceeding 12 180 UAH ²¹	20% for income up to 12 180 UAH	18%	18%
miners income	10%	15-20%	18%	18%
Interest income tax rate	De-jure 15% tax on interest income was implemented from August, 2014. However due to technical reasons the tax was applied since September, 2014 ²²	20%	18% starting from 1st January 2016	18%
Dividend income	5%	5%	5%	5%
Pension income	In the II half of the year pension income exceeding 10000 UAH	Pension income exceeding 3654 UAH was taxed at 15% and pension income exceeding 12180 UAH – 20%.	In the 1st half of the year 2016 15% of pension income exceeding 4134 UAH In the 2nd half of the year 2016 15% of pension income exceeding 10740 UAH	Pension income exceeding 12470 UAH is taxed
Disposal of immovable property	5% (0% in case primary place of residence is sold)	5% (0% in case primary place of residence is sold)	5% (0% in case primary place of residence is sold)	5% (0% in case primary place of residence is sold)
Maximum deduction of expenses				
Secondary professional or higher education expenses (education)	Up to 1710 (1.4 subsistence minimum) per student	Up to 1710 (1.4 subsistence minimum) per student	1930 UAH per month per student	w/o limits but not higher than taxable income
Charitable contributions	Up to 4% of income	Up to 4% of income	Up to 4% of income	Up to 4% of income
Mortgage interest expenses	Determined according to legislation	Determined according to legislation	Determined according to legislation	Determined according to legislation
Subsistence minimum for able-bodied	1218	1218	1378	1600
Minimum wage	1218	1218	1378	3200
Income ceiling for income deduction	1710	1710	1930	2240
1.4 subsistence minimum (standard right for deduction) ²³				
Standard deduction (salary income)	609	609	689	800
taxpayer, who maintains two or more children under 18 years, — per each such child	609	609	689	800
single mother (father), widow (widower) or a foster parent, curator — per each such child under 18 years; maintains a disabled child — per each such child under 18 years; pupil, student, post-graduate student person with disabilities of group I or II, including since childhood ²⁴	913.5	913.5	1033.5	1200
Combatants during WW2, heroes, concentration camps ex-prisoners, etc.	1218	1218	1378	1600

Temporary military tax

Starting from August 1, 2014, in addition to personal income tax, Ukraine also applies a military tax. The tax base of the military tax is equivalent to the PIT and is levied on interest income and dividends. The tax rate is established at the rate of 1.5%. The tax is effective until the reform of the Ukrainian Military Forces is completed. The tax will be cancelled after a special decision by the Verkhovna Rada.

Simplified tax regime for entrepreneurs

At the beginning of the year 2018 about 1.6 million entrepreneurs used a simplified taxation scheme.²⁵ The simplified taxation scheme replaces PIT, EPT, property tax (including land tax), VAT (one of the schemes excludes VAT from simplified taxation), and rent for the use of water. Currently, there are four simplified taxation regimes. The tax rates for the I and II groups depend on their location and type of activity and their maximum amounts are 10% of subsistence minimum and 20% of minimum wage respectively. The tax rate for the third group is set at the level of 3% for those who registered as VAT payer and 5% for others. The fourth group is set for agricultural producers and the tax rate depends on the location of the land plot and its category. In practice, the simplified tax regime is widely used for tax evasion.

Property taxes

Tax for immovable property. All types of real estate, both residential and non-residential, are taxable. However, a large share of population is exempt from paying taxes on their immovable property. The reason is that 60 square meters of owned apartment or 120 square meters of owned house (180 square meters in case a taxpayer owns more than one real estate object) are deducted from the taxable base.²⁶ At the same time, those who are liable pay negligibly small amounts to the budget. The tax rate is defined by local self-government bodies. However, the tax rate is small and should not exceed 1.5% of the minimum wage (starting from the year 2017) per 1 m². The tax for apartments of more than 300 m² and for houses more than 500 m² - is increased by 25,000 UAH for each object.

Transport tax.²⁷ The owners of cars pay taxes each year. The transport tax is established for passenger cars that are not older than 5 years with market value exceeding 375 minimum wages (750 minimum wages in the year 2016). The tax rate is UAH 25,000 per each car. The list of cars subject to tax is defined by the Ministry of Economic Development and Trade according to the methodology approved by the Cabinet of Ministers and is published by the Ministry of Economic Development and Trade on its website.²⁸

Table 16. Transport tax rates and base

	2016	2017	2018
Price of a car subject to tax	UAH 1 033 500	UAH 1 200 000	UAH 1 396 125
Tax rate	UAH 25 000 per car	UAH 25 000 per car	UAH 25 000 per car

Land tax

The object of taxation for this tax is land plots owned or leased, as well as land shares that are owned. Land tax rates are set by local councils. The rate of land tax depends on the category, location, and the existence of a state valuation for each particular land plot.

Special taxes designed to replenish the Pension Fund

Ukraine has introduced special taxes²⁹ (de-jure they are classified as non-tax revenues according to effective budget classification and are not included in the Tax Code) aimed to replenish the Pension fund. These taxes include: Foreign exchange transaction tax (currently eliminated), tax on the acquisition of immovable property paid by

²¹ Income exceeding 10 minimum wages.

²² <http://costua.com/files/budget-chronicle-3-2014.pdf>.

²³ For parents –should be multiplied by relevant number of children.

²⁴ Except for participants of military actions.

²⁵ <https://opendatabot.com/fop>, <https://www.ukrinform.ua/rubric-economy/2302824-u-dfs-pidrahuvali-kilkist-fizicnih-osib-pidpriemciv.html>.

²⁶ Article 266.4 of the Tax Code.

²⁷ Article 267 of the Tax Code.

²⁸ <http://www.me.gov.ua/Vehicles/CalculatePrice?lang=uk-UA>.

²⁹ <http://zakon3.rada.gov.ua/laws/show/400/97-%D0%B2%D1%80#n54>.

physical and legal entities that purchase real estate, Tax on the price of a new car (subject to first registration in a government agency), and Tax on mobile communication services.

Table 17. Special Pension Fund charges (taxes) rates

	2014	2016	2017	2018
Foreign exchange transaction tax (on purchase of currency)	0.5%	2%	cancelled	cancelled
Tax on the acquisition of immovable property paid by physical and legal entities that purchase real estate	1%	1%	1%	1%
Tax on the price of a new car	3% (price up to UAH) 4% (price up to UAH) 5% (price up to UAH)	3% (price up to UAH) 4% (price up to UAH) 5% (price up to UAH)	3% (price up to UAH) 4% (price up to UAH) 5% (price up to UAH)	3% (price up to UAH 290 730) 4% (price UAH 290 730 - 510 980) 5% (price exceeding UAH 510 980)
Tax on mobile communication services.	7.5%	7.5%	7.5%	7,5%
Charge paid by physical and legal entities that submit products made from precious metals for marking to state enterprises of assay control	5% of the price of precious metals	10% of the price of precious metals	10% of the price of precious metals	10% of the price of precious metals

8.2. Social contributions

Prior to the year 2016, employers paid a Unified social tax at a varying rate of 37.6% to 47.8% depending on the class of professional risk. In addition, 3.6% was deducted from employees' income as part of the unified social tax. Starting from 1 January 2016, the unified social insurance contribution rate was unconditionally cut to 22% regardless of the class of professional risk. A part of the unified social tax deducted from employees' income was abolished. The taxable base for unified social tax is capped by 25 subsistence minimums (UAH 40,000 in 2016). The entrepreneurs under the special tax regime pay USS at the amount of 22% of minimum wage.

Table 18. USS rates and tax base

	2014	2015	2016	2017
TAX RATES				
USS employer	37.6-47.8%	37.6-47.8%	22%	22%
USS employee	3.6%	3.6%	0%	0%
USS entrepreneur	37.4% of minimum wage =422.65	37.4% of minimum wage=441.16 ³⁰	22% of minimum wage=316.47	22% of minimum wage=704.0
Minimum USS I group	422.65	441.16	316.47	352.0 ³¹
Minimum USS	0 in case of 0 income and general tax regime is applied	0 in case of 0 income and general tax regime is applied	0 in case of 0 income and general tax regime is applied	704 even if general tax regime is applied
Taxable base cap	20706	21612.67	35962.5	41562.5
Exemption	Pensioners and persons with disability	Pensioners and persons with disability	Pensioners and persons with disability and mobilized	Pensioners, persons with disability and mobilized ³²

8.3. Pensions

The design of the Pension system in Ukraine

Ukraine, like many countries from the Socialist space, has inherited the PAYG system. Ukraine has not yet introduced the mandatory contributory pillar and its non-state pension insurance is in its early stage. Pensions in

³⁰ Average for the period.

³¹ <https://index.minfin.com.ua/labour/social/>.

³² <http://zakon2.rada.gov.ua/laws/show/2464-17/print>.

Ukraine are paid from the off-budget Pension Fund. De-jure, the Pension Fund is envisioned to be self-sustainable and funded through the Unified Social Tax. In practice, transfers from the State (Central) budget are critical for pension funding. The sustainability of the Pension Fund worsened in 2016 when the Unified Social Tax was reduced nearly two times (from 36.76-49.7%) to 22% for employers and UST for employees was eliminated (previously was 3.6%). The total revenues of the PFU in the year 2016 constituted 256.7 UAH bn (10.8% of GDP).³³ Only 41.7% of PFU revenues were obtained from redistributed UST (UAH 107.2 bn). At the same time, about 55.6% of PFU revenues (UAH 142.6 bn) came from the State (Central) budget. The transfer from the State budget was aimed to finance pensions and pension surcharges paid to different special pension programs (UAH 54.5 bn), finance the PFU deficit (UAH 81.7 bn), and payment of UST for some categories of insured population (UAH 6.4 bn).

Table 19. Number of pensioners (at the beginning of the year thousands)

	1996	2001	2006	2011	2015	2016	2017
Total	14487	14447	14050	13738	12147	12296	11956
<i>including</i>							
Old-age pensions	10615	10299	10596	10587	9341	9408	9116
Disability pensions	1814	2015	1605	1491	1394	1400	1395
Survivor pensions	1195	1150	852	847	656	726	694
Length-of service pension	429	552	627	654	649	660	654
Social pensions	434	431	370	158	106	101	94.7
Privileged pension of judges	1	1	1	3

Source: SSSU, social protection statistics

Table 20. Average pension (at the beginning of the year UAH per month)

	2008	2011	2013	2015	2016	2017
Total average	776,0	1151,9	1470,7	1581,5	1699,5	1828,3
<i>including</i>						
Old-age pensions	798,9	1156,0	1464,3	1573,0	1690,3	1808,9
Disability pensions	624,4	1033,8	1359,2	1432,1	1545,2	1705,9
Survivor pensions	517,5	940,0	1252,8	1433,1	1640,3	1803,0
Length-of service pension	1243,1	1719,1	2172,1	2244,3	2282,4	2384,9
Social pensions	369,7	744,8	920,4	977,0	1099,0	1268,6
Privileged pension of judges	5287,2	6240,5	7836,7	16302,2	16770,8	22022,1

Source: SSSU, social protection statistics

Old-age pensions

About 80% of pensioners get old-age pensions according to the law on state pension insurance. Ukraine has inherited the PAYG pension system. De-jure, the pension benefit is defined taking into account the length of contributions to the Pension insurance, the relative size of contributions, minimum pension limits, and the date of retirement.

However, there are a number of reasons why the Ukrainian PAYG pension system has lost its insurance nature and the unified social contribution is rather a direct tax while pension benefits should be treated as pure government transfers:

- The correlation between contributions and pension benefits is weak (there are lots of people getting the same amount of pensions close to legislative subsistence minimum).
- Imperfect indexation rules (the pensions are indexed usually prior to elections, the legislative indexation rules are often terminated, currently the pension benefit of a person who retired in recent years may be 3 times higher than a person that retired prior to the year 2008).
- Nearly half of resources of the Pension fund come from the State budget.
- The changes in legislation defining pension benefits and pension eligibility criteria are frequent and unpredictable.

Disability pensions

In Ukraine a disability pension is paid if a person was born with a disability or got a disability during his/her life. The pension income depends on the relative wage, sum of months of contributions (service),³⁴ and the age at

³³ Including the residual funds available at the beginning of the year.

³⁴ Article 32 of the Law "On obligatory state pension insurance" as of July 09, 2003, <http://zakon2.rada.gov.ua/laws/show/1058-15/print>.

which disability was first registered. Another important parameter is the group of disability. Persons with disabilities of group I receive 100% of old-age pension, of group II – 90%, of group III – 50% of old-age pension. In case a person with disability has no minimum required contribution history, he/she can get social aid in the amount of 100% of the subsistence minimum for disabled of group I, 80% of the subsistence minimum for disabled of group II, and 50% for disabled of group III.

Table 21. Subsistence minimum for pensioners.

Period	Subsistence minimum for people with disabilities	Pensions for people with disabilities of group I	Pensions for people with disabilities of group II	Pensions for people with disabilities of group III
01.01.2016 - 30.04.2016	1074,0	1074,0	966,6	580,0
01.05.2016 - 30.11.2016	1130,0	1130,0	1017,0	610,2
01.12.2016 - 31.12.2016	1247,0	1247,0	1122,3	673,4
Average for the year 2016	1121,1	1121,1	1009,0	605,4
01.01.2017 - 30.04.2017	1247,0	1247,0	1122,3	673,4
01.05.2017 - 30.11.2017	1312,0	1312,0	1180,8	708,5
01.12.2017 - 31.12.2017	1373,0	1373,0	1235,7	741,4
Average for the year 2017	1295,4	1295,4	1165,9	699,5
01.01.2018 - 30.06.2018	1373,0	1373,0	1235,7	741,4
01.07.2018 - 30.11.2018	1435,0	1435,0	1291,5	774,9
01.12.2018	1497,0	1497,0	1347,3	808,4
Average for the year 2018	1409,2	1409,2	1268,3	761,0

Source: Laws on State budget for the respective year.

Social aid for persons who have no right for state pension (Social pension)

According to the law, a person who has already reached the age of 63 or older and is not eligible (work tenure is less than 15 years) has a right to means-tested social aid.³⁵ According to the law, the size of the benefit should constitute 30% of the subsistence minimum for persons who lost their ability to work.³⁶ However, according to the resolution of the Cabinet of Ministers,³⁷ starting from 2008 the size of the respective social pension should ensure that the amount of pensions and pension supplements paid by the government should not be less than UAH 949 per month. Starting from October 1, 2017 the social aid was increased to UAH 1,373.³⁸ At the same time, the social aid assigned after January 1, 2018 should be defined according to the law and thus should not exceed 30% of subsistence minimum.

8.4. Direct social transfers

The Ukrainian social system is characterized by numerous programs and beneficiaries. According to some estimates more than half of the population used at least one social privilege and/or received a transfer from the government.

Benefits for children

- **Birth grant/Adoption benefit.** Birth grants in Ukraine were provided to boost the fertility rate. They are universal, non-contributory and not income dependent. Starting from July 1, 2014, the size of the birth grant in Ukraine constitutes 41,280 UAH out of which UAH 10,320 are provided immediately following birth/adoption and the rest is paid within the next 36 months in equal amounts (UAH 860).³⁹ In 2016 the number of birth grant recipients constituted 1,433,863 persons (including 392,613 persons who received lump-sum payments in the year 2016). According to official estimates, only 4.9% of the program amount is paid to low-income individuals.
- **Maternity benefit.** Maternity benefit is defined in the amount of 100% of average monthly income of a woman (stipend, wage, unemployment benefit). The minimum maternity benefit should not be below 25% of the subsistence minimum for work-able adults. This amount is also provided to any woman (including those

³⁵ <http://zakon3.rada.gov.ua/laws/show/261-2005-%D0%BF>

³⁶ <http://zakon0.rada.gov.ua/laws/show/1727-15>

³⁷ <http://zakon3.rada.gov.ua/laws/show/265-2008-%D0%BF/ed20140424>

³⁸ <http://zakon3.rada.gov.ua/laws/show/265-2008-%D0%BF>

³⁹ <http://zakon5.rada.gov.ua/laws/show/1751-2001-%D0%BF>

aged under 18) who does not participate in the scheme of obligatory state social insurance. The maximum amount of maternity benefit should not exceed the maximum tax base for the Unified Social Contribution Tax. The maternity benefit was paid from the State Fund of social insurance against temporarily disability for the whole period of maternity leave, 126-140 days. In the year 2017, the total expenditures of the Fund of State social insurance on maternity benefits were about UAH 2,462 m, the average amount of maternity benefit was UAH 112.72 per day. The total number of days paid was equal to 21,816,262.⁴⁰

Table 22. Maternity benefits in 2016 (UAH)

	January - May	April – November	December
Minimum maternity benefit	344.5	362.5	400
Maximum maternity benefit	34 450	36 250	38 750

- **Benefit for child care up to three years.** This benefit was abolished in 2014. It was assigned for children born up to July 1, 2014 (and thus periodic payments were made till July 1, 2017). The amount of benefit was determined as the difference between the subsistence minimum for children and average per capita family income during the preceding 6 months. The minimum amount of benefit should not be less than UAH 130 per month. In the year 2016, parents of 96,000 children received the benefit for child care up to three years.
- **Temporary benefit to children whose parents refuse to pay alimony.** Ukraine supports the children whose parents are unable and/or unwilling to pay alimony except for the cases when a child is under full state guardianship. The amount of the benefit was determined as the difference between the subsistence minimum for children and average per capita family income for the preceding 6 months. The state alimonies are not paid in case the child is older than 18 years even if he/she continues education.⁴¹
- **Benefit for children under guardianship or custodian.** The amount of benefit is determined as the difference between the two subsistence minimums for children of respective age and average monthly amount of pensions, alimonies, stipends, state social assistance paid for children in the preceding 12 months.⁴² The benefit is assigned for 12 months. The duration of benefits may be extended.
- **Child benefit for single mothers.** The amount of benefit was determined as the difference between the subsistence minimum for a child of respective age and average per capita family income for the preceding 6 months. The benefit is paid for a child up to 18 years old. The benefit is also paid for children 18-23 years old in case they continue education. The conditions of benefit provision should be revised each 6 months.⁴³

Table 23. Amounts of child social payments, number of beneficiaries, and related expenditures 2016

	Number of persons, thousands		Number of payments thousands	Expenditures UAH thousands	Average size of social payment UAH
	recipients	children			
Maternity benefit	214	x	222	346991	1565
Birth grant	393	423	17206	21171185	1230
Including					
Lump-sum	x	x	409	4238801	10377
Periodical monthly	x	x	16798	16932384	1008
Benefit for the child care up to three years	14	96	1861	239595	129
Benefit for children under guardship or custodian	47	44	608	1583003	2604
Child benefit for single mothers	708	491	5494	4697021	855
Adoption benefit	1	4	36	46039	1296
Including					
Lump-sum	x	x	2	16803	10347
Periodical monthly	x	x	34	29236	863

Source: State statistics committee

Low income families support. ⁴⁴

The low-income families support is an income-tested program. In 2016, 993,974 households received this benefit. The average size of the beneficiary households constituted 3.7 persons. In the year 2016 the benefit was estimated

⁴⁰ <http://www.fssu.gov.ua/fse/control/main/uk/publish/article/951723>

⁴¹ <http://zakon5.rada.gov.ua/laws/show/1181-2015-%D0%BF>

⁴² <http://zakon4.rada.gov.ua/laws/show/1751-2001-%D0%BF/print1509651365696816>

⁴³ <http://zakon5.rada.gov.ua/laws/show/1751-2001-%D0%BF/page2>

⁴⁴ <http://zakon5.rada.gov.ua/laws/show/250-2003-%D0%BF>

as the difference between the guaranteed subsistence minimum for a family and actual family income. The guaranteed subsistence minimum was equal to 21% of subsistence minimum for work-able adult, 100% of categorical subsistence minimum for disabled, 85% of categorical subsistence minimum for a child (this amount is increased by 10% for children under the age of 13 and 20% for children aged 13–18 years). The average amount of low-income support constituted UAH 2,223.5 per month in 2016. According to official estimates the family allowances reduced the poverty level among targeted individuals by 4.8 times from 20.9% to 4.4%. However only 3.1% of the program amount was spent to support low-income individuals. Despite a low coverage rate, this program is important for reducing relative poverty. The share of low-income families assistance in the total revenues of beneficiaries constitutes 17.9%. Thus, the program reduced absolute poverty among the targeted group of population by 4.8 times from 20.9% to 4.4%.

Additional benefit for children for low-income families. The amount of low-income families benefit is increased by a lump-sum payment. Thus, additional payments are supplementary to targeted social assistance. The lump-sum payment for children under age 13 in the year 2016 constituted UAH 250 per month, the lump-sum payment for children 13-18 years old amounted to UAH 500 per month.

Table 24. Low income families support 2016

	Number of families	Including		UAH thous	including		Average size of benefit	including	
		urban area	rural area		urban area	rural area		urban area	rural area
Number of families that received benefit	993974	407977	585997	2210076	782784	1427292	2223	1919	2436
Size of beneficiary families									
1 person	34409	17622	16787	11318	5887	5431	329	334	324
2 persons	219457	124210	95247	233710	129892	103819	1065	1046	1090
3 persons	233707	111638	122069	419728	198977	220751	1796	1782	1808
4 persons	238081	84846	153235	549945	190399	359546	2310	2244	2346
5 persons	268320	69661	198659	995375	257629	737746	3710	3698	3714
Number of recipients	3722304	1396130	2326174	x	x	x	x	x	x
working able adult	1374198	525802	848396	x	x	x	x	x	x
adults that cannot work	34841	11487	23354	x	x	x	x	x	x
persons with disability	111486	46646	64840	x	x	x	x	x	x
children	2191779	802195	1389584	x	x	x	x	x	x
under age 3	494836	215380	279456	x	x	x	x	x	x
3-6 years old	429831	159474	270357	x	x	x	x	x	x
6-13 years old	856323	297324	558999				x	x	x
13-18 years old	410789	130017	280772	x	x	x	x	x	x
Related budget expenditures	x	x	x	10 812 761	3687783	7124978	2295	1889	2582

Source: SSSU

Social support of persons with disabilities^{45,46}

A person who was assigned a status of a person with disability by a medical panel has a right to a special benefit. The size of the benefit depends on the group of disability and categorical subsistence minimum. In addition, parents or guardian/custodian of a child with disability have a right for supplementary social benefit for care for a child with disability. Prior to the year 2017, the benefit for care was provided only for unemployed parents or guardians/custodians. Since January 1, 2017 the benefit is provided regardless of the employment status of parents or guardian/custodian for care after a child with disability of group A and/or single parent. The benefit for persons who have disabilities from their childhood is assigned for the full period of disability. In 2016 the number of program beneficiaries constitutes 404,945 persons. The total expenditures for these purposes in 2016 constituted UAH 6,817,518.02 thousand.

⁴⁵ <http://zakon5.rada.gov.ua/laws/show/2109-14/ed20160101>

⁴⁶ <http://zakon3.rada.gov.ua/laws/show/z0466-02/ed20140620>

Table 25. Sized of benefits for persons with disability 2016

	% of subsistence minimum for disabled	January- April	May- November	December
Persons that have disability from childhood with benefit for care				
IA group	100%+75% of subsistence minimum for disabled	2206,8	2322	2 561,90
IB group	100%+50% of subsistence minimum for disabled	1611	1695	1 870,50
II group	90%+15% of subsistence minimum for disabled	1074	1130	1247
III group	60%+15% of subsistence minimum for disabled	1074	1130	1247
For children with disability				
Group A aged under 6 with benefit for care	70% of subsistence minimum for disabled +100% of subsistence minimum for children 0-6 years old.	1918	2019	2227,9
aged under 6 with benefit for care	70% of subsistence minimum for disabled +50% of subsistence minimum for children 0-6 years old.	1335,3	1405	1550,4
Group A 6-18 years old with benefit for care	70% of subsistence minimum for disabled +100% of subsistence minimum for children 6-18 years old.	2206,8	2322	2561,9
6-18 years old with benefit for care	70% of subsistence minimum for disabled +50% of subsistence minimum for children 6-18 years old.	1479,3	1556,5	1717,4
Benefits for children with disability related to the Chernobyl catastrophe				
Aged 0-18 years	70% of subsistence minimum for disabled +50% of benefit for children with disability	1127,7	1186,5	1309,35
Group A aged under 6 with benefit for care	70% of subsistence minimum for disabled +50% of benefit for children with disability+100% of subsistence minimum for children 0-6 years old.	2294,7	2414,5	2664,35
Aged under 6 with benefit for care	70% of subsistence minimum for disabled +50% of benefit for children with disability+50% of subsistence minimum for children under 6.	1711,2	1800,5	1986,85
Group A 6-18 years old with benefit for care	70% of subsistence minimum for disabled +50% of benefit for children with disability+100% of subsistence minimum for children 6-18 years old.	2582,7	2717,5	2998,35
6-18 years old with benefit for care	70% of subsistence minimum for disabled +50% of benefit for children with disability+50% of subsistence minimum for children 6-18 years old.	1855,2	1952,0	2153,85

Table 26. Social protection of persons with disabilities 2016

	Number of beneficiaries persons	Budget expenditures UAH thous
Total	404945	6 817 518,0
People that have disability from childhood	254035	4097856,4
I group	64764	1537637,8
including group A	31924	849937,2
II group	80584	1095642,4
III group	108687	1464576,3
Children with disability aged under 18	150910	2712467,7
Supplementary benefit for care for people that have disability from childhood	169472	1643724,0
I group	64764	599268,1
II group	476	741,4
III group	122	124,4
Child with disability including children aged under 6	104110	1043590,2
6-18 years old	24241	210345,4
including single parents that receive additional benefit for care for a child with disability	79869	833244,8
including aged under 6	11496	91294,8
6-18 years old	2177	18896,0
funeral benefit	9319	72398,7
including people that have disability from childhood	2089	7193,9
I group	1517	5232,9
II group	1164	4499,7
III group	203	426,1
children with disabilities	150	307,2
aged under 18	572	1961,0
other expenditures	x	23077,3

Source: State statistics committee

Unemployment benefits

Unemployment benefits in Ukraine are financed from the off-budget Unemployment fund. In the year 2016 the revenues of the Unemployment fund constituted UAH 8,374.8 m (0.35% of GDP). The major source of revenues of the Fund (99% of total revenues in the year 2016) is 7.1767% of Unified social tax.⁴⁷

The major expenditure item of the budget of the Unemployment Fund is payment of unemployment benefits. In the year 2016 the number of recipients constituted 325,600 persons.⁴⁸ The size of the unemployment benefit depends on the contribution period, average wage of the unemployed, and duration of unemployment.

Table 27. Size of unemployment benefit depending on contribution period

	½- 2 years	2-6 years	6-10 years	Above 10 years
Average wage of unemployed	50%	55%	60%	70%

Table 28. Size of unemployment benefit depending on unemployment period

	90 days	91-180 days	180- /// days
Estimated initial size of unemployment benefit	100%	80%	70%

In the year 2016, the average monthly unemployment benefit constituted UAH 1,657. The minimum unemployment benefit (for uninsured e.g. graduates) constituted UAH 544 and 80% of subsistence minimum for able-bodied for persons that have at least 6 months of contributory period in preceding 12 months. The maximum unemployment benefit in the year 2016 should constituted 4 subsistence minimums for able-bodied.⁴⁹

Table 29. Unemployment Fund Budget execution 2016 (UAH m)

	2016 UAH m
Revenues with residual of the funds from the preceding year	8728,73
Including part of UST	8333,82
Residual funds at the beginning of the year	353,92
Expenditures	8302,56
Unemployment benefits	6542,69
Professional education	181,71
Public works	69,30
Compensation of UST paid to employers	55,10
Administrative expenditures	1340,09
Other expenditures	113,69
Residual funds at the end of the year	426,26

Source: The report of the Unemployment fund on its budget execution

Housing and utility subsidies and privileges.

Sharp increase in energy tariffs for the population led the government to expand the programs of housing and utility subsidies and privileges. Today it is one of the largest social programs. In the year 2016 the government spent UAH 44.1 bn for housing subsidies and privileges and UAH 2.3 bn for compensation of liquid and solid fuel. In the year 2017 program financing increased sharply up to UAH 68.9 bn. and is planned at the amount of UAH 71 for the year 2018. Beneficiaries receive their privileges and subsidies in kind. Compensation of liquid and solid fuel are compensated to 29 categories of households in cash.

The amount of housing subsidy is calculated by applying the estimated percentage of mandatory energy and utility payment to the total family income. Housing subsidies do not compensate in full actual energy and utility bills of a family. Instead, in order to determine the housing subsidy, a bill amount is calculated using officially approved consumption norms. The average subsidy amount was in 2017 and UAH 1,364.5 in 2016. The average compensation for the purchase of solid and liquid fuel was UAH 2,145.9 in 2016. The share of subsidies in income

⁴⁷ Prior to February 25, 2016 the share of UST that was assigned to the Unemployment fund constituted 3.1997%.

⁴⁸ The report on budget execution of the Fund of obligatory state social insurance against unemployment. https://ips.ligazakon.net/document/view/re28042?an=1&ed=2015_12_04

⁴⁹ Art 23 of the Part 5 of the Law № 1533

of recipients reached 11.5% in 2016. The budget compensates privileges and subsidies directly to the enterprises via complex mutual settlement procedures.

The list of persons eligible for housing privileges includes veterans of labor, war, military service, rehabilitated citizens that become invalids due to repression, Chernobyl victims, etc. The housing categorical privileges are partially income-filtered (there are categories that receive privileges in case the income per family member for the preceding 6 months does not exceed income qualifying for social tax privilege). The subsidy program is income-filtered. It was officially estimated that the housing subsidies decrease the relative poverty rate by 1 p.p. from 24.5% to 23.5%.⁵⁰ However, the program has big leakages. Thus, in 2016, only 1.3% of the housing subsidies program amount were spent to support persons with income less than subsistence minimum. At the same time, in 2016 the number of households that received housing subsidies exceeded 50% of households. In order to limit budget expenditures, the government had modified the amount of compensation. In particular, the consumption limits used for calculation of subsidies were cut. By the end of 2017, about 43% of Ukrainian households (6,920.7 households) received housing subsidy.

Table 30. Budget expenditures for housing and utility subsidies UAH bn

	2016	2017	2018
Housing and utility subsidies and privileges	44.1	68.9	71
Compensation of the cost of liquid and solid fuel	2.3	2.5	2.7

Scholarships

In the year 2016 Ukrainian budget spent about UAH 5.2 bn for scholarships.⁵¹ In the year 2016 scholarships were provided to all students who receive their education at the expense of the budget and had an average grade of 4 or higher. Thus, about 66-80%⁵² of students who obtain their education at the expense of the budget were provided with scholarships. The size and the order of payment of scholarships were defined by the Resolution #165 and para 121 of the Order #882.⁵³ The minimum amounts of academic scholarships were the following:

- UAH 311/per month For VET students
- UAH 622/per month for students who obtain a bachelor's degree in higher educational establishments of I-II level of accreditation.
- UAH 825/per month for students who obtain a bachelor's degree in higher educational establishments of III-IV level of accreditation.⁵⁴

The number of students who received social scholarships was negligible (about 39,000) and were provided to orphans, students from low-income families, students that had disability from childhood, etc.⁵⁵ The total budget expenditures for social scholarships were estimated at UAH 565 m.⁵⁶ In the year 2016 the amount of social scholarship constituted:

- UAH 961 for VET students who were orphans or children deprived of parental care and students aged 18-23 years who have no parents
- UAH 1,989 for students of higher educational establishments who were orphans or children deprived of parental care and students aged 18-23 years who have no parents.

For most students, scholarships were a complementary income source. Only 6% of students who received scholarships were granted scholarships covering more than 75% of their expenditures. About 19% of students received scholarships covering 50-75% of their expenditures.⁵⁷

⁵⁰ The Ministry of Social policy information for the year 2016.

⁵¹ https://osvita.ua/vnz/student_life/53288/

⁵² http://ru.osvita.ua/vnz/student_life/51865/

⁵³ <http://zakon0.rada.gov.ua/laws/show/882-2004-%D0%BF/ed20160329>

⁵⁴ <http://zakon3.rada.gov.ua/laws/show/165-2008-%D0%BF/ed20151010>

⁵⁵ http://ru.osvita.ua/vnz/student_life/51865/

⁵⁶ <https://cedos.org.ua/uk/osvita/biudzheth-osvity-ta-nauky-2017-shcho-proponuie-uriad>

⁵⁷ <https://cedos.org.ua/uk/osvita/sotsialno-ekonomichniy-portret-studentiv-rezultaty-opytuvannia>

Other categories

- **Monthly targeted financial support to internally displaced people (IDP).** This is an income tested program. Eligible IDPs may not possess a residence or bank deposits above certain amount and working-able household members must use their capacity to work. In the year 2016 the group of officially registered IDPs included 864,000 pensioners, 63,000 disabled and 241,000 children. In 2016, 1,024,745 internally displaced persons got cash assistance from the budget. The total amount of the program financing constituted UAH 3.161 bn in 2016.

Table 31. Social assistance for internally displaced people (UAH per month)

	2016	2017	2018
People that lost their working ability and children	UAH 884	UAH 884	UAH 1000
Disabled	UAH 1121.1 And for children with disability UAH 884	UAH 1295.4 Starting from 1 of July, 2017 UAH 1312 for disabled child Starting from 1 of September 130% of subsistence minimum for disabled (UAH 1209.48 for 2017) for persons that has I disability group and disabled children (UAH 1235.80 for 2017), 115% of subsistence minimum for disabled (UAH 1143.11 for 2017) for persons that has I disability group	130% of subsistence minimum for disabled (UAH 1831.9) for persons that has I disability group, 115% of subsistence minimum for disabled (UAH 1620.5) for persons that has I disability group, 100% of subsistence minimum for disabled (UAH 1409.2) for persons that has I disability group*
Working-able	UAH 442	UAH 442	UAH 442
Maximum per family	UAH 2400	UAH 2400	UAH 3000; UAH 3400 in case family includes disabled, UAH 5000 in case family has 3 and more children.

Source: <http://zakon3.rada.gov.ua/laws/show/505-2014-%D0%BF/ed20151218>

Social support for participants of anti-terrorist operations (ATO). Due to the special situation, Ukraine envisages several programs aimed to ensure social protection of participants of ATO. By the end of the year 2016 the Register of ATO participants contained information about 274,437 persons that got combat veteran status. The list of programs includes:

- Transfers to the local budgets for construction of housing for families of killed ATO participants and combat veterans who become disabled (group I and II) due to their participation in ATO. The total amount of the program in 2016 constituted UAH 0.416 bn.⁵⁸ Thus, in 2016 617 families of killed ATO combat veterans and ATO combat veterans who have categories I and II of disability got cash compensation for improving their housing conditions.⁵⁹ In order to get compensation the beneficiary should be included in waiting list of persons who require improvement of their housing. The amount of compensation depends on the number of family members (calculated according to a special formula)⁶⁰, residence (the price of a square meter of a new housing are estimated by the Ministry of regional development and construction).⁶¹
- Program for the purchase of housing for combat veterans who lost their leg in ATO and thus become disabled. In 2016 state budget spent UAH 0.041 bn to purchase 53 housing units for aforementioned beneficiaries.
- Provision of rehabilitation services of sanatoriums to ATO combat veterans. In 2016 4 877 persons got aforementioned services. The financing of the respective program (2505150) constituted UAH 0.087 bn in the year 2016.⁶²
- Provision of prosthetic appliances to participants of ATO. In 2016, 191 ATO participants were provided with prosthetic appliances. The amount of the respective state budget program (2505040) constituted UAH 0.038 in the year 2016. The prosthetic appliance is provided according to the decision of special military commission.

⁵⁸ <http://www.msp.gov.ua/news/12274.html>

⁵⁹ <https://www.epravda.com.ua/columns/2017/07/20/627204/>

⁶⁰ <http://zakon2.rada.gov.ua/laws/show/719-2016-%D0%BF/ed20161019#n62>

⁶¹ <http://zakon2.rada.gov.ua/laws/show/z1185-05/ed20161019>

⁶² <http://zakon2.rada.gov.ua/laws/show/200-2015-%D0%BF>

<http://www.msp.gov.ua/content/sanatornokurortne-likuvannya-uchasnikiv-ato.html>

Privileges

One of the popular privileges is provision of sanatorium and recreational treatment at the expense of the government.

ATO sanatorium and recreational treatment. In the year 2016, 4,181 ATO participants (including 275 persons who got their disability due to war actions)⁶³ got sanatorium and recreation treatment. The respective budget expenditures constituted UAH 21.1 m.

8.5. Indirect taxes

Excise taxes

At present, excise taxes are imposed on five groups of products in Ukraine – alcoholic beverages, tobacco, fuel products, transport vehicles, and electricity. Excise rates can be set per unit of goods and/or *ad valorem*. In addition, Ukraine has established retail excise tax since 2015. The latter is tax set applies to alcohol and tobacco products at the rate of 2%-5% and fund local budgets.

The excise rates for transport vehicle depend on the volume of engine, type of transport vehicle (passenger cars, motorcycle, vehicle), its age (new, less than 5 years, older than 5 years).

Table 32. Excise taxes

	2014	2015	2016	2017	2018
Cigarettes with filter	217,6- 289.63 (01/07)	304,11	425,75	596.05 UAH/thous	596,05
Minimum tax	340,11 (01/09)				
Per 1000 units					
Cigarettes w/o filter	95,4 -	304,11	425,75	596.05 UAH/thous	596,05
Minimum tax	127 (01/07)- – 133,35				
Per 1000 units	(01/09)				
Wine	2,51-2.68 (01/05)	3,58	7.16	8.02 UAH per liter	8.02
Per 1 liter	3.58 (01/07)				
Beer	0,87-1.24 (01/05)	1,24	2.48	2.78 UAH per liter	2.78
Per 1 liter					
Ethyl alcohol ⁶⁴	70.53	70.53	105.80	105.80	126.96
Per 1 liter of 100% alcohol					
Petrol	198	202	171,5	213.5 Euro per 1000	231.5
Per 1000 liters				liters	
Diesel fuel	46	100-132	95-125,5	139.5 Euro per 1000	139.5
Per 1000 liters	98-128			liters	
	(01/04)				
Electricity	3% (w/o VAT)	3.2%	3.2%	3.2%	3.2%

Table 33. excise rates for transport vehicles

Code	Description of transport vehicle	Excise rate 2017-2018	Excise rate 2016
8703	Passenger cars and other motor vehicles principally designed for carriage of people including station wagons and racing cars		
870310	Special snow vehicles, special vehicles for carriage of sportsmen to golf links and similar vehicles		
8703101100	Special snow vehicles with internal combustion engine with compression ignition (diesel or semidiesel) or internal combustion engine with spark ignition	0,653 EUR per 1 cc of engine displacement	0,653 EUR per 1 cc of engine displacement
8703101800	other	0,653 EUR per 1 cc of engine displacement (109,129 EUR per unit for transport vehicles equipped with electric engine)	0,653 EUR per 1 cc of engine displacement (109,129 EUR per unit for transport vehicles equipped with electric engine)
	other vehicles with internal combustion engine with spark ignition and crank mechanism		
870321	engine displacement less than 1000 cc		
8703211000	New	0,102 EUR per 1 cc of engine	0,102 EUR per 1 cc of engine displacement

⁶³ Resolution of the Cabinet of Ministers of Ukraine # 20 as of March 31, 2015.

⁶⁴ Ethyl alcohol, nondenatured, with alcoholic strength of 80% or more; ethyl alcohol and other alcoholic distillates and alcoholic beverages obtained by distillation, denatured, of any strength.

87032190							
8703219010	used less than 5 years	1,094 EUR displacement	per 1 cc of engine	1,094 EUR per 1 cc of engine displacement			
8703219030	used more than 5 years	1,438 EUR displacement	per 1 cc of engine	1,438 EUR per 1 cc of engine displacement			
870322	engine displacement 1000-1500 cc						
8703221000	New	0,063 EUR displacement	per 1 cc of engine	0,063 EUR per 1 cc of engine displacement			
87032290							
8703229010	used less than 5 years	1,367 EUR displacement	per 1 cc of engine	1,367 EUR per 1 cc of engine displacement			
8703229030	used more than 5 years	1,761 EUR displacement	per 1 cc of engine	1,761 EUR per 1 cc of engine displacement			
870323	engine displacement 1500-3000 cc						
	New						
87032311	transport vehicles equipped for temporary accommodation of people						
8703231110	engine displacement 1500-2200 cc	0,327 EUR displacement	per 1 cc of engine	0,327 EUR per 1 cc of engine displacement			
8703231130	engine displacement 2200-3000 cc	1,316 EUR displacement	per 1 cc of engine	1,316 EUR per 1 cc of engine displacement			
87032319	other						
8703231910	engine displacement 1500-2200 cc	0,267 EUR displacement	per 1 cc of engine	0,267 EUR per 1 cc of engine displacement			
8703231930	engine displacement 2200-3000 cc	0,276 EUR displacement	per 1 cc of engine	0,276 EUR per 1 cc of engine displacement			
87032390	used						
	engine displacement 1500-2200 cc						
8703239011	used less than 5 years	1,643 EUR displacement	per 1 cc of engine	1,643 EUR per 1 cc of engine displacement			
8703239013	used more than 5 years	2,441 EUR displacement	per 1 cc of engine	2,441 EUR per 1 cc of engine displacement			
	engine displacement 2200-3000 cc						
8703239031	used less than 5 years	2,213 EUR displacement	per 1 cc of engine	2,213 EUR per 1 cc of engine displacement			
8703239033	used more than 5 years	4,985 EUR displacement	per 1 cc of engine	4,985 EUR per 1 cc of engine displacement			
870324	engine displacement exceeding 3000 cc						
8703241000	new	2,209 EUR displacement	per 1 cc of engine	2,209 EUR per 1 cc of engine displacement			
87032490							
8703249010	used less than 5 years	3,329 EUR displacement	per 1 cc of engine	3,329 EUR per 1 cc of engine displacement			
8703249030	used more than 5 years	4,985 EUR displacement	per 1 cc of engine	4,985 EUR per 1 cc of engine displacement			
	other transport vehicles with diesel engine						
870331	engine displacement less than 1500 cc						
8703311000	new	0,103 EUR displacement	per 1 cc of engine	0,103 EUR per 1 cc of engine displacement			
87033190	used						
8703319010	used less than 5 years	1,367 EUR displacement	per 1 cc of engine	1,367 EUR per 1 cc of engine displacement			
8703319030	used more than 5 years	1,761 EUR displacement	per 1 cc of engine	1,761 EUR per 1 cc of engine displacement			
870332	engine displacement 1500 - 2500 cc						
	new						
8703321100	transport vehicles equipped for temporary accommodation of people	0,327 EUR displacement	per 1 cc of engine	0,327 EUR per 1 cc of engine displacement			
8703321900	other	0,327 EUR displacement	per 1 cc of engine	0,327 EUR per 1 cc of engine displacement			
87033290	used						
8703329010	used less than 5 years	1,923 EUR displacement	per 1 cc of engine	1,923 EUR per 1 cc of engine displacement			
8703329030	used more than 5 years	2,441 EUR displacement	per 1 cc of engine	2,441 EUR per 1 cc of engine displacement			
870333	engine displacement exceeds 2500 cc						
	new						
8703331100	transport vehicles equipped for temporary accommodation of people	2,209 EUR displacement	per 1 cc of engine	2,209 EUR per 1 cc of engine displacement			
8703331900	other	2,209 EUR displacement	per 1 cc of engine	2,209 EUR per 1 cc of engine displacement			
87033390	used						
8703339010	used less than 5 years	2,779 EUR displacement	per 1 cc of engine	2,779 EUR per 1 cc of engine displacement			
8703339030	used more than 5 years	4,715 EUR displacement	per 1 cc of engine	4,715 EUR per 1 cc of engine displacement			
870390	other						
87039010	transport vehicles with electric engine			109,129 EUR per unit			

8703901010	transport vehicles equipped only with electric motor (s)	109,129 EUR per unit	109,129 EUR per unit
8703901090	other	109,129 EUR per unit	
8703909000	other	109,129 EUR per unit	
8711100000	Motorcycles (including motorbikes) and automotiv pedal cycles with crank mechanism and engine displacement not more than 50 cc	0,062 EUR per 1 cc of engine displacement	0,062 EUR per 1 cc of engine displacement
871120	Motorcycles (including mopeds) and automotiv pedal cycles with crank mechanism and engine displacement over 50 cc but below 250 cc	0,062 EUR per 1 cc of engine displacement	0,062 EUR per 1 cc of engine displacement
871130	Motorcycles (including mopeds) and pedal cycles with pony motor, with or without a side-car; auto-motive, with crank mechanism and engine displacement over 250 cc but below 500 cc	0,062 EUR per 1 cc of engine displacement	0,062 EUR per 1 cc of engine displacement
8711400000	Motorcycles (including mopeds) and pedal cycles with a pony motor, with or without a sidecar, with a conventional engine, with a crank mechanism and engine displacement over 500 cc, but below 800 cc	0,443 EUR per 1 cc of engine displacement	0,443 EUR per 1 cc of engine displacement
8711500000	Motorcycles (including mopeds) and pedal cycles with a pony motor, with or without a side-car, with a conventional engine, with a crank mechanism and engine displacement over 800 cc	0,447 EUR per 1 cc of engine displacement	0,447 EUR per 1 cc of engine displacement
871190	Motorcycles (including mopeds) and pedal cycles with a pony motor, with or without a side-car, other than those with a conventional engine with a crank mechanism; side-cars	22 EUR per unit	22 EUR per unit
8716109900	Trailers and semi-trailers for temporary accommodation in campgrounds, trailer-type houses with a weight of more than 3,500 kg., except for the folding ones	109 EUR per unit	109 EUR per unit

VAT

In Ukraine, as in many other countries, VAT has become the main component of the revenue system. VAT is the largest, most important tax in Ukraine. Ukraine applies single VAT rate (20%) to transactions for the supply of goods and services located within the customs territory of Ukraine, import of goods into the customs territory of Ukraine. The exception is medicines for which the rate is 7% (in 2014-2017 7% VAT rate was applied only to medicines that were included in the list approved in the resolution of the Cabinet of Ministers #410 as of September 03, 2014). In line with best practices, Ukraine sets 0% rate for exports. As in many countries, Ukraine also exempt some services from VAT. The list of exempt services includes educational services, health care services, rehabilitation services provided to persons with disabilities, transport services provided by communal passenger transport with regulated tariffs.

8.6. Indirect subsidies

Gas and heating tariffs reached full cost recovery levels in July 2016. Energy and utility enterprises were suffering from mispricing practices for a long time. The population was not paying the cost covering tariffs and paid the lowest price, which is justified by the statement that domestically produced gas is sold at its cost to population. IMF cooperation led to the revision of tariffs for gas, electricity, heating, other utility services with the aim to include full cost of energy resources, distribution and investment component. Thus, in the year 2016 the tariffs for gas were doubled for households consuming up to 200m³, the electricity tariffs were increased twice by nearly 1.6 times, heating tariffs more than doubled since July 1, 2016.

Table 34. Gas tariffs for population (UAH)

	April, 01 2015 – April 30, 2016	May, 01 2016 – March 31, 2017	April 2017 to present
For preparation of food and heating water	7.188	6.879	6.9579
For heating			
For gas consumed up to 200 m ³	3.6	6.879	6.9579
For gas consumed above 200 m ³	7.188	6.879	6.9579

Source: Resolution of the Cabinet of Ministers of Ukraine # 758 as of October 01, 2015, Resolution of the Cabinet of Ministers of Ukraine # 315 as of April 04, 2016; Resolution of the Cabinet of Ministers of Ukraine # 187 as of March 22, 2017.

Table 35. Electricity tariffs for population

Date	price		Brackets Kw-hour	Brackets Kw-hour	Brackets Kw-hour
	min	max			
October 01, 2014	23.7	134.04	I 150/250	II 800	Winter time* 5000
April 01, 2015	36.6	140.7	100/150	600	3600
September 01, 2015	45.6	147.9	100/150	600	3600
March 01, 2016	57	156	100/150	600	3600
September 01, 2016	71.4	163.8	100/150	600	3600
March 01, 2017	90	168	100	-	3000

* For population that live in houses not connected to gas supply and central heating systems

Payment arrears in the energy and utility sectors

Even with cost-recovery tariffs, poor payment discipline makes the real tariff paid by the consumers effectively lower than the cost covering level, which assumes 100% compliance. The inability of enterprises to enforce 100% collection rates leads to mounting debts throughout the energy and utility sectors. Public utilities and oblenergoes do not receive 100% payments from their consumers, being unable to cut off non-payers from the services provided. In turn, providers of primary energy sources compensate for the losses either cross-subsidizing sales from other lines of business, through incurring tax arrears. In the year 2016, the population accumulated UAH 12,473 m of payment arrears which constituted 17.2% of the bills 2016. The biggest part of arrears was accumulated in the gas supply sector (UAH 11,101 m), heating and hot water supply sector (UAH 2,683 m). In the year 2017 the payment arrears increased by UAH 10,209 m. Table #1 in the Annex 1 provides breakdown of payment arrears in the energy and utility sector across the major types of services and regions (oblasts).

Transport privileges

In Ukraine, transport privileges are provided for the following categories of transportation services:

- Intracity transportation (tram, bus, trolleybus, metro)
- Local transportation in rural areas (bus)
- Bus, railway, and water transportation of local routes (within oblast)
- Intercity travel by bus, railway, water, and air transport

According to different estimates, transport privileges are provided to 10-14 million Ukrainians according to social and/or occupational features (about a third of the population). Starting from the year 2016 local governments undertook a decision to provide transport privileges. In cases when local budgets decided to provide transport privileges, transportation service providers receive compensations for free/discounted travel of privileged individuals from the local budgets. The total amount of transport privileges was estimated at UAH 2.2 bn (nearly 0.1% of GDP). However, the actual amount of privileges provided is unknown due improper accounting for privileges consumed.