

ASSESSMENT OF FAVOURABLENESS FOR THE TAX SYSTEM OF UKRAINE IN THE INTERNATIONAL CONTEXT

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Abstract. The purpose of the article is to study the background and key factors that ensured an increase in the ranking of the Ukrainian tax system favourableness from the 174th position to the 43-d position during 2005–2016 – the greatest progress in the whole history of the “Paying Taxes” ranking. *Methodology.* The research was made on the basis of the countries ranking method according to the tax system favourableness, conducted by the World Bank together with the consulting firm PricewaterhouseCoopers for the implementation of the annual “Paying Taxes” ranking. The ranking is based on the analysis of: taxes and mandatory deductions that a typical medium-sized enterprise must pay in the concerned year; the administrative burden connected with the payment of taxes and deductions; processes after filing and paying taxes. Another method used in the article is the regression analysis of the impact of the unified social tax rate, the corporate income tax rate, the personal income tax rate, the volume of tax revenues, consolidated budget revenues and gross domestic product (GDP) in actual prices on the ranking position of Ukraine in the “Paying Taxes”. *Results.* In course of the study, it was found that the increase of the ranking of Ukraine from the 174th to the 43-d position in the “Paying Taxes” during 2005–2016 became possible due to the liberalization of taxation for 2013–2017, in particular, the reduction of the corporate income tax rate by 7% and the unified social tax rate by 10%. Other factors are as such: improving the tax administration quality: reducing the time for registration, filing and tax payment from 2185 hours in 2005 to 328 hours in 2016, with the worldwide average index of 240 hours per year; reducing the number of tax payments from 98 in 2005 to 5 (the worldwide average index is 24 payments) in 2016. *Practical implications.* The result of the effective tax policy of the Government of Ukraine was the reduction of the total tax burden on business from 60.3% in 2005 to 37.8% in 2016 at the worldwide average index of 40.5% at the end of the investigated period. Also, during 2005–2016, the consolidated budget revenues grew from 131.3 to 782.7 billion UAH, including tax ones – from 100.7 to 650.8 billion UAH. *Value/originality.* Based on the results of the study, the author substantiated that the main factor of the significant progress of the tax system of Ukraine in the “Paying Taxes” ranking (from the 174th to the 43-d position during 2005–2016) was the liberalization of taxation by reducing the tax rates of corporate income tax and a unified social tax, as well as improving the quality and efficiency of tax administration.

Key words: “Paying Taxes” ranking, taxation, tax policy, tax system, tax rate, tax burden.

JEL Classification: E62, H21, H24, H25, H32

1. Introduction

During the tax policy reform, the problem of correlation between the tax burden on the economy and the volume of tax budget revenues, which is the basis for the tax system optimization at the macro level, becomes topical. In this case, there is a conflict of interests – on the one hand, the Government seeks to maximize tax revenues of the state, on the other one – the taxpayers wish to minimize the tax expenditures. However, in the conditions of a developed civil democratic society and a high level of economic literacy of the population, the antagonistic interests of the subjects of taxation

are smoothed over because of the public interest priority. Instead, in the context of the social and economic transformations taking place in Ukraine, such a conflict is complicated and deepened by tax evasion, offshore schemes, high levels of the shadow economy, tolerance for corruption, and so on.

The results of the tax system favourableness assessment of business development in Ukraine are important both for the Government and for the entrepreneurs. They create the fundamental basis for improving the business environment and allow tracking the main tendencies of tax transformations taking into account international comparisons.

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The problem of assessing the tax system favourableness of the country (macro-level) and the business environment development (micro-level) is a key one in recent tax studies. Mina Bali moune-Lutz and Pierre Garelo (2013) examine the effects of taxation and tax progressivity on entrepreneurship in a large group of European countries, using macro-level panel data. Oguzhan Akguni, David Bartolini and Boris Cournèdei (2017) analysed how tax revenue responds to tax rates using evidence from a panel of 34 OECD countries over 1978–2014. The negative impact of taxation is particularly important when associated with cash constraints, weak demand and other framework conditions (Bartolini 2018). Shalini Mitra (2017) showed that whether a positive, negative or non-relation arises between tax rates and informality depends on the degree of tax enforcement and the level of credit market development in an economy. Xin Long and Alessandra Pelloni (2017) considered the optimal factor of income taxation in a standard R&D model with technical change represented by an increase in the variety of intermediate goods. Using a difference-in-differences methodology, Alexander Schandlbauer (2017) showed that an increase in the local U.S. state corporate tax rate affects the banks' financing as well as their operating choices. Daniel Bradley, Connie X. Mao and Chi Zhang (2018) results suggest that tax increases lead to real effects at the expense of employees, with no similar benefit accruing for tax cuts. Francisco Ruiz, José M. Cabello, and Blanca Pérez-Gladish (2018) are mainly concerned with those aspects related to the ease of doing business in terms of countries' regulation. They build synthetic Ease-of-Doing-Business indicators based on the World Bank Group's indicators. Dominika Langenmayr and Rebecca Lester (2018) study whether the corporate tax system provides incentives for risky firm investment; the sign of the tax effect on risky investment hinges on firm-specific expectations of future loss recovery. Eric Ohrn (2018) estimated the investment, financing, and payout responses to variation in a firm's effective corporate income tax rate in the United States: lower corporate tax rates and faster-accelerated depreciation each stimulate a similar increase in investment, per dollar in lost revenue. Ioannis Bournakis and Sushanta Mallick (2018) analysed the role of corporate taxation within a total factor productivity catch-up model, providing new insights on the unexplored fiscal aspect of the UK productivity puzzle. In the previous study of the author the optimal tax rates of the investigated taxes, used to maximize the tax revenue of the state are determined: 20% for the corporate income tax and 22% for the personal income tax (Valentyna Martynenko, 2018). In another scientific work of the author, the theoretical grounds for the development of the problem of tax security of the state are investigated (Valentyna Martynenko, 2015).

The main purpose of the article is to study the main preconditions and key factors that ensured the increase of the Ukrainian tax system favourableness ranking from the 174th position to the 43-d position during 2005–2016.

2. Paying taxes methodology

The assessment of the tax system favourableness of business development in Ukraine taking into account the international comparisons is carried out by analysing the main tendencies of its transformations during 2005–2016 in the "Paying Taxes" ranking (the ranking of countries is conducted annually by the consulting firm PricewaterhouseCoopers at the request of the World Bank). The ranking methodology, on which the Paying Taxes ranking is based, was first developed by Simeon Djankov, Tim Ganser, Caralee McLiesh, Rita Ramalho, and Andrei Shleifer (2010). They have investigated the effective tax rates for typical corporate profit in 85 countries based on a survey conducted jointly with the PricewaterhouseCoopers consulting firm.

Currently, by the above-mentioned project implementation, the analysis of taxes and mandatory deductions, that a medium-sized enterprise will have to pay in a given year (for example, in the "Paying Taxes-2018" report for 2016), is conducted, as well as the administrative burden connected with payment taxes and deductions, and processes after reporting and paying taxes. The following taxes and deductions are investigated: corporate income tax, social security contributions and labour taxes paid by the employer, property taxes, transfer taxes, dividend tax, capital gains tax, financial transaction tax, waste collection tax, vehicle taxes and road taxes, as well as any other small taxes or fees (Simeon Djankov, Tim Ganser, Caralee McLiesh, Rita Ramalho and Andrei Shleifer, 2010).

The 2018 methodology of countries ranking on the degree of favourable conditions for tax payment is determined by sorting their distance from the boundary index determined for the indicator. The overall score for the country under the distance index from the boundary index in taxation is the arithmetic average of the four ranking indices:

- the general rate of taxes and contributions, %;
- time for registration, filing and tax payment, hours/year;
- amount of tax payments;
- the index of procedures after the tax returns filing and paying taxes.

In the "Paying Taxes" ranking of tax system favourableness, the total tax and contribution rate are calculated as the ratio of all taxes and contributions to be paid by the conventional standard medium-sized company, taking into account the existing benefits (corporate income tax, social contributions, and labour taxes paid by employers, property taxes, turnover

taxes, local taxes and fees, taxes on vehicles, etc.) to the commercial profit of a conventional company. At the same time, the value-added tax (VAT) and similar taxes such as sales tax or goods and service tax, as well as personal income tax, are not included in the calculation of the total rate of taxes and contributions, as they are not paid at the expense of the company. Commercial profit of a conventional company (CP), which for a conventional company is 59,4-repeated amount of income per capita and is calculated by the formula:

$$CP = S - CGS - GS - AE - OE - P + CG_{PS} - IE + II - CD,$$

S – sales;

CGS – the cost of goods sold;

GS – gross salaries;

AE – administrative expenses;

OE – other expenses;

P – provisions;

CG_{PS} – capital gains (from the property sale);

IE – interest expense;

II – interest income;

CD – commercial depreciation (0% for the land, 5% for the building, 10% for the machinery, 33% for the computers, 20% for the office equipment, 20% for the truck and 10% for business development expenses).

At the same time, the threshold value limiting the minimal level of the total tax and social contribution rate is applied, as well as a non-linear transformation. The threshold value is determined by calculating the total tax and social contribution rate in the 15th percentile among countries in the ranking of the total tax and social contribution rate for all years of the research up to the “Doing Business – 2018” report. The threshold

value is fixed at the level of 26.1%. All countries with the tax and social contribution rate below this threshold value receive the same point as a country which rate equals the threshold limit.

3. Ukraine in the “Paying Taxes” ranking

After analysing the ease of paying taxes by the annual World Bank’s “Paying Taxes” reports for 2007–2018, we have formed Table 1.

From the data given in Tab. 1, it is evident that during the analysed period in the Paying Taxes ranking of tax system favourableness, Ukraine has increased its level more than in four times, having risen from the 174th position in 2005 to the 43rd position in 2016. At the same time, the lowest ranking corresponded to 181 and was held during the period of the global financial crisis in 2008–2010. The following positive dynamics of the Ukrainian tax system favourableness is due to:

- the reduction of the total tax burden by 22.5% – the total tax and contribution rate decreased from 60.3% in 2005 to 37.8% (at the worldwide average tax burden of 40.5%) in 2016;

- the significant reduction in the time for registration, filing, and tax payment in 6.7 times – from 2185 hours in 2005 to 328 hours (at the worldwide average time 240 hours) in 2016;

- reduction of the number of tax payments by 19.6 times – from 98 in 2005 to 5 (at the worldwide average index – 24 payments per year) in 2016, with the maximum value this index reached in 2008 and made 147.

The reduction of the tax burden on business during the analysed period was due to the introduction of a single

Table 1

Summarized results on the position of Ukraine in the Paying Taxes ranking

| Index name | Index value in the Paying Taxes report for the relevant year*: | | | | | | | | | | | |
|--|--|------|------|------|------|------|------|------|-------|-------|-------|-------|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| 1. Total tax and contribution rate,% | 60,3 | 57,3 | 58,4 | 57,2 | 55,5 | 57,1 | 55,4 | 54,9 | 52,9 | 52,2 | 51,9 | 37,8 |
| on the average | n/d** | n/d | n/d | 48,3 | 47,8 | 44,8 | 44,7 | 43,1 | 40,9 | 40,8 | 40,6 | 40,5 |
| 2. Time for registration, filing and tax payment | 2185 | 2085 | 848 | 736 | 657 | 657 | 491 | 390 | 350 | 350 | 356 | 328 |
| on the average | n/d | n/d | n/d | 286 | 282 | 277 | 267 | 268 | 264 | 261 | 251 | 240 |
| 3. Number of tax payments | 98 | 99 | 99 | 147 | 135 | 135 | 28 | 28 | 5 | 5 | 5 | 5 |
| on the average | n/d | n/d | n/d | 31,0 | 29,9 | 28,5 | 27,2 | 26,7 | 25,9 | 25,6 | 25,0 | 24,0 |
| 4. Index of procedures after filing tax returns and paying taxes | - | - | - | - | - | - | - | - | - | - | 79,3 | 86,0 |
| on the average | - | - | - | - | - | - | - | - | - | - | 61,2 | 59,5 |
| 5. Ranking, points | n/d | n/d | n/d | n/d | n/d | n/d | n/d | n/d | 70,33 | 70,69 | 72,72 | 80,77 |
| 6. Ranking place | 174 | 177 | 180 | 181 | 181 | 181 | 165 | 164 | 108 | 107 | 84 | 43 |

* The difference between the year of the Paying Taxes report publication and the research year is 2 years, that is, the 2007 indices are calculated on the basis of the official data for 2005, and in 2018, according to the data for 2016;

** no data available.

Source: calculated by the author according to data (PricewaterhouseCoopers, World Bank Group)

rate of 22% for the Unified Social Tax in 2016, the tax paid by employers, which replaced the previous differentiated tariffs from 36.8% to 49.7%. At the same time in the Paying Taxes-2018 report, the Ukrainian economy, as compared to the others, was characterized by the largest reduction in the total tax and contribution rate for the companies in 2016. The decision to significantly reduce the rate of the unified social tax on the compulsory state social insurance was taken due to the pension reform implementation and the reform of the social sphere in order to legalize the “envelope” wages.

Thus, the decrease of the unified social tax rate had positively influenced the international image of Ukraine in the ranking of tax systems favourableness, which is the part of the total annual rate of business easiness, therefore, in the World Bank’s Doing Business 2018 report, our country has also improved its ranking by moving from the 80th position in 2017 to the 76th position in 2018. However, there is a need to analyse whether the reduction the unified social tax rate from 34.7% to 22% had a positive influence on the revenues from the mandatory state social insurance to the Pension Fund of Ukraine (Figure 1).

As can be seen from Fig. 1, at the end of 2016, the mandatory state social insurance revenues to the Pension Fund of Ukraine decreased by 52% compared to 2015, which was the largest decrease during 2004–2017, but at the end of 2017 there was an increase of unified social tax revenues by 42.3% compared to the same period in 2016.

Thus, the volume of mandatory state social insurance revenues to the Pension Fund of Ukraine in 2017 (at the unified social tax rate of 22%) amounted to 93.5% of the year 2015 level (at the unified social tax rate of 34.7%). Also, according to the data provided in 2018, the unified

social tax revenues in the amount of 213.5 billion UAH are planned, that is the planned growth of 34.3% compared to 2017.

So, the results of the conducted analysis of the mandatory state social insurance reform in Ukraine in early 2016 do not allow us to conclude on its rapid efficiency, since in 2016 the total mandatory state social insurance revenues to the Pension Fund of Ukraine amounted to only 65.8%, while in 2017 it made 93.5% of the year 2015 level. If the plan for the year 2018 is fully implemented, the unified social tax will make up 125.7% of the pre-reform year 2015, and then one may talk of the medium-term effectiveness of the reform. As for the international image of Ukraine, the reduction of the unified social tax rate from 34.7% to 22% in January 1, 2016, was really effective, because it raised the tax system favourableness ranking of our state from the 84th to the 43rd position and the ease of doing business ranking – from the 80th to the 76th position.

Let us conduct a detailed analysis of the Paying Taxes ranking components that provided Ukraine with a positive dynamic in the currently available reports for 2007–2018, which, as already mentioned above, were formed according to the current state as of the end of 2005–2016. Thus, the structure of the Total Tax and Contribution Rate is shown in Figure 2.

From the data shown in Fig. 2, it is evident that during 2006–2015, the ratio of the amount of taxes and labour contributions paid by the conventional company (in Ukraine a unified social tax only) to its commercial income (see formula 1) was close to 43%, instead of its the highest value of 45.4%, recorded in 2005, when the unified social tax rate was 32.3%, and the lowest one – 24.8% – in 2016 (the unified social tax rate was reduced to 22%).

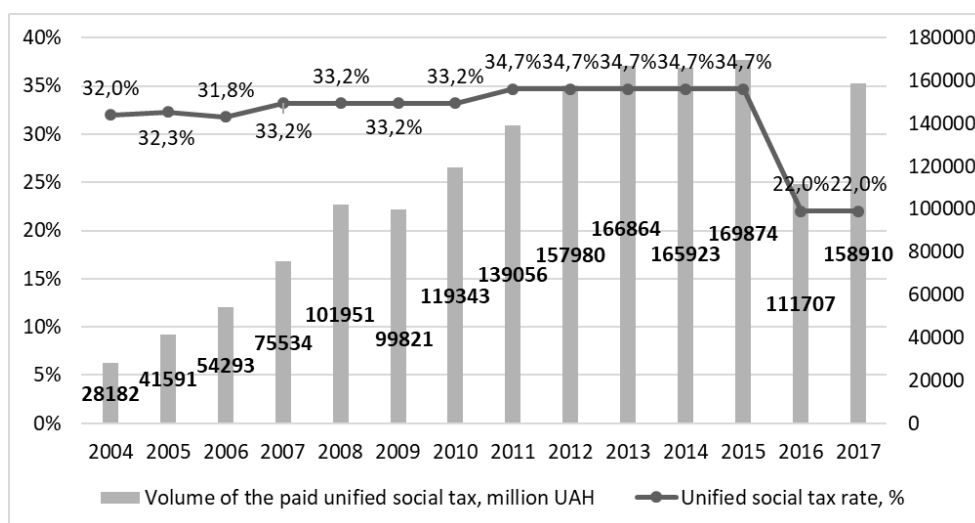


Figure 1. Influence of the unified social tax rate on the mandatory state social insurance revenues to the Pension Fund of Ukraine during 2004–2017

Source: calculated by the author according to data (cost.ua, minfin.com.ua)

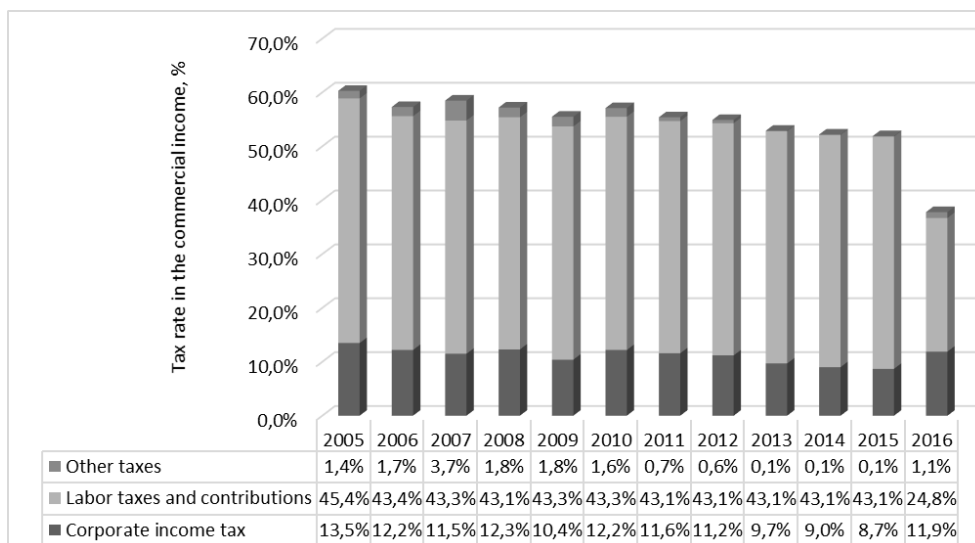


Figure 2. Structure of the Total Tax and Contribution Rate in Ukraine, %

Source: calculated by the author according to data (PricewaterhouseCoopers, World Bank Group)

According to the Paying Taxes ranking reports, the ratio of the paid corporate income tax to the commercial profit of the conventional company reached its highest level of 13.5% in 2005, when the income tax rate was 25% and the lowest level of 8.7% – in 2015 when the income tax rate was 18%. The structure of the Total Tax and Contribution Rate has changed in the direction of an increase of the income tax share by 3.2%, other taxes by 1%, and the corresponding reduction of the share of taxes and labour contributions by 18.3% in 2016, compared with 2015. At the same time, the reduction

of the Total Tax and Contribution Rate by 14.1% during this period, as already noted, was due to the legal setting of a unified social tax rate of 22% from January 1, 2016.

The next component of the Paying Taxes ranking is the time for registration, filing and tax payment, which structure is shown in Figure 3.

From the data shown in Fig. 3, it can be seen that in 2016, compared to 2005, the time for registration, filing and tax payment decreased by 1857 hours (the average annual decrease was 16%), including the value-added tax – by 761 hours (the average annual decrease

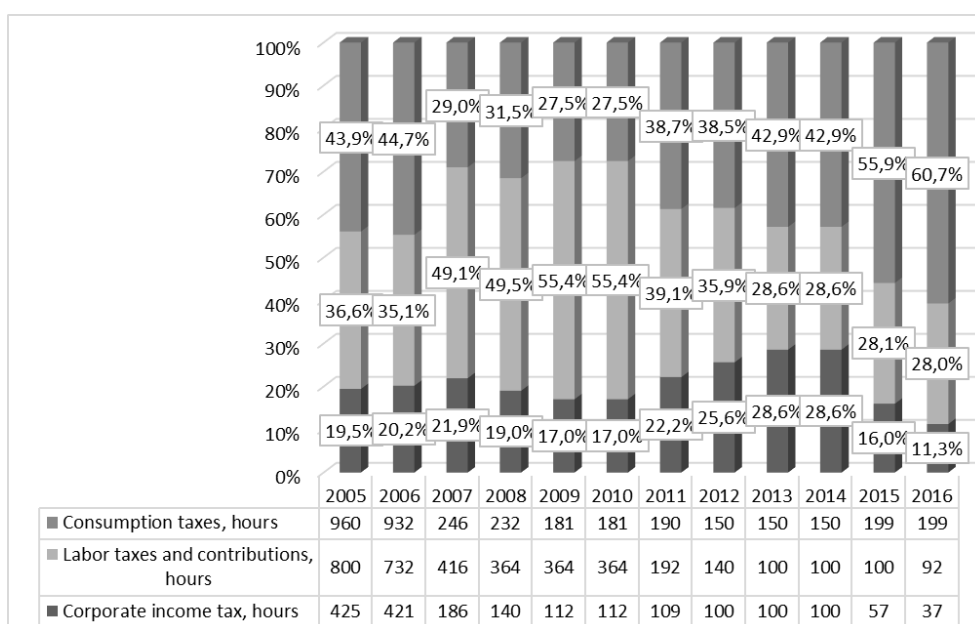


Figure 3. Structure of time necessary for the registration, filing, and tax payment in Ukraine, hours

Source: calculated by the author according to data (PricewaterhouseCoopers, World Bank Group)

was 13%), the personal income tax and the unified social tax – by 708 hours (the average annual decrease was 18%), the corporate income tax – by 388 hours (the average annual decrease was 20%).

Thus, it can be concluded that the tax administration process in the Ukrainian tax system is significantly improved, which is also confirmed by the dynamics of the number of tax payments that a conventional company must perform over the year under the main types of taxes (Table 2).

Table 2 shows that in Ukraine, the maximum amount of 147 payments to be made by a conventional company throughout the year was achieved in 2008 (Paying Taxes 2010), in particular: 6 corporate income tax payments per year, 24 payments per year for the Pension Fund contributions, social insurance (social tax), unemployment tax, occupational injury insurance, 4 payments per year of the tax on vehicles and environmental tax, 12 land tax payments per year, local taxes and value added tax, 1 advertisement payment per year. In 4 years, according to the Paying Taxes 2015, the number of tax payments in Ukraine was optimized to 5 per year (as in Georgia and Singapore), while in Norway, Qatar, and the United Arab Emirates there were 4 payments, and in Hong Kong and Saudi Arabia – only 3 tax payments per year.

At the end of the study, we will quantify the impact of several important macroeconomic factors that influenced the place of Ukraine in the Paying Taxes ranking by calculating the pair correlation and determination coefficients (Table 3).

Table 3 includes the correlation coefficients between the indicator “Ranking of Ukraine in the Paying Taxes” (the resulting sign) and 6 such macroeconomic

indicators as: “The Unified Social Tax Rate”; “The Corporate Profit Tax Rate”; “The Personal Income Tax Rate”; “The Volume of Tax Revenues”; “The Consolidated Budget Revenues”; “GDP at Actual Prices” (factor characteristics). The value of the correlation coefficient indicates the direction of connection (direct, if the number is positive and inverse, if the number is negative) and the connection density (the closer the R value to 1, the denser is the connection). The value of the pair determination coefficient indicates the reliability of the connection or the extent of the factor sign effect on the resulting one (the closer the R2 value to 1, the more reliable is the connection and the impact is close to 100%). Analysing the data given in Table 3, it can be concluded that the greatest impact on the increase of the ranking of Ukraine from the 174th to the 43rd position in the Paying Taxes during 2005–2016 had the Corporate Profit Tax cut from 25% to 18% (influence measure 84.1%) and the growth of the consolidated budget revenues from 131.3 to 782.7 billion UAH (influence measure 81.5%), including tax ones from 100.7 to 650.8 billion UAH (influence measure 81.2%).

4. Conclusions

The assessment of favourableness for the tax system of Ukraine in the international context enabled to come to the following conclusions:

1. In course of study, it was found that during 2005–2016, Ukraine made significant progress in the “Paying Taxes” tax system favourableness ranking, moving from an outsider (the 174th penultimate position) to the TOP-50 (the 43rd position).

2. It was the largest progress in the world during the ranking existence. The main factor that influenced on

Table 2

A number of payments to be made by a conditional company over the year under the main types of taxes (position of Ukraine)

| Indicator name | Indicator value over the years: | | | | | | | | | | | |
|-----------------------------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
| 1. Corporate income tax | 5 | 6 | 6 | 6 | 5 | 5 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2. Labour taxes and contributions | 60 | 60 | 60 | 96 | 108 | 108 | 24 | 24 | 1 | 1 | 1 | 1 |
| 3. Other taxes | 33 | 33 | 33 | 45 | 22 | 22 | 3 | 3 | 3 | 3 | 3 | 3 |
| Total amount of payments | 98 | 99 | 99 | 147 | 135 | 135 | 28 | 28 | 5 | 5 | 5 | 5 |

Source: calculated by the author according to data (PricewaterhouseCoopers, World Bank Group)

Table 3

The rank of factors influencing the position of Ukraine in the Paying Taxes ranking

| Indicator name | Pair correlation coefficient R | Pair determination coefficient R2 |
|---------------------------------|--------------------------------|-----------------------------------|
| 1. Unified Social Tax Rate | 0,506 | 0,256 |
| 2. Corporate Profit Tax Rate | 0,917 | 0,841 |
| 3. Personal Income Tax Rate | -0,769 | 0,591 |
| 4. Volume of tax revenues | -0,901 | 0,812 |
| 5. Consolidated Budget Revenues | -0,903 | 0,815 |
| 6. GDP at actual prices | -0,890 | 0,792 |

Source: calculated by the author according to data (PricewaterhouseCoopers, World Bank Group, cost.ua)

the mentioned positive dynamics was the liberalization of taxation – the reduction of the corporate income tax rate from 25% in 2005 to 18% in 2016, and the unified social tax rate for the mandatory state social insurance – from 32 to 22% respectively. This reduced the total tax burden on business by 22.5% from 60.3% in 2005 to 37.8% in 2016 at an average worldwide level of 40.5% by the end of the investigated period.

3. The improvement of tax administration quality played an important role in improving the tax system quality, which resulted in reduced time for registration, filing and tax payment by 6.7 times from 2185 hours in 2005 to 328 hours in 2016, with the average worldwide index of 240 hours per year; the number of tax payments

has been reduced by 19.6 times – from 98 in 2005 to 5 (the worldwide average index made 24 payments) in 2016.

4. It is proved that the increase of the Ukrainian tax system rank in the Paying Taxes ranking during 2005–2016 was most affected by the reduction of the corporate profit tax rate from 25% to 18% ($R^2 = 84.1$), the consolidated budget revenues growth from 131.3 to 782.7 billion UAH ($R^2 = 81.5$), and the growth of the tax revenues from 100.7 to 650.8 billion UAH ($R^2 = 81.2$).

5. It is necessary to evaluate and to develop scenarios for forecasting the level of the overall tax burden on the national economy of Ukraine that will be further investigations of the author in this direction.

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