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STRUCTURAL IMPACTS OF THE TAX SYSTEM ON THE ECONOMIC GROWTH IN THE REPUBLIC OF ARMENIA

*Interactions between types of taxes that form the basis of the tax system of the Republic of Armenia and the Gross value added were analyzed in the article. The main objective of the analysis was to observe the behavioral impacts of different types of taxes: corporate income tax, personal income tax, value added tax and excise tax on the growth of the country's GDP according to their functional significance, the main trends and the most typical aspects of these processes were revealed. In this context, it is very important to identify the amount of financial resources the state collects from the economy and allocates to the state treasury in the form of taxes and fees, as well as the distribution of the tax burden on economic sectors, households and others participating in economic processes. In order to find out the nature of the observed relationships and the directions of influence, the **ARDL** (autoregressive distributed lag) model was used, the use of which allowed to distinguish both short-term and long-term interrelations between observed indicators. As a result of the given analysis, the positive impacts of indirect taxes and the negative impacts of direct taxes on the economic growth were identified and quantified. Nevertheless, the short and long-term impacts of personal income tax on the economic growth is controversial and ambiguous.*

Keywords: *economic growth, tax burden, tax base, gross value added, corporate income tax, personal income tax, value added tax*

JEL: E62, H21, O47

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Introduction. Fiscal policy is of cornerstone importance for the normal functioning of any state. Without proper receipts of taxes and duties to the state and local budgets, the effective operation of state institutions, as well as sufficient financing of various sectors of the economy, will become impossible. On the other hand, the real sector of the economy, which is the main source of state revenues, is sensitive to the composition, structure, collection regimes of taxes, as well as tax privileges given by the legislation.

The chosen topic is contemporaneous for the structurally and institutionally changing economy, because, from our point of view, although the tax system of newly independent Armenia has undergone continuous changes and improvements for nearly three decades, the optimal set of parameters of that system, which would ensure sufficiently appropriate level of state revenues and their stable growth, while not creating problems for the main groups of taxpayers (households, organizations and companies, etc.) to fully use their incomes and achieve the main goals of their livelihood, has not yet been found.

Taking into account the objectives mentioned above a structural analysis of the impacts of the tax system of the Republic of Armenia was made in this research from the point of view of changes in the country's gross value added and changes in the macroeconomic situation. As the main goal of the analysis, the behavioral impacts of different types of taxes (direct and indirect) according to their functional significance on changes in the country's GDP were observed, an attempt was made to identify the main trends and the most typical aspects of these processes.

Literature Review. For any country, there is a close correlation between the development of the tax system and the macroeconomic situation. On the one hand, the effective operation of the tax system ensures the uninterrupted and unhindered formation and expenditure of the state budget revenues, on the other hand, the macroeconomic situation retroactively conditions the changes and continuous improvement processes of the tax system. There is no coincidence that the interactions between the structure of the tax system and the Gross Domestic Product are discussed, analyzed and often become the subject of sharp debates from different perspectives, both by the academic community, politicians, and representatives of business sector.

The question of how much primary income in the form of taxes and duties should be redistributed to the state budget, and what the reasonable limit in that process is, is not actually a question of quantitative-mathematical or statistical accounting at all, but has a marked political, institutional and ideological content. In one case, it is the “Contractual state”, the scope, content and financing of its main functions in the form of taxes are carried out exclusively in accordance with the nature and extent of constitutionally delegated powers, and the state in this case seeks to optimize the volume of its income. In another case, it is a “Predatory state”, in which the state bureaucracy seeks to maximize the amount of state revenue, diverting it to meet the needs of unconstitutional powers and an inflated state apparatus (Findlay & Wilson, 1984, Eggertsson, 1990, pp. 320-326).

In the economic literature, one can often find claims about the negative impact of taxes on economic growth. In particular, Pouya Ebrahimi and Francois Vaillancourt (Ebrahimi & Vaillancourt, 2013, p.13), studying the long-term effects of the main tax types of the Canadian tax system: corporate income taxes and consumption taxes on the economic growth, came to the formulation of an inverse comparative relationship between these quantities. It follows from the empirical research of another group of theorists (Gashi et al., 2018, pp. 66-67) that most types of taxes, corporate income tax, value added tax, taxation of interest and dividends, property taxes, have a positive effect on the economy within certain limits, on the other hand, taxes on personal income have a negative impact on economic growth.

According to another approach, most taxes have a positive effect on economic growth. In particular, according to research by Nguyen Anh, Luisanna Onnis, and Raffaele Rossi (Nguyen et al., 2021, p. 441), income tax cuts tangibly boost consumption, investment, and public spending. Accordingly, if the average personal income tax rate is reduced by 1 percent, the country's GDP will grow by 0.78 percent immediately after that, during the 1st quarter, and 4 quarters after the personal income tax reduction, it will grow by 1.5 percent. In their research, Karel Mertens and Morten Ravn (Mertens & Ravn, 2013, pp. 1239-1243) also recorded similar results, according

to their observation, each percent reduction in personal income tax immediately leads to a 1.4 percent increase in real GDP per capita, and 1.8 percent after three quarters. At the same time, such a tax change has the effect of boosting both employment and investment, boosting employment by 0.3 percent in the first quarter and consumer durables sales by 3.6 percent. Examining the interactions between personal income tax changes and GDP developments in the UK, James Cloyne (Cloyne, 2013, p. 1527) comes to the same conclusion. According to the study of the latter, a 1 percent reduction in the overall tax burden, all other things being equal, increases GDP by 0.6 percent in just one quarter, and three years later GDP increases by 2.5 percent. By contrast, Carsten and Lunsford (Carsten & Lunsford, 2018, p. 12) argue that the inverse relationship between changes in personal income tax rates and changes in total value added is not at all consistent.

In general, the existing approaches in the academic literature to the relationship between the tax structure and economic growth can be reduced to several principles:

1. Raising taxes significantly demotivates the economic activity of entrepreneurs and leads to a weakening of both savings and investment incentives.
2. An increase in personal income tax, as a rule, leads to a reduction in the supply of skilled labor and adversely affects the normal reproduction of human capital.
3. Illogical and unjustified, from the point of view of economic expediency, tax rates lead to inefficient cross-sectoral redistribution of capital and labor, as well as their possible outflow from the country.

Some theorists in their analyzes evaluate the tax system of a country in terms of its inclusiveness. It involves an assessment of the tax system in terms of how progressive one of its components is, that is, is an increase in one or another type of tax accompanied by an acceleration of economic growth? In particular, International Monetary Fund experts Ruud de Moy, Ricardo Fenochetto, Chafic Hebus, Sebastien Leduc and Carolina Osorio-Buitron (Ruud de Moy et al., December 10, 2020, p. 2-3) state that research in this context has even led to a "ranking" of the elements of the tax system according to the criterion of impact on the economic growth. This group of theorists is convinced that when carrying out tax reforms, when choosing one or another tax collection, it is necessary to proceed from the need to ensure the inclusiveness of long-term economic growth. According to a group of theorists (Brys et al., 2016, pp. 41-43), from the point of view of inclusiveness of economic growth, the version of tax policy that organically combines the principles of efficiency and equality is more acceptable. Some researchers argue that both income and consumption taxes, as well as property taxes, have an equal effect on long-term growth, while empirical studies (Arnold et al., 2011, p. 79) show that income taxes cause more damage to economic growth in the long run than consumption and property taxes.

According to the studies of another group of analysts, the impact of structural changes in the tax basket on the gross value added of the national economy and its growth rates depend on the income group of the country. According to the observations of IMF experts Santiago Acosta-Ormaechea and Jiae Yoo (Acosta-Ormaechea & Yoo 2012, p. 17-18), increasing the rates of some types of taxes, reducing others, and thus the long-term effects of a change in the tax basket on economic growth, significantly depend on the per capita income of a given country. Accordingly, the effect of changing the tax basket produces more tangible results in countries with high and middle-high per capita income, while in countries with low-middle and low income, the relationship is rather weak. Moreover, these authors observe that economic growth slows down when the share of personal income tax in the total basket of tax revenue increases, while the share of consumption and property taxes decreases.

Research methodology. Within the framework of the research, comparative, quantitative, qualitative, historical, econometric-mathematical analysis methods based on available statistical data were used. The databases of the International Monetary

Fund, the World Bank, the Statistical Committee of the Republic of Armenia, the Central Bank of the Republic of Armenia, the Ministry of Finance of the Republic of Armenia, the State Revenue Committee of the Republic of Armenia and a number of state institutions and international organizations served as an information base for the research.

As part of the study, in order to identify the relationship between the tax system of the Republic of Armenia and economic growth, time series of indicators related to the problem, their smoothing and compliance with the requirements of the research request and analysis were studied. As the main objects of analysis, the quarterly data on per capita income and gross value added of the Republic of Armenia, tax burden, main types of taxes that form the state budget of the Republic of Armenia, the dynamics of value added tax, personal income tax, corporate income tax and excise tax for the period of 2005-2022 were taken as a basis. To identify the nature of these relationships and the direction of the impacts, the **ARDL** autoregressive model was used, whose use makes it possible to identify both short-term and long-term relationships and interactions between the observed indicators (Emeka & Kelvin Uko, 2016, p. 65-66). For this purpose, the quarterly time series of the Gross value added, Value added tax, Personal income tax, Corporate income tax and Excise tax for a period of 2009-2021 were used, which were logarithmized and made stationary by including first-order differences in the model. Then, in order to model the interactions between the above mentioned indicators, the following econometric model with the **ARDL** specification was considered:

$$Y_t = \beta_0 + \beta_1 VAT_t + \beta_4 VAT_{t-n} + \beta_5 CIT_t + \dots + \beta_8 CIT_{t-n} + \beta_9 PIT_t + \dots + \beta_{12} PIT_{t-n} + \beta_{13} EXC_t + \dots + \beta_{16} EXC_{t-n} + \beta_{17} Y_{t-n} + \dots + \beta_{20} Y_{t-n} + \varepsilon_t$$

Where:

Y_t - Gross value added at the t quarter. $\overline{t = 2009q2, 2021q4}$

VAT_t - Value added tax at the t quarter. $\overline{t = 2009q2, 2021q4}$

CIT_t - Corporate income tax at the t quarter. $\overline{t = 2009q2, 2021q4}$

PIT_t - Personal income tax at the t quarter. $\overline{t = 2009q2, 2021q4}$

EXC_t - Excise tax at the t quarter. $\overline{t = 2009q2, 2021q4}$

The following specification of the model makes measurable not only the effects of a given quarter of the independent variable on the actual indicator recorded in the same quarter of the dependent variable, but also makes it possible to estimate the effects of both the inertial component of the dependent variable and the lagged values of the independent variable recorded in the previous period on the dependent variable. This circumstance makes it more preferable to use the model with ARDL specification.

Analysis. It is a well known fact that tax revenues have had a significant share in the structure of the revenues of the state budget of the Republic of Armenia in the long run. In 2005-2022, on average, tax revenues made up 91.8% of the total budget revenues of the RA, in 2022 they were at an even higher level, making up 93.4%. At the same time, from the study of the long-term trend of the RA tax revenues and GDP growth rates, it becomes obvious that growth rates of taxes in the given period was in line with the GDP trend (see Chart1).

Here, however, it is necessary to keep in mind a number of fundamental circumstances that have had (and continue to have) a significant impact both on a realistic assessment of the volume of the RA GDP and on the determination of the real value of the tax to GDP ratio. First of all, this refers to the problem of assessing the level of shadow economy and therefore, on its basis, determining the **real tax burden**. To calculate the real tax burden on the economy of the Republic of Armenia according to this criterion, it is necessary to subtract from the nominal GDP of the Republic of

Armenia the volumes of the shadow economy, estimated by various subjects, as well as tax expenses provided by tax incentives. When carrying out these calculations, taking into account that the level of shadowing of the RA economy in different periods of time ranged from 20 to 35 percent, and the level of tax expenditures determined by various benefits averaged 6-7 percent of the revenues of the RA state budget, it turns out that in the RA economy there is a real tax burden that significantly exceeds the nominal (officially registered) tax burden, which ranges from 23.2-23.7 percent (the RA Government's budget, 2023, pp. 81-82). Some analyzes carried out in Armenia indicate that the real tax burden in the Armenian economy is much higher than the values determined by official estimates. Thus, according to a study by Karen Saroyan (2022, pp. 9-10), the size of the real tax burden of the Republic of Armenia in 2020 was 31.95%, while the nominal tax burden was only 22.41%. According to the expert report of the Luys Foundation, the size of the shadow proportion of the RA economy in 2020 was 27-28 percent of GDP («Luys» Foundation report, 2020, p. 2).

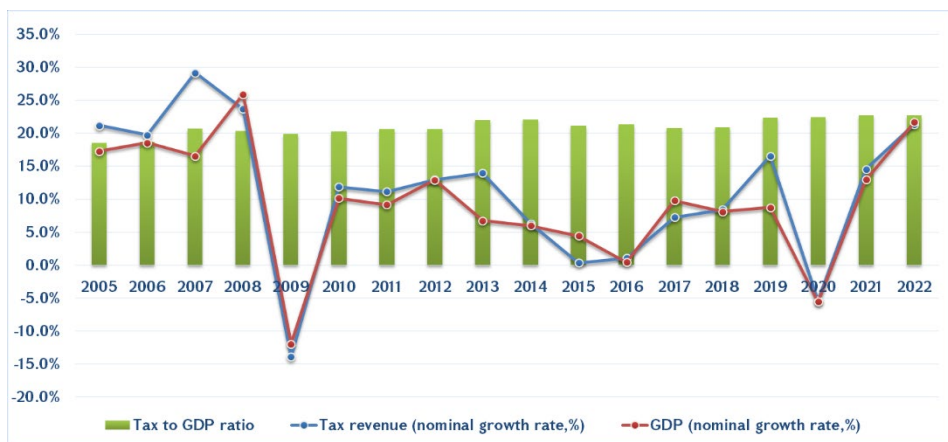


Chart 1. *The dynamics of taxes and GDP growth rates and taxes to GDP ratio in the RA for 2005-2022¹*

It can be inferred that the high level of the shadow, informal sector of the RA economy, which hides a significant part of the turnover, actually distorts and masks the real volumes of state tax revenues, as well as the level of the real tax burden. Perhaps this circumstance should explain the significantly high level of the tax to GDP ratio in economically and institutionally developed economies: in developed countries with high per capita income, the tax burden usually starts from 30-32% and can reach up to 60-65%. It should be noted that during the period under review, the tax to GDP indicator in the Republic of Armenia amounted on average within 21%. This indicator has improved since 2015, rising from 21.6% to 22.7% as of 2022.

In the above-mentioned context, within the scope of the research, a sample of comparable countries with per capita GDP size was considered, whose 2010-2020 tax to GDP average indicators document that the indicator of the RA in the considered period (20.4%) is significantly higher than those of comparable countries, in particular, Azerbaijan (13.5 %), Bosnia and Herzegovina (20.0%), Ukraine (18.5%), Indonesia (10.4%), Colombia (14.4%) and others (see Chart 2). Of course, the comparable indicators of developed countries were also considered, which emphasizes the fact that this indicator is significantly higher in these countries. This circumstance is partially due to the high tax rates existing in a number of economically developed and institutionally advanced countries, as well as to the public's perception that they are

¹ Compiled by the author based on databases of the RA Statistical Committee and the RA State Revenue Committee: <https://armstat.am/am/?nid=82>, <https://www.petekamutner.am/Content.aspx?itn=tsTITaxStatData>

operating within the framework of a “Contractual state”, therefore, they do not avoid tax payments which are essential for the implementation of functions that are constitutionally delegated to the state by themselves.

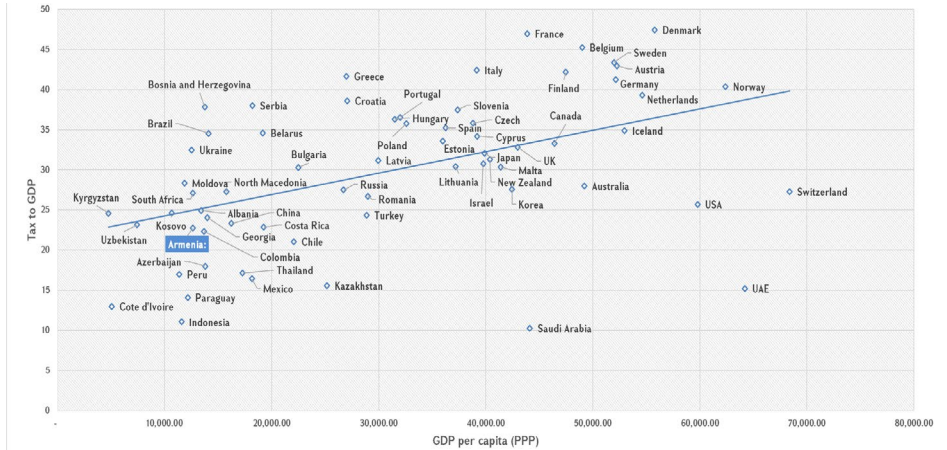


Chart 2. Tax to GDP ratio and GDP per capita level comparisons in developing and developed economies²

In parallel, it is also necessary to note that the tax policy in the RA had a significant contractionary impact on economic developments. This is documented by the study of the revenue impulse in the considered period (see Chart 3).

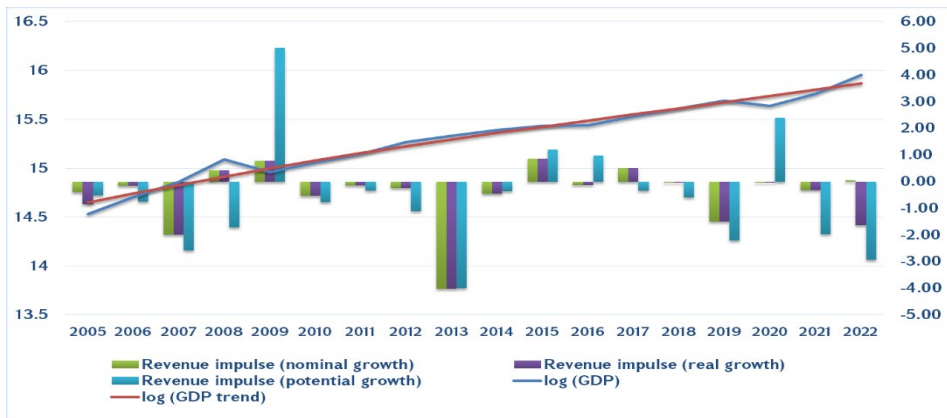


Chart 3. Revenue impulses* (right axis), GDP and GDP trend dynamics (left axis) in the RA for 2005-2022³

The above-mentioned behavior of revenue impulses is explained by the fact that the restraining fiscal policy conducted officially in the RA is in many cases dictated by a number of problems in the field of taxation, the most significant of which is the

² Compiled by the author based on databases of the International Monetary Fund, the RA Statistical Committee and the RA State Revenue Committee. <https://armstat.am/am/?nid=82>, <https://www.petekamutner.am/Content.aspx?itn=tsTITaxStatData>, <https://data.imf.org/?sk=FA66D646-6438-4A65-85E5-C6C4116C4416>

* The calculation of revenue impulses is based on the retrospective assumption of how much tax revenues would change if their growth rate coincided with real, nominal and potential GDP growth. Then, by differencing the actual change of taxes and the change in the above mentioned amount of tax revenues, we got the revenue impulse (the latter was related to the GDP) for three scenarios.

³ Compiled by the author. <https://armstat.am/am/?nid=82>, <https://www.petekamutner.am/Content.aspx?itn=tsTITaxStatData>

disproportionate and unfair distribution of the tax burden between conscientious and unscrupulous taxpayers due to the existence of significant volumes of the shadow economy. In parallel, the long-term trend of the revenue impulse proves that the restraining tax policy, in fact, did not have a counter-cyclical nature at all, but served to maximize the income of the state as a participant in the economy, collecting more taxes from the economy than the economic cycle suggested. Such behavior of the state, as mentioned earlier, is specific to the “Predatory state” model. This circumstance undoubtedly dictates the future agenda of tax reforms, which implies both significant improvements in tax administration and, as a consequence, possible revisions of taxes in the direction of their reduction. Nevertheless, we should note that compared to a number of comparable countries, the RA is in a more advantageous position in terms of the tax to GDP ratio (see Chart 4).

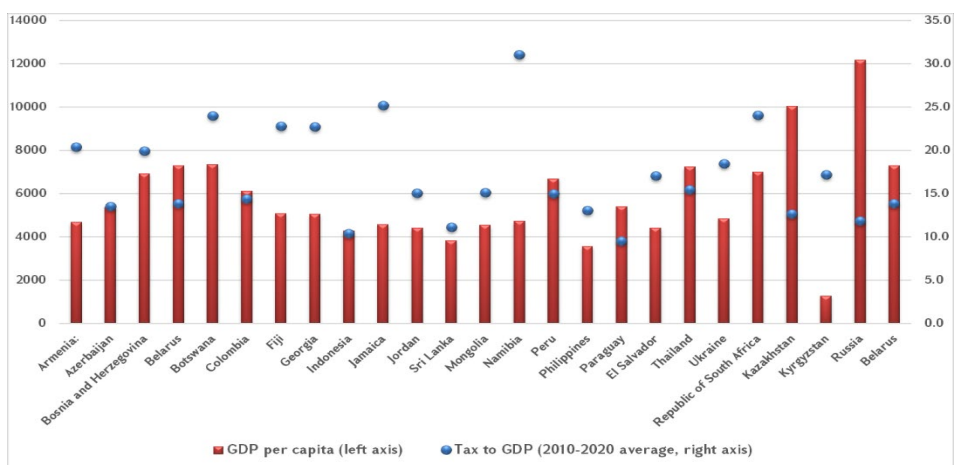


Chart 4. *The dynamics of GDP per capita and tax to GDP ratio for 2010-2020⁴*

Chart 4 shows that within the EAEU countries, the Republic of Armenia also outperforms all members with the above mentioned indicator: Kazakhstan (12.7%), Kyrgyzstan (17.2%), Russia (11.8%), Belarus (13.9%).

One of the main trends in the structure of tax revenues of the RA state budget in the long term has been a significant change in the share of direct and indirect taxes. Note that in the period of 2006-2012 indirect taxes (value added tax, excises) accounted for the vast majority both in total tax revenues (64.6% on average) and in the ratio of indirect taxes/GDP (11.1% on average). However, since 2013 there have been positive changes in the dynamics of direct taxes, especially in personal income tax, and as of 2022, for the above mentioned indicators, there is the following ratio: direct taxes / tax revenues: 53.5% and direct taxes / GDP: 12.1%. We also note that the increase in personal income tax by about AMD 165 billion in 2013 was mainly due to the adoption of a new law on income tax, according to which social payments were also included in income tax (see Chart 5).

⁴ Compiled by the author. statistical databases of the Statistical Committee of the Republic of Armenia and the EAEU Commission. <https://armstat.am/am/?nid=82>, http://www.eurasiancommission.org/ru/act/integr_i_makroec/dep_stat/fin_stat/time_series/Pages/gfs.aspx

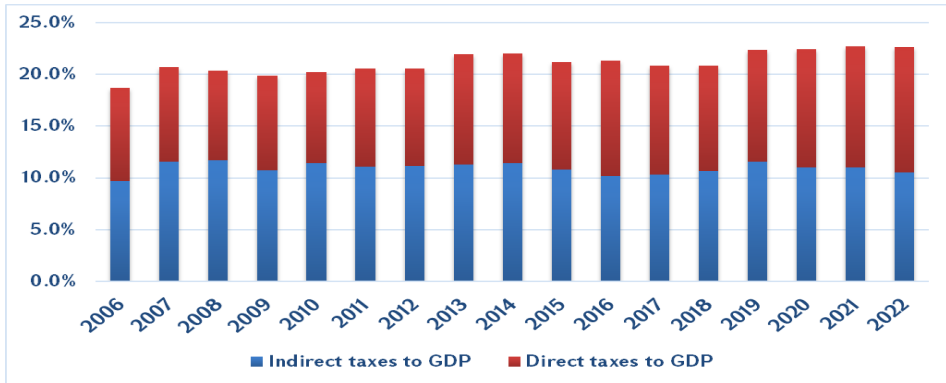


Chart 5. *The dynamics of indirect and direct taxes to GDP ratios in the RA for 2006-2022⁵*

As already noted, at the beginning of the century, indirect taxes accounted for a significant share in the structure of the RA tax revenues, more specifically, value added tax (47.4%) and excises (17.2%). Among direct taxes, personal income tax (7.7%) and corporate income tax (7.4%) accounted for a fairly modest share of total tax revenue. All this was mainly the result of ineffective economic reforms and underdevelopment of tax administration. This is confirmed by the study of indicative tax bases and current rates for the above-mentioned types of taxes (see Charts 6, 7).

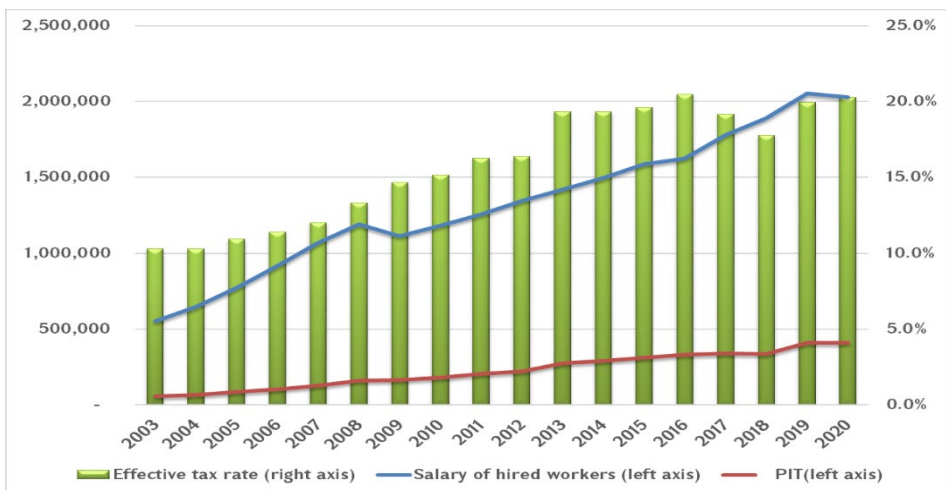


Chart 6. *The dynamics of the salary of hired workers, personal income tax and effective rate of personal income tax in the RA in 2003-2020⁶*

Let's note from Chart 6 that in 2003 the effective PIT rate was at a significantly low level of 10.3%. The above-mentioned indicator has started to increase notably since 2013, reaching around 20.3% in 2020.

Compared to the personal income tax, the situation about corporate income tax is even more worrying. In particular, during the entire considered period, the effective rate of corporate income tax amounted around 4.5%, particularly 4.6% as of 2020, decreasing by 0.6 percentage points compared to the previous year. Of course, the COVID-19 pandemic had a significant impact on the profits generated in the economy

⁵ Compiled by the author. the RA Statistical Committee and the RA State Revenue Committee databases. <https://armstat.am/am/?nid=82>, <https://www.petekamutner.am/Content.aspx?itn=tsTITaxStatData>

⁶ Compiled by the author. the RA Statistical Committee and the RA State Revenue Committee databases. <https://armstat.am/am/?nid=82>, <https://www.petekamutner.am/Content.aspx?itn=tsTITaxStatData>

and the amounts of corporate income tax, causing them to decrease by 261 billion and 32 billion drams, respectively, but if we look at the long-term trend of the above mentioned indicators, it becomes obvious that the effective rate of profit tax is significantly lower than the statutory rate (18%) and taxes are disproportionately levied on profits generated in the economy. In particular, starting from 2017, the gross operating surplus (GOS) and gross mixed income of the RA economy began to exceed around 3 trillion drams, while the corporate income tax was steadily around 100-150 billion drams (see Chart 7). In this case, the tax burden is borne mainly by the hired workers who pay personal income tax, while the entrepreneurs hiding part of the profits indirectly redistribute the tax burden in their favor. This is evidenced by the study of the share of profits and wages in the gross value added, in particular, in the long run, the share of the gross operating surplus and gross mixed income in the gross value added amounted to 55-60 percent in the RA economy, but the corporate income taxes were about 3 times inferior to the income tax index. As of 2021, budget receipts from personal income tax amounted to 426 billion drams, and from corporate income tax to 158 billion drams, for 2022 they amounted to 474 and 222 billion drams, respectively.



Chart 7. The dynamics of gross operating surplus, corporate income taxes and the effective tax rate of the latter for 2003-2020 in the RA⁷

Let's note that the permanently low level of the effective tax rate of corporate income tax in the RA has a number of reasons. First of all, it shows the high level of shadowiness regarding that type of tax and the extremely unhealthy relations in the economy. The profits generated and distributed in the shadow economy also speak of corrupt relationships. Also, in some cases, the fact of the unrealistic tax burden on corporate income tax, as well as the low tax capacity of the economy, should be added to it. This circumstance gives reason to assume that mostly flat statutory rate of the corporate income tax, in fact, needs a serious revision in the direction of progressivity. In particular, it probably makes sense to differentiate the rate of corporate income tax, taking into account the sphere and type of economic activity. Accordingly, it is necessary to tax the real (productive) sector of the economy with a more favorable rate of corporate income tax than trade and the service sector, especially the gambling business and other sectors of the entertainment "industry", which are extractive in essence.

⁷ Compiled by the author, the RA Statistical Committee and the RA State Revenue Committee databases. <https://armstat.am/am/?nid=82>, <https://www.petekamutner.am/Content.aspx?itm=tsTITaxStatData>

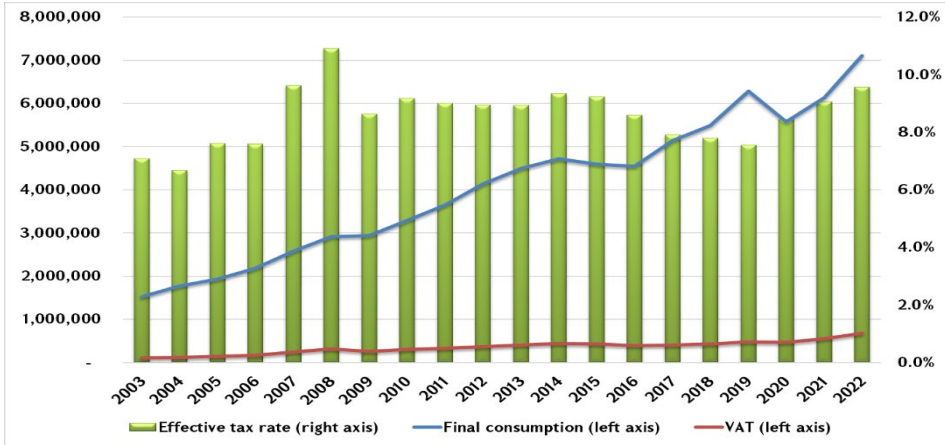


Chart 8. The dynamics of final consumption, VAT and effective tax rate of VAT for 2003-2022 in the RA⁸

Going forward, let's note that the situation is similar in the case of value added tax (VAT). During the observed period, the average effective rate of VAT (8.6%) is about 2 times lower than the statutory rate (20%). Of course, in 2022, an impressive increase of VAT was recorded, by about 22.2%, amounting to 679 billion drams, but the effective rate of this type of tax is still kept at a rather low level (9.6%)* (see Chart 8).

Revisiting the general structure of tax revenues, it is worth noting that compared to the beginning of the century, significant changes are observed in terms of diversification of tax revenues. As of 2022, the value added tax continues to maintain the dominant share (35.3%), but there are considerable improvements in terms of personal income tax (24.7%) and corporate income tax (11.6%). The share of other taxes has also improved notably: it has increased from 5.3% in 2003 to 13.4% in 2022 (see Chart 9).

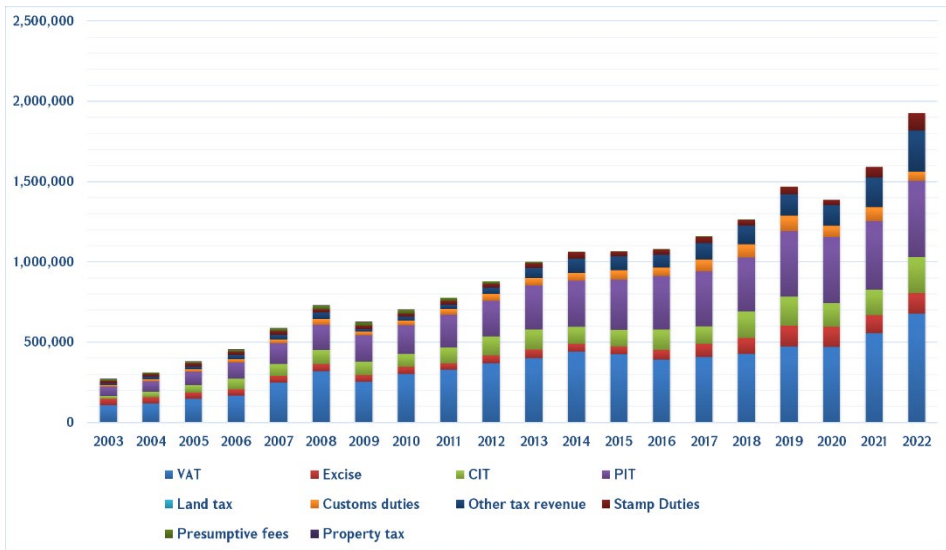


Chart 9. Tax revenue dynamics of the RA for 2003-2022⁹

⁸ Compiled by the author. the RA Statistical Committee and the RA State Revenue Committee databases. <https://armstat.am/am/?nid=82>, <https://www.petekamutner.am/Content.aspx?itm=tsTITaxStatData>

* There are also some tax exemptions from the VAT general regime, which, ceteris paribus, should be taken into account. However, in the absence of disaggregated final consumption data (f.i. input-output table) in the national statistics of the RA, the above-mentioned tax exemptions were not considered.

⁹ Compiled by the author. the RA Statistical Committee and the RA State Revenue Committee databases. <https://armstat.am/am/?nid=82>, <https://www.petekamutner.am/Content.aspx?itm=tsTITaxStatData>

The trend of contributions to the growth of total tax revenues by individual tax types in the observed period proves that in the long run value added tax (on average: 4.2%), income tax (on average: 2.9%), profit tax (on average: 1.6%) contribute most significantly to the growth of tax revenues. The increase of tax revenues in 2022 by around 339 billion drams or 21.4% was mainly due to the positive contributions of value added tax 7.8%, other taxes 4.6%, stamp duties 2.5%, corporate income taxes 4.0%, and personal income taxes 3.1%. Customs duties had a negative contribution of -1.8% due to the worsened economic situation in the main trading partner country - Russian Federation (see Chart 10).

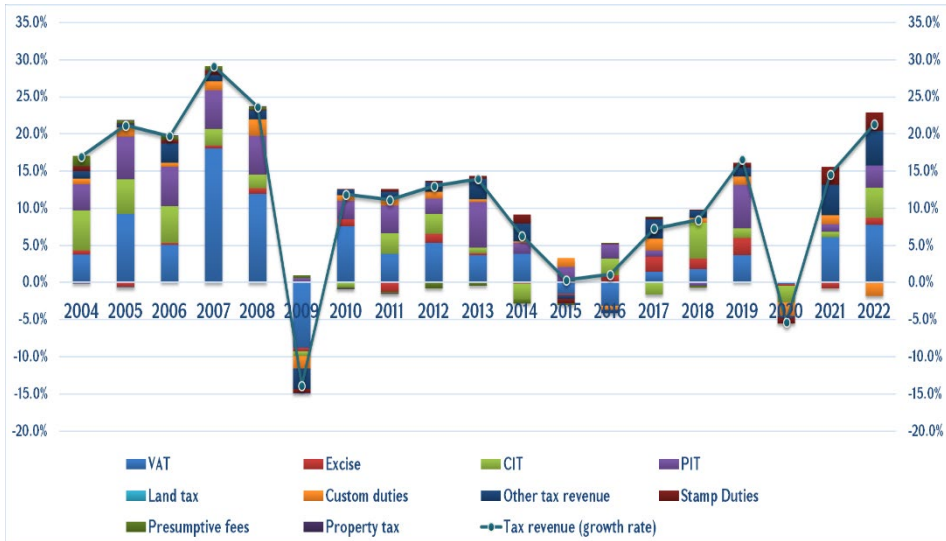


Chart 10. *The dynamics of contributions of individual taxes to tax revenues for 2004-2022 in the RA¹⁰*

Modeling and results. Within the scope of the research, the quantitative interrelations and interactions between the gross value added of the RA economy and the four types of taxes with the largest share in the total tax revenues during the considered period: personal income tax, corporate income tax, VAT and excise tax were studied.

Evaluating the model with the **ARDL** specification, the following results were obtained*:

$$\begin{aligned}
 Y_t = & \frac{0.011}{0.355} + \frac{0.104}{0.09} VAT_t - \frac{0.159}{0.006} CIT_{t-3} - \frac{0.120}{0.03} CIT_{t-4} + \frac{0.108}{0.02} PIT_{t-2} \\
 & - \frac{0.114}{0.004} PIT_{t-4} + \frac{0.070}{0.09} EXC_{t-1} + \frac{0.114}{0.0008} EXC_{t-2} - \frac{0.481}{0.0001} Y_{t-1} \\
 & - \frac{0.414}{0.000} Y_{t-2} - \frac{0.414}{0.000} Y_{t-3} + \frac{0.422}{0.000} Y_{t-4} + \varepsilon_t
 \end{aligned}$$

The R-squared of the model is close to 1 and autocorrelation is absent in the model as Durbin-Watson statistics is close to 2, which proves the high quality of the model, and therefore the possibility of reaching reliable conclusions. Only statistically significant coefficients were taken into account:

- The positive impact of indirect taxes on economic growth is obvious. An increase in VAT budget receipts by 1 percentage point leads to an increase in

¹⁰ Compiled by the author, the RA Statistical Committee and the RA State Revenue Committee databases. <https://armstat.am/am/?nid=82>, <https://www.petekamutner.am/Content.aspx?itm=tsTITaxStatData>

* The significance levels are indicated below the coefficients of the model.

gross value added by 0.104 percentage points at the same quarter**. An increase in excise tax budget receipts by 1 percentage point leads to an increase in gross value added by 0.07 after one and 0.114 percentage points after two quarters.

- In parallel, the next conclusion of the model is related to the negative impacts of direct taxes on economic growth. An increase in corporate income tax (CIT) receipts by 1 percentage point leads to a 0.159 percentage point decrease in gross value added after two and 0.12 percentage point decrease after three quarters. CIT has a direct impact on the rate of capital accumulation and entrepreneurial behavior, so it is logical that additional tax revenues from this type of tax are likely to have a deterrent effect on gross value added by a certain margin.
- The short and long-term impacts of personal income tax on the economic growth is controversial and ambiguous. An increase in personal income tax receipts by 1 percentage point leads to an increase of gross value added by 0.108 percentage points after two quarters and decrease of gross value added by 0.114 after four quarters. The additional charge of personal income tax by the government, which is not generated due to the growth of the tax base, directly affects the disposable income of economic agents, thus constraining the consumer behavior, therefore, the empirical assessment of the deterrent effect of this type of tax is also logical.

Conclusion. The studies and analyzes carried out in the article show that the structure of the tax system of the Republic of Armenia, as well as the importance and impacts of the main types of taxes on the country's economic developments, first of all, on the movement of the GDP, have undergone significant changes over the last three decades. Nevertheless, both institutionally and functionally, the main pillars of the tax system - the types of taxes, their collection mechanisms and regimes, as well as the tax administration, are still far from being optimal.

It follows from the research that although the tax to GDP ratio in the RA is significantly higher than the similar indicator of comparable countries, it is still considerably inferior to the indicators of developed countries, which indicates notable deviations between actual incomes and their potentials, especially in terms of corporate income tax (CIT) and value added tax (VAT). In the study, the comparison with the actual receipts of CIT and VAT and the approximate taxation bases for these types of taxes indicate the presence of large shadow turnovers. All this is added to the approaches specific to the “Predatory state”, in particular, as the study of the long-term trend of the revenue impulse has documented, more tax revenues have been deducted from the economy for years than the economic cycle assumed. This situation gives reason to conclude that large-scale institutional reforms are necessary, in order to bring the statutory rates of these types of taxes closer to the social expectations of taxpayers, as well as to implement effective and efficient steps in the direction of improving tax administration.

One of the conclusions of the research is that the indirect taxes (VAT and excises), being considered as a consumption tax, are mainly charged from the price of final consumption goods and do not lead to a market distortions. It follows that additional indirect tax revenues are also an incentive for producers, because in conditions of high demand, producers receive additional incentives to increase output volumes, which ultimately leads to an increase in the gross value added of the economy. And here, additional taxation does not lead to a change in production-entrepreneurial behavior, because in the end the final consumer is the main bearer of the tax burden.

** The coefficient is significant at the 10% significance level.

As for corporate income tax and personal income tax, according to the results of the research, their increase has a restraining effect on the rate of growth of gross value added created in the economy. Especially the analysis of the corporate income tax leads to the conclusion that in the RA economy it is necessary to make a transition to a statutory tax regime containing a certain scale of progressivity for this type of tax, while setting a lower preferential rate for the real sector, particularly the industrial segment of the economy, and tax the profits generated in the trade, service and extractive sectors at higher tax rates.

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