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THE IMPACT OF TAXATION CHANGES ON GINI COEFFICIENT IN MEMBER STATES OF EUROPEAN UNION (EU 27)

Abstract:

The efficiency of revenue collection is a process that involves different operations in collection procedures, with the revenue collected being a main source of support for state budget spending. The paper aim was studying the impact of the direct taxes/indirect taxes ratio changes on Gini coefficient (inequality). The main result from the analysis is that the impact of the ratio between the direct taxes and indirect taxes on Gini coefficient (inequality) was pursued from three perspectives: a) increases in the direct taxes/indirect taxes ratio; b) decreases in the direct taxes/indirect taxes ratio; c) other situations regarding the change in the direct taxes/indirect taxes ratio. The paper was accomplished by: studying the scientific literature in the field, selecting, synthesizing and interpreting the ideas retained through the own view of the author; collecting data from the European Commission, DG Taxation and Customs Union, based on Eurostat; Eurostat Gini Coefficient of equivalised disposable income by age, drawing up the table needed in the analysis of economic indicators and processing and analysis of the data collected. The analysis was achieved for Member States of European Union (EU 27), for the period 2014-2022. Finally the paper ends with conclusions which highlights the final results of the research and signalize the three situations met in the analysis, mentioned above.

Keywords:

Efficiency of tax collecting; Taxation changes; Impact; Member States of European Union (EU 27); Direct taxes; Indirect taxes, Gini coefficient (inequality)

JEL Classification: H21, H71, O11

1. Some introductive elements on efficiency of tax collection

The increase in financial pressure in the Western countries of the XX century was accompanied by efforts aimed at reducing the underground economy and reducing the fiscal deficit, aspect which led to the increase of research aimed at the efficiency of collecting taxes and duties, in order to support these efforts. (Ke Yan, Min Zuo, Hao Zhang, Yuanyuan Gong, Jiaqi Fang, Edt. Daqing Gong 2022).

In the study of OECD 2000, *Tax Burdens Alternative Measures, OECD Tax Policy Studies No. 2, Taxation*, it is revealed that efficiency concerns are a consequence of the gradual shift, of the tax burden from capital to labour force and consumption, driven by the increase in capital mobility that has led to difficulties in capital revenues taxation.

The European Commission, 2023, *Taxation and Customs Union, Annual Report on Taxation 2023*, highlights that the design of the tax system should have as an objective to minimize administrative expenditure. (European Commission, 2023) In the context of the COVID-19 crisis, concerns to combat tax evasion have been emphasized. Thus, Capasso, Cicatiello, De Simone, Gaeta and Mourao, 2021, quoted in the paper of Ubago Martinez, Arzoz Pedro Pascual, Idoia Arregui Zabaleta, 2022, *Tax collection efficiency in OECD countries improves via decentralization, simplification, digitalization and education* revealed that tax institutions aim to ensure tax compliance by taxpayers through the payment of taxes and other taxes, and by this way, to increase the performance of the tax administration, through the efficiency of tax collection.

In the paper of Valentin Pirvut, Alina Teodora Ciuhureanu, 2020, *Measures for Increasing the Efficiency in the Collection of the Revenues of the Consolidated General Budget* it is highlighted that the efficiency of revenue collection is a process that involves different operations in collection procedures, in order to achieve the proposed objectives. Improvements in the process of tax revenue collection contribute to the increase of funding sources from the budget, with the revenue collected being a main source of support for state budget spending.

Efficiency can be achieved by collecting the necessary income and minimizing the expenses. (European Commission, 2023). Other studies, Ke Yan, Min Zuo, Hao Zhang, Yuanyuan Gong, Jiaqi Fang, Daqing Gong Editor, 2022, *Optimization of Tax Collection and Administration Efficiency in Less Developed Regions of Western China, Discrete Dynamics in Nature and Society Forward Series*, have addressed the analysis of the efficiency of tax collection by comparing fiscal policies. Thus, in the context of globalization, a number of macroeconomic factors and not only, have affected the economies of many countries, and therefore, policy makers have designed the policies of collecting taxes, internally, after the study and comparison of tax policies in different countries. (Ke Yan, Min Zuo, Hao Zhang, Yuanyuan Gong, Jiaqi Fang, Edt. Daqing Gong 2022)

The efficiency of revenue collection aims at increasing financial resources at the State Budget. In order to increase the efficiency of tax revenue collection, objectives are pursued, such as (ANAF, (2018, 2019), Regional Directorate-General of Public Finance Brasov ([Direcția Generală Regională a Finanțelor Publice Brașov](#)), (2019) (quoted in Pirvut, Ciuhureanu,, 2020): supporting

tax compliance and tax declaration, by simplifying tax procedures; combating tax evasion; differentiation of tax treatment, in relation to tax behaviour of taxpayers.

Theoretical studies have carried out analyses regarding the taxation and perspectives related to the application of equitable principles for taxpayers. Thus, Petty (quoted in Ke Yan., Min Zuo, Hao Zhang, Yuanyuan Gong, Jiaqi Fang, Edt. Daqing Gong, 2022) in his study of England's economic instability and taxation system proposed a system of taxation based on equity and simplicity. Turgot (quoted in Ke Yan., Min Zuo, Hao Zhang, Yuanyuan Gong, Jiaqi Fang, Edt. Daqing Gong, 2022) focused on social wealth formation and income distribution and presented the advantages and disadvantages of direct and indirect taxes. He also proposed as a measure of equalizing the taxation, elimination of fiscal incentives for the rich.

2.The impact of taxation change (change in the ratio between Direct Taxes and Indirect Taxes), on Gini coefficient (inequality), in the interval of the years 2014-2022.

This analysis was achieved for Member States of European Union (EU 27), for the period 2014-2022, using data from European Commission, DG Taxation and Customs Union, based on Eurostat data https://taxation-customs.ec.europa.eu/taxation/economic-analysis/data-taxation-trends_en; Eurostat Gini coefficient of equivalised disposable income by age, https://ec.europa.eu/eurostat/databrowser/view/ilc_di12/default/table?lang=en.

The analysis of the impact of the taxation change (change in the ratio between the direct taxes and indirect taxes), on the Gini coefficient, at the above-mentioned units shows the following:

The changes in the tax structure, expressed by the ratio between the direct and indirect taxes, respectively, are in direct relation with inequality, measured by the Gini coefficient.

The changes, as a result of their increase and decrease, as well as the impact they have on inequality (Gini coefficient) can be observed in the data below:

Table 3 Changes in the tax structure

a) Increases in the Direct Taxes/Indirect Taxes ratio

Country	Year	Direct taxes/indirect taxes ratio (p.p.)	Gini coefficient (Inequality) (p.p.)	Taxes (p.p.)	Impact on inequality
Luxembourg	2015-	Increase in ratio (+0,2)	Decrease coefficient	Direct taxes: increase	The increase in direct taxes influenced the decrease in the Gini coefficient (inequality).

	2014		(-0,2)	(+ 0,6) Indirect taxes decrease (- 2.0)	
Germany	2016-2015	Increase in ratio (+0,1)	Decrease coefficient (-0,6)	Direct taxes: increase (+0,4) Indirect taxes decrease (-0,1)	The increase in direct taxes influenced the decrease in the Gini coefficient (inequality).
Romania	2016-2015	Increase in ratio (+0,1) .	Decrease coefficient (-2,7)	Direct taxes: decrease (-0,1) Indirect taxes decrease (-1,7)	The decrease in the Gini coefficient may be influenced by the reduction in indirect taxes, depending on the product categories that were the subject of tax reduction.
Belgium	2017-2016	Increase in ratio +0,1.	Decrease coefficient (-0,2)	Direct taxes: increase (+1,1) Indirect taxes remains constant	The increase in direct taxes had an impact towards reducing the Gini coefficient.
Austria	2018-2017	Increase in ratio +0,1	Decrease coefficient (-1,1)	Direct taxes: increase (+0,5) Indirect taxes decrease (-0,3)	The increase in direct taxes and the decrease in indirect taxes influenced the Gini coefficient, in the sense of decreasing it, also, depending on the category of products for which indirect taxes were decreased.
Denmark	2019-2018	Increase in ratio (+0,0)	Decrease coefficient (-1,5)	Direct taxes: increase (+3,2)	The increase in the share of direct taxes had an impact on the Gini

				Indirect taxes maintained at a constant level	coefficient, in the sense of its decrease.
Malta	2019-2018	Increase in ratio (+0,1)	Decrease coefficient (-0,7)	Direct taxes: increase (+0,2) Indirect taxes: decrease (-0,7)	The increase in direct taxes and the decrease in indirect taxes influenced the Gini coefficient, in the sense of reduction.
Estonia	2020-2019	Increase in ratio (+0,1)	The coefficient remains constant	Direct taxes: increase (+0,4) Indirect taxes: decrease (-0,8)	It is possible that both direct taxes and indirect taxes have an impact on the coefficient, which has remained constant.
Spain	2020-2019	Increase in ratio (+0,1)	Decrease coefficient (-0,9)	Direct taxes: increase (+0,8) Indirect taxes: decrease (-0,2)	The increase in direct taxes influenced the decrease in the Gini coefficient.
Italy	2020-2019	Increase in ratio (+0,1)	Decrease coefficient (-0,3)	Direct taxes: increase (+0,7) Indirect taxes: decrease (-0,7)	The increase in direct taxes has an impact on the level of the Gini coefficient, which has decreased.
Cyprus	2020-2019	Increase in ratio (+0,1)	Decrease coefficient (-0,8)	Direct taxes: increase (+0,2)	The increase in direct taxes and, also, of the indirect taxes may have an

				Indirect taxes: decrease (-1,3)	impact on the level of the Gini coefficient in the sense of its decrease, depending on the category of the products for which taxes were reduced.
Ireland	2020-2019	Increase in ratio (+0,2)	Decrease coefficient (-0,4)	Direct taxes: decrease (-0,3) Indirect taxes: decrease (-0,4)	It can be considered that the impact of reducing the two categories of taxes also influenced the value of the Gini coefficient.
Malta	2020-2019	Increase in ratio (+0,1)	Increase coefficient (+2,3)	Direct taxes: decrease (-0,3) Indirect taxes: decrease (-0,8)	It is possible the influence both of the reduction of direct taxes and the reduction of indirect taxes, which have a greater impact.
Slovenia	2020-2019	Increase in ratio (+0,1)	Decrease coefficient (-0,4)	Direct taxes: remain constant Indirect taxes reduction (-1,2)	Reducing indirect taxes can be a factor in diminishing the Gini coefficient, in the context of maintaining direct taxes at a constant level.
Denmark	2021-2020	Increase in ratio (+0,1)	Decrease coefficient (-0,3)	Direct taxes: increase (+0,8) Indirect taxes reduction (-0,6)	Increasing direct taxes has an impact on decreasing the Gini coefficient.
Austria	2021-	Increase in ratio	Decrease	Direct taxes:	The increase in direct taxes influenced the

	2020	(+0,1)	coefficient (-0,3)	increase (+1,1) Indirect taxes: increase (+0,3)	decrease in the Gini coefficient.
Finland	2021- 2020	Increase in ratio (+0,1)	Decrease coefficient (- 0,8)	Direct taxes: increase (+0,9) Indirect taxes increase (+0,1)	The increase in direct taxes influenced the decrease in the Gini coefficient.
Hungary	2022- 2021	Increase in ratio (+0,1)	Decrease coefficient (-0,2)	Direct taxes: increase (+1,3) Indirect taxes: increase (+0,6)	The increase in direct taxes had an impact on the decrease in the Gini coefficient.
Portugal	2022- 2021	Increase in ratio (+0,1)	Decrease coefficient (-1)	Direct taxes: increase (+1,0) Indirect taxes remain constant.	The increase in direct taxes had an impact on the decrease in the Gini coefficient.
Romania	2022- 2021	Increase in ratio (+0,1)	Decrease coefficient (-2,3)	Direct taxes increase (+1,0) Indirect taxes: remain	The increase in direct taxes influenced the Gini coefficient, by decreasing it, in the context of maintaining the level of indirect expenditures.

				constant	
Belgium	2022-2021	Increase in ratio (+0,1)	Increase coefficient (+0,8)	Direct taxes: increase (+0,1) Indirect taxes: decrease (-0,5)	It is possible to increase the Gini coefficient due to the decrease in indirect taxes.
Ireland	2022-2021	Increase in ratio (+0,2)	Increase coefficient (+0,3)	Direct taxes increase (+0,7) Indirect taxes: decrease (-0,5)	There is a possibility that both categories of taxes could influence the increase in the Gini coefficient, also, depending on the categories of goods on which the tax was reduced.

Source: Processing based on data from European Commission, DG Taxation and Customs Union, based on EUROSTAT data Data on Taxation Trend https://taxation-customs.ec.europa.eu/taxation/economic-analysis/data-taxation-trends_en; EUROSTAT Gini coefficient of equivalised disposable income by age, https://ec.europa.eu/eurostat/databrowser/view/ilc_di12/default/table?lang=en.

The data in the table above shows:

The increase in the Direct Taxes/Indirect Taxes ratio was usually associated with a decrease in inequality (Gini coefficient); exceptions were observed in some countries where the Gini coefficient increased compared to the previous year: Malta (the year 2020 compared to 2019), Belgium and Ireland (both in the year 2022 compared to 2021). There were also situations where the Gini coefficient remained at the previous year's level - Estonia (the year 2020 compared to 2019).

In a number of countries that, *given the increase in the ratio between the two tax categories*, show *decreases in inequality*, the increase in the share of direct taxes can be considered an impact element of the reduction in the Gini coefficient. Such aspects have been observed in countries such as Luxembourg (2016), Belgium (2016), Austria (2018, 2021), Denmark (2019, 2021), Malta (2019), Spain (2020), Italy (2020), Hungary (2022), Romania (2022), Finland (2021). There are situations in which the decrease in the Gini coefficient was, also, influenced by the reduction in indirect taxes, such as: Romania (2016), Cyprus (2020), Slovenia (2020), Ireland (2020).

In other countries that, in evolution, show an association between the increase in the ratio between the two categories of taxes and increases in the Gini coefficient (inequality), the impact

element can be considered the decrease in the share of indirect taxes, for example, Belgium, or the increase in the Gini coefficient (inequality) was influenced by both the change in direct taxes and indirect taxes, as in the case of Malta (2020) and Ireland (2022).

In the case of Estonia, maintaining the same level of the Gini coefficient (inequality) in 2020 compared to 2019 can be considered to have been influenced by both the increase in direct taxes and the decrease in indirect taxes.

Table 3 Changes in the tax structure

b) Decreases in the Direct Taxes/Indirect Taxes ratio

Country	Year	Direct taxes/indirect taxes ratio (p.p.)	Gini coefficient (inequality)	Taxes p.p.	Impact on Gini coefficient (inequality)
Bulgaria	2016-2015	Decrease in ratio (-0,1)	Gini coefficient increase (+0,1)	Direct taxes decrease (-0,7) Indirect taxes increase (+0,3)	The decrease in direct taxes influenced the increase in the Gini coefficient
Denmark	2016-2015	Decrease in ratio (-0,1)	Gini coefficient increase (+0,3)	Direct taxes decrease (-0,7) Indirect taxes maintain constant.	The decrease in direct taxes had an impact on the increase in the Gini coefficient
Portugal	2016-2015	Decrease in ratio (-0,1)	Gini coefficient decrease (-0,1)	Direct taxes decrease (-0,6) Indirect taxes increase (+0,2)	It can be considered that the decrease in the Gini coefficient was influenced by the increase in indirect taxes, but also the decrease in direct ones.
Austria	2016-	Decrease in ratio	Unmodified coefficient	Direct taxes decrease	The Gini coefficient remained constant

	2015	(-0,1)		(-1,4) Indirects taxes unmodified	as a result of the influence of both tax categories.
Denmark	2018- 2017	Decrease ratio (-0,1)	Gini coefficient increase (+0,2)	Direct taxes decrease (-1,5) Indirect taxes increase (+0,2)	The decrease in direct taxes led to an increase in the Gini coefficient.
Latvia	2018- 2017	Decrease in ratio (-0,1)	Gini coefficient increase (+1,1)	Direct taxes decrease (-1,1) Indirect taxes increase (+0,3)	The decrease in direct taxes led to an increase in the Gini coefficient.
Romania	2018- 2017	Decrease in ratio (-0,1)	Gini coefficient increase (+0,2)	Direct taxes decrease (-1,3) Indirect taxes remain constant	The increase in the Gini coefficient was influenced by the decrease in direct taxes.
Finland	2018- 2017	Decrease in ratio (-0,1)	Gini coefficient increase (+0,6)	Direct taxes decrease (-0,5) Indirect taxes increase (+0,2)	The decrease in direct taxes had an impact towards the increase in the Gini coefficient.
Belgium	2019- 2018	Decrease in ratio (-0,1)	Gini coefficient decrease (-0,6)	Direct taxes decrease (-1,3) Indirect taxes increase	The decrease in the Gini coefficient can be explained on the expense of the decrease in direct taxes.

				(+0,1)	
Czech Republic	2021-2020	It shows a constant maintaining of the ratio compared to the previous year.	Gini coefficient increase (+0,6)	Direct taxes decrease (-0,8) Indirect taxes increase (+0,1)	The decrease in direct taxes had an impact on the Gini coefficient.
Italy	2021-2020	Decrease in ratio (-0,1)	Gini coefficient increase (+0,4)	Direct taxes decrease (-0,4) Indirect taxes increase (+0,6)	The direct taxes decrease influenced the increase in the Gini coefficient.
Luxembourg	2021-2020	Decrease in ratio (-0,1)	Gini coefficient decrease (-1,6)	Direct taxes remain constant Indirect taxes increase (+0,5)	The decrease in the Gini coefficient was influenced by the constant maintaining of direct taxes and the increase in indirect ones.
Denmark	2022-2021	Decrease in ratio (-0,2)	Gini coefficient increase (+0,6)	Direct taxes decrease (-4,7) Indirect taxes increase (+1,0)	The increase in the Gini coefficient was influenced by the decrease in direct taxes.

Source: Processing based on data from European Commission, DG Taxation and Customs Union, based on EUROSTAT data Data on Taxation Trend https://taxation-customs.ec.europa.eu/taxation/economic-analysis/data-taxation-trends_en; EUROSTAT Gini coefficient of equivalised disposable income by age, https://ec.europa.eu/eurostat/databrowser/view/ilc_di12/default/table?lang=en.

The data in the table above shows:

The decrease in the share of direct/indirect taxes ratio was usually associated with an increase in the Gini coefficient (inequality), as in the case of the countries: Bulgaria (2016), Denmark (2016,

2018, 2022), Latvia (2018), Romania (2018), Finland (2018), Czech Republic (2021), Italy (2021). It is observed that, given the decrease in the share of direct taxes, the impact on the Gini coefficient was increasing.

In other situations, where *the decrease in the share of direct/indirect tax ratio* was associated with *a reduction in the Gini coefficient*, the influence of the increase in indirect taxes is considered to have had an impact. Such situations occur in Portugal (2016), Belgium (2019), Luxembourg (2021).

Table 3 Changes in the taxation structure

c) Other situations regarding the change in the Direct Taxes/Indirect Taxes ratio

Country	Year	Direct taxex/indirect taxes ratio (p.p.)	Gini coefficient (inequality)	Taxes (p.p.)	Impact on inequality
Denmark	2015-2014	Decrease in ratio (-0,1)	Gini coefficient decrease (-0,3)	Direct taxes decrease (-2,5) Indirect taxes increase (+0,1)	The significant reduction in direct taxes and the negligible increase in indirect taxes cannot explain the decrease in the Gini coefficient. Apparent non-correlation.
Netherlands	2015-2014	Increase in ratio (+0,1)	Gini coefficient increase (+0,5)	Direct taxes increase (+0,7) Indirect taxes decrease (-0,1)	Apparent correlation regarding the increase in the Gini coefficient on the expense of the increase in direct taxes and the insignificant decrease in indirect ones.
Netherlands	2016-2015	Increase in ratio (+0,1)	Gini coefficient increase (+0,2)	Direct taxes increase (+ 1,1) Indirect taxes	Apparent correlation regarding the increase in the Gini coefficient, on the expense of the increase in direct taxes and maintaining constant, the indirect ones.

				remains at constant level	
Luxembourg	2018-2017	Increase in ratio (+0,1)	Gini coefficient increase (+2,1)	Direct taxes increase (+2,1) Indirect taxes increase (+0,3)	Apparent non-correlation between the increase in the coefficient, as an effect of the increase in direct taxes.
Hungary	2021-2020	Decrease in ratio (-0,1)	Gini coefficient decrease (-0,4)	Direct taxes decrease (-1,1) Indirect taxes decrease (-0,4)	Apparently, correlation, but the impact of the two categories of taxes - of reducing of the Gini coefficient - depends on the nature of the items that are subject to taxation.
Slovakia	2021-2020	Increase in ratio (+0,1)	Gini coefficient increase (+0,9)	Direct taxes increase (+0,7) Indirect taxes remains at constant level	The apparent correlation regarding the increase in the Gini coefficient, on the expense of the increase in the direct taxes and maintaining constant of the indirect ones.
Lithuania	2022-2021	Increase in ratio (+0,1)	Gini coefficient increase (+0,8)	Direct taxes increase (+0,4) Indirect taxes	The apparent correlation regarding the increase in the Gini coefficient, on the expense of the increase in the direct taxes and in the indirect ones,

				increase (+0,4)	respectively.
Finland	2022- 2021	Increase in ratio (+0,1)	Gini coefficient increase (+0,9)	Direct taxes increase (+0,2) Indirect taxes decrease (-0,2)	. The increase in the Gini coefficient, by (+0.9), has an apparent motivation by the increase in the direct taxes and the decrease in the indirect taxes.

Source: Processing based on data from European Commission, DG Taxation and Customs Union, based on EUROSTAT data Data on Taxation Trend https://taxation-customs.ec.europa.eu/taxation/economic-analysis/data-taxation-trends_en; EUROSTAT Gini coefficient of equivalised disposable income by age, https://ec.europa.eu/eurostat/databrowser/view/ilc_di12/default/table?lang=en.

Other situations regarding the change in the Direct Taxes/Indirect Taxes ratio.

In other countries mentioned above, increases and decreases in the ratio of the two tax categories are identified, as follows:

The increase in the ratio between the two tax categories is associated with the increase in the inequality coefficient (Gini coefficient). In this situation, countries such as the Netherlands, Luxembourg, Slovakia, Lithuania and Finland are in. In all cases, direct taxes are increasing, and indirect taxes alternate (increases and decreases).

The decrease in the ratio of the two categories of taxes is associated with the decrease in direct taxes: Denmark (2015) and Hungary (2021).

The respective situations show apparent non-correlations between the changes in the value of the two tax categories (increases and decreases) and the changes in the value of the Gini coefficient. The situation can be understood from the perspective of the product categories that were under the effect of the tax change and the effect on the taxpayer segments.

3. Conclusions

Some aspects of financial inclusion and efficient collection of taxes are retained:

Effective taxation can only be achieved through effective tax administration. It is necessary to focus fiscal policies on rethinking tax structures, in the sense of simplification, in order to increase the efficiency of tax collection, through the emphasis on indirect taxes in relation to direct ones.

In the context of the COVID-19 crisis, concerns have been emphasized to combat tax evasion, with fiscal institutions aiming to ensure tax compliance by taxpayers and thus increase the

efficiency of tax collection. (Capasso, Cicatiello, De Simone, Gaeta și Mourão, 2021). (quoted in Ubago Martínez, Pascual Arzoz, Zabaleta Arregui, 2022).

Other studies have addressed the analysis of the efficiency of tax collection by comparing tax policies (Ke Yan, Min Zuo, Hao Zhang, Yuanyuan Gong, Jiaqi Fang, Daqing Gong (Edt.) 2022) Other authors reveals four relevant factors for increasing the efficiency of tax collection: fiscal decentralisation, the education system, structural reform and simplification of the taxation system. (Yolanda Ubago Martínez, Pedro Pascual Arzoz, Idoia Zabaleta Arregui (2022)

The impact of taxation changes on inequality (Gini coefficient) was aimed from three perspectives:

- a) Increases in the Direct Taxes/Indirect Taxes ratio
- b) Decreases in the Direct Taxes/Indirect Taxes ratio
- c) Other situations regarding the change in the Direct Taxes/Indirect Taxes ratio.

a) *The increase in the Direct Taxes/Indirect Taxes ratio* has usually been associated with a decrease in inequality (Gini coefficient). In a number of countries that, under conditions of increasing, the ratio between the two tax categories show decreases in inequality, the increase in the share of direct taxes can be considered the impact element of the reduction in the Gini coefficient.

In other situations, has also resulted that **the decrease** in the Gini coefficient was influenced by **the reduction** of indirect taxes with a higher value level than direct ones.

There were cases in which it can be considered that **the decrease** in the Gini coefficient was under the **impact of both categories of taxes** (both the increase in direct taxes and the reduction in indirect taxes), taking into account the value level of the changes in both categories of taxes.

b) *The decrease in the share of direct/indirect taxes ratio* was usually associated with an increase in the Gini coefficient (inequality), the impact element on the increase in the Gini coefficient level is the decrease in the share of direct taxes.

In other situations, where the decrease in the share of direct/indirect taxes ratio was associated with a decrease in the Gini coefficient, it is considered that the influence of the increase in indirect taxes had an impact. The influence of the change in the share of indirect taxes can be taken into account depending on the nature of the objects that are subject to the increase in indirect taxes (for example, VAT).

c) *Situations arise*, such as:

- increasing the ratio between the two categories of taxes, associated with an increase in the inequality coefficient.

- decreasing the ratio between the two categories of taxes, associated with a decrease in direct taxes.

In the cases analyzed, direct taxes appear to be increasing, while indirect taxes alternate (increases and decreases). The respective situations present apparent uncorrelations between the changes in the value of the two categories of taxes (increases and decreases) and the changes in the value of the Gini coefficient. The situation can also be understood from the perspective of the product categories that were under the effect of tax changes.

From what has been presented, it can be noted that the analysis of the change in the structure of taxation (direct taxes, indirect taxes) offers the possibility of a more concrete knowledge of the elements that can influence the increase or decrease in inequality.

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