

UDK: 366.271.5:886:(1.924.11):336.2.0275:(497.120):(497.111)
DOI: 10.5937/TokOsig2301009V

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CORPORATE INCOME TAX BURDEN OF MULTINATIONAL INSURANCE GROUPS: A CASE OF CROATIA, SERBIA AND SLOVENIA

SCIENTIFIC PAPER

Abstract

The corporate income tax burden may be an important factor in investment decision-making. Multinational companies pay close attention to the analysis of corporate income tax burden in the countries where they operate and plan to invest. On the other hand, the corporate income tax burden may significantly vary across countries due to different statutory rates and rules for calculating taxable income. The corporate income tax burden in subsidiaries of multinational insurance groups in Croatia, Serbia, and Slovenia is analyzed in this paper. It is shown that the corporate income tax burden in insurance companies significantly differs between studied countries. Insurance companies in Serbia have by far the lowest tax burden, notably owing to tax loss carryforward and interest on government securities that are exempt from taxation. Although Slovenia has the highest statutory tax rate, insurance companies in Croatia have the highest average corporate effective tax rates. Many interest groups, particularly owners and managers of multinational insurance groups, may find the research findings interesting.

Keywords: *corporate income tax, tax rates, tax planning, multinational companies, insurance, foreign direct investments.*

JEL Classification: *F23, G22, H25.*

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Paper received on: 27 December 2022
Paper accepted on: 17 March 2023

I. Introduction

Multinational insurance groups, typically from the most developed countries in the world (European Union members, the United States of America, or Japan) dominate the global insurance sector. For instance, some of the most widely known insurance companies, such as Allianz (headquartered in Germany), Assicurazioni Generali (headquartered in Italy), AXA (headquartered in France), ING (headquartered in the Netherlands) or Zurich Insurance Group (headquartered in Switzerland) have subsidiaries in a number of countries, reporting the revenues higher than gross domestic products of majority of countries.

On the other hand, the main players in the insurance market of post-transition and transition countries are multinational insurance groups, that primarily originate from the European countries – Austria, Germany, Greece, Hungary, Italy, Russia, etc. Namely, as a part of the liberalization and internationalization of the insurance market, most of the insurance companies in these countries are privatized.²

In the past few decades, both companies and national governments showed an interest in the reduction of the corporate income tax burden. Dyreng et al.³ showed that the corporate income tax burden substantially declined in the past few decades. In this regard, the tax burden is reduced by both domestic and multinational companies, both state-owned and private companies, both companies from developed and companies from developing countries. Lu et al. argue that the reduction of the corporate tax burden is a result of the bigger implementation of corporate income tax avoidance strategies, but also a result of the reduction of statutory corporate income tax rates by the national governments.⁴

The subject of this paper is the tax burden of insurance companies that operate in Croatia, Serbia, and Slovenia and are part of multinational insurance groups. Previous studies focused on insurance companies in Croatia, Serbia, and Slovenia,⁵ but they did not address tax-related issues. The first objective of this research is to compare the corporate income tax burden that multinational insurance groups have in studied countries, while the second objective of the research is to examine

² J. Kočović, M. Jovović, Effects of Liberalization and Privatization on Serbian Insurance Market Development, *Insurance Trends*, 32(1), 2016, p. 21.

³ S. Dyreng, M. Hanlon, E. Maydew, J. Thornock, Changes in Corporate Effective Tax Rates over the Past 25 Years, *Journal of Financial Economics*, 2017, 124(3), p. 441.

⁴ Y. Lu, L. Shao, Y. Zhang, The Declining GAAP ETR Trend over 1960-2016, *Review of Accounting and Finance*, 21(5), 2022, p. 398.

⁵ D. Medved, S. Kavčić, An Empirical Study of Efficiency in Croatia and Slovenia Insurance Markets, *Economic Research*, 25(1), 2012, p. 87; M. Kostić, Lj. Maksimović, B. Stojanović, The Limitations of Competition in the Insurance Market of Slovenia, Croatia and Serbia, *Economic Research*, 29(1), 2016, p. 395; J. Kočović, M. Jovović, p. 21.

the impact of the statutory corporate income tax rate on the corporate income tax burden of studied insurance companies.

According to the best of the author's knowledge, this is the first comparative research on the taxation of subsidiaries of multinational insurance groups in Croatia, Serbia, and Slovenia. In addition, prior research in the insurance sector of these countries usually captured each insurance company, regardless of its ownership structure. Prior research on the taxation of multinational companies primarily captured real-sector companies (to a higher extent) and the banking sector (to a lower extent), while the insurance sector was relatively neglected.

In addition to the introduction and conclusion, the paper is divided into four parts. The first part develops the research hypotheses based on the literature review. The second part provides the analysis of the context or the tax environment in which insurance companies operate in the countries studied. The third part of the paper presents the research methodology, and the fourth part presents the results and discussion.

II. Literature Review and Hypotheses Development

Several studies⁶ have shown that the reduction of the tax burden (through the reduction of statutory tax rates or granting special tax incentives to investors) encourages the inflow of foreign direct investments. It may imply that multinational insurance groups analyze the future tax burden when choosing the country in which they will set up the subsidiary. In addition, Marjanović⁷ shows that corporate income tax is the key type of tax that foreign investors in transition countries are interested in.

Multinational companies pay special attention to the corporate income tax due to the possibility of relatively simple profit shifting to tax havens. This may be achieved through various profit-shifting strategies such as intragroup trade, borrowing, intangible assets licensing, etc.⁸ On the other hand, research on the corporate income tax burden in certain countries in which subsidiaries of multinational companies operate is relatively scarce.

Profit shifting to tax havens is a particularly important issue in the insurance industry since setting up a captive (group) insurance company in the tax haven is

⁶ C. Bellak, M. Leibrecht, Do Low Corporate Income Tax Rates Attract FDI? – Evidence from Central- and East European Countries, *Applied Economics*, 41(21), 2009, p. 2691; K. Vogiatzoglou, Differences in Inward FDI Performance between the Southern Eurozone and Eastern EU Members: A Panel-Data Analysis Over 2004-2016, *Economic Themes*, 56(4), 2018, p. 519; F. Merko, K. Muco, Tax Incentives and the Location of FDI. Evidence from a Panel Data in Balkan Countries, *Journal Transition Studies Review*, 27(2), 2020, p. 3.

⁷ D. Marjanović, Competitiveness of the Serbian Economy through the Prism of Tax Incentives for Foreign Investors, *Economic Analysis*, 51(3-4), 2018, p. 95.

⁸ M. Holtzblatt, E. Jermakowicz, B. Epstein, Tax Havens: Methods and Tactics for Corporate Profit Shifting, *International Tax Journal*, 41(1), 2015, p. 36; S. Beer, R. de Mooij, L. Liu, International Corporate Tax Avoidance: A Review of the Channels, Magnitudes, and Blind Spots, *Journal of Economic Surveys*, 34(3), 2020, p. 662.

an important strategy of profit shifting.⁹ Hampton and Christensen¹⁰ argue that Bermuda is the traditional tax haven in which most captive insurance companies are headquartered. In addition, in some countries, insurance companies are subject to favorable profit-shifting rules (for instance, the rules on the prevention of thin capitalization).¹¹

A number of studies have found that the corporate income tax burden varies significantly among countries due to the different statutory corporate income tax rates, tax incentives and credits, and tax avoidance possibilities. For instance, numerous studies¹² have shown that Anglo-Saxon companies have lower effective corporate income tax rates than companies from the continental part of Europe.

Bubanić and Šimanić¹³ show that the average effective corporate income tax rates of companies in Croatia are lower than the statutory tax rate, though the difference between statutory and effective rate is relatively small. In addition, Vržina and Janković¹⁴ show that subsidiaries of multinational companies in Serbia have, on average, lower effective rates than the statutory rate. Klun¹⁵ analyzes tax investments offered to companies in Slovenia to minimize the corporate income tax burden. Bearing in mind the results of previous research, the first research hypothesis is defined as follows:

H₁: Multinational insurance groups have significantly different corporate income tax burdens in different countries.

Measuring the corporate income tax burden may be more difficult when companies operate in countries with different statutory corporate income tax rates, so researchers have to take on additional activities. For instance, the impact of certain company characteristics on the corporate income tax burden should be controlled for the variability of the statutory tax rates, so the statutory rate should be included

⁹ A. Elemes, B. Blaylock & C. Spence, Tax-Motivated Profit Shifting in Big 4 Networks: Evidence from Europe, *Accounting, Organizations and Society*, 95(1), 2021, p. 17.

¹⁰ M. Hampton, J. Christensen, Offshore Pariahs? Small Island Economies, Tax Havens, and the Re-configuration of Global Finance, *World Development*, 30(9), 2002, p. 1658.

¹¹ T. Buettner, M. Overesch, G. Wamser, Anti Profit-Shifting Rules and Foreign Direct Investment, *International Tax and Public Finance*, 25(3), 2018, p. 557.

¹² E. Fernandez-Rodriguez, A. Martinez-Arias, Determinants of Effective Tax Rate: Evidence for USA and the EU, *Intertax*, 39(8), 2011, p. 381; M. Thomsen, C. Watrin, Tax Avoidance over Time: A Comparison of European and U.S. Firms, *Journal of International Accounting, Auditing and Taxation*, 33(1), 2018, p. 40.

¹³ M. Bubanić, H. Šimović, Determinants of the Effective Tax Burden of Companies in the Telecommunications Activities in the Republic of Croatia, *Zagreb International Review of Economics & Business*, 24(2), 2021, p. 70.

¹⁴ S. Vržina, N. Janković, The Relation between Multinational Companies and the Republic of Serbia, *Facta Universitatis. Series: Economics and Organization*, 16(4), 2019, p. 422.

¹⁵ M. Klun, Slovenian Income Taxes and Analysis of Their Tax Expenditure in 2006-2010, *Financial Theory and Practice*, 36(3), 2012, p. 236.

as a control variable.¹⁶ Another possibility assumes using the alternative measures of the corporate income tax burden and scaling the corporate income tax burden with a statutory corporate income tax rate.¹⁷

Analyzing determinants of the corporate income tax burden, many authors find that companies with higher statutory corporate income tax rates report a higher corporate income tax burden. Delgado et al.¹⁸ and Dias and Reis¹⁹ studied the corporate income tax burden of companies from the European Union and found that higher statutory corporate income tax rate results in a statistically significantly higher tax burden for companies.

Vintila et al.²⁰ analyze quoted companies from five countries in Central and Eastern Europe and find that companies with higher statutory corporate income tax rates have different and significantly higher measures of the tax burden. Stamatopoulos et al.²¹ study Greek companies and show that they had a heavier corporate income tax burden during years with higher statutory corporate income tax rates. Bearing in mind the results of previous research, the second research hypothesis is defined as follows:

H₂: Corporate income tax burden of multinational insurance groups significantly increases with the increase of the statutory corporate income tax rate.

III. Institutional Background

Croatia, Serbia, and Slovenia, as transition and post-transition countries, share many similarities in terms of economic growth and development levels attained. In addition, these countries share a history as part of the former Socialist Federal Republic of Yugoslavia. In this regard, the legal and professional tax regulation in these countries is relatively similar, though it has frequently changed in the past, primarily to align with the European Union regulations.

¹⁶ F. Delgado, E. Fernandez-Rodriguez, A. Martinez-Arias, Effective Tax Rates in Corporate Taxation: A Quantile Regression for the EU, *Engineering Economics*, 25(5), 2014, p. 487; P. Dias, P. Reis, The Relationship between the Effective Tax Rate and the Nominal Rate, *Contaduria y Administracion*, 63(2), 2018, p. 1; G. Vintila, S. Gherghina, R. Paunescu, Study of Effective Corporate Tax Rate and Its Influential Factors: Empirical Evidence from Emerging European Markets, *Emerging Markets Finance & Trade*, 54(3), 2018, p. 571; I. Stamatopoulos, S. Hadjidema, K. Eleftheriou, Explaining Corporate Effective Tax Rates: Evidence from Greece, *Economic Analysis and Policy*, 62(1), 2019, p. 236.

¹⁷ E. Fernandez-Rodriguez, R. Garcia-Fernandez, A. Martinez-Arias, Business and Institutional Determinants of Effective Tax Rate in Emerging Economies, *Economic Modelling*, 94(1), 2021, p. 697.

¹⁸ F. Delgado, E. Fernandez-Rodriguez, A. Martinez-Arias, p. 492.

¹⁹ P. Dias, P. Reis, p. 1.

²⁰ G. Vintila, S. Gherghina, R. Paunescu, p. 583.

²¹ I. Stamatopoulos, S. Hadjidema, K. Eleftheriou, p. 245.

Professional tax regulation in these countries is nearly identical to International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS), which are implemented in each of the countries studied. In this regard, insurance companies in all three countries are required to implement IAS 12 – Income Taxes. Legal tax regulation, on the other hand, differs to a certain extent, primarily in the context of tax incentives and the rules for calculating taxable income.²²

The studied countries implement moderate statutory corporate income tax rates, which is not surprising given their reliance on foreign direct investments to a significant extent. A favorable tax environment may be a deciding factor in attracting foreign investors. Therefore, the main source of tax revenues of studied countries is consumption taxes rather than income taxes.²³ The highest statutory corporate income tax in Croatia is 18% and until 2017 it was 20%. Croatia implements a progressive taxation system, so small taxpayers are taxed at the rate of 12%.

The statutory corporate income tax rate in Serbia is 15% and until 2013 it was 10%. Slovenia implements a statutory tax rate of 19% and until 2017 this rate was 17%. Both Serbia and Slovenia implement flat-rate taxation methods to tax company profits.

In line with IAS 12, companies recognize current and deferred corporate income tax in financial statements. Current tax is, according to the standard, the amount of income taxes payable (recoverable) in respect of the taxable profit (tax loss) for a period. Companies in each of the three countries typically pay corporate income tax in advance on a monthly basis.

Taxable income in each of the three countries is calculated after the adjustment of income from the profit and loss account, according to the tax regulation. In this regard, there are usually more adjustments of expenses than adjustments of revenues. Some types of expenses are not deductible when calculating the tax burden (for instance fines imposed by national authorities), while some types are deductible only partially (for instance representation costs), implying that taxable income would be higher than pre-tax income from the profit and loss account.

Each of the three countries offers companies important tax incentives, though the rules for its utilization substantially differ. These incentives primarily concern tax incentives and credits for fixed assets investments. In addition, companies in each country may carry forward their tax losses to reduce their future tax burden. Tax losses in Croatia and Serbia may be carried forward for a five-year period, whereas in Slovenia such period is not limited. The rules for utilizing tax losses also differ among countries. Refunds of taxes paid in previous years for tax losses in the current period are not permitted in either country.

²² R. Gabršek, Income Tax, Deferred Tax and Their Impact on the Financial Statements in Slovenia, Croatia, and Serbia, *China-USA Business Review*, 16(2), 2017, p. 81.

²³ M. Deskar-Škrbić, H. Šimović, The Effectiveness of Fiscal Spending in Croatia, Slovenia and Serbia: The Role of Trade Openness and Public Debt Level, *Post-Communist Economies*, 29(3), 2017, p. 348.

Companies in Croatia and Slovenia are not permitted to use a group taxation (tax consolidation) strategy. Companies in Serbia, on the other hand, may use group taxation, assuming that group members are Serbian residents and the parent entity has a share of at least 75% in the capital of the subsidiary.

Double taxation avoidance agreements (particularly those between the parent and host countries) may be significant in the context of taxation of multinational companies. A more extensive network of such agreements may have a positive impact on the inflow of foreign direct investments. Each of the three countries has signed the double taxation avoidance agreements with a number of other (primarily European) countries, and all three have signed agreements with each other.

Insurance companies in Croatia, Serbia, and Slovenia exclusively operate as stock companies. Shares of some stock companies are quoted on the national stock exchanges, while other companies operate as private stock companies. The operations of insurance companies are monitored by regulatory bodies for the insurance sector while national tax authorities and financial statements audit also conduct monitoring in the taxation context.

IV. Research Methodology

The selection of the insurance companies that will be sampled is made within several steps. First, it is possible to access a list of insurance companies that have a work permit in each country, which is available on the official websites of the organizations responsible for monitoring the insurance sector – Croatian Financial Services Supervisory Agency (www.hanfa.hr), National Bank of Serbia (www.nbs.rs), and Slovenian Insurance Supervision Agency (www.a-zn.si). Second, the ownership structure of each insurance company is examined to determine its eventual affiliation with the multinational insurance group. In this regard, multinational insurance groups whose parent entity is headquartered in one of the three sampled countries are excluded, leaving only subsidiaries of multinational groups to be sampled. Third, three multinational insurance groups are sampled – one headquartered in Italy and two headquartered in Austria. In this regard, the sample consists of nine insurance companies. Each of the insurance groups has a long business tradition; the Italian group was founded in the 19th century, while both Austrian groups were founded in the 18th century.

The research captures the period between 2017 and 2021 due to the limited data availability. Financial data on the sampled insurance companies are retrieved from the financial statements registers of the Croatian Financial Agency (www.fina.hr), Serbian Business Registers Agency (www.apr.gov.rs), and Slovenian Agency for Legal Records and Related Services (www.ajpes.si). The data from the individual financial statements are used to mitigate the impact of non-resident and non-insurance

related-party entities. All financial statements were subject to an independent external audit, which increases their reliability.

Many measures of the corporate income tax burden have been developed in the literature, though the ideal one is yet to be designed. Probably, the most widely used measure is the effective tax rate or the relation between corporate income tax burden (usually from the profit and loss account or cash flow statement) and some of the business results (usually from the profit and loss account). Although the accounting standards prescribe using the accounting effective tax rate (the relation of total corporate income tax expense – the sum of current and deferred expense – and pre-tax income), the current effective tax rate (the relation of current corporate income tax expense and pre-tax income) is often used in practice. The current effective tax rate (ETR) is used because it is difficult for companies in transition countries to properly recognize deferred corporate income tax²⁴ and deferred corporate income tax does not frequently play a significant role in insurance companies²⁵.

However, the important problem with ETR lies in the fact that it captures only the effects of corporate income tax management strategies that reduce current corporate income tax expense, holding pre-tax income constant. For instance, such are the effects of using the tax incentives for investments in fixed assets or the tax loss carryforward. On the other hand, the effects of strategies that reduce both current corporate income tax expense and pre-tax income are not captured with the ETR. Examples of such strategies are transactions with related-party entities that are in multinational companies highly important. Therefore, TpA ratio²⁶ is used – the relation of current corporate income tax expense and total assets, as this ratio captures the effects of each corporate income tax management strategy.

The initial research sample includes 45 observations from nine insurance companies over a five-year period. However, because one observation reported a pre-tax loss and it is not possible to calculate and interpret the ETR, the final research sample consists of 44 observations.

The first research hypothesis is tested by comparing the ETR and TpA between countries. Therefore, there are used tests for testing the significance of the difference between many groups – parametric One-way between-groups ANOVA test (if the tax burden is normally distributed) or non-parametric Kruskal-Wallis test (if the tax burden is not normally distributed). The normality of the tax burden distribution is tested with Shapiro-Wilk and Kolmogorov-Smirnov tests.

²⁴ V. Obradović, M. Čupić, D. Dimitrijević, Application of International Financial Reporting Standards in the Transition Economy of Serbia, *Australian Accounting Review*, 28(1), 2018, p. 57.

²⁵ S. Vržina, Importance of Deferred Income Tax in Insurance Companies: Case of the Republic of Serbia, *Insurance Trends*, 38(1), 2022, p. 50.

²⁶ P. Jansky, A. Prats, International Profit-Shifting out of Developing Countries and the Role of Tax Havens, *Development Policy Review*, 33(3), 2015, p. 279.

The second research hypothesis is tested by considering tax burden measures (ETR and TpA) and the statutory corporate income tax rate. Besides descriptive statistics, regression analysis is employed, in which the statutory rate is an independent variable, while tax burden measures are dependent variables.

V. Results and Discussion

Descriptive statistics for employed corporate income tax burden measures are presented in Table 1 and Table 2. Medians of both ETR and TpA are higher than the arithmetic means, implying certain relatively low extreme values. In addition, 11 observations (10 in Serbia and one in Croatia) reported ETR and TpA of 0%, despite reporting the pre-tax income. Five observations in Croatia and four in Slovenia reported ETR higher than the statutory corporate income tax rate (18% and 19%, respectively), whereas no such observations were reported in Serbia. Sampled multinational insurance groups report the highest arithmetic mean and median of the ETR in Croatia, while average indicators of TpA are the highest in Slovenia. Insurance companies in Serbia have the lowest arithmetic mean and median of both ETR and TpA. The highest ETR has been reported in Croatia, while the highest TpA has been reported in Slovenia.

Table 1 Descriptive statistics for ETR

	Pooled	Croatia	Serbia	Slovenia
Arithmetic mean	11.301%	17.165%	1.502%	15.626%
Median	15.790%	17.718%	0.000%	16.401%
Minimum	0.000%	0.000%	0.000%	0.088%
Maximum	23.134%	23.134%	5.696%	20.077%
Standard deviation	8.365%	5.263%	2.350%	5.137%
Observations	44	14	15	15

Table 2 Descriptive statistics for TpA

	Pooled	Croatia	Serbia	Slovenia
Arithmetic mean	0.131%	0.153%	0.082%	0.160%
Median	0.133%	0.158%	0.000%	0.162%
Minimum	0.000%	0.000%	0.000%	0.001%
Maximum	0.368%	0.300%	0.331%	0.368%
Standard deviation	0.108%	0.076%	0.130%	0.099%
Observations	44	14	15	15

Tables 3 and 4 show ETR and TpA for each insurance group in the sample, in each sampled country, and for each year. Insurance Group 1 reported the highest

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ETR in Slovenia for three years, though the maximum ETR is reported in Croatia. This group reported ETR of 0% only in Croatia in 2021, owing primarily to significant revenues that are exempt from taxation.

Insurance Group 2 and Insurance Group 3 did not report current corporate income tax expense in Serbia in either of the five sampled years. Both groups reported relatively large interest yields from the government securities in Serbia that were exempt from the corporate income tax calculation as a result, they even reported tax losses despite reporting pre-tax income. In addition, Insurance Group 2 reported the highest ETR in Croatia each year. Insurance Group 3 reported the highest ETR in Slovenia in three of five sampled years.

Table 3 ETR of sampled insurance groups

	Year	Croatia	Serbia	Slovenia
Group 1	2017	23.134%	2.040%	19.568%
	2018	19.947%	5.696%	18.863%
	2019	18.840%	5.415%	20.077%
	2020	Loss	5.480%	15.491%
	2021	0.000%	3.901%	15.792%
Group 2	2017	17.432%	0.000%	13.314%
	2018	19.802%	0.000%	9.635%
	2019	15.787%	0.000%	14.275%
	2020	17.805%	0.000%	16.401%
	2021	17.401%	0.000%	0.088%
Group 3	2017	17.947%	0.000%	16.228%
	2018	17.630%	0.000%	18.498%
	2019	17.311%	0.000%	19.164%
	2020	17.091%	0.000%	19.123%
	2021	20.177%	0.000%	17.880%

Note: observations with ETR higher than the statutory tax rate are shaded.

A nearly similar conclusion may be reached if the TpA is used as a burden measure, though Insurance Group 1 reported the highest TpA in Serbia in three of five sampled years. Insurance Group 2 reported the highest TpA in Croatia in four of five years, while Insurance Group 3 reported the highest TpA in Slovenia in three of five years.

Table 4 TpA of sampled insurance groups

	Year	Croatia	Serbia	Slovenia
Group 1	2017	0.220%	0,109%	0.198%
	2018	0.162%	0,331%	0.329%
	2019	0.102%	0,305%	0.230%
	2020	Loss	0,299%	0.085%
	2021	0.000%	0,184%	0.368%
Group 2	2017	0.300%	0.000%	0.121%
	2018	0.205%	0.000%	0.036%
	2019	0.154%	0.000%	0.077%
	2020	0.071%	0.000%	0.120%
	2021	0.153%	0.000%	0.000%
Group 3	2017	0.227%	0.000%	0.145%
	2018	0.183%	0.000%	0.190%
	2019	0.168%	0.000%	0.168%
	2020	0.084%	0.000%	0.162%
	2021	0.106%	0.000%	0.175%

Before conducting the statistical tests to compare corporate income tax burden between sampled countries, the normality of the distribution of employed tax burden measures is examined. The results of these tests are presented in Table 5. As research sample is relatively small, it is more proper to rely on Shapiro-Wilk test results, though the results of both tests are consistent, implying that the normality of employed corporate income tax burden measures does not follow the normal distribution. The results of these tests are significant at the 1% level. Therefore, the non-parametric Kruskal-Wallis test is used.

Table 5 Testing normality of distribution of tax burden measures

	Shapiro-Wilk test			Kolmogorov-Smirnov test		
	Statistics	Degrees of freedom	p-value	Statistics	Degrees of freedom	p-value
ETR	0.237	44	***0.000	0.806	44	***0.000
TpA	0.160	44	***0.007	0.918	44	***0.004

Note: statistically significant at the 10% (*), 5% (**) and 1% (***) level.

The results of the Kruskal-Wallis tests are presented in Table 6. In line with the results of the test, it may be concluded that both ETR and TpA differ significantly across sampled countries. The results for ETR are statistically significant at the 1% level, while the results for TpA are significant at the 10% level. Therefore, *the first research hypothesis cannot be rejected.*

Table 6 Results of Kruskal-Wallis tests

Tax burden measure	ETR	TpA
Chi-square statistics	25.954	5.975
Degrees of freedom	2	2
p-value	***0.000	*0.050

Note: statistically significant at the 10% (), 5% (**) and 1% (***) level.*

The statistically significant difference in corporate income tax burden between insurance companies from different countries may be a result of many facts. First, the studied countries impose different statutory corporate income tax rates. It implies that when measuring the corporate income tax burden of insurance companies headquartered in different countries, it is necessary to include statutory rate. One method is to use the difference between statutory and effective tax rate as a measure of tax burden and tax burden management. However, a more modern (and, most likely, more reliable) method is to use the relation between effective and statutory tax rates as a measure. In addition, when studying the determinants of the corporate income tax burden of insurance companies, it is necessary to use the statutory tax rate as a control variable or the abovementioned alternative tax burden measures.

Second, studied countries implement different tax incentives and different rules for taxable income calculation. In this regard, it is particularly important to explain a relatively low corporate income tax burden of insurance companies in Serbia. These companies may use many tax incentives, primarily tax incentives for investments in fixed assets. However, due to small investments in fixed assets, lower importance of fixed assets than in the real sector, and acquiring fixed assets through operating and financial leasing, a relatively small number of insurance companies in Serbia use such incentives. In addition, insurance companies in Serbia may carry forward tax losses for a relatively long period, though the number of companies using this strategy is relatively small due to the profitable results and recovery from the financial crisis.

However, the main sources of the corporate income tax burden reduction in insurance companies in Serbia are investments in government securities. The interest yield that resident taxpayer receives from the debt securities issued by the Republic, autonomous province, a unit of local self-government, or the National Bank of Serbia is not part of the taxable base under Serbian corporate profit tax law. In addition, the revenues received by a resident taxpayer from another resident taxpayer in the form of dividends are not included in the taxable base.

The additional non-parametric Mann-Whitney tests are employed to more thoroughly evaluate between which countries appears to be a statistically significant difference in the corporate income tax burden.

The results of these tests are shown in Table 7. The findings demonstrate that both measures of the corporate income tax burden in Serbia are statistically significantly different from other sampled countries. Differences in the tax burden of insurance companies in Croatia and Slovenia are not statistically significant.

Table 7 Results of additional Mann-Whitney tests

Variable 1	Variable 2	Mann-Whitney U	Z-statistics	p-value
ETR (Croatia)	ETR (Serbia)	10.000	-4.263	***0.000
ETR (Croatia)	ETR (Slovenia)	80.000	-1.091	0.275
ETR (Serbia)	ETR (Slovenia)	5.000	-4.543	***0.000
TpA (Croatia)	TpA (Serbia)	61.000	-1.975	**0.048
TpA (Croatia)	TpA (Slovenia)	102.500	-0.109	0.913
TpA (Serbia)	TpA (Slovenia)	59.000	-2.275	**0.023

Note: statistically significant at the 10% (*), 5% (**) and 1% (***) level.

According to the statutory corporate income tax rates in three sampled countries, it may be expected that insurance companies in Slovenia have the highest corporate income tax burden (as the statutory rate is the highest) and in Serbia the lowest (as the statutory rate is the lowest). However, such an assumption is only partly confirmed in this research since the average values of the ETR are the highest in Croatia. Moreover, the maximum value of the ETR is reported in Croatia.

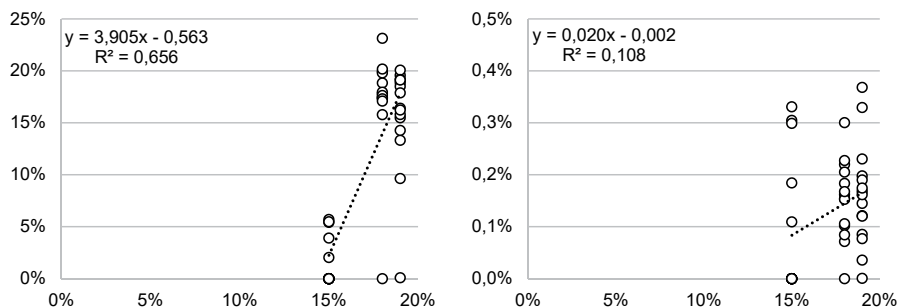
In addition, the movement of ETR is not proportional to the movement of the statutory corporate income tax rate. Insurance companies in Croatia and Slovenia have ETRs that are relatively close to the statutory rate, while the ETR of the insurance companies in Serbia is extremely low and significantly lower than the statutory rate. Therefore, *the second research hypothesis should be partially rejected*.

The results of the Mann-Whitney tests further confirm differences in statutory tax rates as an explanation for the differences in the real corporate income tax burden of insurance companies. Thus, Croatia and Slovenia have relatively similar statutory tax rates, and no statistically significant difference in corporate income tax burden. On the other hand, Serbia has quite a lower statutory rate than both Croatia and Slovenia, so insurance companies in Serbia have statistically significantly lower corporate income tax burden than the burden in other countries.

Figure 1 shows the relation between the statutory corporate income tax rate and the employed measure of the corporate income tax burden (ETR and TpA). In general, trendlines on the charts show a rising trend, implying the positive relation between the statutory rate and the tax burden of insurance companies. However, many atypical points on the charts may be interpreted as weakening the impact of the statutory rate on the employed tax burden measures. In addition, R^2 shows that

the statutory corporate income tax rate explains a substantially higher percentage of ETR variations than the TpA variations. This is not surprising given that TpA is primarily determined by company profitability, which is its main determinant.

Figure 1 The impact of statutory corporate income tax rate on ETR (left) and TpA (right)



VI. Conclusion

The research in this paper captured nine insurance companies, headquartered in three different countries that are subsidiaries of multinational insurance groups in Croatia, Serbia, and Slovenia. The objective of the research was to compare the corporate income tax burdens of these insurance companies and examine the relationship between the statutory corporate income tax rate and the real corporate income tax burden of insurance companies. In this regard, the research covered the period between 2017 and 2021.

The research results showed a statistically significant difference in the level of corporate income tax burden paid by insurance companies across the countries studied. The sampled multinational insurance groups have, on average, the highest effective corporate income tax rates in Croatia, although the statutory corporate income tax rate is the highest in Slovenia. However, Slovenian insurance companies have the highest average values of the relationship between current corporate income tax expense and total assets.

It is also shown that insurance companies in Serbia have a significantly lower corporate income tax burden (regardless of the employed measure) than insurance companies in Croatia and Slovenia. Insurance companies in Serbia report the largest difference between statutory and effective corporate income tax rates, in addition to the lowest statutory corporate income tax rate. The use of the tax loss carryforward and investments in government securities (with tax-exempt yield) are the key reasons for insurance companies' low tax burden in Serbia.

The author believes that research results may be of interest to many interest groups. First, managers and owners of multinational insurance groups may benefit from learning about the corporate income tax burden in different countries. Such findings are particularly important when deciding in which country they will invest or from which they will disinvest, as well as when measuring performance of their subsidiaries. Clearly, the statutory corporate income tax rate is not a sufficient indicator of the tax burden as the effective tax burden may significantly differ.

In addition, national governments may benefit from learning the real corporate income tax burden (rather than just statutory corporate income tax rates) of multinational companies in the region. Such analysis is important since transition and post-transition countries often use fiscal policy as an instrument to attract foreign direct investments. In this regard, a lower effective corporate income tax burden may be a deciding factor for investment in a particular country.

The research results should be interpreted in light of certain limitations. The research is conducted on a relatively small number of countries and insurance companies, and captures a relatively short period. It is likely that if such sample characteristics were changed, the research results would be different. In addition, it is possible that the different methodologies used could have an impact on the results.

For the comparison of results, future research should capture a larger number of countries. In addition, it would be interesting to compare the corporate income tax burden in the parent country of the multinational insurance group and countries where subsidiaries are headquartered. Comparing results with multinational companies from the real or banking sector would also be interesting.

Language editing: **Zorica Simović**

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