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# Who Avoids More? A Cross-country Evidence of Economic Policy Uncertainty and Tax Avoidance

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***ABSTRAK***

*Penghindaran pajak merupakan masalah yang kompleks yang dihadapi oleh pemerintah di negara maju maupun berkembang. Penelitian ini bertujuan untuk menguji pengaruh Uncertainty of Economic Policy (EPU) terhadap penghindaran pajak dan melihat kecenderungan praktik penghindaran pajak yang lebih tinggi berdasarkan tingkat perekonomian negara. Penelitian ini menggunakan pendekatan kuantitatif dengan metode penjelasan. Sampel penelitian terdiri dari 21 negara yang dipilih secara purposif. Data dikumpulkan dalam rentang waktu tahun 1997 hingga 2015. Metode pengumpulan data dilakukan melalui pengumpulan data sekunder dari berbagai sumber yang relevan, seperti UNU-WIDER Government Revenue Dataset 2021 dan indeks EPU dari studi terkait. Analisis data dilakukan menggunakan teknik regresi data panel dengan bantuan perangkat lunak Eviews 9. Hasil analisis menunjukkan adanya pengaruh negatif yang signifikan antara EPU dan penghindaran pajak. Selain itu, ditemukan pula bahwa negara-negara maju memiliki tingkat penghindaran pajak yang lebih tinggi dibandingkan negara-negara berkembang. Penelitian ini memberikan pemahaman baru bagi otoritas pajak dalam menghadapi EPU agar dapat merumuskan kebijakan yang tepat untuk mengurangi praktik penghindaran pajak. Implikasi dari penelitian ini adalah perlunya tindakan pencegahan dan regulasi yang lebih efektif dalam mengatasi penghindaran pajak di berbagai negara.*

**ABSTRACT**

Tax avoidance is a complex problem faced by governments in both developed and developing countries. This study aims to examine the effect of Uncertainty of Economic Policy (EPU) on tax avoidance and see the tendency of higher tax avoidance practices based on the level of the country's economy. This research uses a quantitative approach with an explanatory method. The study sample consisted of 21 purposively selected countries. Data was collected between 1997 and 2015. The data collection method is carried out through secondary data collection from various relevant sources, such as the UNU-WIDER Government Revenue Dataset 2021 and the EPU index of related studies. Data analysis was performed using panel data regression techniques with the help of Eviews 9 software. The results of the analysis showed a significant negative influence between EPU and tax avoidance. In addition, it was also found that developed countries have higher rates of tax avoidance than developing countries. This research provides new understanding for tax authorities in dealing with EPU in order to formulate appropriate policies to reduce tax avoidance practices. The implication of this study is the need for more effective preventive and regulatory measures in tackling tax avoidance in various countries.

## 1. INTRODUCTION

All individuals mostly agree that taxes are a burden so taxpayers tend to manage the amount to be paid through legal ways such as tax avoidance as well as the illegal way by tax evasion (Adiyanta, 2020; Feller & Schanz, 2017). If the two methods are compared, tax avoidance is considered to have less risk and a higher probability of success than tax evasion because it's still a legal action recognized by the court (Degl'Innocenti et al., 2022; Prasetyo & Arif, 2022). Taxpayers also don't need to bear the physical costs that usually arise in tax evasion due to concerns about penalties or fines after committing illegal acts (Blaufus et al., 2016; Litina & Palivos, 2016). Because of its several advantages, tax avoidance is often a way used by taxpayers to reduce their tax burden, especially in certain conditions such as uncertainty in economic policy,

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taxpayers seem to be incentivized to carry out tax avoidance. Accordingly, tax avoidance is a fiscal problem that must be combated by the government, especially when there is uncertainty in economic policy.

Tax avoidance itself has put fiscal pressure on the government, both in developed and developing countries. Previous research estimated that the average revenue loss due to tax avoidance in lower middle and low-income countries is 1,6% of GDP and 2,6% of GDP respectively, while the average revenue loss for high-income countries is 0,3% of GDP for OECD and 0,8% of GDP for non-OECD countries (Cobham & Janský, 2018; Janský & Palanský, 2019). Developed countries tend to have higher tax losses when viewed from the total value of tax losses while developing countries have higher tax losses when viewed from the total loss to the percentage of GDP. The government has certainly made various efforts to overcome tax avoidance at the domestic and international levels, such as the OECD's cooperation with the G20 countries which triggered the Base Erosion and Profit Shifting (BEPS) action plan (Astuti & Aryani, 2016; Payne & Raiborn, 2018). However, the uncertainty in economic policy faced by the government has further doubled fiscal pressures by providing opportunities for taxpayers to carry out tax avoidance.

Economic policy uncertainty (hereinafter referred to as EPU) is a risk arising from the undetermined policy framework and regulations shortly (Al-Thaqeb & Algharabali, 2019; Wei et al., 2021). The EPU creates confusion and doubt in making decisions in an unusual situation and finally, this triggers new thinking opportunities through the establishment of policies to renew people's beliefs (Lesch & Millar, 2022; Paramitha & Sari, 2022). However, not all policies that are formulated during EPU can reduce public indecision but are used by taxpayers to commit tax crimes, including tax avoidance. The examples are what happened in some policies during the COVID-19 pandemic, a situation of uncertainty in which too many aspects of the economy have changed (Dai et al., 2021; Youssef et al., 2021). Government relief programs during the COVID-19 pandemic can provide opportunities for individuals and businesses to commit tax crimes because the high volume of requests for program claims is not proportional to the supervision process carried out by tax authorities. Several studies documented tax stimulus fraud such as illegal claims to the Paycheck Protection Program and Economic Injury Disaster Loan COVID-19 in the US and the Coronavirus Economic Response Package Omnibus Act 2020 in Australia (Berger & Demirgüç-Kunt, 2021; Levi & Smith, 2022; Valiquette L'Heureux, 2022). In addition, the tax stimulus provided through the Business Compensation Scheme program by Norway, where the government provides subsidies to cover up to 90% of a firm's fixed costs, is used as a means for companies to carry out tax avoidance by reporting too high fixed costs (Haaland & Olden, 2022; Valiquette L'Heureux, 2022).

Moreover, based on several studies, EPU tends to make companies save their expenses because they will increase cash holding and reduce investment as EPU increases (Demir & Ersan, 2017; Hanlon et al., 2017; Y. Wang et al., 2014). This is done in response to the increasing corporate tax burden due to the strengthening of tax collection by the government during EPU (Dang et al., 2019; Kang & Wang, 2021). As a result, the company may also increase tax avoidance practices as an alternative way to save internal sources of funds (Nguyen & Nguyen, 2020; Payne & Raiborn, 2018).

Tax avoidance has attracted many researchers' attention to various macroeconomic factors that can affect it such as GDP, government deficits, tax rates, and even economic policy uncertainty (Gashi & Kukaj, 2016; Li et al., 2020; Nguyen & Nguyen, 2020; Shen et al., 2021). Previous study stated that many recent studies propose theoretical models that can predict the impact of EPU on macroeconomics at the aggregate level (Al-Thaqeb & Algharabali, 2019; Biljanovska et al., 2021). Based on this statement, researchers are interested to know the influence of EPU on taxation aspects which is one of the macroeconomic components. Tax avoidance was chosen as an aspect of taxation that will be studied at the country level because it is a negative side of taxation and macroeconomic aspects that have long existed but are still difficult to combat by governments in various countries. In addition, previous research stated that only examined the phenomenon of tax avoidance at the corporate level so this study will fill the existing gap by examining the influence of EPU on tax avoidance at the country level (Nguyen & Nguyen, 2020; Shen et al., 2021). The study will be based on institutional theory because a country's economic, legal, and formal institutional environment in investigating and sanctioning taxes can reduce the tendency of tax avoidance by companies when facing EPU so this theory is considered to be applicable to understand the tendency of tax avoidance by countries (Madani et al., 2023; Shen et al., 2021).

Empirically, this study aims to examine the influence of EPU on tax avoidance and find out the tendency of higher tax avoidance practices based on the level of the country's economy, whether by developed or developing countries. This study is expected to contribute practically to the tax authorities of each country as well as theoretically to academic development. Tax authorities are expected to gain a new understanding of responding appropriately to EPU so that its impact does not increase tax avoidance practices by taxpayers. Furthermore, previous research stated that only discussed the impact of EPU on tax avoidance at the corporate level and there had been no research that concerns the phenomenon at the country level (Nguyen & Nguyen, 2020; Shen et al., 2021). Therefore, this study will contribute by providing

additional references and filling gaps in research related to the effect of EPU on tax avoidance at the country level.

## 2. METHODS

This study is quantitative research with an explanatory approach that explains the influence of variables. The variables involved in the study include dependent variables, namely tax avoidance, independent variables, namely EPU, and several control variables. The operational definitions of each variable are presented completely in Table 1. The study began with the selection of a research period of 1997 to 2015 based on the consideration that several EPU events occurred, such as the Asian financial crisis of 1997-1998, the 9/11 terror act in the US in 2001, the subprime mortgage crisis in 2007-2008, and the great recession of 2008-2009 (Saxegaard et al., 2022; Silva et al., 2022). Furthermore, the selection of study subjects was carried out on 21 countries that contribute to 71% of global GDP, namely Australia, Brazil, Chile, Canada, China, Colombia, France, Germany, Greece, India, Ireland, Italy, Japan, Mexico, the Netherlands, Russia, South Korea, Spain, Sweden, the UK, and the US. To answer one of the study objectives, the country is classified into developed and developing countries based on a report from the IMF's World Economic Outlook as of April. The study continued with the collection of secondary data obtained from various sources, such as the UNU-WIDER Government Revenue Dataset, the EPU indexes, the World Development Indicators, the Polity5, the World Governance Indicator, and the World Heritage Foundation (Arbatli et al., 2017; Armelius et al., 2017; Baker et al., 2016; Medina & Schneider, 2018; Zalla, 2017).

**Table 1.** Operational Definition of Variables

| Variable | Measurement | Definition | Source |
|---|---|---|---|
| Tax avoidance (TAXGDP) | Tax revenues excluding social contributions (% of GDP) | The activity causes the emergence of a gap between the potential and realization of state revenues from the taxation sector which ultimately leads to low state tax revenues | UNU-WIDER Government Revenue Dataset (McNabb, 2021) |
| Economic policy uncertainty (EPU) | The geometric average of each country's economic policy uncertainty for 12 months which was then divided by 100 | Risks arising from the lack of a government policy and regulatory framework shortly | Economic Policy Uncertainty (Arbatli et al., 2017) |
| Inflation (INF) | Inflation measured by consumer price index (annual %) | Changes in the average cost of consumers to acquire goods and services | World Development Indicators (World Bank., 2012) |
| Population density (LOG_DEN) | The logarithm of the total population density | Number of inhabitants per land area in square kilometers | World Development Indicators (World Bank., 2012) |
| Percentage of agricultural sector revenues (AGRI) | Agriculture, forestry, fisheries, and value-added (% of GDP) | State revenues from forestry, hunting, and fishing, as well as crop cultivation and livestock production | World Development Indicators (World Bank., 2012) |
| Institutional democracy (DEMO) | Score rating 0 to 10 | Institutions and procedures for citizens to be able to express preferences about policies, the power and governance by the executives, and the guarantee of civil liberties in everyday life and politics | Polity5 (Ghiselli & Morgan, 2022) |
| Foreign direct investment (FDI) | Foreign direct investment cash flow (% of GDP) | Net inflows from investments to obtain management interests in a company operating in an economy other than the investor's economy | World Development Indicators |

| Variable | Measurement | Definition | Source |
|---|---|---|---|
| | | | (World Bank., 2012) |
| Government effectiveness (EFGOV) | Percentile rating 0 to 100 | Perceptions of the quality of public services and the degree of government independence from political pressures, the quality of policy formulation and implementation, as well as the credibility of government commitments to policies | World Governance Indicator (Thomas, 2010) |
| Quality regulation (REGQ) | Percentile rating 0 to 100 | Perceptions of the government's ability to formulate and implement policies that support private sector development | World Governance Indicator (Thomas, 2010) |
| Rule of law (RL) | Percentile rating 0 to 100 | Perception of trust in government agents in complying with social rules | World Governance Indicator (Thomas, 2010) |
| Freedom and accountability (ACCOUNT) | Percentile rating 0 to 100 | Perceptions of citizens' ability to participate in choosing a leader, freedom of expression, freedom of association, and freedom of the media | World Governance Indicator (Thomas, 2010) |
| Political stability (PS) | Percentile rating 0 to 100 | Perceptions of possible political instability or violence associated with politics, such as terrorism | World Governance Indicator (Thomas, 2010) |
| Trading value (TRADE) | Trade (% of GDP) | Number of imports and exports of goods and services of a country | World Development Indicators (World Bank., 2012) |

The collected data will then be analyzed with panel data regression techniques using Eviews 9 software. Data analysis consists of a descriptive statistic test, stationarity test, panel data regression model selection, classical assumption test, and significance test at 1%, 5%, and 10% levels. The independent variable is said to affect the dependent variable if the probability value of the test result is less than or equal to the significance level ($p \leq 0.01$; $p \leq 0.05$; $p \leq 0.1$), otherwise it has no effect. This study will also conduct a coefficient of determination test to determine the contribution of independent variables individually to dependent variables. However, researchers realize that the use of many control variables can cause bias so two stages of coefficient of determination testing will be carried out based on recommendations from to find out the true contribution of independent variables (Breitsohl, 2019). The panel data regression equation referring to will be divided into Model 1 (to find out the direct influence) and Model 2 (to find out which countries have higher tax avoidance) as follows:

**Model 1**

$$TAXGDP_{it} = \alpha_{0i} + \alpha_1 EPU_{it} + \alpha_2 INF_{it} + \alpha_3 TRADE_{it} + \alpha_4 LOG_{DEN\,it} + \alpha_5 AGRI_{it} + \alpha_6 DEMO_{it} + \alpha_7 FDI_{it} + \alpha_8 EFGOV_{it} + \alpha_9 REGQ_{it} + \alpha_{10} RL_{it} + \alpha_{11} ACCOUNT_{it} + \alpha_{12} PS_{it} + \mu_i + \mathcal{E}_{it} \quad \ldots\ldots (1)$$

**Model 2**

$$TAXGDP_{it} = \alpha_{0i} + \alpha_1 EPU_{it} + \alpha_2 EPU_{it} ADV + \alpha_3 INF_{it} + \alpha_4 TRADE_{it} + \alpha_5 LOG\_DEN_{it} + \alpha_6 AGRI_{it} + \alpha_7 DEMO_{it} + \alpha_8 FDI_{it} + \alpha_9 EFGOV_{it} + \alpha_{10} REGQ_{it} + \alpha_{11} RL_{it} + \alpha_{12} ACCOUNT_{it} + \alpha_{13} PS_{it} + \mu_i + \mathcal{E}_{it} \quad \ldots\ldots (2)$$

Notes:

| | |
|---|---|
| $TAXGDP_{it}$ | = Tax avoidance of country i in year t |
| $EPU_{it}$ | = Economic policy uncertainty of country i in year t |
| ADV | = Dummy variable; 1 for developed countries; 0 for developing countries |
| $INF_{it}$ | = Inflation of country i in year t |
| $TRADE_{it}$ | = Trade value of country i in year t |
| $LOG\_DEN_{it}$ | = Population density of country i in year t |
| $AGRI_{it}$ | = Percentage of agricultural sector revenues of country i in year t |
| $DEMO_{it}$ | = Institutional democracy of country i in year t |
| $FDI_{it}$ | = Foreign direct investment of country i in year t |
| $EFGOV_{it}$ | = Government effectiveness of country i in year t |
| $REGQ_{it}$ | = Regulation quality of country i in year t |
| $RL_{it}$ | = Rule of law of country i in year t |
| $ACCOUNT_{it}$ | = Freedom and accountability of the country i in year t |
| $PS_{it}$ | = Political stability of country i in year t |
| $\alpha_{0i}, \beta_{0i}$ | = Constant coefficients |
| $\mu_i$ | = Individual effects of each country |
| $\varepsilon_{it}$ | = Model error value |

## 3. RESULTS AND DISCUSSIONS

### Results

All data must be ensured to be complete and have the same amount before testing. Some of the data obtained still contain missing values, such as the TAXGDP, EFGOV, REGQ, RL, ACCOUNT, and PS variables. Therefore, it is necessary to correct the missing value by using the average value.

*Descriptive Statistical Analysis*

According to the descriptive statistics reported in Table 2, the average tax avoidance as proxied by the tax revenue's percentage of GDP is 0.2197 for all countries within the sample. The lowest EPU with a value of 0.2500 occurred in Mexico in 2014 while the highest occurred in the UK in 2012 with a value of 2.9900. Meanwhile, the control variables have a positive minimum value, except for FDI and INF, which are -5.4600 and -4.4800, respectively. It indicates divestment due to a decrease in assets or an increase in liabilities from investors to the state and deflation. The lowest minimum value is owned by DEMO which is 0, specifically referring to the absence of democracy in China which is indeed a communist country while the highest maximum value is owned by TRADE with a value of 215.1600 which is the value of trade in Ireland in 2015. All variables have a lower standard deviation value than the average value which means the data spread is relatively small and the data tends to be homogeneous, except for the AGRI, FDI, and INF. Based on the results of descriptive statistics, it can be concluded that the average value of TAXGDP and EPU has a coefficient that is unidirectional so that the initial indication that can be built is that the higher the EPU, the higher the tax avoidance, and vice versa. The government has indeed tried to formulate various anti-tax avoidance rules to improve tax regulations that still have many avoidance loopholes but the effectiveness of the implementation has not been evenly distributed in several countries.

**Table 2.** Descriptive Statistics

| Variable | Obs | Min | Max | Mean | Std. Dev |
|---|---|---|---|---|---|
| TAXGDP | 398 | 0.0900 | 0.3700 | 0.2197 | 0.0598 |
| EPU | 398 | 0.2500 | 2.9900 | 1.0360 | 0.4089 |
| ACCOUNT | 398 | 4.6900 | 99.5300 | 74.4961 | 22.5226 |
| AGRI | 398 | 0.5500 | 24.2500 | 3.9498 | 4.3261 |
| DEMO | 398 | 0.0000 | 10.0000 | 8.7494 | 2.4023 |
| EFGOV | 398 | 27.1800 | 99.4800 | 77.9900 | 16.5824 |
| FDI | 398 | -5.4600 | 86.4800 | 4.6079 | 8.4666 |
| INF | 398 | -4.4800 | 85.7500 | 3.6121 | 5.5643 |
| LOG_DEN | 398 | 0.3800 | 2.7200 | 1.8224 | 0.6486 |
| PS | 398 | 1.0100 | 100.0000 | 57.3338 | 24.4378 |
| REGQ | 398 | 27.1800 | 99.5100 | 77.3771 | 17.7603 |
| RL | 398 | 15.8400 | 99.5300 | 74.6698 | 22.0659 |
| TRADE | 398 | 16.4400 | 215.1600 | 61.3190 | 34.2652 |

*Stationarity Test*

The stationarity test or unit root test is done with the assumption that the data are related to each other so that a test of all variables is needed to prevent errors in the regression process and guarantee the reliability of the test results (Azam et al., 2021; Im et al., 2003)(Azam et al., 2021). The stationarity test will use the principle of previous research or better known as Im, Pesaran, and Shin test because the data used are heterogeneous (Im et al., 2003). Based on the test results, the majority of variables are stationary at the 1st difference but some variables have also been stationary at the level as presented in Table 3.

**Table 3.** Unit Root Test for Panel Data

| Variable | Level | *1st difference* |
|---|---|---|
| TAXGDP | -4.1733*** | - |
| EPU | -0.7918 | -4.7571*** |
| ACCOUNT | 2.7654 | -6.4290*** |
| AGRI | 1.8126 | -6.8732*** |
| DEMO | -0.6847 | -3.2343*** |
| EFGOV | 2.2973 | -7.7077*** |
| FDI | -3.8387*** | - |
| INF | -4.1322*** | - |
| LOG_DEN | 0.7665 | -10.3953*** |
| PS | 1.1722 | -6.4171*** |
| REGQ | 2.5306 | -8.8045*** |
| RL | 3.7280 | -9.3244*** |
| TRADE | -1.2557 | -5.3816*** |

Notes: ***, **, * correspond to the 1%, 5%, and 10% levels of significance, respectively.

*Selection of Panel Data Regression Model*

Based on Table 4, we can see the selection of the panel data regression model begins with the Chow test and the result shows that the probability values of Model 1 and 2 are less than 0,05 so the fixed effect model is accepted. The test continued with the Hausman test and the results stated that the random effect model was accepted because the probability values of 0.26 and 0.16, for Model 1 and Model 2, respectively, were already greater than 0.05. The test ended with a Lagrange Multiplier test and obtained a probability result of less than 0.05 so that the selected research models for both Model 1 and 2 were random effect model.

**Table 4.** Regression Model Selection

| | Model 1 | | | Model 2 | | |
|---|---|---|---|---|---|---|
| | **Chow** | **Hausman** | **LM** | **Chow** | **Hausman** | **LM** |
| **Prob.** | 0.0000 | 0.2578 | 0.0000 | 0.0000 | 0.1598 | 0.0000 |

*Classical Assumption Testing*

The random effect model is based on the Generalized Least Square (GLS) method which has the principle that the data is assumed to be free of autocorrelation and heteroskedasticity. Therefore, the classical assumption test only ensures assumptions of normality and non-multicollinearity. Normality test results state that the data is distributed abnormally because it has a probability value of 0.0157 ≤ 0.05 for Model 1 and 0.0400 ≤ 0.05 for Model 2. Outlier disposal is carried out until it is finally declared normally distributed with probability values of 0,2997 and 0,2862, for Model 1 and Model 2, respectively. Meanwhile, a multicollinearity test was carried out on all independent variables and the results showed that several variables were infected with multicollinearities such as ACCOUNT, EFGOV, REGQ, and RL which had a correlation value above 0.9. Therefore, the RL and REGQ variables that were considered to be the cause of the majority of correlations were finally eliminated from the study.

*Significance Test*

Based on Table 5, the test stated that economic policy uncertainty (EPU) has a significant negative effect on tax avoidance (TAXGDP) ($\alpha$ = -0.0148; $p \leq 0.05$ and $\alpha$ = -0.0296; $p \leq 0.01$, respectively in Models 1 and 2). Nevertheless, the uncertainty of economic policy turned out to be able to explain the cause of tax avoidance only 1.78%, as is known from the adjusted r-squared value, so the remaining 98% is explained by the influence of other factors. Meanwhile, the test value of EPU*ADV interactions was significantly positive ($\alpha$ = 0.0374; $p \leq 0.01$) which indicates that the higher the level of EPU, developed countries will

respond by increasing tax avoidance by 3.74% higher than developing countries. Taxpayers in developed countries are considered to have an adequate level of tax education and easy access to obtain information related to tax avoidance so they tend to have a high level of non-compliance. However, the government has not been able to ensure that developed countries have implemented anti-tax avoidance regulations evenly.

The majority of control variables are known to have significantly negative effects on dependent variables except for AGRI and DEMO on both models, as well as FDI in addition to Model 2. Meanwhile, ACCOUNT, PS, and TRADE affect tax avoidance positively. Despite the small role of EPU individually, the EPU along with the rest of the control variables can significantly affect tax avoidance, both directly and when taking into account the level of the country's economy, as evidenced by the prob. value (f-statistic) ($p = 0.0000 \leq 0.01$).

**Table 5.** Significance Test Results

| Model | Variable | Coeff. | Adjusted $R^2$ | Prob. (f-statistic) |
|---|---|---|---|---|
| 1 | EPU | -0.0148** | 0.0178 | 0.0000*** |
| | EPU*ADV | - | | |
| | ACCOUNT | 0.0001 | | |
| | AGRI | -0.0012 | | |
| | DEMO | -0.0007 | | |
| | EFGOV | -0.0014*** | | |
| | FDI | -0.0005* | | |
| | INF | -0.0008* | | |
| | LOG_DEN | -0.0253*** | | |
| | PS | 0.0008*** | | |
| | TRADE | 0.0007*** | | |
| 2 | EPU | -0.0296*** | 0.0311 | 0.0000*** |
| | EPU*ADV | 0.0374*** | | |
| | ACCOUNT | 0.0005 | | |
| | AGRI | -0.0004 | | |
| | DEMO | -0.0036 | | |
| | EFGOV | -0.0021*** | | |
| | FDI | -0.0004 | | |
| | INF | -0.0009* | | |
| | LOG_DEN | -0.0009* | | |
| | PS | 0.0010*** | | |
| | TRADE | 0.0003** | | |

Notes: ***, **, * correspond to the 1%, 5%, and 10% levels of significance, respectively.

**Discussion**

*Economic Policy Uncertainty on Tax Avoidance*

The test stated that EPU had a significant negative effect on tax avoidance ($\alpha = -0.0148$; $p \leq 0.05$ and $\alpha = -0.0296$; $p \leq 0.01$) and this also answers the first research objective on the effect of EPU on tax avoidance. The institutional theory states that the formation of individual behavior can be influenced by pressure from formal and informal institutions through various isomorphic mechanisms. Based on this theory, the government responds to tax avoidance that happens during EPU by increasing the intensity of tax collection (Cao et al., 2020; Dang et al., 2019). The government will improve and/or reconstitute existing tax regulations to reduce the level of tax avoidance that generally occurs due to incomplete regulations formulation. This is supported by similar research which stated that the statement of that uncertainty can create policy urgency so that the government will be encouraged to implement new policies or readjust existing policies as soon as possible (Andhika, 2018; Lesch & Millar, 2022).

Governments in most countries apply 2 types of anti-tax avoidance rules, namely local and international anti-tax avoidance rules. One of the efforts to formulate a new local policy that has been carried out by the Australian government is the implementation of a Multinational Anti-Avoidance Law (MAAL) to ensure that operating multinational companies pay taxes on the profits earned in Australia. Initially, large multinational companies such as Google and Apple restructured tax affairs before MAAL was implemented but the implementation of MAAL managed to make them book their sales. Even, the ATO managed to collect increased tax bills (USD 2.5 billion for 181 companies) after seeing that companies continued to use an aggressive tax structure. Furthermore, the UK government sets out a provision that all large companies are required to disclose authority-approved tax strategies (Kovermann & Velte, 2019; Oats

& Tuck, 2019). Previous research documented that affected UK companies increase their effective tax rates after the policy is enacted so it can be concluded that this tax disclosure policy is effective in reducing tax avoidance (Payne & Raiborn, 2018; F. Wang et al., 2020). Meanwhile, the government also made amendments or changes to the anti-tax avoidance rules by adding special rules to overcome the incompatibility of the EU's taxation system with countries outside them (Inkiriwang, 2017; Susanto, 2022).

Moreover, related to international anti-tax avoidance rules, global governments are also working together to combat international tax avoidance by implementing anti-tax base erosion and profit transfer (BEPS) projects. This is done by formulating anti-tax avoidance rules such as the General Anti-Avoidance Rule (GAAR) and the Specific Anti-Avoidance Rule (SAAR) which have been widely applied in various countries such as the UK , the US , Canada , the EU , China , and other developing countries such as India, Indonesia, Pakistan, Malaysia, Thailand, Sri Lanka, the Philippines, Hong Kong, Bangladesh, and Singapore (Chen, 2018; Leung et al., 2019; Sari et al., 2021). GAAR gives authority for tax authorities to correct transactions that only aim to obtain tax benefits and its implementation seems to be successful in reducing corporate tax avoidance. Based on facts above, the government is considered to have made various efforts to strengthen the role of formal institutions by fixing loopholes in tax regulations and those efforts have succeeded in reducing tax avoidance. So, it is concluded that tax avoidance decreased as EPU increased.

Despite its significance, the EPU can only explain the occurrence of tax avoidance of 1.78% as can be seen from the adjusted r-squared value. The low value of the adjusted r-squared can be interpreted that the EPU is not able to predict tax avoidance individually, as was the case that occurred in the research of. EPU is not expected to be a major contributor that influences taxpayers' tax avoidance behavior. The people behavior may be more influenced by psychological factors such as rationality, determination or desire, and egoism. The results if this study does not refer to the results of previous study because this study is the first research on EPU and tax avoidance at the country level and is expected to be a framework for further research.

*Tax Avoidance as a Response to Economic Policy Uncertainty in Developed and Developing Countries*

The results of the study stated that the value of EPU*ADV interaction was significantly positive ($\alpha = 0.0374$; $p \leq 0.01$) so the study objectives were answered that EPU would be responded to by developed countries by increasing tax avoidance higher than developing countries. Developed countries will increase their tax avoidance practices by 3.74% higher than that of developing countries. Some studies have found that the phenomenon of tax avoidance in developed countries is higher than in developing countries due to the different characteristics of taxpayers. Developed country taxpayers have a high level of non-compliance, ease of access to information related to tax avoidance, and an adequate level of education about tax avoidance schemes and profit shifting (Alstadsæter & Jacob, 2017; Hofmann et al., 2017). Therefore, it is understandable that reported from World Bank that high-income countries apply GAAR 23.3% higher than low-income countries as a means to combat tax avoidance. Although the government responds to tax avoidance during EPU by improving tax regulations (as explained above), the uneven effectiveness of the implementation of anti-tax avoidance regulations can explain the reasons why developed countries carry out higher levels of tax avoidance than developing countries.

For example, one of the anti-tax avoidance rules agreed upon between EU countries is the exit taxation rules which aim to prevent tax avoidance by transferring assets outside the EU countries. The Greece, Latvia, and Slovenia had not implemented those rules while Swedes had implemented similar domestic regulations but they were not willing to replace their regulations with exit taxation rules. In addition, the US SAAR is considered too complex and technical, and even one of the regulations, namely the anti-hybrid rules, has too little scope of discussion. Meanwhile, the implementation of anti-tax avoidance regulations such as GAAR which has been effective in several countries such as the UK, Australia, and the EU felt too tight thus making taxpayers rebel. The UK is considered to have succeeded in reducing the level of tax avoidance by implementing GAAR but multinational companies choose to avoid it by relocating their operations abroad as the anti-tax avoidance rules become tighter (Beebeejaun, 2018; Bilicka et al., 2022). Therefore, though the government has tried to formulate various anti-tax avoidance rules, unfortunately, the effectiveness of those rules is not well distributed in developed countries so that developed countries will respond to EPU by increasing tax avoidance which is even higher than developing countries.

## 4. CONCLUSION

EPU has a significant negative effect on tax avoidance which means that EPU could reduce tax avoidance practices. The governments made various efforts to strengthen the role of formal institutions by fixing loopholes in tax regulations through anti-tax avoidance rules and forcing its citizens to comply with the regulation. Meanwhile, developed countries are proved to have higher tax avoidance than developing

countries as the uncertainty of economic policy increases. Developed countries are faced with the problem of anti-tax evasion regulations which the effectiveness still not well distributed. As the saying goes "*even homer sometimes nods*", this study is also inseparable from some limitations. The study period can only be carried out until 2015 so the results presented in the test may be different if considering a longer period and may be less suitable to be applied to current conditions. The study is also constrained by the existence of variables with different levels of aggregation from other variables. The economic policy uncertainty variable (EPU) is expressed on a monthly scale (while other variables are expressed on an annual scale) so it needs to be converted to an annual scale first. The conversion result is only an estimated value and is not the actual value so it may be risky to bias and does not describe the economic policy uncertainty that happened in a given year. Therefore, subsequent studies are suggested to extend the research period to the most recent year, such as 2020 or 2021, and ensure that the geometric mean method for converting the EPU index can provide accurate results.

## 5. REFERENCES


Adiyanta, F. S. (2020). Fleksibilitas Pajak sebagai Instrumen Kebijaksanaan Fiskal untuk Mengantisipasi Krisis Ekonomi sebagai Akibat Dampak Pandemi Covid-19. *Administrative Law and Governance Journal*, *3*(1), 162–181. https://doi.org/10.14710/alj.v3i1.162-181.

Al-Thaqeb, S. A., & Algharabali, B. G. (2019). Economic policy uncertainty: A literature review. *The Journal of Economic Asymmetries*, *20*, e00133. https://doi.org/10.1016/j.jeca.2019.e00133.

Alstadsæter, A., & Jacob, M. (2017). Who participates in tax avoidance? Evidence from Swedish microdata. *Applied Economics*, *49*(28), 2779–2796. https://doi.org/10.1080/00036846.2016.1248285.

Andhika, L. R. (2018). Difusi Kebijakan Upaya Fundamental Kebijakan Pemerintah Daerah. *Matra Pembaruan: Jurnal Inovasi Kebijakan*, *2*(1), 15–25. https://doi.org/10.21787/mp.2.1.2018.15-25.

Arbatli, E. C., Davis, S. J., Ito, A., & Miake, N. (2017). Policy uncertainty in Japan. *National Bureau of Economic Research*, *1*(1). https://doi.org/10.3386/w23411.

Armelius, H., Hull, I., & Köhler, H. S. (2017). The timing of uncertainty shocks in a small open economy. *Economics Letters*, *155*, 31–34. https://doi.org/10.1016/j.econlet.2017.03.016.

Astuti, T. P., & Aryani, Y. A. (2016). Tren penghindaran pajak perusahaan manufaktur di Indonesia yang terdaftar di BEI tahun 2001-2014. *Jurnal Akuntansi*, *20*(3), 375–388. https://doi.org/10.24912/ja.v20i3.4.

Azam, A., Rafiq, M., Shafique, M., Ateeq, M., & Yuan, J. (2021). Investigating the impact of renewable electricity consumption on sustainable economic development: a panel ARDL approach. *International Journal of Green Energy*, *18*(11), 1185–1192. https://doi.org/10.1080/15435075.2021.1897825.

Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The Quarterly Journal of Economic*, *131*(4). https://doi.org/10.1093/qje/qjw024.

Beebeejaun, A. (2018). The Anti-Avoidance Provisions of the Mauritius Income Tax Act 1995: Lessons from UK and Australia. *International Journal of Law and Management*, *60*(5), 1223–1232. https://doi.org/10.1108/IJLMA-07-2017-0174.

Berger, A. N., & Demirgüç-Kunt, A. (2021). Banking research in the time of COVID-19. *Journal of Financial Stability*, *57*, 100939. https://doi.org/10.1016/j.jfs.2021.100939.

Bilicka, K., Qi, Y., & Xing, J. (2022). Real responses to anti-tax avoidance: Evidence from the UK Worldwide Debt Cap. *Journal of Public Economics*, *214*, 104742. https://doi.org/10.1016/J.JPUBECO.2022.104742.

Biljanovska, N., Grigoli, F., & Hengge, M. (2021). Fear thy neighbor: Spillovers from economic policy uncertainty. *Review of International Economics*, *29*(2), 409–438. https://doi.org/10.1111/roie.12531.

Blaufus, K., Hundsdoerfer, J., Jacob, M., & Sünwoldt, M. (2016). Does legality matter? The case of tax avoidance and evasion. *Journal of Economic Behavior & Organization*, *127*, 182–206. https://doi.org/10.1016/j.jebo.2016.04.002.

Breitsohl, H. (2019). Beyond ANOVA: An introduction to structural equation models for experimental designs. *Organizational Research Methods*, *22*(3), 649–677. https://doi.org/10.1177/1094428118754988.

Cao, Y., Hu, X., Lu, Y., & Su, J. (2020). Customer Concentration, Tax Collection Intensity, and Corporate Tax Avoidance. *Emerging Markets Finance and Trade*, *56*(11), 2563–2593. https://doi.org/10.1080/1540496X.2019.1616544.

Chen, S. C. (2018). Predicting the 'unpredictable'general anti-avoidance rule (GAAR) in EU tax law. *InterEULawEast: Journal for the International and European Law, Economics and Market*

*Integrations*, *5*(1), 91–120. https://doi.org/10.22598/iele.2018.5.1.5.
Cobham, A., & Janský, P. (2018). Global distribution of revenue loss from corporate tax avoidance: re-estimation and country results. *Journal of International Development*, *30*(2), 206–232. https://doi.org/10.1002/jid.3348.
Dai, P. F., Xiong, X., Liu, Z., Huynh, T. L. D., & Sun, J. (2021). Preventing crash in stock market: The role of economic policy uncertainty during COVID-19. *Financial Innovation*, *7*, 1–15. https://doi.org/10.1186/s40854-021-00248-y.
Dang, D., Fang, H., & He, M. (2019). Economic policy uncertainty, tax quotas and corporate tax burden: Evidence from China. *China Economic Review*, *56*, 101303. https://doi.org/10.1016/j.chieco.2019.101303.
Degl'Innocenti, D. G., Levaggi, R., & Menoncin, F. (2022). Tax avoidance and evasion in a dynamic setting. *Journal of Economic Behavior & Organization*, *204*, 443–456. https://doi.org/10.1016/J.JEBO.2022.10.028.
Demir, E., & Ersan, O. (2017). Economic policy uncertainty and cash holdings: Evidence from BRIC countries. *Emerging Markets Review*, *33*, 189–200. https://doi.org/10.1016/j.ememar.2017.08.001.
Feller, A., & Schanz, D. (2017). The Three Hurdles of Tax Planning: How Business Context, Aims of Tax Planning, and Tax Manager Power Affect Tax Expense. *Contemporary Accounting Research*, *34*(1), 494–524. https://doi.org/10.1111/1911-3846.12278.
Gashi, M., & Kukaj, H. (2016). The effect of tax rates on fiscal evasion and avoidance. *European Journal of Sustainable Development*, *5*(1), 31. https://doi.org/10.14207/ejsd.2016.v5n1p31.
Ghiselli, A., & Morgan, P. (2022). Building legitimacy? The role of Chinese contract workers in foreign regimes' political strategies. *Review of International Political Economy*, *0*(0), 1–27. https://doi.org/10.1080/09692290.2022.2127833.
Haaland, I., & Olden, A. (2022). Fraud concerns and support for economic relief programs. *Journal of Economic Behavior & Organization*, *203*, 59–66. https://doi.org/10.1016/j.jebo.2022.08.026.
Hanlon, M., Maydew, E. L., & Saavedra, D. (2017). The taxman cometh: Does tax uncertainty affect corporate cash holdings? *Review of Accounting Studies*, *22*, 1198–1228. https://doi.org/10.1007/s11142-017-9398-y.
Hofmann, E., Voracek, M., Bock, C., & Kirchler, E. (2017). Tax compliance across sociodemographic categories: Meta-analyses of survey studies in 111 countries. *Journal of Economic Psychology*, *62*, 63–71. https://doi.org/10.1016/j.joep.2017.06.005.
Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, *115*(1), 53–74. https://doi.org/10.1016/S0304-4076(03)00092-7.
Inkiriwang, K. G. (2017). Perspektif hukum terhadap upaya penghindaran pajak oleh suatu badan usaha. *Lex Et Societatis*, *5*(4). https://doi.org/10.35796/les.v5i4.16072.
Janský, P., & Palanský, M. (2019). Estimating the scale of profit shifting and tax revenue losses related to foreign direct investment. *International Tax and Public Finance*, *26*, 1048–1103. https://doi.org/10.1007/s10797-019-09547-8.
Kang, W., & Wang, J. (2021). Corporate tax effects of economic policy uncertainty. *Accounting & Finance*, *61*, 2577–2600. https://doi.org/10.1111/acfi.12677.
Kovermann, J., & Velte, P. (2019). The impact of corporate governance on corporate tax avoidance—A literature review. *Journal of International Accounting, Auditing and Taxation*, *36*, 100270. https://doi.org/10.1016/j.intaccaudtax.2019.100270.
Lesch, M., & Millar, H. (2022). Crisis, uncertainty and urgency: Processes of learning and emulation in tax policy making. *West European Politics*, *45*(4), 930–952. https://doi.org/10.1080/01402382.2021.1949681.
Leung, S. C., Richardson, G., & Taylor, G. (2019). The effect of the general anti-avoidance rule on corporate tax avoidance in China. *Journal of Contemporary Accounting & Economics*, *15*(1), 105–117. https://doi.org/10.1016/j.jcae.2018.12.005.
Levi, M., & Smith, R. G. (2022). Fraud and pandemics. *Journal of Financial Crime*, *29*(2), 413–432. https://doi.org/10.1108/JFC-06-2021-0137.
Li, X., Cai, G., & Luo, D. (2020). GDP distortion and tax avoidance in local SOEs: Evidence from China. *International Review of Economics & Finance*, *69*, 582–598. https://doi.org/10.1016/j.iref.2020.06.042.
Litina, A., & Palivos, T. (2016). Corruption, tax evasion and social values. *Journal of Economic Behavior & Organization*, *124*, 164–177. https://doi.org/10.1016/j.jebo.2015.09.017.
Madani, L., Kustiawan, M., & Prawira, I. F. A. (2023). Penghindaran Pajak, Menguntungkan atau Merugikan? *Jurnal Pendidikan Akuntansi (JPAK)*, *11*(1), 45–52. https://doi.org/10.26740/jpak.v11n1.p45-52.
McNabb, K. (2021). Tax Structures and Economic Growth: New Evidence from the Government Revenue

Dataset. *Journal of International Development*, *30*(2), 173–205. https://doi.org/10.1002/jid.3345.
Medina, L., & Schneider, F. (2018). Shadow economies around the world: What did we learn over the last 20 years? *IMF Working Papers*, *18*(17), 1. https://doi.org/10.5089/9781484338636.001.
Nguyen, M., & Nguyen, J. H. (2020). Economic policy uncertainty and firm tax avoidance. *Accounting & Finance*, *60*(4), 3935–3978. https://doi.org/10.1111/acfi.12538.
Oats, L., & Tuck, P. (2019). Corporate tax avoidance: is tax transparency the solution? *Accounting and Business Research*, *49*(5), 565–583. https://doi.org/10.1080/00014788.2019.1611726.
Paramitha, R. P., & Sari, D. P. (2022). Pengaruh Persaingan Pasar dan Board Interlock terhadap Agresivitas Pajak Pasca Tax Amnesty. *InFestasi*, *18*(1), 25–36. https://doi.org/10.21107/infestasi.v18i1.11119.
Payne, D. M., & Raiborn, C. A. (2018). Aggressive tax avoidance: A conundrum for stakeholders, governments, and morality. *Journal of Business Ethics*, *147*, 469–487. https://doi.org/10.1007/s10551-015-2978-5.
Prasetyo, W. F., & Arif, A. (2022). Pengaruh Profitabilitas, Corporate Social Responsibility, Leverage, Dan Capital Intensity Terhadap Penghindaran Pajak. *Jurnal Ekonomi Trisakti*, *2*(2), 375–390. https://doi.org/10.37676/ekombis.v7i1.701.
Sari, D., Utama, S., & Rahayu, N. (2021). Transfer pricing practices and specific anti-avoidance rules in Asian developing countries. *International Journal of Emerging Markets*, *16*(3), 492–516. https://doi.org/10.1108/IJOEM-10-2018-0541.
Saxegaard, E. C. A., Davis, S. J., Ito, A., & Miake, N. (2022). Policy uncertainty in Japan. *Journal of the Japanese and International Economies*, *64*, 101192. https://doi.org/10.1016/j.jjie.2022.101192.
Shen, H., Hou, F., Peng, M., Xiong, H., & Zuo, H. (2021). Economic policy uncertainty and corporate tax avoidance: Evidence from China. *Pacific-Basin Finance Journal*, *65*, 101500. https://doi.org/10.1016/j.pacfin.2021.101500.
Silva, T. C., Muniz, F. J., & Tabak, B. M. (2022). Indirect and direct effects of the subprime crisis on the real sector: labor market migration. *Empirical Economics*, *62*(3), 1407–1438. https://doi.org/10.1007/s00181-021-02051-1.
Susanto, S. (2022). Urgensi Pengaturan Tax Avoidance dalam Peraturan Perpajakan di Indonesia. *El-Dusturie: Jurnal Hukum Dan Perundang-Undangan*, *1*(2). https://doi.org/10.21154/eldusturie.v1i2.5129.
Thomas, M. (2010). What Do the Worldwide Governance Indicators Measure? *The European Journal of Development Research*, *22*, 31–54. https://doi.org/10.1057/ejdr.2009.32.
Valiquette L'Heureux, A. (2022). The Case Study of Los Angeles City & County Fraud, Embezzlement and Corruption Safeguards during times of pandemic. *Public Organization Review*, *22*(3), 593–610. https://doi.org/10.1007/s11115-022-00641-w.
Wang, F., Xu, S., Sun, J., & Cullinan, C. P. (2020). Corporate tax avoidance: A literature review and research agenda. *Journal of Economic Surveys*, *34*(4), 793–811. https://doi.org/10.1111/joes.12347.
Wang, Y., Chen, C. R., & Huang, Y. S. (2014). Economic policy uncertainty and corporate investment: Evidence from China. *Pacific-Basin Finance Journal*, *26*, 227–243. https://doi.org/10.1016/j.pacfin.2013.12.008.
Wei, W., Hu, H., & Chang, C. P. (2021). Economic policy uncertainty and energy production in China. *Environmental Science and Pollution Research*, *28*(38), 53544–53567. https://doi.org/10.1007/s11356-021-14413-4.
World Bank. (2012). World development indicators 2012. In *The World Bank*.
Youssef, M., Mokni, K., & Ajmi, A. N. (2021). Dynamic connectedness between stock markets in the presence of the COVID-19 pandemic: does economic policy uncertainty matter? *Financial Innovation*, *7*(1), 13. https://doi.org/10.1186/s40854-021-00227-3.
Zalla, R. (2017). Economic policy uncertainty in Ireland. *Atlantic Economic Journal*, *45*(2), 269–271. https://doi.org/10.1007/s11293-017-9536-8.