The Fulfilment of Tax Obligation in Case of Slovenian Tax Residents Working in Other Countries

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Abstract

We study the impact of selected characteristics of Slovenian tax residents with income from work with source in other countries on their fulfilment of tax obligations from this income. We received anonymised data for the year 2015 from Slovenian Financial administration, which includes selected taxation data, some demographic variables as well as some data from other registers. On the sample of 9016 taxpayers of personal income tax from the group with income from work with source in other countries we found that with knowledge of some characteristics of taxpayers it is possible to discern a higher or lower probability of fulfilment of their tax obligations. Tools as the here presented model can help to increase the effectiveness of targeted inspection taxation supervision. The analysis has shown that groups of taxpayers with common characteristics share also a common pattern of the fulfilment of their tax obligations.

Key words: personal income tax, double-taxation, cross-border workers, labour mobility

1 The views and opinions expressed in this article are those of the authors and do not necessarily reflect the opinion of authors’ employers.

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Introduction

Free movement of workers is one of four freedoms in the internal market of the EU laid down in the Article 45 of the Treaty on the Functioning of the European Union (TFEU), besides the others: free movement of goods, free movement of capital and the freedom of establishment and freedom to provide services. Free movement of workers includes the right to work in another Member State, the right of movement and residence for workers and for his family members. This principle safeguards workers from other Member States from discrimination based on nationality as regards employment, remuneration and other conditions of work and employment (European Parliament, 2019).

There are different forms of workers mobility, besides the cross-border mobility, where the country of residence and differs from the country of employment or self-employment, also the long-term form of workers mobility and the posting of workers and at the end the co-called return mobility. The long-term mobility is referred to cases where workers move their residence to another country in order to work there or to seek work for at least one years while they aren’t citizens of this country. Posting of workers is a form of mobility where their employer sends the workers to another country to work there for a limited period. At the end one should consider the return mobility also as a form of labour mobility where the long-term movers return to their country of origin (European Commission, 2019, p. 18-19).

In the European Commission’s report (2019, p. 19) the extend of labour mobility is presented and analysed for the year 2017. The long-term mobility is seen from the migration statistics, revealing that there have been 12.4 million people in working-age (20-64 years) which accounts 4.1% of total working-age population in the EU-28. In this group there have been 9.5% active EU-28 movers, which are employed or looking for work, which accounts for 4% of the total labour force in the EU-28. There are considerably less workers working as daily migrants, these are cross-border workers, accounting in the age group between 20 and 64 year, 1.4 million or 0.7% of the total employed in the EU-28. There has been 2.8 million of worker postings in the EU, where greatest numbers of receives are Germany, France and Belgium. Many postings has received also Slovenia, namely 163,876 workers, which is a big number according to the size of the Slovenian economy. The annual number of return long-term workers was in 2016 680,000 workers. In 2016 was the return mobility in ration 70% compared to the number of citizens who left their country (European Commission 2019, p. 19-20).

While Germany and United Kingdom (3 million and the 2.6 million) have been the biggest countries of destination, Slovenia has around 15000 incoming workers in 2017, which is 6 % more than a year before. The Commission’s Report deals also with the question of countries of origins. While the main countries of origin are Romania, Poland, Portugal, Italy and Bulgaria, also Slovenian citizens move to work abroad. In 2017 an increase is reported for movers from Slovenia to Austria, along with other countries in Eastern Europe (European Commission, 2019, p.28). As regards the return mobility, there are countries like Romania (almost 90%), which have a high share of nationals among the inflows representing the returning workers, while in Slovenia this share in only 15% of the inflows (European Commission, 2019, p.45).

Regarding the cross-border workers, the report gives data on the number of cross-border, which increased for 4% from the year 2016 to 2017 on the EU-28 level. In absolute terms the main countries of residence were France (405,000), Germany (249,000) and Poland (202,000). On average, the majority of cross-border workers is male (almost 70%), while in Slovenia this share is higher and represents 74%. There are countries with decreasing and others with increasing numbers of residents working cross-border, but Slovenia isn’t among those countries (European Commission, 2019, p. 56, 78, and 166). The main countries of work for cross-border workers in the EU are in absolute terms Germany (391,000), EFTA country Switzerland (387,000), Luxembourg (186,000) and Austria (175,000) (European Commission, 2019, p.79).

Worker mobility is encouraged also in order to support the economic growth and increasing the employment in the EU, however there could be tax obstacles, such as cases of double taxation despite the existence of double taxation agreement on a bilateral basis, which would affect the mobility of workers. Wages or the pay for work often includes different types of income, which are in some cases a case of tax allowance. Very different regulations in these various types of income create complexity in taxing (Ernst & Young, 2014, p. 7-9).

Taxation rules for personal income tax differ importantly not only in tax rates but also in tax reliefs, allowances etc. In case of Slovenian tax residents with income from work with source in other countries the following taxation principle is applied, while domestic law definition of tax residency in Slovenia applies. When the income from work like salaries, wages and other similar remuneration has the source in another country, it was usually already a subject to taxation in the source country. However, the Slovenian tax residents are taxed on their worldwide income, therefore the income with source in other countries is subject to taxation also in Slovenia. This would cause double taxation therefore according to the bilateral agreements (a tax
treaty) between the source country and Slovenia a double tax relief claim arises. The most common methods are the exemption method and the credit method. The first one can in individual treaties take different forms, e.g. the income is exempt in the taxation in the state of residence entirely and even if there was no tax imposed in the source state, or that the income is not taxed in the country of tax residency but is taken into account when determining the rate of tax for taxing the rest of taxpayers’ worldwide income. The second method, the credit method would mean that the country of residency includes the income into the tax base but then allows the amount of tax being paid in the source country as a deduction from the tax in country of residency. If the tax rate is higher in the country of residency, residual tax would be payable in addition to the tax already paid in the source country.

Slovenian tax resident has the obligation to declare his worldwide income which includes also all his income in other countries. Taxpayers can meet this obligation or they do not. The reasons why individual taxpayers don’t meet their tax obligation can be different, like not knowing the law, or willingly decide not to declare the income, whereby the standard rule applies (ignorantia iuris nocet). In some cases, the reason can lie in inability to pay due to taxpayers’ special circumstances, and many others. However, regarding the intentional tax evasion, sometimes taxpayers can have an impression, which can be wrong, that they can avoid reporting their income easier in case when the income has the source in other countries that in case of domestic source. This is the motivation for our research. We would like to contribute to the knowledge about this specific group of taxpayers in Slovenia as we would like to find out which characteristics may indicate higher probability of fulfilling its tax obligations. It hasn’t been explored yet in this regard.

Kubicova and Valkova (2016) report that taxpayer with higher level of income more likely fulfil their tax obligations. Some other studies list also characteristics, like gender (Chung & Trivedi, 2003) or level of tax culture (Torgler & Schneider, 2005). In this study we would like to contribute to these findings and find out whether there are some common characteristics to these taxpayers, who omit their obligations and have source of income from work in other countries. In what follows the paper is structured in a way that first the literature review is presented. Next, the data and the methodology used in the study are presented. Finally results and conclusions are given.

Literature Review

There is broad range of literature dealing with various aspects of fulfilment of tax obligations. We could classify them into more classification groups. However, due to the size of taxation literature body we only concentrate on the group of papers which analyse the questions regarding the taxation on the income from work and employment. Especially we are interested into the literature regarding the income of domestic tax residents from other countries. For this question, we find despite broad taxation literature very few studies.

Kubicova and Valkova (2016) analyse the factors which are affecting the fulfilment of taxing obligations of tax residents in Slovakia employed in other countries. With a survey they gathered data and used factor analyses to identify the most important factors, which are classifies into three groups. The first one includes taxing complexity and information. The authors claim the overlapping of this result with results of previous studies. They find that the tax fulfilment is negatively correlated with the tax system complexity and positively with the availability of taxing relevant information. The second component is based on taxation literacy, whereas the tax fulfilment is positively correlated with individuals working abroad, with the intensity of their knowledge of taxing legislation. The third component includes the size of income from another country and their education level. Regarding this group the results show that it is more likely that the taxation obligation will be fulfilled if the income and the level of knowledge get higher.

Bott et al. (2014) investigate measures and activities undertaken by tax authority and their impact on the level of tax obligation fulfilment for individuals having income from other countries. Authors included 18,000 individuals into their research sample to investigate the impact of sending notice from Norwegian tax authorities. The notice included a taxation form which was already filled in with data together with instructions on how to correctly announce the income from abroad. The analysis showed that inclusion of a moral note into the notice almost doubled the average amount of income being announced when compared to the amount resulting from the notice without such an inclusion. Another positive effect resulted from an inclusion of information about a higher probability of tax authority’s inspection. The authors also found out that two inclusions had very different operating modes. While the moral claim mainly augmented the amount of the income being declared, the higher probability of tax control caused the number of taxpayers who declared income from abroad to grow.

Some authors are researching individual characteristics of taxpayer and their impact on the fulfilment of tax obligations. Schneider (2005) found that first the literature review is presented. Next, the data and the methodology used in the study are presented. Finally results and conclusions are given.

3 More on taxation in triangular cases in the EU can be read in and reported by EY for the European Commission: Triangular Cases – Tax obstacles to labour mobility in the European Union and tax avoidance Specific Contract No1 TAXUD/2013/DE/303 Based on Framework Contract No TAXUD/2012/CC/117, p.20.
obligations. Kiow, Salleh and Kassim (2017) analysed the factors of individual fulfilment of tax obligations on the case of Malaysia. The authors found that the fulfilment of tax obligations is dependent from the ethical values and perception, which is formed according to the government’s behaviour and the transparency of government’s actions. Chung and Trivedi (2003) explored the effect of friends’ persuade and gender of the taxpayer on the level of individuals’ tax obligation fulfilment. Their results show a strong connection between the analysed characteristics and the declared income. Torgler and Schneider (2005) investigate the attitude of Austrian residents versus the tax payment and their tax culture. The results of the authors show a decline in tax culture between the years 1990 and 1999. Despite this decline the Austrian taxpayers still have a very high level of tax culture when compared to other European countries. Gilligan and Richardson (2005) explore the perception of tax fairness in connection to fulfilment of tax obligations in case of Australia and Hong Kong. They find that there aren’t any universal connections or patterns between the perception of tax fairness and different levels of tax obligation fulfilment, which would exist across analysed cultures. The legality turned out as a crucial element in the perception of the fairness in the tax system.

A great number of research focuses on the actions undertaken by tax authorities, legislation changes and other categories with a direct impact on the individual level of tax obligations. Among the first authors who have investigated the effects of the tax authorities’ actions on the fulfilment of tax obligations can be seen Allingham and Sandma (1972). They explored some static and dynamic aspects of tax evasion. They especially underlined the meaning of different compulsory measures of tax authorities. Similar findings have shown Dubin and Wilde (1988) the connection between the fulfilment of personal income tax obligations and the inspection supervision. Also, Alm, Jackson and McKee (1992) and Plumley (2002) investigated the meaning of punishments and the inspection supervision on the individuals’ fulfilment of tax obligations. Lopez–Laborda and Rodrigo (2003) analyse the impact of tax amnesty on the fulfilment of obligations arising from personal income tax. The authors find out that the amnesty didn’t have neither a short nor long-term impact on the behaviour of taxpayers. Opposite to these finding are the results of legislative and administrative measures in a reform procedure as they permanently positively impact the fulfilment of tax obligations. Klun (2004) investigates for the case of Slovenia the costs arising with the fulfilment of tax obligation for the taxpayers of personal income tax. She finds costs to be very low, especially since the taxpayers perceive the income declaration process as an easy-to-understand task and compare these costs to tax consultancy costs. Few years later, Klun (2009) finds additional decline in costs for the fulfilment of tax obligations when in Slovenia the pre-filled out form was introduced for the personal income tax as the tax authorities could fill-in the data about the income which they have already collected from other sources.

Marcuss et al. (2013) investigated the relationship between the complexity of tax accounts and costs of fulfilment of tax obligation which arise for the taxpayers. The authors used the methodology of econometric models. An investigation of the existence and obstatine of tax evasion in the case of personal income taxation and the meaning of preventative measures in done by Alm and Yunus (2009). Yin (2012) listed general and specific praxis for the improvement of tax obligation fulfilment in the case of personal income tax. Yaniv (2009) presented a rational model of tax evasion in connection with the tax rate. The meaning of reporting the information is the focus of the study by Phillipsa (2014), who found out that taxpayers correctly declare their income in case when these incomes are also the matter of reporting by the payer. At the same time, they tend to evade at least the part of their incomes, which isn’t under mandatory reporting obligation. Also, the authors noticed a great heterogeneity in regard to the critical amount of the undeclared income where the unfulfilment of tax obligations fully turns from partial into full unfulfilment. Similarly have Kleven et al. (2011) on the sample of 40.000 Danish taxpayers in the case of personal income tax investigated the impact of the tax inspection supervisions and the sending of notices where a chance of tax inspection is mentioned. They found that the impact of such notices is important to the level of income declaration. In a Swedish study, Bastani, Giebe and Miao (2019) analysed differences in tax filing behaviour between natives and immigrants. The authors find that immigrants with a longer stay in Sweden and immigrants from Nordic and European countries, are more similar to the natives in their tax filing behaviour than non-European immigrants. With time the behaviour of non-European immigrants converges to the natives. Therefore, we can assume that cultural background matters in the tax filing behaviour.

Data and Methodology Used

In order to explore the tax fulfilment behaviour of tax residents whose income from work has a source in foreign countries we use real-life data. In this study we use the data on the sample of Slovenian tax residents who meet the criteria of the research question. We received anonymised data from the Slovenian Financial administration. The sample included individuals, who received income from
abroad in the year 2015. In the first sample there were 9136 individuals. After excluding entries with missing data, the final modelling sample included 9016 individuals. According to the research question we are interested in the sample structure with respect to the behaviour of the tax resident regarding his tax obligation fulfilment. In the final sample there were 5474 individuals who fulfilled their tax obligations and there were 3542 individuals who didn’t. The sample contained the anonymised data on taxpayer’s characteristics, like demographic, economic and other data variables. Tax residents in the sample had income from work with sources in different countries: Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, Croatia, Latvia, Lithuania, Germany, Luxembourg, Romania and Great Britain.

Available explanatory variables in the sample were as follows:

- Type of the taxpayer: besides the individuals who were employed there were also individuals with business activity. In the latter cases, the individuals had registered business activity in Slovenia but were employed in another country.
- Description of the registered business activity (where applicable): business sector, number of employed workers, date of the business registration, date of the business closure if closed, classification of business entity’s size according to Slovenian legislation).
- The amount of the income with source in another country.
- The total amount of the income with source in Slovenia and source in other countries.
- Demographic variables on the taxpayer: gender, age, which regional Financial administration office is in charge according to the taxpayers’ permanent address, number of connected persons (number of persons in taxpayers’ household, citizenship).
- Number of opened bank accounts of the taxpayer.
- The status of the residency: the starting date and the date of the end of period. In some cases, the individual wasn’t tax resident in Slovenia for the whole year 2015. In these cases, it should be taken into account that the tax obligation in Slovenia for the income from other countries refers only for the part of the year of tax residency in Slovenia.
- Some types of taxpayer’s assets: number of cars for which he is registered as the owner, number of cars for which he is user – e.g. leasing, number of boats, and the value of real-estate properties or parts of the real-estate properties he owns.

As seen from the literature review, there are various additional factors, for which it would be worth investigating if they affected individuals’ fulfilment of his tax obligations in case of income from work in another country. Based on findings in other studies other variables could turn out as relevant too e.g. the perception of the tax system fairness, the level of tax culture, the impact of friend’s persuade to do so, various social and demographic circumstances, cultural and migration background and many more. In our research we couldn’t investigate all of them as these characteristics weren’t available. As only an anonymised data sample from Slovenian Financial administration is available to us, we were limited to the research of the characteristics listed in the explanatory variables’ list. Therefore, only those explanatory variables could have been investigated, which are available to the Financial administration (from income declarations, various registers etc.).

In order to estimate the factors that influence the behaviour of taxpayers, we estimated a model of binary dependent variable with binary logit regression. Standard maximum likelihood method was applied for the estimation of model parameters. For model estimation we used EViews’ software package. Since the method is well known and no special procedures were applied, we direct interested readers to standard econometric text books in order to read more about the method.

**Results**

In our study we came to some findings, which we comment in this section. We estimated multiple models, in order to find out which explanatory variable are significant. The final model is presented in Table 1. Variables, which were named in the data sector but do not appear in this final model therefore seem to have an insignificant effect. The final model indicates some relationships between the examined factors and the fulfilment of tax obligations in the analysed specific group of taxpayers, namely those with income from work with source in other countries.

The dependent variable is binary, stating whether the tax obligations are fulfilled (value 1) or they aren’t (value 0). The explanatory variables indicate that the probability of tax obligations being fulfilled is higher if the foreign source is in Great Britain and Croatia, even thou less convincing in the latter case. The probability of tax obligations being fulfilled however declines if the foreign source is in Germany or Austria. It seems that the probability declines also when the residency falls under the jurisdiction of following regional tax offices: Brežice, Dravograd, Hrastnik and Kočevec, but rises in case of Maribor. The probability of fulfilment also declines as the amount of the foreign income rises, the number of bank accounts opened rises and as the number of cars rented rises.
In order to estimate the success of the model for classification purposes we present on Figure 1 the curves for the total classification errors at selected cut-off values (true negative, true positive). The best result is achieved at the cut-off value of 0.58, where the total share of correctly classified taxpayers achieves 77.54%, while the share of correctly classified taxpayers, who did not fulfil their obligations is 74.11% and the share of correctly classified taxpayer who did fulfil their obligations is 79.76%.

**Table 1. Model parameters**

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<tbody>
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<td>0.220</td>
<td>-2.454</td>
<td>0.014</td>
<td>X11</td>
<td>0.249</td>
<td>0.078</td>
<td>3.180</td>
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<td>3.741</td>
<td>0.000</td>
<td>X12</td>
<td>0.045</td>
<td>0.025</td>
<td>1.833</td>
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<tr>
<td>X3</td>
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<td>0.248</td>
<td>3.060</td>
<td>0.002</td>
<td>X13 (C)</td>
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<td>0.375</td>
<td>7.589</td>
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<tr>
<td>X4</td>
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<td>0.000</td>
<td>X14</td>
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<td>6.699</td>
<td>0.000</td>
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<td>0.083</td>
<td>-2.275</td>
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<td>-7.737</td>
<td>0.000</td>
<td>X17</td>
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<td>0.278</td>
<td>-2.539</td>
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<tr>
<td>X8</td>
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<td>0.025</td>
<td>-32.732</td>
<td>0.000</td>
<td>X18</td>
<td>-0.741</td>
<td>0.334</td>
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<tr>
<td>X9</td>
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<td>-15.623</td>
<td>0.000</td>
<td>X19</td>
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<td>0.003</td>
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<tr>
<td>X10</td>
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<td>-6.618</td>
<td>0.000</td>
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| McFadden R-sq. | 0.219 | Mean dep. var. | 0.607 | Obs with Dep=0 | 3542 | Total obs | 9016 |
| S.D. dependent var | 0.488 | S.E. of regression | 0.404 | Obs with Dep=1 | 5474 | LR statistic | 2650.314 |
| Akaike info crit. | 1.050 | Sum sq. resid | 1470.815 | Log likelihood | -4715.644 | Prob(LR statistic) | 0.000 |
| Schwarz crit. | 1.065 | Restr. log likelihood | -6040.801 | Avg. log likelih. | -0.523 | Hannan-Quinn crit. | 1.055 |

Note: Variables: X1 – Income source in Austria, X2 – Income source in Great Britain, X3 – Income source in Croatia, X4 – Income source in Germany, X5 - Citizenship, X6 – Gender, X7 – Age, X8 – The amount of foreign income, X9 – Number of bank accounts, X10 – Number of cars rented, X11 – Type of the taxpayer (with and without registered business activity), X12 – Residency, X13 - Constant, X14 – Regional financial office Maribor, X15 - Regional financial office Brežice, X16 - Regional financial office Dravograd, X17 - Regional financial office Hrastnik, X18 - Regional financial office Kočevje, X19 - Regional financial office Ptuj.

**Figure 1. Optimal cut-off value**
Conclusions and Further Discussion

Tax residents earn income also with source in country different to the country of residency. These incomes are of very different types, like income on capital, undertaking business activity as self-employed, pensions, employment abroad or cross-border workers, gambling and lottery wins, scholarships, inheritance and many more. When international or cross border activities are performed there are at least two different countries involved where this income could be taxable. However, taxpayers may be yield to temptation of tax avoidance in one or even both countries wrongly assuming the income in one country can be easier hidden from domestic tax authority. With new technologies not only new ways of hiding assets and income have emerged but also new business models have emerged relying on the gap of jurisdiction when acting “in the cloud”. However, also the tax authorities got new possibilities to detect the tax avoidance, like automated data exchange between the countries (e.g. CRS) on the international level, but there is also successful action on national levels.

In this study we analyse the case of Slovenia regarding the personal income tax for tax residents with income source from work in other countries. Like in most other countries, also in Slovenia, tax residents are taxed upon their worldwide income. Also, other countries’ tax regimes are relevant because the individuals analysed in our sample are first taxed in the source country and then they are taxed on their worldwide income in Slovenia under the respective regime of double taxation avoidance. It is their obligation to declare the income with source in other countries and to finally pay the personal income tax in Slovenia under the respective regime of double taxation avoidance. It is their obligation to declare the income with source in other countries and to finally pay the personal income tax in Slovenia. However, it is up to the individual whether he will actually declare his worldwide income or try to hide the income before the tax authority. Even in case of his declaration if he will at the end fulfill its tax obligations in the country of his tax residency, this is in the analysed case Slovenia.

In this study we further contribute to this battle against the tax avoidance. In our opinion the data which is available to the tax authority should give to the tax authority new insights on the general behaviour of taxpayers in the same manner as many companies use the data to get customers’ behaviour patterns. Using the anonymised data from Slovenian Financial administration we estimated a classification model, in order to give to the tax authority indices which taxpayers have a higher chance of not fulfilling their tax obligations. In our case the model deals with the group of Slovenian tax residents which have income from work with source in other countries.

We estimated a model which could be used for prediction purposes in order to apply supervision and tax inspection measures focused on taxpayers with higher probability of committing tax evasion. Our findings support the hypothesis that there can be some factors identified which contribute to the higher probably of tax obligations being fulfilled or being omitted by taxpayers. The probability of fulfillment declines as the amount of the foreign income rises, the number of bank accounts opened rises and as the number of cars rented rises. On the other hand, the probability of obligations being fulfilled is affected also geographically, meaning in terms of the income source country and in terms of the regional tax office jurisdiction in Slovenia.

The findings of this study aren’t important only in regard of discovering more about the taxpayers of personal income tax with the income from work with source in other countries but also to show that classification mechanisms may be a tool in the battle against tax avoidance. Our results unveil that certain groups of taxpayers share common characteristics with predicting power on their tax obligation’s fulfilment. Therefore, it is worth to investigate other taxation areas for prediction purposes and easier targeting of inspection procedures. In the area of personal income tax also other cases, like income on capital, undertaking business activity as self-employed, pensions, employment abroad or cross-border workers, gambling and lottery wins, scholar ships, inheritance and many more. When international or cross-border activities are performed there are at least two different countries involved where this income could be taxable. However, taxpayers may be yield to temptation of tax avoidance in one or even both countries wrongly assuming the income in one country can be easier hidden from domestic tax authority. With new technologies not only new ways of hiding assets and income have emerged but also new business models have emerged relying on the gap of jurisdiction when acting “in the cloud”. However, also the tax authorities got new possibilities to detect the tax avoidance, like automated data exchange between the countries (e.g. CRS) on the international level, but there is also successful action on national levels.

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The findings of this study aren’t important only in regard of discovering more about the taxpayers of personal income tax with the income from work with source in other countries but also to show that classification mechanisms may be a tool in the battle against tax avoidance. Our results unveil that certain groups of taxpayers share common characteristics with predicting power on their tax obligation’s fulfilment. Therefore, it is worth to investigate other taxation areas for prediction purposes and easier targeting of inspection procedures. In the area of personal income tax also other groups of individuals could be analysed for common characteristics, like individuals with income from capital gains, self-employed individuals etc. On the other hand, corporate tax would be a very interesting taxing area to be investigated in this way.

References


**Izpolnjevanje davčnih obveznosti slovenskih davčnih rezidentov zaposlenih v tujini**

**Izvleček**


**Ključne besede:** dohodnina, dvojna obdavčitev, čezmejni delavci, mobilnost delavcev