Vysoká škola ekonomická v Praze Národohospodářská fakulta

Hlavní specializace: Národní hospodářství



# CHRISTIAN ETHICS SUPPORT TAX

## COMPLIANCE

bakalářská práce

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Prohlašuji na svou čest, že jsem bakalářskou práci vypracoval samostatně a s použitím uvedené literatury.

Patrik Biedermann V Teplicích, dne 17.12. 2018

Velmi děkuji pánům Ing. Janu Kozákovi a PhDr. Lubomíru Cinglovi, Ph.D. za spolupráci, odborné konzultace a trpělivost v průběhu zpracovávání bakalářské práce. Dále bych rád poděkoval Bc. Dávidu Mikolajovi a Mgr. Magdaléně Husákové za profesionální pomoc při přípravě experimentu a zároveň Vysoké škole ekonomické v Praze za poskytnutí finanční prostředků, bez kterých by nebylo možné experiment zrealizovat. V neposlední řadě bych chtěl poděkovat rodině a přátelům za veškerou podporu, která se mě dostala po celou dobu studia. Vysoká škola ekonomická v Praze Katedra hospodářské a sociální politiky Národohospodářská fakulta Akademický rok: 2018/2019



## ZADÁNÍ BAKALÁŘSKÉ PRÁCE

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	Zásady pro vypracování:

- The purpose of this bachelor thesis is to analyse Christian ethic as another potential catalyst that can support tax compliance. The hypothesis is examined by the Public Goods Experiment. The aim is to draft suggestions for economic policy based on the results of the experiment.
- 2. Many economists have studied this issue and have already made several important movements in its understanding. For example, there is an article written by Gary Becker (1968) about economics of crime and punishment, where he describes his attitude towards law enforcement and government penalty setting. To broaden this consideration, Allingham and Sandmo (1972) used his method to study tax evasion. However, as their or many other studies have shown, punishment is not considered to be the only factor that affects tax compliance. (Torgler, 2006) This thesis and its contribution may set the stage for discussion about redefining the tax system in the Czech Republic.
- 3. Firstly, the theoretical section discusses success and failures of Christianity in economic grounds. Particularly how the denominations responded to tithes (Constable, 1964). Secondly, it gives a brief background on taxes and their comparison to tithing. Thirdly, the thesis defines the current economic and legal setting of the chosen churches.
- 4. In this section, the principles of the Public Goods Experiment, Priming and its pros and cons are described. The general motivation to perform this game is that social dilemmas are great for formalising many fundamental situations of our society. Results will be contextualized with economic policy in the Czech Republic.

#### Rozsah práce: 45

#### Seznam odborné literatury:

- AHMED, Ali M. Are Religious People More Prosocial? A Quasi-Experimental Study with Madrasah Pupils in a Rural Community in India. Journal for the Scientific Study of Religion. 2009, 48(2), 7.
- ALLINGHAM, Michael G. a Agnar SANDMO. Income tax evasion: a theoretical analysis. Journal of Public Economics. 1972, (1), 16.
- BECKER, Gary S. Crime and Punishment: An Economic Approach. Journal of Political Economy. 1968, 79(2), 49.
- BENJAMIN, Daniel J. Religious Identity and Economic Behavior. NBER Working Paper. 2012, (15925), 33.
- CONSTABLE, Giles. Monastic Tithes: From Their Origins to the Twelfth Century. 10. Cambridge. ISBN 9780521072762.
- CHOO, C.Y. Lawrence. Do students behave like real taxpayers in the lab? Evidencefrom a real effort tax compliance experiment. Journal of Economic Behavior & Organization. 2016, 124(C), 13.
- IANNACCONE, Laurence R. Introduction to the Economics of Religion. Journal of Economic Literature. 1998, 36(3), 36.
- TORGLER, Benno. What Shapes Attitudes Toward Paying Taxes? Evidence from Multicultural European Countries. Discussion Paper. 2006, (2117), 37.

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#### Abstrakt

Cílem mé bakalářské práce je snaha zjistit, zda křesťanská morálka má vliv na spolupráci při placení daní. K testování dat získaných prostřednictvím ekonomického experimentu je použit neparametrický Mann-Whitney U Test, a to z důvodu nestandartního statistického souboru. Výsledky testu ukazují, že efekt nalezený u Priming instrumentu je statisticky významný, tedy tato metoda aktivuje významnost náboženství u testovaných věřících. U všech ostatních zkoumaných otázek efekt pozorovat nelze. Též nelze kvůli nedostatečnému počtu pozorování potvrdit hlavní hypotézu. Důležitým závěrem je však skutečnost, že Priming by mohl být přínosný v českém prostředí pro hospodářskou politiku a jeho následná aplikace by mohla zlepšit a zefektivnit spolupráci obyvatel a státu.

Klíčová slova: daně, desátky, křesťanství, morálka, hra dodržování daňové povinnosti, hra diktátor, hra loterie, priming

JEL klasifikace: C91, H26, Z12

#### Abstract

The aim of my bachelor thesis is to find out whether the Christian ethics support tax compliance. Due to the non-standard statistical universe, the non-parametric Mann-Whitney U test is used to test the data obtained from the economic experiment. The results show that the effect found within the Priming instrument is statistically significant. In other words, it shows that religious priming promotes Christian religious representations. For all other research questions, no effect is observed. However, the main hypothesis cannot be supported due to the lack of observations. Important conclusion is that the Priming instrument could be beneficial for the Czech environment and for the economic policy. Its application could support and improve the cooperation between the citizens and the state.

Key words: Taxes, Tithes, Christianity, Ethics, Tax Compliance Game, Dictator Game, Lottery Game, Priming

JEL classification: C91, H26, Z12

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### Introduction

Paying taxes is an economic issue that requires strict rules. However, there have been several studies that showed how evading taxes could be viewed as rational due to the lack of law enforcement and low level of punishment. The main inspiration for this bachelor thesis was Becker (1968), one of the most cited study considering crime and punishment. Other studies relating to this topic have also supported that, among other things, behavioural effects on paying taxes can be a major enrichment for mainstream Economics, especially nowadays, in the era of questioning traditional norms and social values.

In the past, religion was strongly associated with the state, but today, after passing the Church Restitution by the Parliament, it is more independent of the state in the Czech Republic. However, it may be very beneficial, for economic policy and Economics itself (not merely the mainstream), to focus on studying religion and the effects it has on people's economic decision-making.

This bachelor thesis is to analyse whether Christian ethics of Catholics and Protestants living in the Czech Republic have any effect on their tax compliance. This study considers general mapping of the economy of religion as well as the detailed analysis of how certain religious groups view wealth, taxes and tithes. The theoretical principles are then practically applied, and the main hypothesis is set to: Christian ethics support tax compliance. To test this hypothesis the Tax compliance experiment was performed, as well as other experimental and psychological methods, such as Dictator game, Lottery experiment and Priming, that further tested Christians' altruism and risk-aversion. Data will be gathered from the participants during the economic experiment and the hypothesis is tested. The methods of data acquisition and data analysis as well as the motivation for the use of Experimental Economics for testing the hypothesis are considered.

It is believed that the results obtained from this study could be a helpful source of information in regards of any potential transformation of the existing tax policy.

This bachelor thesis is divided into two parts – theoretical and practical. Each part is formed of multiple chapters. The theoretical part starts with scrutinising of the economy of religion, primarily considering the theoretical point of view. It analyses the initial visible economic behaviour and the first signs of taxation, followed by the Old Testament tithes and the purpose of this instrument. Then it discusses Christianity and its attitude towards economics, more specifically towards money, taxes, and tithes and the final chapter of the theoretical part describes the contemporary institutional anchoring of churches. The practical part illustrates previous research, the main hypothesis and the additional research questions. It introduces the experimental methods and software chosen for the purpose of this study and it presents and discusses results. The bachelor thesis concludes with a summary that weighs the advantages and disadvantages of the findings. It also suggests directions for further research.

### 1. Theoretical part

#### **1.1 Economics of religion**

Religion and its education is certainly not the ordinary subject of the economic interest. Historically, these issues were observed through the means of Theology, Sociology, Anthropology and Philosophy. Nowadays, most students (not only from economic faculties) are being taught about Adam Smith, who is considered as the Father of Economics. Unfortunately, the fact that he also considered the role of religion in Economics is often ignored. From the behavioural point of view, the fields of economics and religion interlinked at the beginning of 20<sup>th</sup> century. It was Max Weber, a German sociologist, who wrote the very first study about the impact of religiosity on people's economic activities<sup>1</sup>. With the onset of Behavioural economics in the 1960s, psychologists Amos Tversky and Daniel Kahneman used their previous psychological models<sup>2</sup> and mathematics to study economic behaviour even more precisely. Articles encompassing religion as the direct factor of influence began to be published.

According to Iannaccone (1998), studies of religion may help economists to better understand the non-market behaviour of individuals, groups and cultures. Studies of religion can also predict how the economic models can be modified to address questions about believes, norms and values. In addition to that, their implications could lead to the improvement of law systems and governmental policies. In his famous article Introduction to the Economics of Religion, he highlights:

"The economics of religion will eventually bury two myths – that of homo economicus as a cold creature with neither need nor capacity for piety, and that of homo religiosus as a benighted throwback to pre-rational times" (Iannaccone, 1998, p. 1492)

<sup>&</sup>lt;sup>1</sup> Max Weber was the first author to introduce the protestant ethic as a catalyst that allowed for modern capitalism. These ideas were presented in his famous study called The Protestant Ethic and the Spirit of Capitalism (1905). However, this hypothesis was recently questioned, for example in the article "Weber was wrong" by Becker and Woessmann (2009).

 $<sup>^{2}</sup>$  Cognitive models of decision-making under risk and uncertainty with the combination with economic models of rational behaviour.

#### 1.2 First observable economic behaviour

Sedláček (2009) and other historians believe that the first observable and conscious economic behaviour in people was captured in the era of Judaism<sup>3</sup>. There is no doubt about the importance of Jewish teaching and its significant effect on the formation of modern capitalist economics. Jewish economic habits anticipate the development of modern economics in many areas. In the Middle Ages Jews commonly used economic instruments that outpaced time and further became a key element of the modern economy. Max Weber<sup>4</sup> stated that they offered loans and various trades, in particular stock market shares, worked in the exchange business and were often referred to as money intermediaries. Moreover, they worked as bankers and participated in commissions of all kinds.

The Jews believe in the historical progress to be made in this world and this is supposed to be accomplished by the coming of Messiah. Compared to Christians, the wealth and its accumulation is not prohibited nor punished. But only to the certain extend.<sup>5</sup>

"Look through Jewish literature, more especially through the Holy Writ and the Talmud, and you will find, it is true, a few passages wherein poverty is lauded as something higher and nobler than riches. But on the other hand, you will come across hundreds of passages in which riches are called the blessing of the Lord, and only their misuse or their dangers warned against." (Sombart, 2001, p. 151)

#### **1.3 First signs of taxation**

The first signs of taxation were spotted in the Old Testament story about seven fat and seven thin cows.<sup>6</sup> This was part of the Egyptian Pharaoh's dream, which was afterwards interpreted by Joseph, the son of Jacob. He macroeconomically predicted that Egypt will be exposed to seven years of surplus to be followed by seven years of poverty,

<sup>&</sup>lt;sup>3</sup> The oldest literary work that captures economic realities from this era is indisputably The Old Testament.

<sup>&</sup>lt;sup>4</sup> Weber, Autorita, etika a společnost, str. 270.

<sup>&</sup>lt;sup>5</sup> Leviticus 26:3-13 in connection with Deuteronomy 28:1-13.

<sup>&</sup>lt;sup>6</sup> Genesis 41.

inconvenience and anxiety. To prevent this prophecy, Joseph offered Pharaoh this advice:

"And now let Pharaoh look for a discerning and wise man and put him in charge of the land of Egypt. Let Pharaoh appoint commissioners over the land to take a fifth of the harvest of Egypt during the seven years of abundance. They should collect all the food of these good years that are coming and store up the grain under the authority of Pharaoh, to be kept in the cities for food. This food should be held in reserve for the country, to be used during the seven years of famine that will come upon Egypt, so that the country may not be ruined by the famine." (Holy Bible, New International Version: Genesis 41:33-36, 2011)

From the previous paragraph, it can be deduced that the Egyptian's population tax rate meant to be set at 20 percent during good times and when the dark times come, the taxation should be abandoned. Joseph held the role of a skilled macro-economist, trying to avoid the harmful effects mentioned in the prophecy. By the implication of his well-planned "economic policy", the famine in Egypt did not occur.

Today's countries burden their citizens with a much higher overall tax rate; however, they have problems to keep the budget balanced. The Laffer Curve shows the issues related to higher taxations (see Figure 1).





Source: Laffer Centre, U.S. Global Investors

#### **1.4 Old Testament Tithes**

The statutory regulation<sup>7</sup> of tithing (giving tenth percent of all the harvest to the Temple) in the Old Testament represented the adjustment of the tax system in the country. It was one of the first institutes that supported weaker members of society. In the past, these applied to Levites<sup>8</sup>, foreigners, orphans, and widows. Tithing was compulsory for everyone in order to create a basic social safety net. The purpose of tithing was not only to support "the poor", but for the Israelites to realise from whom all the property, harvest and love come from so they are able to return their gratitude and

<sup>&</sup>lt;sup>7</sup> Also called Mosaic Law.

<sup>&</sup>lt;sup>8</sup> According to Kostenberger and Croteau (2006), the Levites are descendants of Lévi - the third son of Jacob. They were originally elected to serve in a tent placed in the desert (stood between God and Israel), which was a temporary sanctuary before the construction of Jerusalem's temple. They were offering daily sacrifices for sin.

thanks. In addition to a well-known principle of tithing, the Israelites further distinguished these into three different types.<sup>9</sup>

#### 1.4.1 The Levitical tithes

As the name suggests, the collected tithes were for the benefit of Levites only. The paying was compulsory, and it even applied to some of the Levites.<sup>10</sup> They were receiving tithes for the services as an offset for bearing the burden of living in the desert and therefore not receiving the fertile soil from the Lord. The form of this tithe was closely described in Leviticus 27:30-33. The payments were obtained in different forms, e.g. animals, land, seeds or fruits, and the last three could be, under some conditions, exchanged for money. The final recipients of these contributions were the priests. (Kostenberger and Croteau, 2006)

#### 1.4.2 The Festival tithes

In Deuteronomy 14:22-27, the instructions for obtaining the second kind of tithes are as follows. The recipients, Levites again, can gain access to them only "*in the presence of the Lord your God at the place he will choose as a dwelling for his Name*<sup>11</sup>, *so that you may learn to revere the Lord your God always*." (Holy Bible, New International Version: Deuteronomy 14:23, 2011). This meant that a large festival was held in Jerusalem, where all the Israelites were ordered to bring a tenth of all that their fields produced and share with others. The proprietary rights to the tithes remained unchanged. The festival also served as a big market, where the participants had a chance to buy and sell anything they liked. Universal medium of exchange, according to this passage, was silver. (Kostenberger and Croteau, 2006)

#### 1.4.3 The Poor tithes

The difference between the poor tithing and the other tithings is in the different pay-out times and in the composition of the receivers. This tithe, as Deuteronomy 14:28 stated,

<sup>&</sup>lt;sup>9</sup> Kostenberger and Croteau (2006).

<sup>&</sup>lt;sup>10</sup> Numbers 18:21.

<sup>&</sup>lt;sup>11</sup> This place meant to be Jerusalem.

was offered at the end of every three years to Levites, the fatherless, the widows and the foreigners. I general, the Israelites had to apply the same rules on foreigners as on themselves. They were in the same position as guests<sup>12</sup> throughout the Bible. (Kostenberger and Croteau, 2006)

#### **1.5** Christianity and economics

Christianity has had tremendous influence on the formation of modern economics. Throughout the New Testament era, the religion had a decisive say several times in the formation of norms including economic relations. Christianity built on Judaism. Some of the institutes which are described in previous paragraphs were either abolished, altered, or left unchanged with the onset of Christianity. In comparison to the Old Testament, the New Testament contains considerably more economic examples that are mediated by Jesus in his famous parables. For instance, Luke 7:41-43 captures the parable of two debtors:

"Two people owed money to a certain moneylender. One owed him five hundred denarii, and the other fifty. Neither of them had the money to pay him back, so he forgave the debts of both. Now which of them will love him more?"

Simon replied, "I suppose the one who had the bigger debt forgiven."

"You have judged correctly," Jesus said." (Holy Bible, New International Version: Luke 7:41-43, 2011)

This shows forgiveness as a key element of Christianity, which is unique among other major religious movements. However, it is necessary to realize that Jesus perceived the word *debt* differently than it is interpreted today. People, whose debts increased so much that they were unable to repay them, became debt slaves in those times. As slaves they had no other choice but to wait for the year of the Lord's favour<sup>13</sup> or for a

<sup>&</sup>lt;sup>12</sup> An example might be the powerful story of Lot who, as the only person in Sodom and Gomorrah, invited a random stranger to his house. For this decision, Lot and his family were persecuted by neighbours. After several attacks, Lot decided to release his daughters instead of his guest to show pure love for God and his neighbour. The story ends tragically – the God destroys these cities. <sup>13</sup> Isaiah 61.

redeemer. Redeemer was someone who would pay out or 'bail' the slaves out of their slavery. Jesus was the one who came to redeem Christians. He gave his life as a ransom for many. This is the main reason why Christians or people in general, according to Sedláček (2009), should forgive.

Nowadays it is unimaginable that, for example, the banking institutions forgive someone's debts. However, similar logic described above was applied via Hoover moratorium<sup>14</sup> in the times of the Great Depression and has been used multiple times ever since, for example in the recent, partial forgiveness of the Greek's debt by the International Monetary Fund.

#### **1.6** Christianity, wealth and taxes

It may seem that earning money and its accumulation during the life on Earth is not very important for Christians and evidence of this can be found in several places in the Bible. The most famous one is covered in Mark 10:21-24:

"Jesus looked at him and loved him. "One thing you lack," he said. "Go, sell everything you have and give to the poor, and you will have treasure in heaven. Then come, follow me." At this the man's face fell. He went away sad, because he had great wealth. Jesus looked around and said to his disciples, "How hard it is for the rich to enter the kingdom of God!" The disciples were amazed at his words. But Jesus said again, "Children, how hard it is to enter the kingdom of God! It is easier for a camel to go through the eye of a needle than for someone who is rich to enter the kingdom of God." (Holy Bible, New International Version: Mark 10:21-24, 2011)

However, the New Testament recognizes it and treats it as a part of life and addresses it, for example in 2 Thessalonians 3:10 saying that the one who is unwilling to work shall

<sup>&</sup>lt;sup>14</sup> US President H. Hoover's proposal issued on 20 June 1931 that suspended German payments of reparations, war debts and international loans for one year. It entered into force in July 1931 despite the initial objections of European countries, especially France. It served to secure US investment in the German economy, threatened by the global economic crisis and large foreign loans by financial collapse. Hoover moratorium was the first step towards ending the reparation obligation for Germany.

not eat. Also, in Matthew 22:17-22 when asked whether it is right to pay the imperial tax to Caesar or not, Jesus replied that one should give back to Caesar what is his, and to God what is God's.

Spirituals at this time were not deprived of a duty to work. The New Testament contains around thirty references to different occupations, suggesting that Jesus's disciples were employed, working manually most of the time, like Jesus himself who was a trained carpenter. Some also worked as tax collectors and these were frequently shamed by the Pharisees<sup>15</sup>, who compared them to robbers, evildoers or adulterers. In reference to this, Apostle Paul wrote in the Epistle to Romans 13:5-7:

"Therefore, it is necessary to submit to the authorities, not only because of possible punishment but also as a matter of conscience. This is also why you pay taxes, for the authorities are God's servants<sup>16</sup>, who give their full time to governing. Give to everyone what you owe them: If you owe taxes, pay taxes; if revenue, then revenue; if respect, then respect; if honour, then honour." (Holy Bible, New International Version: Romans 13:5-7, 2011)

Jesus gave another example of how Christians should behave to be good citizens of this country. When the tax collectors came after Peter, he answered him:

"But so that we may not cause offense, go to the lake and throw out your line. Take the first fish you catch; open its mouth and you will find a four-drachma coin. Take it and give it to them for my tax and yours." (Holy Bible, New International Version: Matthew 17:27, 2011)

And finally, what does the Holy Writ say about debt on taxes? Romans 13:7-8 read:

<sup>&</sup>lt;sup>15</sup> The Pharisees in the Bible were part of a theological, social and political group in antique Judaism, who frequently argued with Jesus, because their interpretation of the Law was different. They were called Pharisees ("separated ones") because they decided to leave the society, so they have enough time to study and teach the law, but they also separated themselves from the common people because they considered them religiously unclean.

<sup>&</sup>lt;sup>16</sup> Tax collectors according to the Czech translation.

"Give to everyone what you owe them: If you owe taxes, pay taxes; if revenue, then revenue; if respect, then respect; if honour, then honour. Let no debt remain outstanding, except the continuing debt to love one another, for whoever loves others has fulfilled the law." (Holy Bible, New International Version: Romans 13:7-8, 2011)

#### **1.7** Tithes in the New Testament

According to Kostenberger and Croteau (2006), New Testament "regulates" tithing differently than the Old Testament. There are three passages related to tithes (Matthew 23:23, Luke 18:9-14 and Hebrew 7: 1-10), but none of these mentions the duty to pay them. Moreover, Jesus never condemned tithing, nor did he tell anyone to stop paying it.

From the first verse, some of the conclusions can be made. In Matthew 23:23, tithing is considered to be less important part of the law, but that does not mean that Jesus denied it. Interpretation of this verse together with Luke 11:42 suggests that the Pharisees and the teachers of the law should pay tithes. The only thing that Jesus condemned in relation to tithes was the misinterpretation of this practice and a bad attitude towards paying them.

In Luke 18:9-14, the parable of the Pharisee and the tax collector is mentioned. This is another example that tithing is not the most important thing in the world. In fact, God would rather receive a sinner (the tax collector in this parable) who is ashamed of his sins (has never tithed before), rather than to receive the Pharisee.

The most extensive discussion of tithing in the New Testament is found in Hebrew 7: 1-10. The author discusses the situation, where Abraham<sup>17</sup> met Melchizedek<sup>18</sup> and he highlights the superiority of the Priesthood of Melchizedek over Aaron's<sup>19</sup>. The giving of the tithe is his main argument. Abraham gave his tithe to the priest Melchizedek. Jesus Christ is a priest according to the order of Melchizedek<sup>20</sup>, so Christians should

<sup>&</sup>lt;sup>17</sup> The Father of the people of Israel.

<sup>&</sup>lt;sup>18</sup> The King and high Priest of Salem (now known as Jerusalem) and teacher of Abraham.

<sup>&</sup>lt;sup>19</sup> Aaron is the brother of Moses.

<sup>&</sup>lt;sup>20</sup> Hebrews 5:6.

give their tithes to Jesus, who is the Head of the Church. (Kostenberger and Croteau, 2006)

These passages show that even in the New Testament, a tithe giving is considered to be an established regulation by the Lord.

#### **1.8 Czech Catholic Churches and finances**

Before discussing the current situation regarding financing and finances, it is vital to look at the composition and legal structure of the two catholic churches in the Czech Republic. The first one is the Roman Catholic Church, which dominated in the last census in 2011 (Nábožesnká víra obyvatel podle výsledků sčítání lidu, 2014) among all institutionalized churches and has the longest tradition in the territory. The second is the eastern catholic church also known as the Orthodox Church of the Czech Lands and Slovakia. Both churches are independent organizations with the international overlap and have their own structure for internal relations and financing. Moreover, they are both regulated by the canon law. According to the legislation (Zákon č. 3/2002 Sb.), these churches are legal entities.

Some people think that Roman Catholic Church operates as a single bureaucratic entity in the country. This is not entirely true. Individual parts of its structure are independent to some extent. The independence is reflected primarily in its different funding policies. The organizational structure of the Church is expressed in the main document of the Roman Catholic Church (Církev Římskokatolická, 2017), in which the church is divided into separate units called (arch)dioceses. These (arch)dioceses, also called (arch)bishopric, consist of individual parishes, which are the lowest self-governing units in the hierarchical structure of the church. They are coordinated by the Czech Bishop Conference, which was set up by the Holy See. This institution deals with matters concerning both individual units within the church and the church as a whole.

In contrast, the Orthodox Church is not subjected to any authority such as Pope. It functions as a separate unit. According to the Constitution of the Orthodox Church of

the Czech Lands and Slovakia, the authority of the Church applies uniformly throughout the territory of these countries and moreover, it looks after its believers abroad.

The administrative division of this church can be compared to the functioning of a state: the Church is divided into two territorial parts - the eparchy of the Czech Republic and the eparchy of the Slovakia. The lowest organizational units are ecclesial communities that form the liturgical communities. The believer is a member of the ecclesial community according to his or her place of residence. The main spiritual bodies include the Metropolitan of the Orthodox Church, who is the "president" of the Church, then the Metropolitan Council, representing the "executive power" and the Church Assembly functioning as a "legislative chamber". The "judicial" decision-making is conducted by the Commission for the Investigation of Canonical Offenses, alias the Eparchial Court of Justice. To avoid excessive concentration of power, every democratic state should delegate the state power to its local administrations, so it is as close as possible to their citizens. This is exactly what this church has created. The Assemblies of the ecclesial community work as municipal councils in the region and have its own Councils. More or less, they hold the office independently, however, their operation is controlled by the eparchy. (Ústava Pravoslavné církve v českých zemích a na Slovensku, 1999)

Despite these different compositions and structures of the two churches, the funding of both churches is almost identical. Historically, the churches have cooperated with the state in these matters, but nowadays, the authority has been reluctantly retreating from this concept. As described in Církev Římskokatolická (2017) and Ústava Pravoslavné církve v českých zemích a na Slovensku (1999), individual entities (the dioceses and the eparchies) operate independently of each other and are completely independent. The lowest self-governing units of both churches operate on similar principles. The Roman Catholic parishes are obliged to divert a fraction of their property (collections and revenues from economic activity) to the diocese, but their overall management is entirely within their jurisdiction. The Orthodox ecclesial communities have to submit their yearly financial statements for checks, however the final decision on how to handle the property is also upon them. In order not to misappropriate any property, economic councils and other control mechanisms were set up. The dioceses/eparchies manage major operations of parishes/ecclesial communities, especially the redistribution of salaries for the clergy, repairs, etc.

#### 1.8.1 Specific methods of church funding

The individual forms of financing are legally covered by the legislation (Zákon č. 428/2012 Sb.). A more detailed adjustment is found in the individual statutes of the churches. According to this legislation, the funding is divided into two elemental branches:

- 1. Funded by the state
  - a. Flat-rate financial compensation for damages suffered during the communist regime
  - b. Activity support allowance
- 2. Funded by own resources
  - a. Collections, gifts, own economic activity

From January 1, 2013, the legislation (Zákon č. 428/2012 Sb.) that abolished the existing model of church and religious funding by the state, came into force. It started to regulate the mitigation of property injustices committed by the Communist regime. Those churches and religious organizations that have concluded a *settlement agreement* with the state, would receive a flat-rate financial compensation from the state budget, for the period of thirty years (pursuant to § 15). In addition to this, the churches and religious organizations are also entitled to an activity support allowance (pursuant to § 17), for the period of seventeen years (the so-called transitional period). This is paid in full for the first three years and then the amount is reduced by five percent of the original amount every year.

According to the legislation (Zákon č. 3/2002 Sb.), the incomes of churches and religious organizations are divided into two subcategories (pursuant to § 27 (4)):

- 1. Incomes from the personal property
  - a. Income from the sale and lease of movable, immovable and intangible property of churches and religious organizations
  - b. Interest on deposits
  - c. Loans and credits
  - d. Income from business or other profitable activities
  - e. Subsidies
- 2. Funding by the church members
  - a. Contributions by natural and legal persons
  - b. Donations and heritage
  - *c.* Collections and contributions from a fraction of revenues according to a special legislation<sup>21</sup>

The legislation further states that the subject of business and other profitable activities must be defined in foundation documents of the registered churches and religious organizations. The enterprise and other profitable activities can only be their supplementary interests.

Donations<sup>22</sup> are obtained anonymously and primarily during Sunday masses. They are collected through cash-boxes placed in churches and used for the operation of the church. Some of the collections are carried out for specific purposes, for example, when money or other donations such as clothes, books or tools are collected for others in need (e.g. people in areas damaged by war or bad weather) or for church schools or for the purchase of new icons to the temple. Donations from natural or legal persons are in form of cash or can be sent via bank account anonymously or with the reference to the sender. These donations also include heritage and donations from foreign subjects. These voluntary donations form an important and stable income for the churches.

<sup>&</sup>lt;sup>21</sup> Zákon č. 37/1973 Sb., o veřejných sbírkách a o loteriích a jiných podobných hrách, ve znění pozdějších předpisů.

 $<sup>^{22}</sup>$  Even though tax laws generally do not include donations to the tax costs, it is possible, subject to certain conditions, to apply them as a deductible item from the tax base within the tax return.

#### **1.9** Protestant churches and finances

Since there is a large number of registered Protestant denominations in the Czech Republic, the thesis focuses only on the most prominent churches: The Evangelical Church of Czech Brethren and the Unity of the Brethren Baptists. These two churches have been selected because it was thought that these could serve as a good example of their different organisational structure. Nevertheless, they still have a lot in common.

The Evangelical Church of Czech Brethren is a church with the presbytery-synodal establishment. This establishment assumes that an individual does not have enough qualification for the leadership of each unit. Instead, the church is managed by a board of delegates. As it is apparent from the Order of the Church Administration (Českobratrská církev evangelická, 2015), there is a three-level governance. The congregation of the believers, the lowest unit of the Church, consists of members who have been baptized and therefore accepted into the Church. The parish priest and the curator, the protagonists of the congregation, are responsible for the activities of its bodies, they supervise their conduct and represent the congregation outside. Every congregation has its own democratically elected representatives, so-called the Councils of Elders<sup>23</sup>. They look after the church and make decisions about issues relating to church life and the overall status of the church. In particular, they oversee teaching, confession, order and discipline of its members, and ensure that the Church's statutes are maintained, and the duties of believers are fulfilled. They also manage finances. Second level of the governance is formed by the Senior board<sup>24</sup> - the deputies who are elected by the Council of Elders. This board has its own Council. It is an association of congregations that is connected in a certain district to common ecclesiastical activity and administration. The whole system is covered by the General board, which operates via the Synod. It forms the entire Church.

On the contrary, Baptists are characterized, as written in their Constitution (Ústava Bratrské jednoty baptistů v České republice, 1995), by a *congregational structure*. It

<sup>&</sup>lt;sup>23</sup> Staršovstvo.

<sup>&</sup>lt;sup>24</sup> Seniorát.

means that every single congregation is independent of the higher instances of ecclesiastical power. However, they do not live completely in isolation. They form a community of Baptist congregations in the Czech Republic and volunteer to cooperate in agreed areas. The aim is to enhance consciousness of solidarity between the individual congregations through mutual communication, joint educational conferences and other events. It is also vital to provide resources in case of insolvency.

The financial aspect of these churches slightly correlates with the Catholic system. The funding is also split between the state support and self-financing. However, the Evangelic congregations are obliged to manage their finances in accordance with the generally applicable legislation, Church's orders, statutes, rules and resolutions of synods. They also have to fulfil the financial obligations imposed on them. In case of any unbalanced budget, the administrative authority of the Church can take measures. Therefore, it is recommended that the churches create a reserve fund. (Českobratrská církev evangelická, 2015)

The Church's own revenues (other than those mentioned in the previous chapter) are also regular annual donations<sup>25</sup>. The Church expects donations from each of the members, who has an income and this is expected in the amount of five percent of their total annual net income. The donation is paid once a year or in instalments to the congregation to which the member belongs to. However, the donation is not expected from those members of the church without any income and it cannot be a reason for exclusion from the Church. These issues are regulated in a similar way by Baptists.

An interesting fact is that the Baptists were the only church that has not concluded a *settlement agreement* with the state and so they eliminated themselves from any possibility of receiving any reimbursements for any potential damages caused by the Communists. The Church's delegates stated multiple reasons for their refusal to sign the agreement. Those present at the conference where this issue was discussed claimed that there were no major damages caused to the Church's property. Some of them even

<sup>&</sup>lt;sup>25</sup> So-called Salár.

declared that the amount set by the state is too high. These conclusions were reported in a documentary broadcasted on Czech Television in 2013 (ČT24, 2013). Nonetheless, the main reason was clear, the Baptists did not want to be dependent on the state. This is also the overall principle of the Church.

#### 1.10 Church tax as an alternative possibility of funding

There is another possibility how to finance the operation of churches, so called ecclesiastical tax. However, this tax is not payable in the Czech Republic and is introduced in this thesis for information and potential inspiration.

In order to finance expenditures, the churches in some countries apply a tax to their members, which is levied by the state's tax authorities. This creates duality in tax liability. If the similar mechanism is applied, the regulation would cover only the state-recognized churches and the payment rules are binding to all believers. Opting out of the duty to pay the tax is possible only by leaving the church. Ecclesiastical tax is an institution that is used especially in Scandinavia and in all Scandinavian countries except Norway. This tax, however, is dependent on taxable income, and is around 1-2%. It is also part of the legal orders of Germany<sup>26</sup> and Austria and in some ways also in Switzerland. (Tretera, 2011)

<sup>&</sup>lt;sup>26</sup> Tax in Germany is around 8-9% of income (not taxable income as in most states).

### 2. Practical part

#### 2.1 Previous research and motivation

Tax evasions are as old as taxes themselves. Although it is difficult to collect and publish the real amount of any tax evasions, some researchers investigating this issue claim that the tax gap (defined as the difference between tax collected and the tax that should have been collected) totalled to 15.5 billion Dollars in 2014, which was 7.5 % of GDP. (Raczkowski, 2015)



Figure 2: The level of the tax gap in the European Union in 2014

Source: Personal draft based on Raczkowski (2015)

Many economists studied tax evasion in the past which helps with the understanding of the occurrence of such issue. It all started by the most famous paper written by Gary Becker about economics of crime and punishment, where he describes his attitude towards law enforcement and government penalty setting (Becker, 1968). One day, as Professor Becker was running late to an oral exam with a PhD student, he asked himself a question:

"Should I park closer in a spot that was illegal, or should I park in a lot which was somewhat further away?" (The Chicago Maroon, 2012)

Based on this question, he calculated the probability of the fine, its amount and the cost of parking the car in the parking lot. He decided to take the risk and park on the street. In the end, he did not receive the fine. However, as he was walking to the test room, it occurred to him that the city authorities were likely to do a similar analysis. The frequency with which they check the parked vehicles and the amount of the fine imposed for the breaching the law should depend on their estimates, which will be carried out by the individuals violating the regulation. When he got there, he asked the unfortunate student the first question, of course, how would he calculate the optimal behaviour of both the intruders of the rules and the police. Becker had not actually solved this before. Unfortunately, even the student did not know the correct answer. A few months later, Becker found out that agents decide to perform certain actions (even criminal ones) by judging their costs and benefits so they can maximize their utility/income. (Becker, 1968)

To broaden this consideration, Allingham and Sandmo (1972) used his method to study tax evasion. Their model shows, how the taxpayer decides at the moment of filling in their tax return. The taxpayer calculates how much of the income they should report and how much should they evade. The model assumes that the tax authority has the complete information about taxpayer's employment and the associated average value of the income from the employment, which is rather unrealistic. However, the model has more imperfections. According to the authors, the optimal level of tax evasion is when the expected penalty rate is less than the regular tax rate. In reality, the trend is often the opposite. As this and many other studies have shown, punishment is not the only factor that affects compliance:

"This is a very simple theory, and it may perhaps be criticized for giving too little attention to nonpecuniary factors in the taxpayer's decision on whether or not to evade taxes." (Allingham and Sadmo, 1972, p. 326)

There have been few contributions made in studying religiosity as the factor that affects tax compliance already. For instance, Torgler (2007) found that tax morale significantly

reduces tax evasion. While verifying his results, he considered also the corruption, age, economic situation and many other factors.

This bachelor thesis focuses on Catholic and Protestant ethics and whether this could be a potential factor in tax compliance. As discussed in the theoretical part, it is believed that, for Christians, paying taxes should be viewed similarly as paying tithes. Both duties should be paid on regular basis, in sufficient amounts and primarily in good faith. By asking the participants to complete the Tax compliance experiment, it is tested whether tax compliance is more likely to be reached by Catholics or Protestants.

#### 2.2 Hypothesis and other research questions

The main hypothesis of this experiment is defined as follows: the Christian ethics support tax compliance. To either support or reject this hypothesis, it is necessary to focus on the following research questions.

#### 2.2.1 Research question 1

Does the religious Priming influence Christian mindset?

Human mindset is affected by numerous factors on daily basis. For example, television or internet advertisements can force people to buy products irrationally which might cause short-term satisfaction that can later change into regret. According to Libertarian paternalism, economic architects (economic politicians for example) are trying to set up the choice architecture so that people can make better decisions. There are no harmful restrictions, no limitations or discrimination. The freedom of decision and other human rights are preserved, but there is an attempt to "nudge" people for better and more effective decision-making. It was also questioned whether religious priming, which contains certain "nudge" characteristics, may have some effect on the behaviour of Christians. (Sunstein and Thaler, 2010)

#### 2.2.2 Research question 2

Does the religious Priming have an impact on the tax compliance in Christians?

In real-life situations, taxpayers, whose income is reported either by themselves or a third party, do not know the true probability about when and if the tax authority steps in to make an audit. Due to this lack of information, some of them take the chance to evade paying taxes. Alm et al. (1992) mentioned in their study that ambiguity influences taxpayers to act responsively for the best and the worst scenario possible, but in the context of deciding whether to cooperate with the authority or evade, the taxpayers consider the worst possible scenario more. This means that they prefer compliance rather than stress and fear of an audit.

#### 2.2.3 Research question 3

Does the religious Priming support risk-aversion in Christians?

It is well known that some Christian churches approve some types of gambling games, such as Bingo, as a mean to raise money for charity purposes (Kumar et al., 2011). On the other hand, there are many cautious Christians who consider this as a "Devil's tool". They disapprove gambling of any kind, be it lotteries, betting, slot machines, horse or dog races, roulette or playing cards. However, lottery can be used to determine whether people are more or less risk averse. There is a considerable amount of empirical data assuming that Catholics are less risk averse than Protestants. This is analysed in Barsky et al. (1997) or Kumar et al. (2011). The opposite view is discussed in Renneboog and Spaenjers (2012).

#### 2.2.4 Research question 4

Does the religious Priming support altruism in Christians?

Helping the neighbour is one of the most essential duty for Christians (Holy Bible, New International Version: Matthew 22:39, 2011). But what if Christians interact with strangers? Christians should love their neighbours and in fact anyone, be it a family 22

member or an unknown passer-by - as much as they love themselves. The Dictator Game tests the likelihood of selfishness, that could prevail sending financial aid to others in need.

#### 2.3 Experimental methods

#### 2.3.1 Economic experiments in general

Experimental Economics is science that uses experimental methods to investigate certain economic issues and includes sociological and psychological factors in their studies. This is in contrast with mainstream economics where such factors are not included as the economists claim these are of a vague nature and it is difficult to include them in mathematical calculations. However, the economic experiments collect data on human behaviour and decision making. They also use financial means to motivate participants in order to imitate real world incentives. This is also useful for understanding how markets, institutions or laws function.

Experiments are performed either in the laboratory or in the field. The former offers full control over the environment. Nowadays, most of the laboratory sessions are performed on computers with specialized software that captures participants' decisions, such as zTree or ComLabGames. The latter type can be divided into three categories – artefactual, framed or natural field experiments. The artefactual field experiments are identical to convential laboratory experiments but with a non-standard subject pool. The framed field experiments are identical to artefactual field experiments but with the field context in either the commodity, task, or information that the participants use. The natural field experiments are identical to framed field experiments except that the subjects do not know they are participating in an experiment. (Přednáška Cingl, 2018)

Scientists that run the experiments must not have any particular motives or intentions to deceive the participants. They should provide the participants with proper instructions so everyone understands. However, the issue of generalizability is tied with this type of experimental procedure. It means that a lot of new ideas and predictions are based on

past observations, which may cause some imperfections. This can lead to further distortions and errors in future studies.

Economic experiments further explore non-standard preferences of individuals and these are divided into three types: pro-social, anti-social or connected to risk/time. The first type considers altruism, trust, trust-worthiness, cooperativeness, competitiveness and norm-violation punishment. In general, pro-social preferences facilitate economic exchange and lower transaction costs. The second type, anti-social preferences are composed out of spite, envy, dishonesty and cheating. These bad attributes are problematic for economy, because they facilitate corruption. According to the third type, an entrepreneurship and other similar activities lead to more risk-taking behaviour. On the contrary, less risky environment leads to more patient behaviour, which generally means that people build more savings. When this is applied, it leads to an increase in capital, which is well illustrated by the Law of returns of scale.

### 2.3.2 Priming

Priming is defined as: "a nonconscious form of human memory concerned with perceptual identification of words and objects. It refers to activating particular representations or associations in memory just before carrying out an action or task." (Psychology Today, 2018)

Priming effects, according to John C. Turner (1986), are the additional outputs from the social identity theory<sup>27</sup>. These are interesting for their ability to temporarily increase the affiliation with certain category. This increase causes the change of person's behaviour towards the norms that are related to the category. While performing an experiment, the stimulation of one part of participant's identity is often accompanied by the manipulation check. Whether the "manipulation" was successful or not, simple task as a

<sup>&</sup>lt;sup>27</sup> The theory of self-categorization or the social identity theory primarily derives the identity of an individual from relevant social group. The important point of the theory is that an individual is not endowed with only one identity, but has got several identities, related to the groups to which he or she belongs. In simple terms, an individual can behave very differently in a group of friends and, on the other hand, in his or her family. An important distinction in this theory is the ingroup and outgroup differentiation.

reciprocal test is introduced. Moreover, it is also important to investigate the participants' awareness of the relationship between the experiment and conditions, because different outcomes from different scenarios can be obtained.

This psychological technique was used in this study to show causal effects of religion on peoples' behaviour. For example, it can show how Protestantism convinces people to invest, trust each other and obey rules more than non-Protestants, which is in accordance with their ethics.

#### 2.3.3 Types of priming

#### 2.3.3.1 Explicit type

The priming instrument can be applied in certain levels of (un)consciousness. The first type is in the explicit form. It means that the context of the task is obvious – reading a religious text for example. The most famous Priming was performed by Dan Ariely (2008), where the participants from the control group were obliged to list ten books from their high school reading list. The primed group recalled the Ten Commandments and this manipulation turned out to have a positive effect. There were many participants who untruthfully proclaimed an incorrect number of true answers in the first group whilst in the second group no one cheated.

#### 2.3.3.2 Implicit type

This type of priming was used in this study. It believes that the manipulation needs to be as "soft" as possible. If not, other disturbing variables might appear, which may have a negative impact on the results. The performance of the scrambled sentence paradigm (Shariff and Norenzayan, 2007; Benjamin et al., 2016) was used and is closely described in the Experimental Design (Section 2.4).

#### 2.3.3.3 Subliminal and Contextual

These types, in comparison with the previous ones, are independent of the people's activity and effort. In the first case, for instance, words like "God" are subliminally

flashing on screen while watching  $TV^{28}$ . On the other hand, contextual priming takes advantage of the surroundings, where the experiment is being held. The session may occur in a church or temple, or in a laboratory that is equipped with a cross on the wall, Bibles on the table etc. According to the Meta-Analysis study (Willard, Shariff and Norenzayan, 2015), where the authors examined effect sizes and p-values across many studies including priming, the best setting for undertaking the experiment is in the field and then in the laboratory. From the four types of priming, the contextual priming came first. (Přednáška Cingl, 2018)

#### 2.3.4 Priming criticism

From the previous research on this topic, it is visible that this instrument has its pros and cons. The positive side of it is the capability of (un)consciously reminding (religious) people to behave according to their norms and ethics. However, the negative effects are present as well. These include failures with the replication of some long-term priming effects in the next studies and doubts on their existence and effectiveness (Yong, 2012a). Another criticism comes from the psychologist and Nobel laureate Daniel Kahneman, who recommended to other scientists to verify the robustness of their former research findings because of the lack of effectiveness (Yong, 2012b). Taking conclusions of others into consideration as a matter of fact may also cause additional problems (Bower, 2012).

#### 2.3.5 z-Tree software

Zurich Toolbox for Readymade Economic Experiments (Fischbacher, 1999) was used for running all the parts of this experiment. This software was created by the Swiss Economist and Professor of Applied Economic Research Urs Fischbacher in 1998 and it has been regularly updated. Because the preparation and actual realization of experiments is very time consuming, using this software offers a quick and effective solution. The software includes two components, which are closely intertwined – zTree

<sup>&</sup>lt;sup>28</sup> Another example of a hidden message during the television broadcast was seen in Warner Brothers animated film 'Wise Quacking Duck' from 1943, where the cartoon character Daffy Duck spins a statue holding a shield, on which was written in capitals "BUY BONDS". This message may have had an impact on the US budget during the WWII. (Sundem, 2009c)

and *zLeaf*. The main *zTree* platform works as a working and control tool for the experimenters. It allows the experimenters to set up their entire experiments according to their specific needs. Once this is done, there is a possibility to choose, for example, how many participants take part, to set time limits and to check the progress while all the games are still running. For every decision made by the participants, the software creates an excel or text file, where all the information required is saved. The inferior *zLeaf* component is used by the participants to perform the designed tasks.

#### 2.3.6 Random incentive mechanism

The random incentive mechanism (Cox, Sadiraj and Schmidt, 2014) is commonly used in the economic and psychological experiments. As the participants are trying to earn money during the experiments (tax compliance experiment in this case), their behaviour can suddenly change in accordance to the amount of money earned in the previous rounds<sup>29</sup>. They may feel like they have collected enough money and start risking more in future rounds. Therefore, the computer randomly selects only one or two rounds for the final payoff. It is believed to lead to more risk-averse and consistent behaviour for every round.

#### 2.3.7 Mann-Whitney U test

To evaluate the results of the experiment, the Mann-Whitney U Test was used. This is a nonparametric statistical rank-sum test that is used to compare sets of statistical data that cannot be assumed to be a normal probability distribution<sup>30</sup> of the observed characteristic or the dataset is too small. The parametrical equivalent of this test is the unpaired (independent) student t-test. As there are two independent groups being tested once – primed and control group and their sample sizes do not have to be equal, this method is fit perfectly for the purposes of this study. Although the calculations of nonparametric tests are usually much simpler, it is important to state that the accuracy and test strength are not as high as in parametric tests. (Bedáňová, 2018)

<sup>29</sup> Also called the wealth effect.

<sup>30</sup> The Gaussian function.

When determining the test hypotheses, the null hypothesis states that both treatments are the same – in other words, no difference is found between prime and control group. The research hypothesis states that both treatments are not the same, which means that there is a difference between prime and control group.

The *U* statistic shows the degree of overlap in ranks between the two groups. This gives us a measure of how many data points in one group have a higher or lower rank than data points in the other group. For better understanding, it is good to illustrate this issue in the following diagrams.



Source: Personal draft based on Bedáňová (2018)

In the first scenario, after ranking the rounds of Tax compliance experiment in which participants from both groups cooperated properly with the tax authority <sup>31</sup>, a little bit of overlap of their rankings can be found. This means that there are a few participants in the control group, who cooperated equally or more than a few prime participants. In the second scenario, there are many more participants in the control group, who cooperated equally or more compared to primed participants. In this situation, the overlap is bigger and therefore, the *U* value is greater than the first scenario. In the third scenario, there is no overlap in the cooperated more than all the control participants. Therefore, the *U* equals

<sup>&</sup>lt;sup>31</sup> This issue is closely discussed in Mann-Whitney results (2.5.1).
zero. To sum this up, the smaller the U statistic, the bigger the difference between the groups and vice versa. This is in contrast to the parametric T statistic in which a larger T value means there is a bigger difference between the groups.

Due to the fact that out of the estimated sixty participants, only ten of them undergone the experiment that took place in two days, it was convenient to use this statistical test to evaluate the results.

## 2.4 Experimental design

The experiment was composed of four main parts and a questionnaire at the end of the session. To make it different from the previous tax compliance laboratory trials (Fonseca et al., 2012; Choo et al., 2016), the religious priming was added. The main inspiration for using this method was Benjamin et al. (2016). The experiment examined how the religious priming affected tax compliance of the participants. However, it also focused on other factors, such as the risk awareness, risk aversion and altruism. Participants and their actions had financial consequences. The first part consisted of the performance of the Priming & Control task. The second part was the main game testing the tax compliance (Gill and Prowse 2011), followed by the Lottery Game (Dohmen et al., 2010; Cahlikova et al., 2017) in the third part. Fourth part involved the Dictator Game.

### 2.4.1 Experimental Procedure

The experiment was carried out in two days, on 5<sup>th</sup> and 7<sup>th</sup> December 2018, in the Laboratory of Experimental Economics at the University of Economics in Prague. Experimental Economics and its methodology has strict rules. The subject pool, at least for experiments conducted at the University or at CERGE-EI<sup>32</sup>, is randomly selected

<sup>&</sup>lt;sup>32</sup> A joint workplace of Charles University and the Academy of Sciences of the Czech Republic.

through a special website<sup>33</sup>, where the registered entities can subscribe to a preannounced experimental term<sup>34</sup> and are reimbursed for their time.

However, this study could not rely on this method as the religious status could be viewed as sensitive information and cannot be obtained via the standard registration questionnaire. Therefore, it was thought that the method of handing in personal written invitations to priests, preachers and religious friends was not only the best way of recruiting the participants but also a way how to better reach people who visit churches, temples, or congregations on regular basis and are therefore more likely to be true believers. The invitation (see Appendix 1) required that the participants RSVP a day before the experiment, the invitations were shared over the social networks to several university groups as well, mainly due to a small number of people recruited for the experiment. These groups consisted of students from the University of Economics in Prague, the Faculty of Law and the Hussite Theological Faculty of Charles University and the Czech Technical University. However, such additional recruitment might have caused probable distortion of the results by selecting inappropriate participants, who might have acted as believers but had the intention of enriching themselves instead.

On the day of the experiment, the participants were randomly assigned to the experimental groups (prime and control) by drawing numbers from the sack which determined the number of their computer. It was always assured that there was an equal number of participants in each group. The experimenter explained the procedure of the experiment and gave clear instruction of how the experiment works. The additional instructions were presented on the screen and in print. If there were any questions, the participants raised their hand and the experimenter immediately came to their assistance. The participants were not allowed to speak or communicate with each other, to avoid interferences and unnecessary interruptions.

<sup>&</sup>lt;sup>33</sup> Online Recruitment System for Economic Experiments (ORSEE) [online]. Praha [cit. 2018-12-17]. Dostupné z: http://www.experimenty.net/public/.

<sup>&</sup>lt;sup>34</sup> Another interesting tool that helps with inviting large amounts of people is the Mechanical Turk. This method and its application was discussed for example in Willard, Shariff and Norenzayan (2015).

It was crucial for the participants to begin the individual parts of the experiment at the same time and therefore, it was sometimes necessary to wait for everyone to complete the previous assignment. To drive out mistakes, some games were designed to have multiple repetitive rounds. Each part had a time limit and the overall experiment lasted approximately one hour.

The entire experiment was anonymous, the participants' names were only required to be written on the form that stated Participants' Consent (see Appendix 2) to participate, and it was also necessary to sign the Pay-out Form at the end. In addition, particular emphasis was placed on strict anonymity of results and other information resulting from participants' decisions.

The participants were financially rewarded by 100 CZK for the attendance and they could earn additional money by completing the experiment. In order to prevent the wealth effect during the experiment (see section 3.3.6), the computer randomly chose two out of eight rounds within the Tax Compliance Game and then the Charity or the Lottery Game and rewarded participants with the amount earned in these games. Whenever the participants donated money to the Red Cross via the Dictator Game and at the same time, this task was selected for pay-out, these were passed onto the Charity a few days after the actual experiment had ended.

After the completion of the experiment the participant filled in a Personality Questionnaire (see Appendix 3), and Pay-out form (see Appendix 4) that they submitted to the experimenter and were paid out their earned reward. They were thanked for the participation.

### 2.4.2 Part 1A – Priming & Control Task

This type of task (see Appendix 6 and 7), first used by Shariff and Norenzayan (2007), is formed of an unscrambling sentences task where participants are asked to create meaningful sentences using four out of five words provided. Each participant unscrambles ten sentences. There are two different kinds, one for the religion-salient

subjects, which includes religious words. These sentences (written in Czech language) are: "Nejsilnější modlitby jsou společné.", "Odpouštět nepravost je božské.", "Bůh vás všechny opatruj. ", etc. The other sentences, without any influence of religion, remain for the control group. For example: "Viděla v dáli strom."

### 2.4.3 Part 1B – Manipulation Check

To verify whether there was an effect on participants' behaviour within this task or not, the manipulation check is introduced (see Appendix 6 and 7). This part consists of four unfinished/unstarted words that can be completed in many ways. However, if the answers comprise religious content then the manipulation has been successful. This technique, but with different words, was used by Benjamin et al. (2016). These words (written in Czech language) were "JEŽ-" (religious answer: e.g. JEŽÍŠ; secular answer: e.g. JEŽEK), "-TEL" (religious answer: e.g. KOSTEL; secular answer: e.g. POSTEL), "BI-" (religious answer: e.g. BIBLE; secular answer: e.g. BICYKL) and "PRO-" (religious answer: e.g. PROGRAM).

### 2.4.4 Part 2 – Tax Compliance Game

Whether the impact of the priming instrument on the tax compliance of Christians is genuine or not, will be answered after the performance of this main experiment. The Tax Compliance Game is divided into four stages. These are as follows.

### 2.4.4.1 Job simulation

Participants are challenged to complete the task in which there is a chance to earn money (approximately 300 CZK), just as they would in a real employment. The reason is to induce a feeling of the merit for the money earned. The requirement<sup>35</sup> for completing the task is to change the position of thirty sliders<sup>36</sup> on a given scale by dragging them on the computer screen using mouse so these are positioned half way down the scale (see Appendix 9). Each task has a time limit of two minutes and is

<sup>&</sup>lt;sup>35</sup> Full instructions in Czech are listed in the Appendix 8.

<sup>&</sup>lt;sup>36</sup> Gill and Prowse (2012) used 48 sliders in their study, but the median number of the correctly placed sliders started around 23 in the first round and increased to 27 in subsequent rounds. Therefore, it was decided that for the purpose of this study the amount of thirty sliders was sufficient.

repeated eight times (referred to as rounds). The amount of correctly placed sliders determines the personal income for the round.

### 2.4.4.2 Declaration of tax from the money earned

Before the session started, participants were instructed that their "wages" are being taxed after the performance of the slider task. The tax *t* was set at fifteen percent. This amount corresponds to the income tax in the Czech Republic. The taxation was not carried out automatically; it was the participants' responsibility to calculate and declare the tax via the enclosed tax return.

### 2.4.4.3 Audit

The next stage contained information about the possibility of an audit by the tax authority with the fixed probability p. This was, just like in a real life, unknown to the participants. The probability p was set at twenty percent and such value is estimated to be much higher than it is in the Czech Republic<sup>37</sup>. The amount of p was adapted to be applicable in these laboratory conditions (participants knew that they can be audited by tax authority, but were not aware of the probability)

As long as the participants were not audited, they could keep all the money earned, despite declaring the tax truthfully or not. Any dishonest or miscalculated tax declarations subjected to the audit were punished. Such participants had to pay the outstanding tax balance and were subjected to fine f, calculated in the amount of fifty percent of their income.

### 2.4.4 Payoffs for the round

Participants were informed of the income earned during each round. At the end of the experiment, the computer randomly decided, which two rounds out of eight were chosen for the total payoff.

<sup>&</sup>lt;sup>37</sup> According to the Internal Revenue Service Data Book, 2017 (2018), the US tax authority audited almost 1.1 million tax returns, which was approximately 0.5 % of all returns filed in the US in 2016 and there were no similar statistics found for the Czech Republic.

### 2.4.5 Part 3 - Lottery Game

The third part of the experiment describes another task, where the participants' risk attitudes were put in the simple test implemented by Dohmen et al. (2010). Individuals were asked to choose between lottery and safe payments. Choices were displayed in the table given to the participants. The table was formed of eight rows. In every row of the lottery column, the same payoffs were provided (see Appendix 10). It is either fifty percent chance of winning 100 CZK and fifty percent chance of getting 0 CZK. On the other hand, the safe payments rise from 0 CZK up to 70 CZK. This possible diversity of risk-taking shows how both denominations could be averse to financial risk.

### 2.4.6 Part 4 – Dictator Game

The Dictator Game used by Kahneman, Knetsch and Thaler (1986) and Forsythe et al. (1994) is one of the most frequently used method in Experimental Economics to test whether people act rationally as the model of *homo economicus* predicts (they do not give anything to a random stranger) or whether their rationality is limited and influenced by the factors like altruism, fairness and inequity aversion (they are likely to share or even give everything to a stranger).

The above model was adapted by the fact that in this study, the recipient of the endowment is known to the participants (and therefore is not a stranger) – The Fund of the Czech Red Cross. The participants were given 50 CZK and could decide whether they keep it or donate it.

### 2.4.7 Part 5 – Personality measure questionnaire

The final part of each session consists of a questionnaire aimed at obtaining personal information (such as age, gender, field of study, years of education, type of employment, years of employment, denomination and religiosity; see Appendix 3) of the participants. However, due to the small amount of people in the subject pool, these characteristics were described only by aggregated statistics and has been filed confidentially.



Source: Personal draft based on the experimental research

### 2.5 Results

It was predicted that for the results to be statistically significant, it would be necessary to recruit 70 participants (35 for each group). This resulted from the G\*Power analysis, which is generally used to determine the statistical universe.

#### Figure 5: Protocol of power analysis

[1] -- Sunday, December 16, 2018 -- 16:49:16
t tests - Means: Difference between two independent means (two groups)
Analysis: A priori: Compute required sample size

Tail(s)	= One
Effect size d	= 0.8
α err prob	= 0.05
Power (1- $\beta$ err prob)	= 0.95
Allocation ratio N2/N1	= 1
Noncentrality parameter $\delta$	= 3.3466401
Critical t	= 1.6675723
Df	= 68
Sample size group 1	= 35
Sample size group 2	= 35
Total sample size	= 70
Actual power	= 0.9523628
	Tail(s) Effect size d $\alpha$ err prob Power (1- $\beta$ err prob) Allocation ratio N2/N1 Noncentrality parameter $\delta$ Critical t Df Sample size group 1 Sample size group 2 Total sample size Actual power

Source: Own calculations, G\*Power

Figure 6 shows that this analysis was calculated "A priori" – before the actual experiment. It was assumed that the parametric student's t-test will be used to analyse the data due to fact that there were two independent groups (prime and control). In terms of the inputs, one-tailed test was predicted - the prime group will behave more in accordance with the Christian ethics than the control group. Due to the limited budget, the effect size was set to 0.8. This indicates that a smaller number of recruits for the experiment is needed. As it is s common practice in such analyses, the alpha  $\alpha$  is equal to 0.05, meaning that there is a willingness to accept a five percent chance of making an error while rejecting the null hypothesis. At the same time, the statistical power – the probability of an incorrect rejection of the null hypothesis (1 -  $\beta$ ) – was set at 0.95. In addition to calculating the number of participants in each group, this analysis determined the critical value t and actual power.

However, such a high number of people could not be invited to the experiment, because the budget was limited and therefore, the number of participants had to be reduced to sixty. The funds for the data collection were provided by the University of Economics in Prague, without which the research could not be carried out. However, despite all the efforts and wide-spread advertising, only fifteen people accepted the invitation and only ten people participated in this study.

### **2.5.1 Mann-Whitney results**

The Mann-Whitney U was tested at  $\alpha$  error probability of 0.05. The direction for this test was indicated as: prime group will behave more in accordance with the Christian ethics – so the one-tailed test was used. The null and the research hypothesis was identical in all the tests bellow. These were as follows:

H0: There is no difference between the ranks of the prime and control group.H1: There is a difference between the ranks of the prime and control group.

The non-parametric Mann-Whitney U Test and the SPSS Statistics<sup>38</sup> were used to support or reject the null hypothesis and the following conclusions were made:

The following figures show, which parameters were used to answer the first research question: *Does the religious Priming influence Christian mindset?* At first, the number of "correct" answers within the Prime & Control Task were extracted from the excel file created by the z-Tree program after the participants completed the experiment. Then, it was necessary, as Mann-Whitney U is a rank-sum test, to calculate the ranks of "correct" answers. This was done by writing down numbers from one to ten (i.e. number of participants n is equal to 10) and then the numbers of "correct" answers were assigned to these numbers from the smallest to the largest. The ranks for each group (prime and control) were summarised (see Figure 6).

<sup>&</sup>lt;sup>38</sup> SPSS Statistics is a software package used for statistical analysis.

	Prime group		Control group		
Ν	"Correct" answers	Rank	Ν	"Correct" answers	Rank
1	2	6.5	1	0	2
2	3	9.5	2	2	6.5
3	3	9.5	3	0	2
4	1	4	4	2	6.5
5	2	6.5	5	0	2
$\Sigma = 5$	$\Sigma = 11$	$\Sigma = 36$	$\Sigma = 5$	$\Sigma = 4$	$\Sigma = 19$
	0	0	1 1		

Figure 6: Numbers and ranks of "correct" answers (Priming & Control Task)

Source: Own calculations

In addition, the "Us" were calculated using the formula U = rank-sum - [n(n+1)/2]. For the prime group, the U is equal to 21 and for the control group the U is equal to 4. The smaller value of U became the U statistic. From the table of critical values for the onetailed Mann-Whitney U test, the corresponding critical U value, which equals to 4, was chosen. Finally, these two values were compared. If Ustat  $\leq$  Ucrit, the null hypothesis would be rejected. With 4 equal to 4, the null hypothesis is rejected and suggests that there is a difference between the prime and control group.

The Figure 7 shows that the p value – a numerical indicator of the validity or invalidity of a null hypothesis is equal to 0.0475. In SPSS, the p value is expressed as "Exact sig." and this value needs to be divided by two. This means that this result is statistically significant if p < 0.05. In general, if the p value is closer to zero, the null hypothesis has very little support in the observed data and it can be rejected. Furthermore, the figure reminds that Mann-Whitney U (*Ustat*) equals to 4, which was calculated above.

Test Statistics <sup>a</sup>				
	Priming			
Mann-Whitney U	4.000			
Exact Sig. [2*(1-tailed Sig.)]	.095 <sup>b</sup>			

Figure 7: Test Statistics (Priming & Control Task)

a. Grouping Variable: group

b. Not corrected for ties.

Source:	Own	calculations,	SPSS
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Similarly, this test was also used to answer the other research questions. In all three cases, the null hypotheses were supported, because the p values highly exceeded the value of 0.05.

The Figure 8 shows how participants performed in the Tax Compliance Game. From the "Rounds" column of the Control group, it is obvious that three participants (i.e. Participants three, four and five) did not cooperate at all. Interestingly, all three of them were students/school leaves of the Roman Catholic Church.

Figure 8: Numbers and ranks of rounds in which the participants cooperated (Tax Compliance Game)

	Prime group			Control group	
Ν	Rounds	Rank	Ν	Rounds	Rank
1	5	6	1	8	9
2	6	7	2	8	9
3	4	5	3	0	2
4	2	4	4	0	2
5	8	9	5	0	2
$\Sigma = 5$	$\Sigma = 25$	$\Sigma = 31$	$\Sigma = 5$	$\Sigma = 16$	$\Sigma = 24$

Source: Own calculations

Of the above sums of ranks, the *U* values were calculated. The lower *U* equals to 9 and became the *Ustat*. However, *Ustat* (= 9) > Ucrit (= 4) at  $\alpha = 0.05$  and because of this, the null hypothesis is supported.

#### Figure 9: Test statistics (Tax Compliance Game)

Test Statistics <sup>a</sup>			
	Tax_compliance		
Mann-Whitney U	9.000		
Exact Sig. [2*(1-tailed Sig.)]	.548 <sup>b</sup>		

a. Grouping Variable: group

b. Not corrected for ties.

Source: Own calculations, SPSS

The null hypothesis is also supported in the *p* value calculation. Since the *p* value equals to 0.274 (i.e. p > 0.05), no effect is found.

In the following table (see Figure 10), the participant three and four from the control group – those two who did not cooperate in the Tax Compliance Experiment, were the most at risk. However, the questionnaire states that they consider themselves as "average" risk-averse people (values 2 and 3 on the zero-to-five scale, where 5 indicates the highest risk).

Prime group				<b>Control group</b>	
Ν	Safe options	Rank	Ν	Safe options	Rank
1	5	9.5	1	4	6.5
2	5	9.5	2	4	6.5
3	3	3.5	3	1	2
4	4	6.5	4	4	6.5
5	3	3.5	5	0	1
$\Sigma = 5$	$\Sigma = 20$	$\Sigma = 32.5$	$\Sigma = 5$	$\Sigma = 13$	$\Sigma = 22.5$

Figure 10: Numbers and ranks of safe options (Lottery Game)

Source: Own calculations

Although the U statistic (Ustat = 7.5) was lower than in the Tax Compliance Game, it still exceeded the critical U value (Ucrit = 4). Again, the null hypothesis is supported. The *p*-value is equal to 0.155, which corresponds with Figure 11.

Figure 11:	<b>Test statistics</b>	(Lottery	Game)
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Test Statistics <sup>a</sup>				
	Lottery			
Mann-Whitney U	7.500			
Exact Sig. [2*(1-tailed Sig.)]	.310 <sup>b</sup>			

a. Grouping Variable: group

b. Not corrected for ties.

#### Source: Own calculations, SPSS

As discussed in the next section 2.5.2, a few participants were not certain whether the amount they entered into the system would be send to the charity or whether the amount remains for them (instructions were ambiguous). Therefore, the results shown in Figure 12 could be affected by this ambiguity. The questionnaire shows that all participants considered themselves to be willing to give something up in order to benefit from it in the future (the lowest value was 3 on a scale from zero to five).

Figure 12: Amounts of money given to Charity and their ranks (Dictator Game)

Prime group				<b>Control group</b>	
Ν	Money out	Rank	Ν	Money out	Rank
1	40	4	1	50	7.5
2	25	3	2	50	7.5
3	50	7.5	3	50	7.5
4	50	7.5	4	0	1.5
5	50	7.5	5	0	1.5
$\Sigma = 5$	$\Sigma = 215$	$\Sigma = 29.5$	$\Sigma = 5$	$\Sigma = 150$	$\Sigma = 25.5$
Source: Own calculations					

The calculated *Ustat* is the highest of all calculations (*Ustat* = 10.5). The critical value is significantly lower than *U* statistic (*Ucrit* = 4) and *p*-value highly exceeds the value of 0.05 (p = 0.345). This leads to the support of the null hypothesis again.

Figure 13:	Test statistics (Dictator	Game)
	Togt Ctatigting?	

Test Statistics"				
	Charity			
Mann-Whitney U	10.500			
Exact Sig. [2*(1-tailed Sig.)]	.690 <sup>b</sup>			

a. Grouping Variable: group

b. Not corrected for ties.

Source: Own calculations, SPSS

### 2.5.2 Experiment imperfections and errors

It should be noted that the study experienced some unexpected errors and imperfections despite all the efforts to eliminate these as much as possible.

Within the Tax Compliance Game, non-cooperation with the tax authority could have been caused intentionally, but also accidently by an incorrect calculation, which occurred in several cases. It was also impossible to position all thirty sliders in given time. In Gill and Prowse (2012), the participants of the experiment had to position 48 sliders in two minutes. Their study showed, that the median amount of correctly positioned sliders was between 23 and 27 and so only 30 sliders were chosen for the purposes of this study, assuming that everyone gets a chance to earn as much as possible. However, despite decreasing the number, the maximum number of placed sliders was 23 and only one person managed to do this, which was still considerably less than in the cited article, where the highest number was 41. Perhaps, this could be viewed that this task can disadvantage older people who are less attentive than younger people and not as comfortable with using the computer technology. Therefore, it would be worthwhile either to add time, decrease the number of sliders or to think of a completely different task. These could be the reasons why the participants earned less than the promised average amount. Another imperfection in connection with this task was the existence of a typing error in the printed version of instructions. There was an inaccurate information about the location of the numeric status of the slider. This could also affect the results.

Another unexpected problem appeared in z-Tree itself. This bug caused that three rounds of sliders of a participant were not detected by the system. At the same time, it is not certain whether the participant was audited during these three rounds. No error was found when checking back the software. Luckily, the earned and declared amount was recorded, so it was possible to see whether the participant cooperated or not.

Within the Lottery Game, a small number of participants deviated from the assumption (Cahlikova et al., 2017) that the participant starts choosing the lottery and then eventually switches to safe options (the "breaking point" was observed). As a result, this "point" could not be analysed. Instead, the number of safe options were examined.

Additionally, an error was detected within the Dictator Game. Participants had the opportunity to split the obtained amount between themselves and Charity. However, it was not entirely clear from the assignment whether the amount of money they had entered into the computer system remained with the participants or was given to the Charity. Therefore, the results could not be included into the study.

Another problem was with the number of recruited participants which could have several reasons. The first reason was that people were maybe demotivated by the vagueness of the invitations, where the true intention of the experiment was deliberately concealed. The invitation did not contain information that this is an experiment concerning Christianity and its impact on tax compliance, risk or altruism. If it was more specifically defined, there could be an increase in the number of participants, but this could then potentially lead to the study being bias and the distortion of results. The second reason could be the distance, or the time needed. The experiment took place in the late afternoon during the working week. People in full time employment could still be at work, students at school etc. The third reason could be that the average earnings of 300 CZK (shown on the invitation) were not sufficiently motivational as people could value their free time differently. The fourth and probably the most important reason is the fact that the number of believers in Bohemia is decreasing constantly. This trend is

reflected in the latest 2011 census (Náboženská víra obyvatel podle výsledků sčítání lidu, 2014).

## Conclusion

"By three methods we may learn wisdom: First, by reflection, which is noblest; Second, by imitation, which is easiest; and third by experience, which is the bitterest." (The Open University, 2017)

Christianity has created and constantly continues to shape the foundation values and social norms of European society. To understand the Christian ethic correctly, it is necessary to discover its specifics. It is possible to learn from the books of the Old and the New Testament and other related literature how to behave in spiritual but also in material terms. It is mainly in the New Testament, where there are multiple references considering economics, or more precisely, money and wealth. It is not important whether someone is rich or poor, but whether their attitude towards the property and God is appropriate. It also gives instructions on how one should manage their wealth during their lives, taxes, and tithing to the church community. An important message is that taxes and tithes should be paid in good faith.

There were repetitive misinterpretations of these rules in the past. Because of that, the system of secular norms has evolved over time to prevent abuse of power and established a legitimate enforcement mechanism. After World War One, the separation of the religion from the state began in the Czech territory, initially only on a theoretical level, and on practical level in recent years. Church restitutions are to be the last step to the absolute independence of the churches in the Czech Republic. The Unity of the Brethren Baptists, as the only denomination from the list of registered churches, refused restitutions due to the vision of faster separation from the state.

But there seems to be an arising trend, whereby some articles and scientific studies begin to highlight religion and its positive contribution to society. Many of them also criticise the current consumer society and attempt to persuade people to place more emphasis on traditional values. The authors of these papers use special methods to support their hypotheses (e.g. economic experiments) that are respected by scientists. However, these methods sometimes suffer from imperfections (e.g. lack of statistical power, low number of observations, small sample size) due to the vagueness of this matter. Despite all these shortcomings, it is one of the most effective ways of gathering data in this field of study.

Economic literature, among other things, considers the influence of immaterial factors (e.g. trust, altruism and cooperation) on people's economic decision-making. Some economists studied taxes and associated issues (tax evasion) and tried to search for the cause, e.g. Allingham and Sandmo (1972), or which types of people were more likely to evade them, e.g. Choo et al. (2015). They conclude that obedience or disobedience can be affected by these psychological factors. However, only few authors examine the influence of religion on paying taxes. This relationship is currently vaguely defined in economics, which was the reason for its detailed analysis. To understand how churches manage their properties and perceive tithing, it is vital to know their rules and institutions.

Structures of selected churches show that some entities are more/less independent than the others. This means that those less dependent have the opportunity to set their own management rules. However, the lack of any higher authority may lead to their radicalization. An example of the more independent church in the Czech Republic (out of the mentioned churches in this thesis) is the Unity of the Brethren Baptists. On the contrary, the most intertwined church with the state is The Evangelical Church of Czech Brethren, because of its *presbytery-synodal* establishment.

Some chapters describe the different ways of financing churches and their different perceptions of tithing. For Protestants, it is assumed that each member ought to contribute about five percent of its total annual net income. On the contrary, the Catholic churches do not regulate tithing. They only rely on donations and financial support from the state.

In the practical part, the hypothesis and research questions were defined based on the literature, examining the difference in decision-making between prime and control groups. Due to insufficient statistical universe, it was necessary to redefine the original hypothesis and intentions. Data reflecting the participants' decision taken during the computer economic experiment was collected in two sessions. Analysis was performed using the nonparametric statistical test.

Mann-Whitney U Test was used in order to reflect the low participation in the experiment and showed an effect within the Priming instrument – religious priming promotes Christian religious representations - which corresponds to Shariff and Norenzyan (2007). However, the result contradicts findings from Benjamin et. al (2016). The different result could have been due to the use of different population – Benjamin et al. (2016) did not include people in employment to their study. Both articles found no effect in Dictator Game. By using a nonparametric statistical test instead of a more appropriate parametric test (e.g. independent-samples student's t-test), results should be taken with discretion.

Although the underlying hypothesis were rejected, it would be interesting to see whether recruiting higher number of participants and minimising the experienced imperfections would have an positive effect on the outcome of this study. The author managed to answer only the research questions, which do not distinguish the churches, age and other variables, but only the difference between the prime and control group.

Nevertheless, the results show interesting findings. By discovering the effect within the priming instrument, which is very unlikely in most of the studies, it would be appropriate to continue with the research. For the future purposes, it will be necessary to choose a better method of collecting data, e.g. by changing the location of the experiment from the laboratory to the field, thus allowing for a more appropriate recruitment of relevant participants, generating larger data that could potentially further an ongoing research on this topic. A very important conclusion is the fact that the use of this model in the Czech environment could be beneficial both for the economics and for

the economic policy, so its application can potentially "nudge" citizens into better and more efficient cooperation with the state.

# References

AHMED, Ali M. Are Religious People More Prosocial? A Quasi-Experimental Study with Madrasah Pupils in a Rural Community in India. *Journal for the Scientific Study of Religion*. 2009, **48**(2), 368-374.

ALLINGHAM, Michael G. a Agnar SANDMO. Income tax evasion: a theoretical analysis. *Journal of Public Economics*. 1972, **1**(3-4), 323-338.

ARIELY, Dan, On AMIR a Nina MAZAR. The Dishonesty of Honest People: A Theory of Self-Concept Maintenance. *Journal of Marketing Research*. 2008, **45**(6), 633-644.

BARSKY, Robert, Thomas F. JUSTER, Miles KIMBALL a Matthew SHAPIRO. Preference Parameters and Behavioral Heterogeneity: An Experimental Approach in the Health and Retirement Study. *The Quarterly Journal of Economics*. 1997, **112**(2), 537-579.

BECKER, Gary S. Crime and Punishment: An Economic Approach. *Journal of Political Economy*. 1968, **76**(2), 169-217.

BECKER, Sascha O. a Ludger WOESSMANN. Was Weber Wrong? A Human Capital Theory of Protestant Economic History. *The Quarterly Journal of Economics*. 2009, **124**(2), 531–596.

BEDÁŇOVÁ, Iveta. Neparametrické testy. In: *Vfu.cz/stat/: Biostatistika: Multimediální výukový text pro studenty VFU Brno* [online]. Brno: Veterinární a farmaceutická univerzita Brno, 2018 [cit. 2018-12-17]. Dostupné z: https://cit.vfu.cz/stat/FVL/Teorie/Predn4/MannWhit.htm

BENJAMIN, Daniel J., James J, CHOI a Geoffrey FISHER. Religious Identity and Economic Behavior. *The Review of Economics and Statistics*. 2016, **98**(4), 617–637.

BOWER, Bruce. The Hot and Cold of Priming. *Science News* [online]. 2012 [cit. 2018-12-17]. Dostupné z: https://www.sciencenews.org/article/hot-and-cold-priming

CAHLÍKOVÁ, Jana a Lubomír CINGL. Risk preferences under acute stress. *Experimental Economics*. 2017, **20**(1), 209-236. DOI: 10.1007/s10683-016-9482-3. ISSN 1386-4157. Dostupné také z: http://link.springer.com/10.1007/s10683-016-9482-3

*Chicagomaroon.com: The economics of crime with Gary Becker* [online]. Chicago: The Chicago Maroon, 2012 [cit. 2018-12-17]. Dostupné z: https://www.chicagomaroon.com/2012/05/25/the-economics-of-crime-with-gary-becker/

CHOO, C.Y. Lawrence. Do students behave like real taxpayers in the lab? Evidencefrom a real effort tax compliance experiment. *Journal of Economic Behavior & Organization*. 2016, **124**(C), 102-114.

COX, James C., Vjollca SADIRAJ, Ulrich SCHMIDT a Raquel CARRASCO. Asymmetrically Dominated Choice Problems, the Isolation Hypothesis and Random Incentive Mechanisms. *PLoS ONE*. 2014, **9**(3). DOI: 10.1371/journal.pone.0090742. ISSN 1932-6203. Dostupné také z: https://dx.plos.org/10.1371/journal.pone.0090742

*Ct24.ceskatelevize.cz: Baptisté definitivně odmítli peníze z církevních restitucí* [online]. Cheb: Česká televize, 2013 [cit. 2018-12-17]. Dostupné z: https://ct24.ceskatelevize.cz/domaci/1103653-baptiste-definitivne-odmitli-penize-zcirkevnich-restituci DOHMEN, Thomas, Armin FALK, David HUFFMAN a Uwe SUNDE. Are Risk Aversion and Impatience Related to Cognitive Ability?. *American Economic Review*. 2010, **100**(3), 1238-1260. DOI: 10.1257/aer.100.3.1238. ISSN 0002-8282. Dostupné také z: http://pubs.aeaweb.org/doi/10.1257/aer.100.3.1238

FISCHBACHER, Urs. Z-Tree - Zurich toolbox for readymade economic experiments: experimenter's manual. *Working paper / Institute for Empirical Research in Economics*. University of Zurich, Institute for Empirical Research in Economics, 1999, **21**. ISSN 1424-0459.

FONSECA, Miguel A. a Gareth MYLES. Experimental Evidence on Taxpayer Compliance: Evidence from Students and Taxpayers. *Her Majesty's Revenue and Customs Research*. 2012, (198).

FORSYTHE, Robert, Joel L. HOROWITZ, N.E. SAVIN a Martin SEFTON. Fairness in Simple Bargaining Experiments. *Games and Economic Behavior*. 1994, **6**(3), 347-369. DOI: 10.1006/game.1994.1021. ISSN 08998256. Dostupné také z: http://linkinghub.elsevier.com/retrieve/pii/S0899825684710219

GILL, David a Victoria L. PROWSE. A Novel Computerized Real Effort Task Based on Sliders. *SSRN Electronic Journal*. 2011. DOI: 10.2139/ssrn.1732324. ISSN 1556-5068. Dostupné také z: http://www.ssrn.com/abstract=1732324

Holy Bible, New International Version (NIV): Deuteronomy 14:23. In: Biblegateway.com [online]. Colorado: Biblica, 2011 [cit. 2018-12-17]. Dostupné z: https://www.biblegateway.com/passage/?search=Deuteronomy+14%3A23&version=NI V

Holy Bible, New International Version (NIV): Genesis 41:33-36. In: *Biblegateway.com* [online]. Colorado: Biblica, 2011 [cit. 2018-12-17]. Dostupné z: https://www.biblegateway.com/passage/?search=Genesis+41%3A33-36&version=NIV

Holy Bible, New International Version (NIV): Luke 7:41-43. In: *Biblegateway.com* [online]. Colorado: Biblica, 2011 [cit. 2018-12-17]. Dostupné z: https://www.biblegateway.com/passage/?search=Luke+7%3A41-43&version=NIV

Holy Bible, New International Version (NIV): Mark 10:21-24. In: *Biblegateway.com* [online]. Colorado: Biblica, 2011 [cit. 2018-12-17]. Dostupné z: https://www.biblegateway.com/passage/?search=Mark+10%3A21-24&version=NIV

Holy Bible, New International Version (NIV): Matthew 17:27. In: *Biblegateway.com* [online]. Colorado: Biblica, 2011 [cit. 2018-12-17]. Dostupné z: https://www.biblegateway.com/passage/?search=Matthew+17%3A27&version=NIV

Holy Bible, New International Version (NIV): Matthew 22:39. In: *Biblegateway.com* [online]. Colorado: Biblica, 2011 [cit. 2018-12-17]. Dostupné z: https://www.biblegateway.com/passage/?search=Matthew+22%3A39&version=NIV

Holy Bible, New International Version (NIV): Romans 13:5-7. In: *Biblegateway.com* [online]. Colorado: Biblica, 2011 [cit. 2018-12-17]. Dostupné z: https://www.biblegateway.com/passage/?search=Romans+13%3A5-7&version=NIV

Holy Bible, New International Version (NIV): Romans 13:7-8. In: *Biblegateway.com* [online]. Colorado: Biblica, 2011 [cit. 2018-12-17]. Dostupné z: https://www.biblegateway.com/passage/?search=Romans+13%3A7-8&version=NIV

IANNACCONE, Laurence R. Introduction to the Economics of Religion. *Journal of Economic Literature*. 1998, **36**(3), 1465-1495.

*Internal Revenue Service Data Book, 2017* [online]. Washington, DC, 2018 [cit. 2018-12-17]. Dostupné z: https://www.irs.gov/pub/irs-soi/17databk.pdf

KAHNEMAN, Daniel, Jack L. KNETSCH a Richard THALER. Fairness as a Constraint on Profit Seeking: Entitlements in the Market. *The American Economic Review*. 1986, **76**(4), 728-741.

KÖSTENBERGER, Andreas J. a David A. CROTEAU. "Will a Man Rob God?" (Malachi 3:8): A Study of Tithing in the Old and New Testaments. *Bulletin for Biblical Research*. 2006, **16**(1), 53-77.

KUMAR, Alok, Jeremy K. PAGE a Oliver G. SPALT. Religious beliefs, gambling attitudes, and financial market outcomes. *Journal of Financial Economics*. 2011, **102**(3), 671-708.

*Náboženská víra obyvatel podle výsledků sčítání lidu* [online]. Praha: Český statistický úřad, 2014, **2014**(170220-14) [cit. 2018-12-17]. Dostupné z: https://www.czso.cz/documents/10180/20551795/17022014.pdf/c533e33c-79c4-4a1b-8494-e45e41c5da18?version=1.0

*Online Recruitment System for Economic Experiments (ORSEE)* [online]. Praha [cit. 2018-12-17]. Dostupné z: http://www.experimenty.net/public/

Open.edu: 12 famous Confucius quotes on education and learning [online]. The OpenUniversity,2017[cit.2018-12-17].Dostupnéz:https://www.open.edu/openlearn/education/12-famous-confucius-quotes-on-education-and-learning

Přednáška vedena PhDr. Lubomírem CINGLEM Ph.D., Vysoká škola ekonomická v Praze 9.10.2018.

*Psychologytoday.com: What Is Priming?* [online]. Sussex Publishers, 2018 [cit. 2018-12-17]. Dostupné z: https://www.psychologytoday.com/us/basics/priming

RACZKOWSKI, Konrad. Measuring the Tax Gap in the European Economy. *Journal* of Economics and Management. 2015, **21**(3), 58-72. ISSN 1732-1948.

RENNEBOOG, Luc a Christophe SPAENJERS. Religion, Economic Attitudes, and Household Finance. *Oxford Economic Papers*. 2012, **64**(1).

SEDLÁČEK, Tomáš. *Ekonomie dobra a zla*. Praha: 65. pole, 2009. ISBN 978-80-87506-10-3.

SHARIFF, Azim F. a Ara NORENZAYAN. God Is Watching You. *Psychological Science*. 2016, **18**(9), 803-809. DOI: 10.1111/j.1467-9280.2007.01983.x. ISSN 0956-7976. Dostupné také z: http://journals.sagepub.com/doi/10.1111/j.1467-9280.2007.01983.x

SHARIFF, Azim F., Aiyana K. WILLARD, Teresa ANDERSEN a Ara NORENZAYAN. Religious Priming: A Meta-Analysis With a Focus on Prosociality. Personality and Social Psychology 20(1), 27-48. Review. 2015, DOI: 10.1177/1088868314568811. ISSN 1088-8683. Dostupné také z: http://journals.sagepub.com/doi/10.1177/1088868314568811

SOMBART, Werner. *The Jews and Modern Capitalism* [online]. Ontario: Batoche Books, 2001, s. 291 [cit. 2018-12-17]. ISBN 9780548166161. Dostupné z: https://socialsciences.mcmaster.ca/econ/ugcm/3ll3/sombart/jews.pdf

SUNDEM, Garth. *Brain candy*. New York: Three Rivers Press, c2009. ISBN 978-030-7588-036.

THALER, Richard H. a Cass R. SUNSTEIN. *Nudge (Šťouch): jak postrčit lidi k lepšímu rozhodování o zdraví, majetku a štěstí*. Zlín: Kniha Zlín, 2010. Tema (Kniha Zlín). ISBN 978-808-7162-668.

The Laffer Curve. In: *Usfunds.com* [online]. Texas: U.S. Global Investors, 2016 [cit. 2018-12-17]. Dostupné z: http://www.usfunds.com/investor-library/frank-talk/romania-did-this-and-now-ites-among-the-fastest-growers-in-europe/

TORGLER, Benno a Friedrich SCHNEIDER. What Shapes Attitudes Toward Paying Taxes? Evidence from Multicultural European Countries. *Social Science Quarterly*. 2007, **88**(2), 443-470.

TRETERA, Rajmund Jiří a Záboj HORÁK. *Slovník církevního práva*. Praha: Grada, 2011. ISBN 978-80-247-3614-3.

TURNER, John C. a Henri TAJFEL. WORCHEL, Stephen a William G. AUSTIN. *Psychology of intergroup relations* [online]. 2nd ed. Chicago: Nelson-Hall Publishers, c1986, s. 17 [cit. 2018-12-17]. ISBN 0830410759. Dostupné z: https://student.cc.uoc.gr/uploadFiles/%CE%92310/Tajfel%20&%20Turner%2086\_SIT\_ xs.pdf

YONG, Ed. Nobel laureate challenges psychologists to clean up their act. *Nature*. 2012. DOI: 10.1038/nature.2012.11535. ISSN 1476-4687. Dostupné také z: http://www.nature.com/doifinder/10.1038/nature.2012.11535

 YONG, Ed. Replication studies: Bad copy. Nature. 2012, 485(7398), 298-300. DOI:

 10.1038/485298a.
 ISSN 0028-0836.
 Dostupné také z:

 http://www.nature.com/doifinder/10.1038/485298a

# **List of Legislation**

Církev Římskokatolická: Základní dokument. In: *Rejstřík registrovaných církví a náboženských společností vedený Ministerstvem kultury České republiky*. Praha: Česká biskupská konference, 2017, 308/1991/08. Dostupné také z: https://bjb.cz/ke-stazeni/category/1-dokumenty-bjb?download=1:ustava-bjb

Českobratrská církev evangelická: Základní dokument vypracovaný podle zákona č. 3/2002 Sb. na základě Církevního zřízení ČCE. In: *Rejstřík registrovaných církví a náboženských společností vedený Ministerstvem kultury České republiky*. Praha: Synodní rada Českobratrské církve evangelické, 2015, 308/1991/09. Dostupné také z: https://www.ustredicce.cz/data/o/X/3/Zakladni-dokument-CCE-po-synod.pdf

Ústava Bratrské jednoty baptistů v České republice. In: *Rejstřík registrovaných církví a náboženských společností vedený Ministerstvem kultury České republiky*. Cheb: Sjezd delegátů BJB, 1995, 5 894/95. Dostupné také z: https://bjb.cz/ke-stazeni/category/1-dokumenty-bjb?download=1:ustava-bjb

Ústava Pravoslavné církve v českých zemích a na Slovensku. In: *Rejstřík registrovaných církví a náboženských společností vedený Ministerstvem kultury České republiky*. Vilémov: IX. sněm Pravoslavné církve v českých zemích a na Slovensku, 1999, 308/1991/16. Dostupné také z: http://sul-zeme.cz/misc/ustava-pc.pdf

Zákon č. 37/1973 Sb., o veřejných sbírkách a o loteriích a jiných podobných hrách, ve znění pozdějších předpisů

Zákon č. 3/2002 Sb., o církvích a náboženských společnostech

Zákon č. 428/2012 Sb., o majetkovém vyrovnání s církvemi a náboženskými společnostmi

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Appendix 1: Invitation to the experiment

Dobrý den bratře/sestro!

Rádi bychom Vás pozvali na náš experiment, který se uskuteční na **Vysoké škole** ekonomické v Praze v níže uvedených časech.

Můžete si vybrat a zapsat se do jednoho z následujících bloků:

- a) Středa 5. prosince 2018 v 18:00 (možnost přihlášení do 4. prosince 2018 do 23 h)
- b) Pátek 7. prosince 2018 v 17:00 (možnost přihlášení do 6. prosince 2018 do 23 h)

Pokud byste se rád/a zapojil/a, napište nám email na adresu <u>biep00@vse.cz</u> (prosíme o uvedení termínu, kterého byste se chtěl/a zúčastnit).

Předpokládaný čas trvání experimentu je okolo **1 hodiny**. Každý účastník experimentu obdrží **garantovanou částku 100 Kč za účast** a následovně bude mít možnost získat dodatečné peníze. Výsledná celková částka bude **v průměru 300 Kč.** 

Na experiment také standardně zveme několik náhradníků. V případě, že se dostavíte na čas, ale nebude Vám umožněno účastnit se experimentu, automaticky obdržíte **garantovanou částku 100 Kč** a budete moci odejít.

Experiment se koná v Laboratoři experimentální ekonomie (<u>http://www.lee-vse.cz/</u>) na **Vysoké škole ekonomické, místnost RB337 v Rajské budově, Náměstí Winstona Churchilla 4, Praha 3**. (přesné instrukce na cestu: <u>http://www.lee-vse.cz/cze/o-lee/cesta</u>) V případě dotazů se prosím obraťte na <u>biep00@vse.cz</u>.

Žádáme Vás, abyste se přihlašoval/a na experiment pouze v případě, že jste si jist/a svými časovými možnostmi v průběhu celého experimentu.

Budeme se těšit na Vaši účast.

S pozdravem,

Vaši experimentátoři

#### Appendix 2: Participants' consent

### Souhlas s účastí na experimentu

Tento formulář obsahuje základní informace o experimentu, kterého se chystáte zúčastnit. Prosím pročtěte si tyto informace pozorně, protože Vás požádáme, abyste potvrdil/a svou dobrovolnou účast na experimentu podpisem. Podepsané formuláře si od všech vybereme ještě před začátkem experimentu. Pokud byste chtěl/a dostat kopii tohoto formuláře, požádejte o ni na konci experimentu při vyplácení peněz. Pokud máte nějaké otázky, zvedněte prosím ruku. Nebavte se prosím s ostatními účastníky experimentu.

- 1. Název projektu: Ekonomické rozhodování za různých podmínek
- 2. Jména výzkumníků: Patrik Biedermann (biep00@vse.cz), Magdaléna Husáková
- 3. Název organizace vyplácející peníze za účast: Vysoká škola ekonomická v Praze
- 4. Popis výzkumu: Tento projekt zkoumá vliv různých faktorů na ochotu platit daně.
- 5. **Popis účasti v experimentu:** Experiment proběhne na počítačích a nebude zahrnovat interakci s ostatními účastníky.
- **6.** Délka účasti: Průměrná délka tohoto experimentu je 1 hodina. Prosím uvědomte si, že se zavazujete k účasti na celém experimentu.
- **7. Potenciální rizika účasti:** V tomto experimentu nejsou účastníci nijak klamáni, ani nemusí procházet žádnou fyzicky namáhavou aktivitou. Při experimentu může dojít k jisté variaci mezi výplatami jednotlivých účastníků.
- 8. **Výplata za účast v tomto výzkumu:** Průměrná očekávaná výplata za tento experiment je asi 300 Kč, což zahrnuje 100 Kč za účast. Přesná výše Vaší výplaty bude záviset na Vašich vlastních rozhodnutích.
- 9. **Opatření pro minimalizaci rizika a nepohody účastníků:** Abychom minimalizovali nepříjemné pocity plynoucí z porovnávání výplat mezi účastníky, nebudeme vyhlašovat nahlas individuální výplaty. Každý účastník bude vyplacen jednotlivě a v soukromí.
- 10. **Důvěrnost dat:** Vaše jméno nebude nikde zmíněno v žádném oficiálním výstupu tohoto projektu. Všechna data jsou brána jako důvěrná. Výsledná data budou anonymizována a nebudou nijak spojena s Vaší osobní identitou. Výsledky budou prezentovány pouze v agregované podobě.

Já, níže podepsaný/á potvrzuji, že jsem si přečetl/a výše uvedené informace a že jim rozumím. Potvrzuji, že moje účast v tomto experimentu je dobrovolná, a že jsem starší 18 let.

Jméno (tiskacím písmem)

#### Appendix 3: Personality measure questionnaire

### Dotazník

- 1) Jaké je Vaše přidělené číslo?
- 2) Jste muž, nebo žena?
- 3) Kolik je Vám let?
- 4) Jaké je Vaše nejvyšší dokončené vzdělání?
  - a) nedokončené vzdělání
  - b) základní
  - c) středoškolské bez maturity
  - d) středoškolské s maturitou
  - e) vysokoškolské
  - f) jiné (doplňte)
- 5) Jaké je Vaše zaměstnání?
- 6) Jak dlouho pracujete? (počet let)
- 7) Z jaké jste církve/denominace?
  - a) římsko-katolická
  - b) řecko-katolická (pravoslavní)
  - c) protestanská (doplňte konkrétně)
  - d) jiná (doplňte)
- Jak moc se považujete za nábožensky založeného člověka? (5 znamená zcela, 0 vůbec ne)
- V porovnání s ostatními jste člověk, který je ochoten vzdát se něčeho dnes kvůli benefitu v budoucnu? (5 znamená zcela, 0 vůbec ne)
- 10) Jak byste se popsal/a? Jste člověk, který obecně riskuje, nebo se spíše snažíte riziku vyhnout? (5 znamená zcela, 0 vůbec ne)
- Jak často navštěvujete bohoslužby/liturgie/shromáždění/jiné rituály? (5 znamená zcela, 0 vůbec ne)
- 12) Nakolik jste rozuměl/a instrukcím? (5 znamená zcela, 0 vůbec ne)
- 13) Nakolik Vás experiment bavil? (5 znamená zcela, 0 vůbec ne)
- 14) Máte nějaký další komentář k dnešnímu experimentu?

### Appendix 4: Pay-out form

### Ekonomický experiment – příjmový doklad

Já, \_\_\_\_\_\_ (vepište prosím své celé jméno), narozen/a dne \_\_\_\_\_\_ (vepište prosím své datum narození), tímto potvrzuji, že jsem za svou účast v ekonomickém experimentu přijal/a od Vysoké školy ekonomické v Praze \_\_\_\_\_ Kč.

Datum: \_\_\_\_\_

Podpis: \_\_\_\_\_

**Appendix 5:** Experimental booth before the start of the experiment (photograph)



Appendix 6: Priming protocol for the prime group

# INSTRUKCE K ŘEŠENÍ 1. ÚKOLU: V každé sadě o pěti slovech je právě jedno slovo navíc. Vytvořte ze zbylých čtyř slov větu tak, aby dávala gramaticky smysl.

**Příklad:** se unaveně cítila sestra požehnaně  $\Rightarrow$  Sestra se cítila požehnaně.

- 1) modlitby nejsilnější jsou individuální společné
- 2) let přejeme klidný pobyt vám
- 3) je nepravost odpouštět lidské božské
- 4) vlak dáli viděla strom
- 5) koření přidat ďábelské pálivé potřeba
- 6) jednou zvaž to ještě zkus
- 7) opatruj všechny Bůh prověř vás
- 8) nejvěrnější bratr je pes přítel
- 9) příprava základ je průběžná klíčová
- 10) účinnost Nový v zákon vešel

## INSTRUKCE K ŘEŠENÍ 2. ÚKOLU: Doplňte prosím na vynechané místo vhodná písmena tak, aby nově vzniklé slovo dávalo smysl.

**Příklad:** MAN\_\_\_\_ ⇒ MANŽEL

1) JEŽ\_\_\_\_\_

- 2) \_\_\_\_\_TEL
- 3) BI\_\_\_\_\_
- 4) PRO\_\_\_\_\_

Appendix 7: Priming protocol for the control group

# INSTRUKCE K ŘEŠENÍ 1. ÚKOLU: V každé sadě o pěti slovech je právě jedno slovo navíc. Vytvořte ze zbylých čtyř slov větu tak, aby dávala gramaticky smysl.

**Přiklad:** včera film posílali zajímavý dávali ⇒ Včera dávali zajímavý film.

- 1) počasí souvislé venku pěkné bylo
- 2) jednou zvaž to ještě zkus
- 3) to dům vysokou hodnotu má
- 4) jsme dopoledne dopis náležitě poslali 5) prodávají obchodě v pečivo jejich
- 6) přeletěla holubice oceán bíla byla
- 7) let přejeme klidný pobyt vám
- 8) příprava základ je průběžná klíčová
- 9) nečekaně postel on lehl si
- 10) vlak dáli viděla strom v

# INSTRUKCE K ŘEŠENÍ 2. ÚKOLU: Doplňte prosím na vynechané místo vhodná písmena tak, aby nově vzniklé slovo dávalo smysl.

Příklad: MAN\_\_\_\_ ⇒ MANŽEL

- 1) JEŽ
- 2) \_\_\_\_\_TEL
- 3) BI\_\_\_\_\_
- 4) PRO\_\_\_\_\_
#### Appendix 8: Paper version of experiment instructions

### Instrukce k experimentu

Vítejte na našem experimentu. K přečtení těchto pokynů budete mít **4 minuty**. Pečlivě si je pročtěte, protože již **nebudete** mít možnost se k nim zpět vrátit. Vaše výplata v celém experimentu bude záviset na tom, jaká rozhodnutí učiníte. Proto je důležité, abyste byli dostatečně srozuměni s pravidly tohoto experimentu. V případě jakýchkoli dotazů neváhejte kontaktovat experimentátora zvednutím ruky.

Tento experiment je rozdělen do **4 částí a dotazníku**. Nyní vám vysvětlíme, jak bude fungovat první z nich. Jakmile dokončíte 1. část, ukážeme vám instrukce k části následující, a tak dále.

Po skončení tohoto experimentu, který bude trvat **cca 1 hodinu**, vám bude na základě přiděleného účastnického čísla vyplacena částka vzešlá z důsledků vašich rozhodnutí. Mějte přitom na paměti, že **konečný výběr úloh k výplatě bude proveden náhodně**. Zároveň obdržíte 100 Kč za účast.

Hodně štěstí!

### Instrukce k části 1A

V každé sadě o pěti slovech je právě jedno slovo navíc. Vytvořte prosím ze zbylých čtyř slov větu tak, aby dávala gramaticky smysl. Na vypracování máte **10 minut**.

### Instrukce k části 1B

Doplňte prosím na vynechané místo vhodná písmena tak, aby nově vzniklé slovo dávalo smysl. Na vypracování máte **3 minuty**.

### Instrukce k části 2

K přečtení pokynů 2. části experimentu budete mít **8 minut**. Pečlivě si je pročtěte, protože již **nebudete** mít možnost se k nim vrátit zpět.

Tato část experimentu je rozdělena na **8 kol**. V následujících kolech budete mít možnost si vydělat peníze vykonáním jednoduchého úkolu, který bude trvat **120 sekund**. Po skončení této části experimentu budou **náhodně vybrána a vyplacena 2 kola**.

Úkolem je seřadit **30 posuvníků** tak, aby jejich konečná poloha byla vždy na 50 (polovina linky). Každý posuvník je zpočátku umístěn v poloze 0 (vlevo na lince) a může být posunut až na 100 (vpravo na lince). Každý posuvník má v pravé části číslo,

které sděluje jeho aktuální pozici. Pomocí myši přesuňte posuvník. Můžete změnit polohu každého posuvníku tolikrát, kolikrát chcete.

Za každý správně umístěný posuvník můžete získat 4 Kč.

Poté, co dokončíte tento úkol, vám počítač sdělí, kolik jste si za kolo vydělal/a. Váš výdělek však podléhá zdanění, které je realizováno vyplněním daňového přiznání. Výše daně je 15 %. To znamená, že za každých vydělaných 20 Kč musíte odvést 3 Kč daň.

Potom, co všichni účastníci odevzdají svá přiznání, daňový úřad provede náhodnou kontrolu formulářů několika účastníků tohoto experimentu. Přesný počet kontrolovaných osob za kolo je neznámý.

Pokud jste nebyl/a kontrolován/a, pak se vaše výplata za kolo rovná výši výnosu, který jste uvedl/a ve svém daňovém přiznání.

Pokud jste byl/a kontrolován/a a pokud jste ohlásil/a svůj příjem přesně, pak se nic nestane. Vaše výplata za kolo zůstane stejná, jako kdybyste kontrolován/a nebyl/a.

Pokud jste byl/a kontrolován/a a pokud jste ohlásil/a menší příjem, než jste skutečně vydělal/a, budete muset doplatit "daňovému úřadu" zbylou částku daně. Kromě toho zaplatíte pokutu. Hodnota pokuty není známa.

Poté se zobrazí obrazovka se shrnutím kola:

- Výše příjmů z řešení posuvníků
- Výše příjmů nahlášených "daňovému úřadu"
- Zda jste byl/a kontrolován/a "daňovým úřadem"
- Konečný příjem za kolo.

V dolní části obrazovky budete mít tlačítko "Pokračovat". Klepnutím na toto tlačítko znovu začnete další kolo.

### **Rekapitulace:**

tato část experimentu bude sestávat ze 4 fází:

Fáze 1: Peníze si vyděláte manipulací s posuvníky

Fáze 2: Nahlásíte svůj příjem daňovému úřadu

Fáze 3: "Daňový úřad" zkontroluje určitý počet účastníků experimentu

**Fáze 4**: Konečný příjem z kola. Jeho výše závisí na tom, co bylo nahlášeno úřadu a zda proběhla kontrola

# Instrukce k části 3

### Loterie

K přečtení pokynů 3. části experimentu budete mít **3 minuty**. Pečlivě si je pročtěte, protože již **nebudete** mít možnost se k nim vrátit zpět.

V této části se budete osmkrát rozhodovat mezi těmito dvěma možnostmi:

- Možnost A: Fixní částka, kterou dostanete s jistotou

Možnost B: Loterie "všechno, nebo nic", kde s 50 % pravděpodobností dostanete 100
Kč a s 50 % možností dostanete 0 Kč.

Loterie je stejná ve všech "řádcích" (dvojicích možnosti), pouze jistá částka se postupně řádek od řádku zvyšuje. Začněte s prvním řádkem a pak postupujte směrem dolů.

**Pokud bude tato úloha vylosována pro výplatu**, budete vyplacen/a na základě svého rozhodnutí v jednom z těchto 8 řádků. Počítač vybere náhodně jeden řádek pro vaši výplatu (můžete si to představit jako hod kostkou, která má 8 stran), a pak se podívá, jaké bylo v tomto řádku výše rozhodnutí. Pokud jste chtěl/a fixní částku, dostanete ji. Pokud jste chtěl/a loterii, pak počítač "hodí mincí". Pokud padne hlava, za tuto úlohu dostanete 100. Pokud padne orel, pak za tuto úlohu dostanete 0 Kč.

## Instrukce k části 4

Právě jste obdrželi 50 Kč.

Vaším úkolem v této části je rozhodnout se, jak rozdělit částku mezi sebe a Fond Humanity Českého červeného kříže. **Pokud bude tato úloha vylosována pro výplatu**, částku vámi přidělenou Fondu v brzké budoucnosti doručíme a vám připadne zbylá část.

Rozhodnutí, jak tuto částku rozdělíte, je jen na vás.

## Instrukce k části 5

Poslední pátá část experimentu je věnována dotazníku. Prosím, řekněte nám pár informací o sobě, velmi nám to pomůže s následnou analýzou dat. Vaše odpovědi budou brány jako přísně důvěrné a budou přiřazeny pouze k Vašemu účastnickému číslu.

Předem děkujeme za Vaše odpovědi.



#### Appendix 9: Tax Compliance Game – Job simulation (screenshot)

#### Appendix 10: Lottery Game (screenshot)

