

**“BABEȘ-BOLYAI” UNIVERSITY CLUJ-NAPOCA
FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION**

PH.D. DISSERTATION

- SUMMARY -

THE ANALYSIS OF TAXPAYERS’ BEHAVIOR UNDER THE IMPACT OF FISCAL POLICY CHANGES

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KEY WORDS

taxpayer, fiscal policy, efficiency, taxation principles, fiscal levies, compliance, voluntary compliance, enforced compliance, non-compliance, tax avoidance, tax evasion, models of behavior, “slippery slope framework”, trust in authorities, power of authorities, fiscal systems, tax morale, neuroeconomics, cross-cultural empirical study, fiscal experimental game, covariance analysis, mediation analysis.

INTRODUCTION

Being investigated, tackled and analyzed through solely rational perspective, deprived from any emotion or feeling, the financial field gains more and more an interdisciplinary feature in the specialty literature by closing “partnerships” with the psychological, sociological, political, judicial, or medical field. The results from these interdisciplinary studies are both spectacular and complex. Such a result is tax compliance behavior which, by combining economic, financial, psychological or even neurological approaches, sets its own boundaries and rightly demands not to be considered just a border field, but a well-defined field, grounded on its own scientific territory, defined by new concepts, theoretical elaborations and empirical validations.

The motivation behind choosing the research topic

The chosen topic is motivated by the growing importance of tax compliance behavior, especially when governments dealing with harsh budgetary cuts face the challenge of managing even less public funds collected through taxation. Starting from these realities, state authorities have to find ways of increasing tax compliance to ensure the provision of public goods and citizens’ well-being. In order to achieve a desired level of compliance, authorities need to consider various factors which influence compliance and the way taxpayers answer to fiscal policy changes.

Literature review

Theoretical and practical aspects regarding taxation, fiscal policy, main categories of tax levies, principles and goals of the fiscal policy, tax authorities' role are illustrated in the present dissertation through authors from the international specialty literature like Adams (1994), Allais (1989), Alesina and Perotti (1996), Arnone, Laurens, Segalotto, and Sommer (2007), Dwivedi (2010), Easterly and Rebelo (1993), Hillman (2003), James (1998), Kopits and Symansky (1998), Samuelson and Nordhaus (2001), Shaw (1971), Smith (1875), Smithies (1949), Morris and Lonsdale (2004), Musgrave and Musgrave (1973), Torgler (2007), Whitehead (1997). The abovementioned aspects are studied also in the Romanian literature within the writings of authors like Bătrâncea (2009), Corduneanu (1998), Florescu, Coman and Bălașa (2005), Inceu (2005), Manolescu (1997), Mara (2010), Moraru, Nedelescu, Stănescu and Preda (2007), Mutașcu (2006), Tulai (2003) or Zaharia (2002).

The taxonomy of tax compliance behavior is presented through the works of several authors such as Elffers, Weigel and Hessian (1987), Franzoni (2000), Kirchler (2007), Kirchler, Hoelzl, and Wahl (2008), James and Alley (2002), Sandmo (2003), Torgler and Schaltegger (2005), Webley (2004). Moreover, the description of the factors which shape taxpayers' behavior is accomplished from a multiple perspective, according to the nature of factors:

- *economic*: Allingham and Sandmo (1972), Alm, Sanchez, and de Juan (1995), Becker (1968), Clotfelter (1983), Fjeldstad & Semboja (2001), Gordon (1989), Guala and Mittone (2005), Lin and Yang (2001), Park and Hyun (2003), Pommerehne and Weck-Hannemann (1992), Srinivasan (1973), Yitzhaki (1974);
- *political-legislative*: Bird and Oldman (1990), Blumenthal and Christian (2004), Clark (2006), Cooper (1993), Cussons (2007), James (1998, 2008), Lehmann (1995), Lewis (1992), Owens and Hamilton (2004), Schmolders (1960), Song and Yarbrough (1978), Spicer and Lundstedt (1976);
- *socio-psychological*: Azjen (1993), Braithwaite (2003), Eagly and Chaiken (1993), Kirchler (2007), Lewis (1978), Orviska and Hudson (2002), Porcano (1988), Porschke and Witte (2002), Schmolders (1960);
- *tax morale*: Alm (2011), Alm and Torgler (2006), Barone and Mocetti (2011), Braithwaite and Ahmed (2005), Dell'Anno (2009), Feld and Frey (2002), Feld and Tyran (2002),

Torgler (2005), Torgler and Murphy (2004), Torgler and Schneider (2007, 2009), Torgler and Werner (2005);

- *neurological*: Bechara and Damasio (2005), Camerer, Loewenstein, and Prelec (2004, 2005), Chorvat (2007), Coricelli, Dolan, and Sirigu (2007), Damasio (1994), Glimcher *et al.* (2009), Krajbich *et al.* (2009), Park and Zak (2007), Schultz (2008), Zak (2012), Zak, Kurzban, and Matzner (2004).

With respect to the tax compliance models (economic, behavioral), they are presented according to Allingham and Sandmo (1972), Alm and Torgler (2011), Becker (1968), Braithwaite (2003), Choudhury (2008), Cowell (1981), Engel and Hines (1994), Kirchler (2007), Kirchler, Hoelzl, and Wahl (2008), Morris and Lonsdale (2004), Pencavel (1979), Popescu (2002), Sandmo (1981), Slemrod (1992), Srinivasan (1973), Yaniv (2009) or Yitzhaki (1974).

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PH.D. DISSERTATION STRUCTURE

The Ph.D. dissertation entitled “**The analysis of taxpayers’ behavior under the impact of fiscal policy changes**” is structured in 5 chapters, following in a logical process the analysis of the relationship between taxpayers’ behavior and tax authorities, and also linking this relationship with fiscal policy changes.

SUMMARY CHAPTER 1

TAXATION, FISCAL POLICY, TAX AUTHORITIES

Motto: „*The government’s view of the economy can be summed up in a few short phrases: If it moves, tax it. If it keeps moving, regulate it. And if it stops moving, subsidize it*”.

(Ronald Reagan, US president)

Taxation is a topic that almost every time generates controversies, exuberance and passions which often divide followers of the same political views and which, sometimes, bring closer partisans of very different economic doctrines. Nevertheless, modern society cannot survive without tax levies and especially without paying them, for as Franklin D. Roosevelt said, “taxes are the price we pay for civilized society”.

The main categories of tax levies are *income tax*, *ordinary tax* and *contribution*. The difference between ordinary tax and income tax comes from the fact that, in the case of ordinary tax, there is an immediate benefit received from state authorities, whereas paying income tax does not grant one any immediate benefit. The difference between contribution and income tax is that the destination of the contribution is established right before it is even collected, but the income tax purpose is not known from the beginning. Income tax is distributed after the collecting process.

Among all tax levies, monetary income tax represents the oldest element in finance. The Rosetta Stone (the famous archaeological artifact) illustrates through pictograms the very first information regarding the Egyptian fiscal system and the nature of the relationship between taxpayers and Egyptian tax authorities.

In addition to its main goal of raising financial resources for the state budget in order to finance public expenditures, income tax also influences the demand of goods and services. In other words, it has the role of economic leverage in stimulating or discouraging consumption of certain types of goods and services.

Depending on the criteria considered, income taxes can be: direct/indirect; real (objective)/personal (subjective); general consumption taxes /special consumption taxes; on income/wealth/consumption; central/local. As for collecting methods, there are *fixe amount* tax rates and *percentage* tax rates. The second category contains *proportional*, *progressive* and *regressive* tax rates.

Fiscal policy is the instrument through which resources are collected for the state budget and expenditures are adjusted in order to monitor and influence national economy. The main goals of the fiscal policy are: financing the state budget with resources necessary for accomplishing state objectives; adjusting the economy and boost economic growth.

As a main component of the fiscal system, tax authorities monitor taxpayers' economic activities, and their main goal is collecting tax levies with maximum efficiency (i.e., the lowest costs). The goal can be attained by creating a cooperative environment where all taxpayers comply with the tax law.

SUMMARY CHAPTER 2

TAXPAYERS' BEHAVIOR: TAXONOMY, DETERMINANTS, AND MODELS OF ANALYSIS

Motto: *"I like paying taxes. With them I buy civilization".*

(Oliver Wendell Holmes Jr., US Supreme Court)

In the extremely complex landscape of the fiscal system, which often is too refined for being understood, the direct partner of tax authorities is or should be the taxpayer. Which are the categories of taxpayers in the context of nowadays economy? What are the motives for which classical economic models fail in anticipating compliance behavior and in understanding the necessity of integrating both economic and socio-psychological factors? What are the reasons based on which governments and tax authorities should consider determinants and compliance models when developing fiscal policies? These are the questions at which Chapter 2 tries to give an answer to.

Tax compliance behavior – Measure of fiscal reporting

The taxpayer is the element within the fiscal system on which the fiscal policy and its changes are reflected. Either he is ordinary or professional, the taxpayer is obliged by law to transfer to the state budget a part of the value he creates through an activity. Although there are usually many similar elements concerning the meaning of the notion "taxpayer", at global level each tax authority establishes the criteria according to which a citizen qualifies as taxpayer and, in consequence, has to pay his debts to the state.

When a taxpayer considers tax levies within a fiscal policy, two types of behavior can emerge: *compliance* and *non-compliance*. According to Franzoni (2000: 55), taxpayers have to meet simultaneously four conditions in order to say they are entirely compliant: 1) true reporting of the tax base; 2) correct computation of the liability; 3) timely filing of the return; 4) timely payment of the amounts due. In other words, compliance refers to following both the letter and the spirit of the law (James and Alley, 2002). Any deviations from the aforementioned features results in non-compliance behavior.

Referring to compliance, as the “slippery slope framework” (Kirchler *et al.*, 2008) states the quality of tax compliance differs when taking into account *trust in authorities* and *power of authorities*. On one hand, trust is a predictor for *voluntary compliance*, which is achieved without enforcement, based on taxpayers’ willingness to act in the interest of their peers and perform their duty as citizens in response to authorities’ trustworthiness. On the other hand, power is a predictor for *enforced compliance*, which is achieved through enforcement strategies (audits, penalties), based on taxpayers’ risk and penalty aversion. According to the literature, compliance behavior refers at following both the letter and the spirit of the law (James & Alley, 2002).

By the same token, non-compliance also features two instances: *tax avoidance* and *tax evasion*. Although both instances generate the same result, i.e., nonpayment of tax liability due, there is a legal distinction between them in most of the countries. Tax avoidance implies using the loopholes of the law in order to reduce tax liability, thus being legal and respecting the letter of the law (Webley, 2004). In contrast, tax evasion comprises deliberate acts of breaking the law with the purpose of reducing taxes (Elffers *et al.*, 1987). It involves acts of omission (e.g., not reporting certain revenues) or commission (e.g., falsely reporting personal expenses as business expenses), it is liable to prosecution and fines (Kirchler, 2007: 22) due to the fact that it disregards the letter and the spirit of the law.

Determinants of compliance behavior

The factors which influence taxpayers’ fiscal behavior have different nature, as follows:

- *economic*: audit probability, fines, tax rates, income;
- *political-legislative*: the complexity of fiscal legislation, instability of regulations, excessive regulation;
- *socio-psychological*: attitudes, norms, perceptions, motivational postures, trust in authorities, power of authorities;
- *tax morale*: intrinsic motivation of paying tax levies;
- *neurological*: physical states corresponding to emotions, hormones like oxytocin, serotonin.

Tax compliance behavior models

The analysis of any type of economic behavior cannot start without taking into consideration the theoretical model of *homo oeconomicus*, the prototype of the rational economic agent proposed in 1759 by Adam Smith in his work *Theory of Moral Sentiments*.

Tax compliance models tackled in the present dissertation are *economic* and *behavioral*. *Economic* models have as a starting point the classical model of income tax evasion developed by Allingham and Sandmo (1972), which assigns taxpayers the hypothesis of perfect rationality and states that, in order to increase tax compliance, the penalty should be applied to the amount of undeclared income. The shortcomings of the classical model were solved with Yitzhaki's (1974) recommendation of applying the penalty to the evaded taxes. Nevertheless, Yitzhaki's intervention generated unexpected results (i.e., compliance level increases along with increasing tax rate), contradictory with empirical results or economic reality.

Developed after extensive empirical studies and built on political and socio-psychological determinants of tax compliance behavior (i.e., attitudes, norms, beliefs, sentiments, social and cultural features), *behavioral* models come to complete the portrait of the taxpayer who, until their appearance, was perceived exclusively through the feature of perfect rationality. The most famous are "slippery slope framework", Australian Taxation Office Compliance model (ATO) and New Zealand Inland Revenue model.

"Slippery slope framework" (Fig. 2.6) developed by Kirchler, Hoelzl and Wahl (2008) analyzes tax compliance behavior through two dimensions, *trust in authorities* and *power of authorities*. *Trust in authorities* is defined as the "general opinion of individuals and social groups that the tax authorities are benevolent and work beneficially for the common good", and *power of authorities* is "taxpayers' perception of the potential of tax officers to detect illegal tax evasion ...and to punish evasion" (Kirchler, Hoelzl & Wahl, 2008: 212). According to these dimensions, the quality of compliance differs: *voluntary compliance* is generated by increasing the level of trust in authorities; *enforced compliance* is generated by increasing authorities' power.

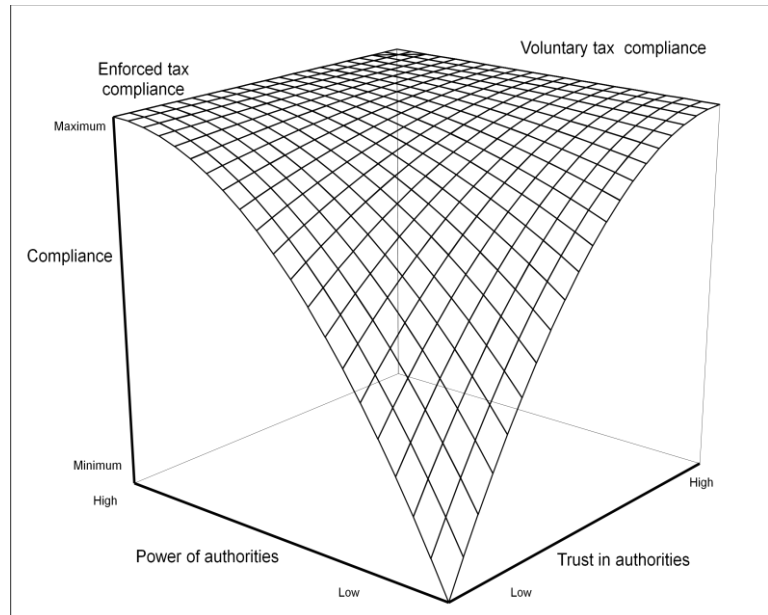


Figure 2.6 “Slippery Slope Framework”

(Source: Kirchler, Hoelzl & Wahl, 2008: 212)

According to the model, the relationship between taxpayers and tax authorities can be *antagonistic* or *synergistic*. In the *antagonistic* climate, tax authorities perceive taxpayers as rational individuals maximizing their benefits and ready to evade taxes anytime there is an opportunity. Thus, tax authorities behave as “cops” and treat taxpayers as potential “robbers”. Taxpayers feel in turn persecuted and reject the actions of tax authorities; moreover, many taxpayers evade taxes. The *antagonistic* climate is characterized by lack of trust and it is managed through the “enforcement paradigm” (Alm & Torgler, 2011), in other words authorities try to eliminate tax evasion by using frequent auditing and harsh penalties. In the *synergistic* climate trust and mutual respect prevail, and tax authorities display a “service and client” type of attitude toward taxpayers. As feedback, taxpayers are less tempted to evade taxes and comply voluntarily with the tax law.

The necessity of a trust relationship between taxpayers and tax authorities, therefore creating a synergistic climate, has a practical side: implementing a system entirely based on enforcing taxpayers to pay liabilities is extremely expensive and cannot succeed unless “there is a tax agent under the bed of each taxpayer” (Torgler & Schaltegger, 2005: 2). In addition, many studies have shown the limits of fiscal systems based solely on enforcement (Graetz & Wilde,

1995; Alm, McClelland & Schulze, 1992; Frey & Feld, 2002). The shortcomings of implementing such systems are discussed also by Slemrod (1992: 7) who states:

“From the tax collection standpoint, it is extraordinarily expensive to arrange an enforcement regime so that, from a strict cost-benefit calculus, noncompliance does not appear attractive to many citizens. It follows that methods that reinforce and encourage taxpayers’ devotion to their responsibilities as citizens play an important role in the tax collection process”.

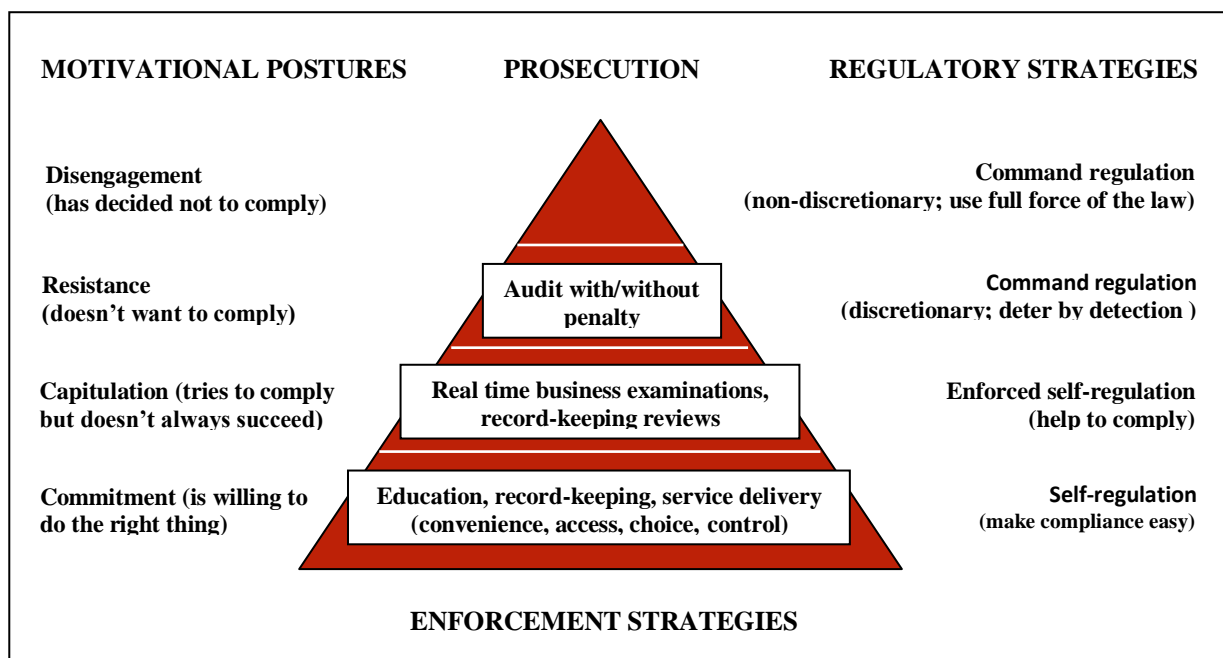
Australian Taxation Office Compliance Model (ATO)

Empirical studies on tax behavior accomplish the ultimate goal when their results are applied in the real world tax system. This is what happened in some countries which, after studying thoroughly the determinants of taxpayers’ behavior, have managed to create models in order to serve as tools in raising tax compliance on the long run. One of the most famous models, the Australian Taxation Office Compliance Model (ATO), was created in the late 1990s and was based on Valerie Braithwaite’s concept of “motivational postures”.

ATO model proves the existence of a synergy between scientific research and fiscal practice. Braithwaite’s achievement is that her theorization crosses academia borders, ending up in the real economy. The structure of the ATO model came as a consequence of a series of reforms that tried to engender a more voluntary taxpaying culture among the citizens. The reforms departed from the idea that tax enforcement strategies, i.e., the full use of the law, audits, fines, prosecution, etc., are by far insufficient means of increasing public proceedings.

Figure 2.7 Australian Taxation Office Compliance Model (ATO)

(Source: adapted after Kirchler, 2007: 100)



Out of Braithwaite's five motivational postures, the compliance model incorporates only four ("commitment", "capitulation", "resistance", "disengagement"), the fifth motivational posture of "game-playing" being found within each of four taken into consideration.

As it can be seen in figure 2.7, the Australian tax office recommends an enforcement strategy and a regulatory strategy for each motivational posture. As the social distance between the taxpayer and authorities increases, so does the severity of actions against non-compliance. Hence, tax authorities have at their disposal a wide range of strategies from making compliance easy and offering assistance, in the case of honest taxpayers, to using full force of the law, in the case of tax evaders.

New Zealand Inland Revenue Compliance Model

Following the Australian example, the New Zealand Inland Revenue has designed a model of compliance aimed at grasping the determinants of tax behavior in order to increase the long-term level of compliance, as one can see in the following figure.

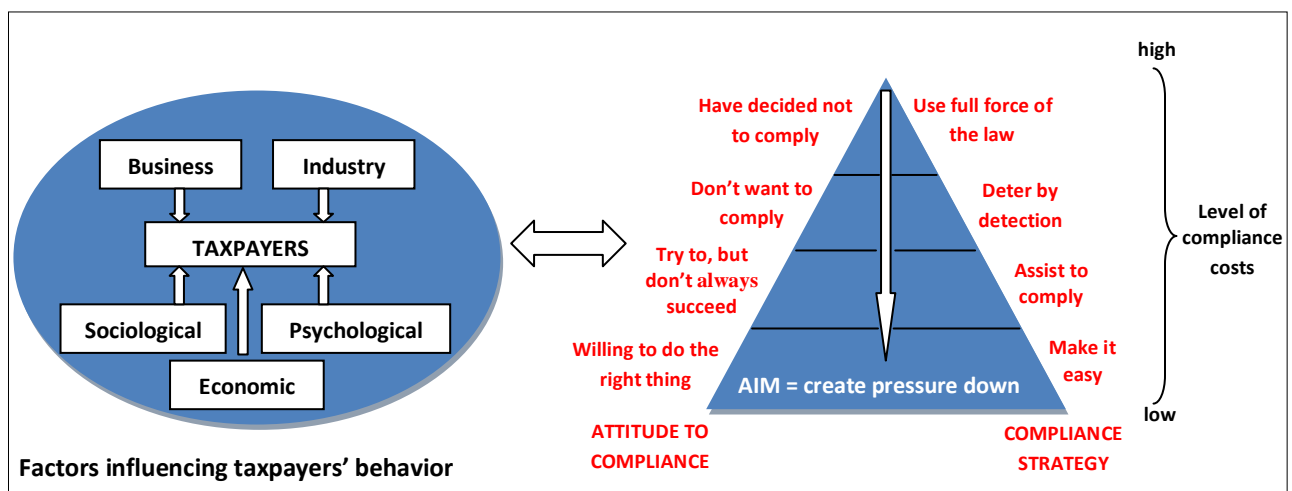


Figure 2.8 New Zealand Inland Revenue Compliance Model

(Source: adapted after Morris and Lonsdale, 2004)

The compliance model from New Zealand tax authorities resembles the ATO and incorporates an important element called **BISEP**, which is the acronym for the following determinants:

- **Business:** type of business taxpayers are in; size and how their business structure; location and focus on the business;

- **Industry:** competition, seasonal factors, profit margins, degree of regulation; infrastructure;
- **Sociological:** norms of the group they belong to; age, gender ethnicity;
- **Economic:** inflation, interest rates, tax rates; governmental policies;
- **Psychological:** opinions concerning equity, fairness, trust, risk attitudes.

BISEP is designed to assess the reasons that go behind taxpayers' attitudes and behavior. The variety of factors creates different types of attitudes, according to the different situations taxpayers face (Morris & Lonsdale, 2004). Morris and Lonsdale further argue that BISEP gives insights into why people decide or not to comply, why non-compliant individuals don't necessarily belong at the top of the pyramid and why individuals don't always adopt the same attitude.

SUMMARY CHAPTER 3

ISSUES REGARDING FISCAL SYSTEMS, FISCAL POLICY AND THE RELATIONSHIP BETWEEN TAXPAYERS AND TAX AUTHORITIES AT GLOBAL LEVEL

Motto: *“Think globally, act locally.”*

(René Dubos, microbiologist)

Chapter 3 tackles different aspects regarding fiscal systems and the relationship between taxpayers and tax authorities in several countries. Because the countries were analyzed according to the two dimensions of the “slippery slope framework”, *trust in authorities* and *power of authorities*, among the issues approached it can be found: the level of governmental trustworthiness, citizens’ degree of satisfaction with government performance, transparency of public expenditures and fiscal legislation, audit probability, strategies used to fight tax evasion etc.

The countries were selected in order to assure a high degree of economic, political, cultural, social and religious diversity. More exactly, the following aspects were targeted: level of economic development (developed/developing); level of perceived corruption (very corrupt/very clean); economic freedom (free/captive); political system (direct democracy/representative democracy/constitutional monarchy/socialist régime/administrative autonomy); economic creed (liberal/social/directed), population (very populated/less populated); religious convictions (Christianity/Islam/Buddhism); geostrategic positioning (continental/oceanic); culture (modernism/traditionalism); For example, the range of corruptions in the public sectors was covered by including very corrupt states (Russia, Moldova, India, Mexico) and less corrupt state (Sweden, Switzerland, Austria).

Following the comparative analysis of the fiscal systems from all the countries, it can be concluded that:

➤ The fiscal policy efficiency can be achieved by: increasing the importance of direct taxation, mitigating bureaucracy regarding tax levies payment (i.e., insuring a small number of annual payments to the state budget, like in the case of Honk Kong, Sweden, France; decreasing the number of annual payments requested from an economic entity by aggregating

tax levies, as in the case of South Korea; introducing the electronic payment system for tax levies, as in the case of South Korea, Morocco, Romania).

➤ The most efficient fiscal policies which generate the highest levels of tax compliance are implemented in state with: democratic regimes (i.e., especially direct democracy); citizens who actively participate to the political life through referenda; high level of government trustworthiness; legislation transparent and stable; accurately informed citizens concerning taxation and expenditures from public money; less corrupted civil servants; advanced methods in fighting tax evasion; the most relevant states in this case are Australia, Austria, Switzerland, Germany, Sweden.

➤ *Work taxation* generates a high fiscal pressure in the majority of the countries, with values above 40% in states like Brazil, China, France and Italia. Regarding the *income tax*, the highest fiscal pressure is registered in countries from Africa and America. As for *other taxes*, the taxpayers from India bear the highest cost in terms of compliance, in the same time being confronted with the thickest primary fiscal legislation in the world (9,000 pages, according to Cussons, 2007).

➤ Methods for fighting and punishing tax evasion are very diverse, starting with helicopter surveillance of large estates to assess value (Brazil), classical fines and longer or shorter detention periods (the majority of states) and ending with death penalty (China).

➤ According to the *Doing Business 2013*, 4 out of the analyzed countries, that is Honk Kong, USA, South Korea and Australia are among the top 10 countries which support business environment.

SUMMARY CHAPTER 4

EMPIRICAL STUDIES CONCERNING TAXPAYERS' BEHAVIOR UNDER THE IMPACT OF FISCAL POLICY CHANGES

Motto: “*The ultimate goal of scientific research is to cover the greatest number of empirical facts by logical deduction from the smallest number of hypotheses or axioms*”.

(**Albert Einstein**, *physicist*)

A complete image of taxpayers' contribution can be developed through monitoring subjects, both at the perceptions level (through survey data) and also at action level (through experimental games). As the applicative part of the dissertation, Chapter 4 contains a

collection of empirical studies aimed at identifying the impact of fiscal policy changes on the compliance decisions.

➤ **STUDY REGARDING TAXPAYERS' PERCEPTION ON THE EFFICIENCY OF FISCAL POLICY IN ROMANIA**

The study is focused on the analysis of the factors which influence tax compliance behavior and general tax morale, that is taxpayers' perception regarding fiscal policy efficiency and their trust in this efficiency. The method used for collecting data was survey based on a questionnaire. The sample pool consisted of 210 Romanian taxpayers, men and women, business owners and employees, Economic students from Babeş-Bolyai University. The age of the subjects ranged from 18 to 49, because the taxpayer category they belong to has the widest range of needs and represents the highest percent of the active Romanian population.

The questionnaire contained free-answer questions and it was structured in the following four sections:

- 1) Basic demographics (i.e., age, gender, professionals);
- 2) Subjects' view on fiscal policy efficiency;
- 3) Subject's trust level in the efficiency of fiscal policy;
- 4) Disponibilitatea subiectului de a se conforma la sistemul fiscal.

Results

Results show the fact that, for the Romanian subjects, fiscal policy efficiency is associated mainly with investments into the public sector (63%) and people's well-being. Issues like transparency, responsibility (8%), equity (6%) or mitigating bureaucracy remain on the second place (Fig. 4.1).

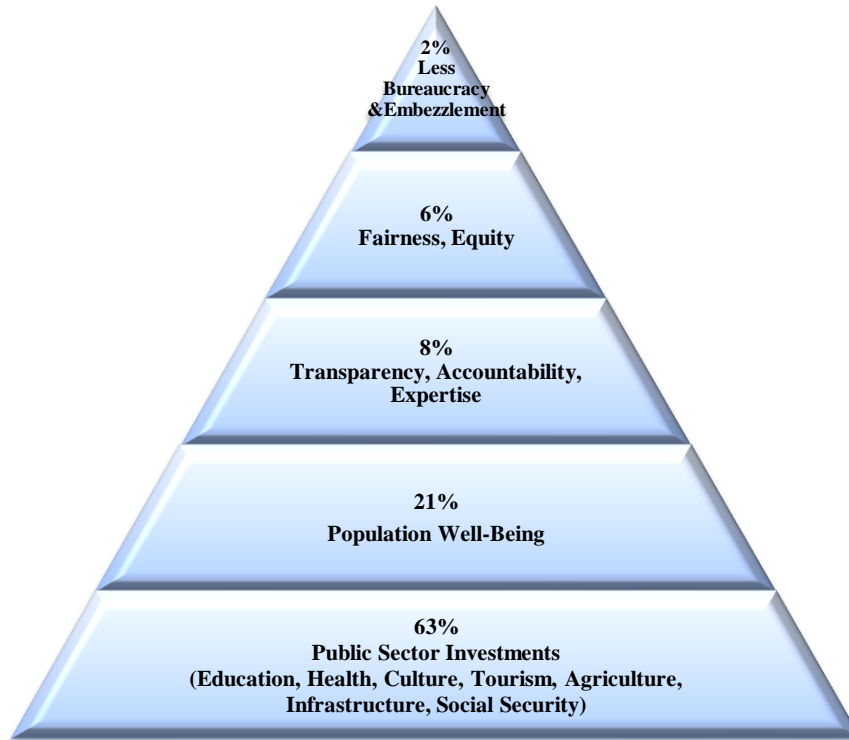


Figure 4.1 The Pyramid of Taxpayers' Perceptions regarding Fiscal Policy Efficiency

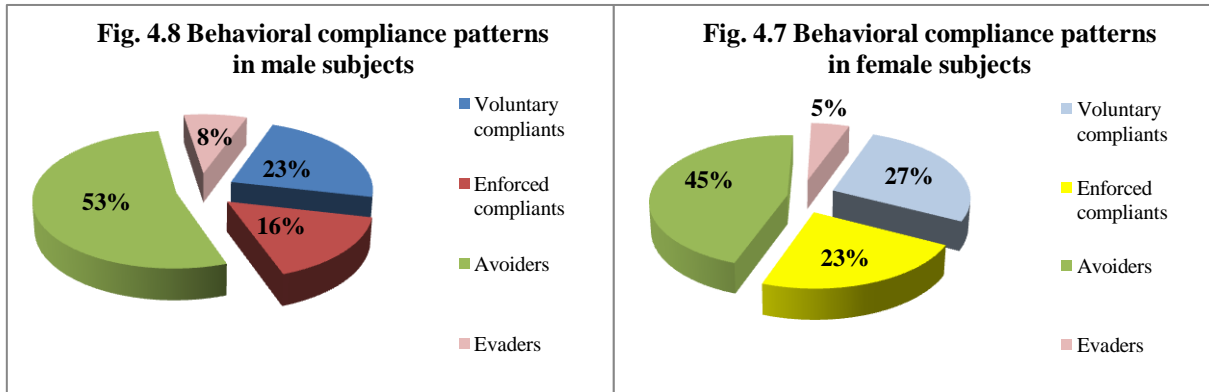
(Source: own data)

The high number of people associating fiscal policy efficiency with supplied public goods proves that respondents (with economic background) have a clear perception on the role taxation must have in society. Based on this result, it can be extrapolated that the replication of the study in any of the European Union member states would generate similar results regarding fiscal policy efficiency.

Subjects' perception is a major psychological factor influencing compliance behavior, but it isn't by far the only one. Therefore, we tried to evaluate consumers' trust in the fiscal policy as another factor with a great impact on their level of compliance. An interesting aspect derived from the analysis is that, despite their low average level of trust in the fiscal policy efficiency (22.2%) which would trigger a low level of compliance, respondents declare they would pay on average 78% of their tax liabilities.

After analyzing behavioral patterns of men and women subjects, it can be stated that the percentage of men tempted by tax avoidance and tax evasion is much higher than that of women's. The results are in line with the specialty literature stating that men are less risk averse than

women (Bohnet *et al.*, 2005), and women follow norms more often than men do (Eagly & Carli, 1981). The main reason for men non-complying is the lack of fairness within fiscal system (40%), while for women this translates into higher income taxes.



➤ EXPERIMENTAL STUDY REGARDING THE IMPACT OF FISCAL POLICY EFFICIENCY ON TAX COMPLIANCE BEHAVIOR

The study **aims at**: investigating the extent to which perceived governmental efficiency drives tax compliance behavior; exploring whether self-reported attitudes concerning tax compliance are mediating actual behavior elicited through a tax game.

The subject pool was made out of 60 participants, all students in Economics from Babes-Bolyai University (61,7% females, age ranging between 19 and 23 years, $M = 21.2$, $SD = 1.01$, $MD = 21$); 71.7% coming from an urban area, 40% with work experience (41.67% in trade, 37.5 % in services, 20.83% in agriculture). The subjects were recruited on a voluntary basis, from a database compiled during previous research studies.

Data collection process involved the following procedures:

1) *Survey on compliance attitudes*

Subjects filled in a paper-pencil questionnaire. Each questionnaire was structured into two parts: 20 items concerning voluntary compliance (5 items), enforced compliance (5 items), tax avoidance (5 items) and tax evasion (5 items); *socio-demographical data*. Each item contained an answering scale from 1 = complete agreement/high probability to 7 = complete disagreement/low probability. The socio-demographical variables collected were age, gender,

environment, work experience, and work domain. All items were adopted from the tax compliance inventory TAX-I (Kirchler and Wahl, 2010)

2) *Effort task*

After filling in the questionnaires, subjects had to perform an effort task consisting of counting ones from a sheet of paper with 129 ones and 135 zeros over a period of two minutes (see Holt & Laury, 2002). The purpose of the task was to provide participants the opportunity of earning an income which would be later subject of a tax game. In addition, the intention was to involve participants in a lifelike situation and make them “work” for their income, as the taxes paid on wage income were of particular interest. The income depended on the number of ones counted correctly.

3) *Tax game*

Participants were informed they would have to register in a tax form the income obtained at the end of the effort task, compute and pay 16% income tax, according to Romanian regulations. After the general instructions, participants received a **scenario** containing information about the efficiency of the fiscal policy. Hence, half of the participants received a scenario indicating that government’s fiscal policy related to public expenditures has changed from an inefficient to an efficient one, half received the opposite version of this scenario.

4) *Post-experimental questionnaire concerning the motivation behind tax compliance behavior*

At the end of the tax game, participants filled in an ex-post questionnaire with both closed and open-ended questions stating the reasons for which they declared/not declared the entire income and paid all tax dues.

Results

Further, a principal component analysis (PCA) was conducted on the 20 items with orthogonal rotation (varimax). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, $KMO = 0,90$, and all KMO values for individual items were above 0,79. Bartlett’s test of sphericity, indicated that the correlations between items were sufficiently large for PCA. An initial analysis was run to generate eigenvalues for each component in the data. Two components had eigenvalues over Kaiser’s criterion of 1 (11,76

and 3,75 respectively) and in combination explained 77,54% of the variance. Thus, we took into consideration two factors, i.e. *compliance*, containing the voluntary and enforced items and *non-compliance*, containing the tax avoidance and tax evasion items. All items showed factor loadings above 0,4. Regression analysis confirmed that independent variable *scenario* (i.e., information given to participants about efficiency/inefficiency of fiscal policy) influences the dependent variable *taxes paid* (i.e., tax levies paid by participants during the tax game). Therefore, participants who received the efficient scenario complied much more than participants who dealt with non-efficient fiscal policy.

To determine whether subjects' attitudes toward compliance influence behavior elicited during the tax game, for the mediation analyses were used: *scenario* as independent variable, *tax paid* as dependent variable (DV); *compliance* and *non-compliance* as mediators. By running the Sobel test, it can be stated that only variable *compliance* significantly mediates the relationship between *scenario* and *tax paid* (Fig. 4.15).

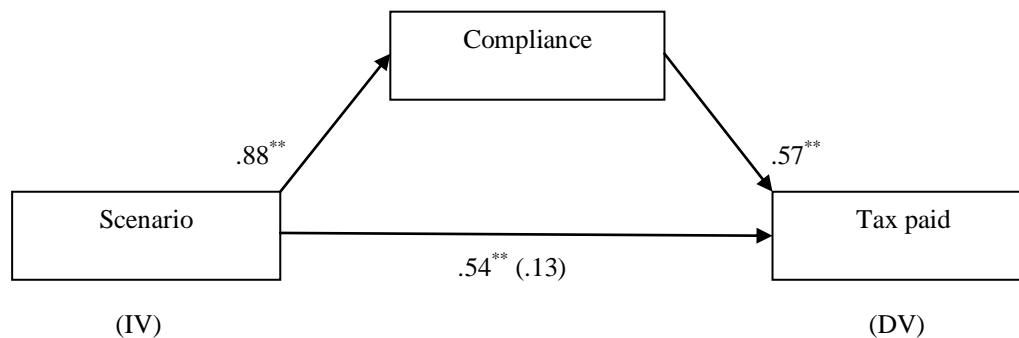


Figure 4.15 Standardized regression coefficients for the relation between scenario and tax payments mediated by compliance.

Note: **p < 0,01; the number in parentheses indicates the standardized regression coefficient when the mediating variable *compliance* is included in the analysis.

(Source: own data)

Regarding the reasons behind tax compliance behavior, results are in line with recent studies focused on gender behavioral differences stating that women are more prone in following social norms and are more risk averse than men (e.g., Croson & Buchan, 1999; Eckel & Grossman, 2008; Loewenstein *et al.*, 2001).

➤ **STUDY ON TESTING THE „SLIPPERY SLOPE FRAMEWORK” ON A SAMPLE POOL CONTAINING ROMANIAN SELF-EMPLOYED**

The last study validates the assumptions of the “slippery slope framework” on a sample pool of 303 Romanian self-employed, thus linking taxation research with real economy representatives. The same procedure, questionnaire and analyses were used like in the previous study. Results confirm the fact that variable trust and power positively influence the two types of compliance (voluntary and enforced). Respondents identified the scenario of low trust and low power as the most similar to their home country. Moreover, the study reveals that the highest level of intended tax compliance and the lowest level of tax evasion were registered in synergistic climates, based on cooperation, and the lowest level of tax morale was registered when both trust and power were low.

The conclusions of this study could represent starting points for Romanian tax authorities to understand the role that trust and power play in compliance process. They could further be the basis for creating adequate fiscal policies to ensure a transition from an antagonistic (like in the present) to a synergistic climate. These policies would have to consider increasing taxpayers' trust in tax authorities, raising transparency and efficiency in spending public money, mitigating bureaucracy and corruption, promoting fairness and equity at macro and micro level. In the process of changing the interaction climate between taxpayers and tax authorities, fostering trust would lead to an increase in voluntary compliance which would enable governments to levy taxes at a higher degree. The benefits of such case are countless, given the fact that it would eventually translate into more money for the state budget and less money spent with monitoring and chasing evaders.

CONCLUSIONS

Motto: “Research is never completed...Around the corner lurks another possibility of interview, another book to read, a document to verify.”

(*Catherine Drinker Bowen, writer*)

The Ph.D. dissertation entitled “**The Analysis of Taxpayers’ Behavior under the Impact of Fiscal Policy Changes**” is developed on two dimensions, a static one concerning the conceptual framework, terminology and principles of the relationship between taxpayers and tax authorities, and a dynamic one concerning the way fiscal policies affect the economic environment in which taxpayers activate (on one hand) and the way taxpayers react to the fiscal policies through perceptions, attitudes and actions. Starting from this rational duality, the first two chapters highlight the abovementioned static relationship by creating the conceptual framework of the paper, and the next two chapters sketch the dynamic relationship through fiscal systems and empirical studies.

Chapter 1 presents in detail scientific notions like taxation, fiscal policy, fiscal system, tax authorities, taxation principles, mandatory taxes or taxation methods. *Chapter 2* depicts the basic features of taxpayer’s profile (ordinary citizen or economic entity) by discussing the economic, political, socio-psychological, neurological determinants and basic tax behavior models from both the perspectives of economic and socio-psychological rationality.

Chapter 3 contains a succinct and unitary analysis of fiscal systems within several countries. Based on the fact that “diversity may be the hardest thing for a society to live with, and perhaps the most dangerous thing for a society to be without (William Sloane Coffin Jr.)¹, the defining elements of the fiscal policy in each country were highlighted. In the pedagogical novel *Émile, or On Education* (1762), the French philosopher Jean-Jacques Rousseau stated that the “golden rule” of knowledge is perception through various senses. Rousseau’s rule can easily be implemented in the research on taxation, due to the fact that taxpayer’s accurate portrait comes to life when diversifying research methodology. Starting from this idea, the practical part of this dissertation (chapter 4) contains empirical studies run with professional taxpayers (including self-employed) and ordinary taxpayers. The methodology of data collecting (i.e., survey through questionnaires, scenario technique, economic experiment) and

¹ http://thinkexist.com/quotes/william_sloane_coffin,_jr./ (Accesat la 11.09.2012).

the methodology analysis (i.e., variance, regression, mediation) variate. Hence, studies create a link between academic research and economic reality because subjects deal on a daily basis with fiscal policy aspects and report their experiences through empirical methods.

➤ **Limits and future research directions**

Like any other scientific endeavor, the present dissertation has certain **limits**. A first aspect which might be questioned is the fact that the majority of participants in the empirical studies are students, with little experience concerning compliance behavior and taxation regulations. There are a few explanations for this aspect. Firstly, using students as subjects is a universal practice within various national and international academic centers, and elements such as availability and cost tip the balance in favor of this practice. Also, surveys and economic experiments properly developed assess individual decision-making process, and the fact that student subjects use the same cognitive processes (i.e., sensorial processes like sensations, perception, representations; superior processes like reason, memory, imagination) a non-student subjects is undisputed. Moreover, studies which compare performance of student and non-student subjects report similar results (Plott, 1987; Wahl, Kastlunger & Kirchler, 2010)². Secondly, taking into account the economic background of the majority of subjects, fiscal policy issues like types of taxes, fiscal system participants or compliance behavioral patterns are included (or at least should be included) in the knowledge baggage of these subjects. Thirdly, even though only students which are employees or employed have direct contact with direct taxes, it can be stated that the whole sample pool has acquired certain compliance experience based on the fact they are all consumers, therefore pay (or not) indirect taxes (especially sales taxes).

A second aspect concerns the representativity of the sample pool. Taking into account the high costs necessary to ensure a representative sample regarding age division groups, socio-

² These aspects are mentioned by the authors Alm, Jackson and McKee (1992: 113) in the paper *Estimating the Determinants of Taxpayer Compliance with Experimental Data*. Even in the case of the present dissertation, when comparing results obtained in the third and the fourth study, student and non-student (i.e., self-employed) subjects display similar behavior.

professional categories, administrative units, the present samples were obtained according to the possibilities.³

A third aspect often mentioned is that economic reality differs from the one created through surveys or experimental games. As a consequence of this fact, behavioral intentions or actual behavior elicited in controlled environments differ from those within real economy. In the case of surveys, the reasoning is justified based on the fact that questionnaires use scenarios and the subject is confronted with hypothetical situations in which he has to reveal “what would he do if...”⁴. In the case of economic experiments, there are similarities between the experimental and economic environment: the anonymity of partners engaged in economic transactions; the possibility of obtaining financial gains; respecting rules on a mandatory basis.

Tackling the issues of research, American writer Catherine Drinker Bowen said that this “Abordând problema cercetării, scriitoarea americană Catherine Drinker Bowen afirma că it “is never completed...Around the corner lurks another possibility of interview, another book to read, a document to verify.”⁵ Therefore, regarding **future research directions**, increasing the sample representativity for a better *theoretical substantiation* of the empirical studies and tackling other tax compliance models are targeted. On the *empirical level*, the following are expected:

- testing the “slippery slope framework” on self-employed in several countries;
- cross-cultural tests of other tax compliance models;
- finalizing an empirical study of a public goods game dealing with the efficiency of the government in managing fiscal revenues, run in South Africa, Austria, Italy, Romania, Russia and Hungary.

³ In all specialty studies, representative samples are obtained through companies dealing with market research studies. With respect to surveys, implementing a 30-minute questionnaire by phone can earn a company a revenue of 10,000 Euros.

⁴ If the reasoning is completed, then results from all surveys and opinion polls would have to be questioned by the general public, even though samples in such studies are considered to be representative. The explanation is simple: although they report customers’ shopping intentions with respect to cars, investments in case of a sudden financial gain or voting at the next elections, conclusions from all these surveys are based on a conditional (i.e., “what *would you do if...*”).

⁵ <http://quotes.dictionary.com/subject/biography> (Accessed on 12.09.2012).

The founder of Microsoft corporation Bill Gates stated: “I believe in innovation and the way you get innovation is you fund research and learn the basic facts.”⁶ The purpose of any research is, in the end, identifying the novelty element in a specific area or identifying solutions by presenting the solution from a different perspective. Through taxation issues highlighted at national and international level, the interdisciplinary character of research and empirical studies, the present dissertation is an attempt to clarify the impact of fiscal policy changes on compliance behavior in order to benefit academia and business environment. Although the extent to which such research has reached its goal can only be estimated, there is hope that the information presented will draw attention towards taxation impact on taxpayers and will assist tax authorities in implementing efficient fiscal policies that contribute to increasing compliance level.

⁶ <http://www.brainyquote.com/quotes/keywords/research.html> (Accessed on 26.09.2012).

PUBLISHING RESEARCH RESULTS

➤ **Articles published/accepted for publishing in journals from the main international scientific stream with relative influence score**

Kogler, Ch., Bătrâncea, L.M., **Nichita, R.A.**, Belianin, A., Pántya, J., Kirchler, E. (2012). Trust and Power a Determinants of Tax Compliance: Testing the Assumptions of the Slippery Slope Framework in Austria, Hungary, Romania and Russia. *Journal of Economic Psychology*, Relative Influence Scor: 2,07; Impact Factor: 1,069 (available online from 26.09.2012).

➤ **Articles published/accepted for publishing in journals from the main international scientific stream without relative influence score**

Bătrâncea, L.M., **Nichita, R.A.**, Bătrâncea, I., Kirchler, E., Moscviciov, A. (2012). Good or bad cops? Tax compliance by power of authorities and trust in authorities. *Technics Technologies Education Management*, Impact Factor: 0,351 (forthcoming).

Bătrâncea, L.M., **Nichita, R.A.**, Bătrâncea, I., Moldovan, B.A. (2012). Tax compliance models: from economic to behavioral approaches. *Transylvanian Review of Administrative Sciences*, No.36 E: 13-26; Impact Factor: 0,284.

➤ **Articles published/accepted for publication in reviews indexed in well-known international databases**

Bătrâncea, L.M., **Nichita, R.A.**, Bătrâncea, I., Moscviciov, A. (2012). Gender effects on tax compliance behavior in Romania. *International Journal of Business Research*, Vol.12, Nr. 3: 129-133.

Bătrâncea, L.M., **Nichita, R.A.**, Bătrâncea, I., Moscviciov, A. (2011). Study on consumers' perceptions of fiscal policy efficiency in Romania. *Proceedings of the 2nd International Conference on Finance and Accounting (ICFA '12)*: 17-22.

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