Dimensions of Causal Attributions of Tax Evasion in Portugal

Dimensiones de las Atribuciones Causales de Evasión de Impuestos en Portugal

José C. Tavares
University of Santiago de Compostela

Mar Iglesias
Escuela de Negocios Caixanova

Abstract. A study carried out in Spain (Salgado, 1998) suggested that attributions of tax evasion had two independent dimensions: (a) tax evasion control, and (b) beliefs about the tax system. In order to check if perceptions of tax evasion causes are crossculturally generalizable, the present study reports on a research conducted in Portugal using the same causal attributions used in the Spanish research. A sample of 497 Portuguese men and women with a variety of jobs were asked about their causal attributions of tax evasion. A factor analysis was carried out and the results showed a factor pattern which reproduced the Spanish factor pattern. Congruence coefficients confirmed the similarity of the structures. These findings confirmed that two dimensions may explain the structure of the perception of tax evasion causes. Implications of the results are discussed and future research is suggested.
Key words: Causal attributions, everyday explanations, fiscal fraud, tax, evasion.

Resumen. Un estudio realizado en España (Salgado, 1998) sugirió que las atribuciones de la evasión fiscal tienen dos dimensiones independientes: (a) control de la evasión fiscal, y (b) las creencias sobre el sistema fiscal. A fin de comprobar si la percepción de las causas de la evasión fiscal son generalizables transculturalmente, este artículo presenta una investigación realizada en Portugal utilizando las mismas atribuciones causales usadas en la investigación española. A una muestra de 497 hombres y mujeres portugueses, de diferentes puestos de trabajo, se les preguntó acerca de sus percepciones causales de la evasión fiscal. Se llevó a cabo un análisis factorial y los resultados mostraron una estructura factorial que reproduce la estructura factorial española. Los coeficientes de congruencia confirmaron la similitud de las dos estructuras. Estos resultados confirmaron que las dos dimensiones pueden explicar la estructura de la percepción de las causas de la evasión fiscal. Se discuten las implicaciones de los resultados y se sugieren investigaciones futuras.
Palabras calve: Atribuciones causales, explicaciones cotidianas, evasión de impuestos, fraude fiscal.

Research on tax behavior, and more specifically on tax evasion, has a long history in social sciences, and the studies by Günter Schmölders during the decade of 40's and 50's of the past century can be recognized as pioneers. In Germany, Schmölders (1965) inaugurated a line of research on the effects of attitudes to taxes and fiscal policies, which was followed by researchers of other European and American countries, and now it is very common that governments survey citizens' attitudes toward taxes and fiscal policies (see Lewis, 1981 for an account of the former studies). For example, Dubergé (1965) examined the attitudes toward imposition in France, and Alvira and García López (1981) conducted several survey studies in Spain. More recently, De Juan Chocano (1992) presented a psychological model of tax behavior according to which tax evasion is due to three interrelated variables: propensity tot evade, ability to evade and opportunity to evade. The study of citizen attitudes was followed, some years later, by the study on the beliefs related to tax behavior and on everyday explanations of tax behavior.

Everyday explanations of economic behaviors are receiving more and more attention as relevant factors for explaining, from a psychological point of view, phenomena such as tax avoidance and evasion, saving behavior, consumer behavior and other important economic processes (Hoffman, 2007; Kirchler, 2009; Wenzel, 2007). For example, Iglesias (1993) found that causal attributions were a robust predictor of saving intentions and saving behaviors. Kirchler, Maciejovsky and Schneider (2003) found that the everyday representations differed with respect to tax avoidance, tax evasion and tax flight. Tax evasion was perceived rather negatively, tax flight neutrality and tax avoidance positively.

A specific type of everyday explanation is the causal attribution of social behaviors. The study of causal attribution and the social perception of the causes of behavior have a long history in social psychology, and the origin is typically associated with the studies on social perception made by Fritz Heider (1944, 1958). Three other relevant researchers are related to the his-

tory of the attribution theory: Ernest Jones and his collaborators (Jones & Davis, 1965; Jones & Nisbett, 1972) who examined the dispositional attributions; Harold Kelley (1967) who researched the personal interdependence and inferential processes; and Bernard Weiner (1985, 1986) who examined the underlying dimensions of causal attributions of emotion and motivation.

The study of causal attributions of tax behavior is relatively new in comparison with the application of the attribution theory to other psychological domains (e.g. clinical psychology, education psychology, social psychology). However, several approaches to the study of causal attributions explanations of tax behavior were conducted in the last twenty years. A first approach was used by Kaplan, Reckers and Reynolds (1986), who conducted two experiments to investigate hypotheses derived from the Kelley (1967) attributional model. They found a partial support for their predictions. It was found that if one attributed the cause of tax evasion to personal characteristics other people were perceived differently. However, a limitation of this study was that students were used as experimental subjects. A second approach was examining the differences in the causal attributions between actors and observers. Within this approach, in a second study, Hite (1987) has studied the actor and observer attributions of tax evasion. According to Jones and Nisbett (1971), an actor attributes his behavior to external (situational) causes while observers attribute the actor behavior to internal (dispositional) causes. Hite obtained support for this hypothesis as she found differences in the causal attributions between actors and observers in their explanations of tax evasion.

A third line of research on causal attribution and tax evasion was developed by Salgado and his colleagues (1998; Rechea & Salgado, 1985). In a first study, Rechea and Salgado (1985) found that causal explanations of tax evasion could possibly reach a large great number, but these explanations consisted of a small

number of causal categories. Specifically, they found fourteen categories in this research. In a second study, the same authors found that three components explained the fourteen categories (Rechea & Salgado, 1985). However, due to the factor analytical nature of this research and to the small sample (n=114), a new study was recently carried out. In a second factor analytical study, with a larger sample (n=327), Salgado (1998) found that two dimensions accounted for the fourteen categories. The first dimension was tributary justice, in which ten categories were loaded. The second dimension was tax evasion control in which four categories loaded. Based on these findings, a bidimensional model of the causal perceptions of tax evasion was hypothesized, in which the dimensions were independent between them. Therefore, according to the model (see Figure 1), people attributed tax evasion to tributary injustice and low tax evasion control. Furthermore, due to the independence between the dimensions, the model suggested that people perceived tax evasion if one of the dimensions had a high score. In other words, if people perceived a great tributary injustice then they perceived tax evasion, although there was high tax evasion control. At the same time, if people perceived low tax evasion control, also perceived tax evasion although there was high tributary justice.

This attributional model was developed with Spanish samples, but like any other theoretical model it must be cross-validated, if it is based specifically on a factor analysis (Harman, 1975). Furthermore, it is also of interest to know if the model may be used in a different country other than Spain.

This paper reports on a study in which the model structure was checked using a new and larger sample than the previous one. In addition, the sample was obtained in Portugal. Therefore, these two characteristics, a new sample and a new country, provide a good situation to test and cross-validate the attributional model of tax evasion perceptions. Based on the results of the previous research, we state two hypotheses:

Figure 1. Bidimensional Model of Causal Attributions of Tax Evasion
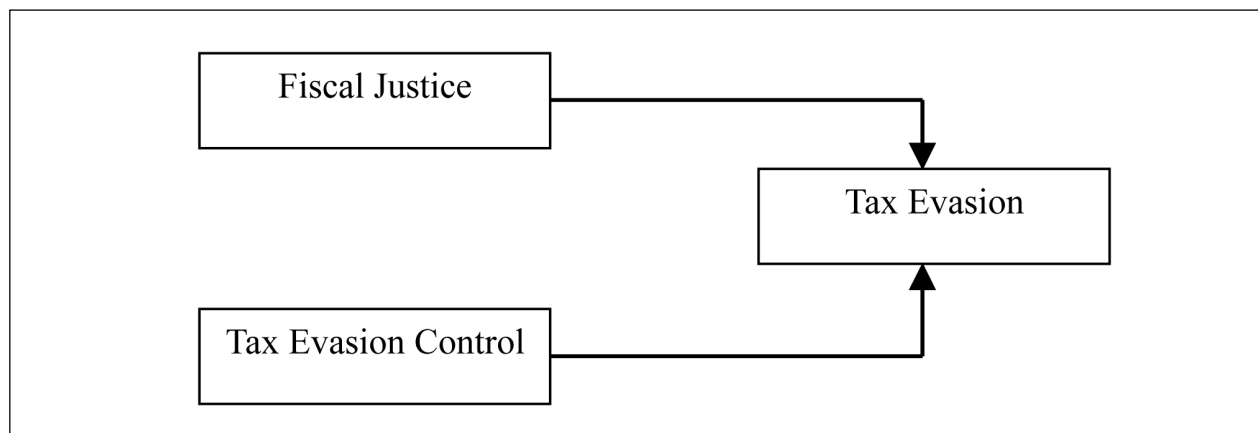
H1: The attributional categories of tax evasion consist of two underlying dimensions, one related to the beliefs about tax justice and another about tax evasion control.

H2: The model is generalizable across countries and, consequently, the factor structure will be similar in Spain and Portugal.

Method

Sample

This study sample was composed of 497 subjects who lived in different towns in Portugal. More specifically, the total sample contained 101 Portuguese politicians (all Parliament parties represented), 167 professionals (lawyers, engineers, teachers), 105 unemployed at the time of the interview (most of them were laborers), and 124 individuals enrolled in courses in higher cycles of education in Portugal. The majority of people in this last group had a job were either employed or unemployed when they were interviewed and only a few number were specifically students. 50.2% men and 49.8 women.

According to the Thorndike (1978) criterion, the ratio between the sample and number of items factorized must be 10X plus 50, being X the number of items. Because, the number of categories to be factorized was 14, the appropriate sample must contain at least 190 subjects. Therefore, our sample size warranted a good stability of the factorial pattern which resulted from this study.

Procedure

Several research assistants contacted the participants and requested their collaboration in a study on the perception of tax evasion causes. At first, the assistant explained to the participant the purpose of the study, and that his/her name was not needed only their opinions. Afterwards, the following instructions were read to all participants:

"As you know, tax evasion is a great problem for many societies. It is our interest to study it. For this reason, we would be grateful if you give us your opinion on some possible causes that influence tax evasion.

Now, we will read a list of causes that could be of influence in existing tax evasion in the income report. We would like to know if, in your opinion, the following causes have influence on evasion. In order to give your answer, you must indicate the degree to which such causes have influence, taking into account the following: If the cause has no influence you must answer 1; if the cause has little influence you must answer 2; if the cause has a moderate influence you must answer 3; if the cause has a high influence you must answer 4; and if the cause has a very high influence you must answer 5. There are no true or false answers. You may answer what you think is the most appropriate, without being concerned whether your answer is supported by other people or not".

The fourteen causal categories were: (1) low salaries;(2) disarrangement between taxes and services; (3) unfair distribution of taxes and incomes; (4) complex declaration form; (5) absence of solidarity; (6) high taxes; (7) absence of rigorous penalty for evasion; (8) incomes uncontrolled in liberal professions; (9) low vigilance on capital; (10) fiscal artifacts to lower taxes; (11) absence of information for declaring; (12) absence of confidence in Government; (13) Insufficient information on the use of taxes; and (14) disagree with the taxes distribution.

When the participant answered the attributional categories, we asked for data on age, sex, education, employment status, and economic incomes.

Results

The subject's answers to the causal categories of tax evasion were factor analyzed using the principal axes method. In Table 1, the eigenvalue of each factor before rotation is shown. As can be seen, only two factors had an eigenvalue greater than one. In addition, the Scree test (Cattell, 1966a) and the Parallel analysis (Horn, 1965; Humphreys & Montanelli, 1975) also

Table 1. Eigenvalue of each factor before to rotate

Factor	Eigenvalue	Cumulative Proportion of Variance
1	2.9530	0.5596
2	1.3283	0.8113
3	0.5311	0.9119
4	0.2158	0.9528
5	0.1965	0.9901
6	0.0450	0.9986
7	0.0073	0.9999

suggest rotating two factors. These two factors explain more than 81% of common variance.

Due to the fact that the attributional model of tax evasion perception hypothesized two independent dimensions, an orthogonal (Varimax) rotation was used. In Table 2 the factor loadings of the causal categories in the two factors are shown. To interpret the factors, we only considered the loadings of .25 or higher. As can be seen, 13 out of 14 categories have only one significant load and the other load has a secondary weight slightly significant to our criterion.

tax evasion control and that the tax system facilitates both evasion and avoidance of taxes. People in the other extreme of this dimension sustain that there is an appropriate control of tax evasion.

The results of the factor analysis carried out showed that the factor structure of the causal attributions in the Portuguese sample is identical to the structure found in Spain (Salgado, 1998), and also that the magnitude of the factor loadings are also very similar. Consequently, it can be concluded that the Portuguese and the Spanish structures represent the same attributional

Table 2. Rotated Factor Loadings of each causal categories

Causal Category	Factor 1	Factor 2
(1) Low salaries	**0.380**	-0.134
(2) Disarrangement between taxes and services	**0.516**	0.136
(3) Unfair distribution of taxes and incomes	**0.456**	0.219
(4) Complex declaration form	**0.448**	0.040
(5) Absence of solidarity	**0.326**	0.141
(6) High taxes	**0.545**	0.024
(7) Absence of rigorous penalty for evasion	0.025	**0.586**
(8) Incomes uncontrolled in liberal professions	-0.069	**0.603**
(9) Low vigilance on capital	-0.024	**0.644**
(10) Fiscal artifacts to lower taxes	0.252	**0.292**
(11) Absence of information for declaring	**0.559**	-0.055
(12) Absence of confidence in Government	**0.641**	-0.247
(13) Insufficient information on the use of taxes	**0.710**	-0.091
(14) Disagree with the taxes distribution	**0.611**	0.047
Explained Variance	2.893	1.388

The ten categories that loaded significantly in the first factor were: (1) low salaries, (2) disarrangement between taxes and services, (3) unfair distribution between taxes and incomes, (4) complex declaration forms, (5) lack of solidarity, (6) high taxes, (11) lack of information to report, (12) lack of confidence in Government, (13) little information on the use of taxes, (14) disagreement with the distribution of taxes. Taking into account the content of these categories, this first factor may be named "beliefs on the justice of the tax system". Individuals with a high score in this factor perceived a negative image of the tax system. For example, people with a high score perceived the current tax system as characterized by many taxes, little information to report on, or a great disarrangement between taxes paid and services received. All these perceptions were associated with a little confidence in Government.

In the second factor, four categories have a relevant loading: (7) absence of rigorous penalty by evasion, (8) incomes not controlled in liberal professions, (9) low vigilance on capital, (10) fiscal artifacts to deduct taxes. This second factor may be named "tax evasion control (evasion, avoidance and control)". People with high scores in this dimension think that there is a low

dimensions of tax evasion. However, a better demonstration of the structure similarity is given throught the results of the coefficients of congruence.

Cattell (1996b, p. 196) suggested using Burt's coefficient of congruence (r_c) for determining the loading pattern similarities (see Harman, 1975, p.379). Burt's coefficient of congruence was calculated for each pair of causal attribution dimensions mentioned above. Lorenzo-Seva and ten Berge (2006) examined the critical level of congruence and they found that a r_c value in the range of .85 - .94 correspond to a fair similarity and that values higher than .95 implies that the two dimensions compared can be considered equal. Burt's coefficients of congruence appear in Table 3. As can be seen, the congruence coefficient for the first dimension was .978, which suggests that the two factors are virtually identical. The congruence coefficient for the second dimension was .87, and according to Lorenzo-Seva and ten Berge (2006), this means a fair similarity. However, when the dimension was related to a different one, the magnitude of r_c is smaller in the two cases (.08 and .34, respectively). Therefore, these findings support the conclusion that the same factor structure is replicated in the two countries.

Table 3. Congruence coefficients (r$_c$) between the Spanish and Portuguese factor patterns

Dimensions	r$_c$
Dimension 1 – Dimension 1	.978
Dimension 1 – Dimension 2	.082
Dimension 2 – Dimension 1	.343
Dimension 2 – Dimension 2	.870

Note. r$_c$ = Congruence coefficient

Discussion

Tax behavior in general and tax evasion and tax avoidance in particular has been the focus of a great deal of research in the last thirty years and different approaches has been used in order to have a more clear picture of the taxing paying (an tax evasion) process.

This study explored the perceptions of tax evasion in Portugal and tested the bidimensional model suggested by Salgado (1998). The results show that the causal categories that people use to explain tax evasion are grouped into two independent dimensions. One is about the justice of the tax system and the second about the control of tax evasion. The results suggest that Portuguese citizens distinguish between two different causes of tax evasion. Firstly, there is global thinking connected with the taxation frame, characterized mainly by negative beliefs and values. On the other hand, people sustain that there is an inappropriate control and vigilance of tax evasion. Therefore, there is tax evasion because people are discontent with their tax system as well as there are no elements to prevent and avoid tax evasion. Lastly, on the one hand taxation injustice induces evasion but on the other hand the lack of control favors or does not prevent tax evasion behaviors. In a certain sense, the last argumentation suggests that the first dimension could be a marker or a clue to the fiscal justice of a country or the tax morale, while the second dimension would be an indicator of the efforts to avoid tax evasion or an indicator of the fiscal system quality.

The findings of this research are also a strong support for the bidimensional model of causal perceptions of tax evasion presented by Salgado (1998). The dimensional structure of causal perceptions suggested in the model was reproduced in the Portuguese sample. In fact, there is a great congruence between the pattern of both Spanish and Portuguese studies. Therefore, the results of the present study support the hypothesis that (1) two dimensions explain the causal perceptions of tax evasion and (2) the bidimensional structure may be appropriate for other countries besides Spain. The results also suggest that the model can be generalizable to other countries in which a similar pattern on causal categories is used by the taxpayers for explaining individual tax behavior and tax evasion.

These results have implications for tax policies. Recently, Torgler and Schneider (2009) found that higher tax morale and higher institutional quality lead to a smaller shadow economy. In this connection, the first dimension of causal attributions might be related to tax morale and the second dimension might be related to the perceptions of institutional quality.

Ashby, Webley and Haslan (2009) found that the occupational taxpaying culture affects taxpaying behavior. Having into account that causal attributions of tax evasion can explain the subsequent tax-related behavior, future research should examine the role of the occupational taxpaying culture on the causal attributions of tax evasion. Also, Lewis, Carrera, Cullis and Jones (2009) found cultural influences on tax compliance when they compared English and Italian individual. Although the tax systems of UK and Italy are similar, Italian subjects declared less than UK subjects and the results for the Italian sample were more remarkable. Consequently, if national cultures and occupational taxpaying cultures produce different behaviors, then the national culture and the occupational taxpaying culture could be a potential moderator of the effects of causal attributions of tax evasion. This hypothesis should be examined in future study.

The results of this study have also implications from the practical point of view. All the governmental agencies which responsibilities on tax collection affront the problem of tax evasion and, although different coping strategies were used until now, the majority was based on the attitude change programs. Our findings suggest that an alternative approach would be to act on the citizen causal explanations of tax evasion. Approaches based on the modification of causal attributions were successfully used in different organizational settings. For example, Ployhart and Ryan suggested used a causal attribution approach in connection with organization justice, and Moore (2000) proposed using an attributional framework to revert the effects of wok exhaustion. Similarly, Silvester, Anderson, and Patterson (1999) suggested using the attributional analysis for changing groups and organizational culture. These and similar approaches could serve as model for acting on the causal attributions of tax evasion and to reverse their negative effects.

In summary, this paper confirmed the bidimensional structure of causal attribution of tax evasion. Using a large sample of Portuguese citizen, the results showed that there are two independent factors underlying to the attributions: (a) beliefs on the justice of the tax system, and (b) beliefs on tax evasion control.

References

Alvira, F. & García López, J. (1981). Los españoles ante la reforma fiscal. *Hacienda Pública Española, 72*, 243-258.
Ashby, J. S., Webley, P. & Haslan, A. S. (2009). The role of

occupational taxpaying cultures in taxpaying behavior and attitudes. *Journal of Economic Psychology, 30*, 216-227.

Cattell, R. B. (1966a). The scree test for the number of factors. *Multivariate Behavioral Research, 1*, 245-276.

Cattell, R. B. (1966b). The meaning and strategic use of factor analysis. In R. B. Cattell (Ed.), *Handbook of multivariate experimental psychology* (pp. 174-243). Chicago: Rand McNally.

De Juan Chocano, A. (1992). Un modelo psico-económico de fraude fiscal. *Revista de Psicología del Trabajo y de las Organizaciones*, 23, 179-188.

Dubergé, J. (1965). *Psicologica social del impuesto en la Francia contemporánea*. Madrid: Editorial de Derecho Financiero [original francés: 1962].

Harman, H. H. (1975). *Modern factor analysis*. Chicago, IL: Rand McNally.

Heider, F. (1944). Social perception and phenomenal causality. *Psychological Review, 51*, 359-374.

Heider, F. (1958). *The psychology of the interpersonal relations*. New York: Wiley.

Hite, P. A. (1987). An application of attribution theory in taxpayer noncompliance research. *Public Finance, 42*, 105-118.

Hofmann, E., Hoelzl, E. & Kirchler, E. (2008). Precondictions of voluntary tax compliance. *Zeitschrift für Psychologie [Journal of Psychology], 216*, 209-217.

Horn, J. L. (1965). A rationale and test for the number of factors. *Psychometrika, 30*, 179-185.

Humphreys, L. G. & Montanelli, A. (1975). An investigation of the parallel analysis criterion for determining the number of common factors. *Multivariate Behavioral Research, 10*, 193-206.

Iglesias, M. (1993). *El análisis de la conducta de ahorro: predicciones económicas y psicosociales*. Tesis Doctoral. Departamento de Psicología Social y Básica, Universidad de Santiago de Compostela.

Jones, E. E. & Davis, K. E. (1965). From acts to dispositions: The attribution process in person perception. In L. Berkowitz (Ed.). *Advances in experimental social psychology, Vol.2* (pp. 219-266). New York: Academic Press.

Jones, E. E. & Nisbett, R. E. (1971). *The actor and the observer: Divergent perceptions of the cause of behavior*. Englewood, NJ: General Learning Press.

Kaplan, S. E., Reckers, P. M., & Reynolds, K. D. (1986). An applications of attribution and equity theories to tax evasion behavior. *Journal of Economic Psychology, 7*, 461-466.

Kelley, H. H. (1967). An attribution theory in social psychol-ogy. *Nebraska Symposium on Motivation, 15*, 192-238.

Kirchler, E. (2009). *Psychology of tax behavior*. Cambridge, UK: Cambridge University Press.

Kirchler, E., Maciejovsky, B., & Schneider, F. (2003). Everyday representations of tax avoidance, tax evasion, and tax flight: Do legal differences matter? *Journal of Economic Psychology, 24*, 535-563.

Lewis, A. (1982). *The psychology of taxation*. Oxford: Robertson.

Lewis, A., Carrera, S., Cullin, J. & Jones, P. (2009). Individual, cognitive and cultural differences in tax compliance: UK and Italy compared. *Journal of Economic Psychology, 30*, 431-445.

Lorenzo-Seva, U. & ten Berge, J. M. F. (2006). Tucker's congruence coefficient as a meaningful index of factor similarity. *Methodology: European Journal of Research Methods for Behavioral and Social Sciences, 2*, 57-64.

Martinko, M. J. (1995) (Ed.). *Attribution theory: an organizational perspective*. Delray Beach, FL: St. Lucie Press.

Moore, J. E. (2000). Why is this happening? A causal attribution approach to work exhaustion consequences. *Academy of Management Review, 25*, 335-349.

Ployhart & Ryan, A. M. (1997). Toward an Explanation of Applicant Reactions: An Examination of Organizational Justice and Attribution Frameworks. *Organizational Behavior and Human Decision Processes, 72*, 308-335.

Rechea, C. & Salgado, J. F. (1985). *Factores psicológicos del fraude fiscal: El caso de Galicia*. [Psychological factors of tax evasion: The Galicia case]. Madrid: Instituto de Estudios Fiscales.

Salgado, J. F. (1998. Categorías y dimensiones atribucionales del fraude fiscal [Attributional dimensions of tax evasion]. *Revista de Psicología Social Aplicada, 8*, 75-90.

Schmölders, G. [1965]. *Lo irracional en la Hacienda Pública: problemas de psicología financiera*. Madrid: Editorial de Derecho Financiero [original alemán: Das irrationale in der Offenlichen Finanzwirstchaft 1958].

Silvester, J., Anderson, N.R., & Patterson, F. (1999). Organizacional culture change: an inter-group attributional analysis. *Journal of Occupational and Organizational Psychology, 72*, 1-23.

Thorndike, R. M. (1978). *Correlational procedures for research*. New York: Guilford Press.

Torgler, B. & Schneider, F. G. (2009). The impact of tax morale and institutional quality on the shadow economy. *Journal of Economic Psychology, 30*, 228-245.

Wenzel, M. (2007). The multiplicity of tax-payer identities and their implications for tax ethics. *Law and Policy, 29*, 31-50.