

Improving Tax Literacy and Tax Morale of Young Adults

End of Project Report to the Chartered Institute of Taxation

By

Co-authors:

Phyllis Alexander, PhD, CPA, FCMI, SFHEA

Merima Balavac, PhD, FHEA

Contributing authors:

Surnajita, Mukherjee, PhD

Andrew Lymer, MPhil, MIRS, FRSA, FCMI, FAIA

David Massey, BA, CTA, ATT

Acknowledgements

We are very grateful to the Chartered Institute of Taxation for their support and interest in this project. We also gratefully acknowledge the support provided by our respective universities; Bournemouth University, the University of Sarajevo and the University of Central Lancashire, and their respective staff.

Contents

- Executive Summary 3
- 1. Introduction 5
- 2. Context and a Review of the Literature 6
 - Tax Morale 6
 - Tax Education and Tax Literacy 7
 - Previous Empirical Work 8
- 3. Research Methods 9
 - The Students 9
 - The Survey 10
 - Socio-demographics 10
 - Tax Morale 11
 - Respondents’ Views on the UK individual tax system 11
 - Tax Compliance 11
 - Financial and Tax Literacy 12
 - Methodology 12
 - Descriptive Statistics 12
- 4. Research Results 14
 - Tax Morale 14
 - Heterogeneity Analysis 15
 - Respondent Views on the UK Individual Tax System 18
 - Tax Compliance 19
 - Financial and Tax Literacy 20
- 5. Conclusions, Recommendations and Plans for Dissemination 27
- References 30
- Appendix 33

Improving Tax Literacy and Tax Morale of Young Adults

Executive Summary

Practitioners, policy makers and academics recognise the importance of addressing low-levels of tax literacy and tax morale in individuals, but the challenge is where to start and what to do. Actions taken by the UK Government, as in other countries', demonstrate a clear belief that taxpayer education should be introduced early and continuously reinforced and enhanced throughout the lives of their citizens. With *Making Tax Digital* coming into fruition next year, it is more important than ever that the knowledge gap is assessed and addressed and the place to start is in formal education.

As a response to this, an initiative taken by HMRC in 2015 was to develop and disseminate its [Tax Facts](#) education programme for teenagers. This was followed by [Junior Tax Facts](#) in 2016 for the benefit of primary school children. The degree to which tax education is being implemented in the national curricula and the impact of these specific learning materials is still relatively unknown.

This research looks into the inter-relationships of financial and tax literacy, tax morale and tax compliance attitudes of young people at University. It considers socio-demographic influences and the impact that enhancements to financial and tax literacy may have on young adults' tax morale (i.e. motivation to pay taxes). It also considers the young peoples' perceptions of tax compliance and tax administration.

We surveyed 377 students from two UK higher education institutions enrolled on various courses, some receiving tax tuition in the year and then resurveyed. The results show that gender, tax tuition, and employment experience influence tax morale. Most of the students surveyed thought that the UK tax system is fair, but complex with personal tax rates that are too high. The majority also believe that a significant number of taxpayers cheat by paying less than they legally owe. This perception may adversely affect tax morale.

The research shows the positive impact of focused tax tuition on university students in raising financial and tax literacy as well as an appreciation for public finance. We were unable to conclude enhanced literacy results in enhanced tax morale from this study, while the results nevertheless demonstrate marginal improvements in this regard. This may be a point of interest to academics as they review and revalidate their curricula.

We make three recommendations for further initiatives and enhancements to existing programmes in taxpayer education focused on young people before they enter the job market.

First, we hope the Low Incomes Tax Reform Group (LITRG) within the CIOT will find this report useful and an inspiration for further enhancements and the continued development of their [Tax Guide for Students](#) website. This is an excellent website providing essential tax information for students and their tax advisers. One enhancement might be the provision of a general introduction to public finance to highlight the link between good citizenship and good tax morale. There may be an opportunities for the CIOT to work with other professional organisations to

develop some web-based, interactive, mechanism to engender a better understanding of the interconnection between tax and public expenditure so that participants will have a better understanding of how the public finances work.

Second, we recommend the CIOT considers working with the National Union of Students and the National Association of Student Money Matters to design and disseminate a nationwide, extracurricular tax course in higher education. CIOT members or local branches might consider working with university student unions to better educate students on tax matters. This may be done in conjunction with providing more general personal financial guidance and support for all students at university. The LITRG would ideally assist in the development of suitable training materials, linking to the resources provided on their website.

Third, and to ensure the greatest impact of raising the general financial and tax literacy of young people is achieved, a comprehensive programme should be embedded in secondary schools' curricula. This will target all young people before they enter the job market, regardless of whether they go on to higher education. The inherent obstacles to overcome with respect to our third recommendation are time limitations within the national school curricula, limitations of public finances that would be required for effective programme design and the limitations of human resources for delivery. The last limitation may be effectively addressed with continued use of technology and building on the [Tax Facts](#) and [Junior Tax Facts Programmes](#). These programmes, while admirable starting points for introducing concepts, would benefit from interactive enhancements, expansion and 'next-stage' initiatives. To reiterate, taxpayer education must be recognised as a continuous process and further development and new initiatives are warranted. The CIOT might consider working with HMRC in evaluating the current use and usefulness of these programmes in the State School System and then collaborate on the next-stage enhancements. HMRC tax literacy programmes and the LITRG's Tax Guide for Students website should provide cross-references with respective web links to ensure young people are signposted to the helpful and reliable information provided by both organisations.

HMRC, the CIOT and its members should continue to broadcast webinars and tax tutorials through their respective websites and through YouTube. Twitter is being used as an effective tool to timely communicate updates and signpost to sites providing more information and promote online services. These tools, while excellent, are only effective if there exists a wide-spread general awareness of tax issues and available and reliable help tools.

The implementation of *Making Tax Digital* next year necessitates tax-awareness across UK society, and the place to start is with the younger generation: the future employees, apprentices and entrepreneurs in the classroom.

Improving Tax Literacy and Tax Morale of Young Adults

1. Introduction

This document reports on the results of an empirical study conducted in the UK and funded by the Chartered Institute of Taxation (CIOT). The study considered the financial and tax literacy (FTL) of 377 young adults from two UK universities, as well as the socio-demographic influences on their tax morale and their perceptions of tax administration and compliance. The study will contribute to a growing body of academic literature and compliment national and international efforts exploring tax morale.

There has been a world-wide, concerted effort of governments to address perceived low levels of tax morale. Many countries have chosen to increase general tax awareness in response, some targeting the wider population and some with specific focus on the younger generation. The OECD's recent publication, *Building Tax Culture, Compliance and Citizenship* provides 28 developing countries' initiatives in taxpayer education (OECD, 2015). Similar programmes are prevalent in developed countries. Olsen (2009) and Kornhauser (2007 and 2009) reflect initiatives taken in the United States.

Improved tax literacy in young people features as a prominent, important objective in taxpayer education programmes. The intentions are to improve young people's tax awareness and tax morale at important stages in secondary and higher education, before the next generation transitions into the job market.

An initiative taken by HMRC in the UK in 2015 was to develop and disseminate its [Tax Facts](#) education programme for teenagers. This was followed by [Junior Tax Facts](#) in 2016 for the benefit of primary school children. The degree to which tax education is being implemented in the national curricula and the impact of these specific learning materials is still relatively unknown.

General tax awareness within the UK is actually hindered by the very nature of the tax system itself. The majority of UK residents, who are employed with modest savings and investments, do not need to file self-assessment tax returns given the personal and investment exemptions and the precision of Pay as You Earn (P.A.Y.E.) withholding on their earnings.

Conversely, it behooves the self-employed to be tax-aware from the outset. The OECD estimated that the 'informal economy' accounts for two thirds of the global working population in 2009. The digital economy is facilitating the move to adjunct and self-employment (De Stefano, 2015). According to the UK's Office for National Statistics (ONS), there has been an increase in the number of self-employed workers by approximately 40% since the turn of the century. With an increasing number of individuals engaging in trade in lieu of employment, tax education will play an important role in the personal and professional development of upcoming entrepreneurs. Further, with *Making Tax Digital* coming into fruition in 2019, it is now imperative to raise the levels of financial and tax literacy before young people leave school and higher education.

The remainder of this report is structured as follows: Section 2 outlines the context for the research and discusses relevant professional and academic literature; Section 3 gives details of the research methods employed and sample selected; Section 4 discusses the findings, with descriptive statistics; Section 5 presents conclusions, recommendations and plans for the dissemination of the research.

2. Context and a Review of the Literature

Tax Morale

Allingham and Sandmo (1972) established the benchmark economic model of tax evasion in which self-interested taxpayers decide how much income to declare with reference to a trading-off of the benefits (i.e. lower tax payments) and costs (i.e. detection and punishment) of tax evasion. This model 'is a straightforward application of the Becker (1968) model of crime to the tax-evasion context: risk-averse individuals weigh the utility benefits and costs of evasion to optimise their compliance behaviour' (Luttmer and Singhal 2014, p151). The path-breaking model has since been widely criticised by many authors (see e.g. Graetz and Wilde, 1985; Alm *et al.*, 1992; Frey and Feld, 2002; Togler, 2007).

Alm (1991) provided a survey of early theoretical and experimental research into taxpayer compliance. He recognised that the underlying expected utility theory in which taxpayers 'pay taxes because they fear detection and punishment' could not explain all compliance behaviour. He found relatively high compliance in spite of the very low (i.e. less than one percent) possibility of audit and the fractional penalties on unpaid tax liabilities, surmising that enforcement activities alone could not explain taxpayer reporting. The other factors recognised by the author included valued government expenditures and social norms. Alm (1991) concluded with a call for an exploration of alternative theories of behaviour and uncertainty with regard to taxpayer compliance.

The concept of *tax morale* and the related literature thus began to grow. Togler *et al.* (2007) provided a review of the early literature that considered various theoretical considerations including an altruistic approach (e.g. Chung 1976), the Kantian morality approach (see Laffont 1975, Sugden 1984), and social customs (Gordon 1989, Akerlof 1980, Naylor 1989, Myles and Naylor 1996).

Kornhauser (2007) provided a review of the next wave of literature (2000 through 2007), which further developed the theories and concepts established in the earlier literature. Her review considered the tax morale research in three major areas: cognitive and affective processes (see e.g. Kahan and Braman, 2005; Cullis *et al.*, 2000; Hansen, 2003), social norms and personal values/norms (see e.g. Kolstad, 2007; Fehr and Fischbacher, 2004; Mazar and Ariely, 2006) and demographic factors (see e.g. McGee and Tyler, 2006; Togler, 2003 and 2006; Hasseldine and Hite, 2003).

Tax Education and Tax Literacy

In the OECD Report, *Building Tax Culture*, it is recognised that global society is ‘witnessing a transformation of state-citizen relations and a cultural shift in tax administration’ (OECD 2015, p17). Resources directed at improving taxpayer education and facilitating a greater appreciation for individual contribution to nations are deemed to be cost-beneficial in improving taxpayer compliance. Tax authorities, once reliant on a fear-culture (e.g. fear of being caught and penalised), recognise citizens as allies, rather than mere ‘obligation holders’. That said, cultural-shifts are slow and the public perception of tax authorities in many countries will take time to move from one of coercion and repression, to one of partnership and alliance (OECD, 2015).

The underlying objective of taxpayer education is to ‘foster attitudes of commitment to the common good, emphasising the social value of tax and its link to public expenditure’ (OECD 2015, p17). A common aspect of recent taxpayer education initiatives in various countries is to highlight the detrimental impact of tax evasion and aggressive tax avoidance.

Taxpayer education initiatives in several countries focus on children and young adults. This segment of the population is at a key stage in social development and introducing an awareness and an appreciation of taxation is part and parcel to raising good citizenship. Some target primary and/or secondary school-aged children and some specifically target university students. Targeting these audiences, before they enter the job markets, compliments efforts taken for older-generations with an aim to facilitate a long-term cultural change in attitudes to taxation in general and tax-compliance in particular.

In her discussion on external factors influencing internal motivations, Kornhauser (2007) states ‘education can strengthen norms that are positively correlated with tax compliance such as honesty, morality, national pride, concern for others, and fairness’ (Kornhauser 2007, p 619). One of her three recommendations for the US Internal Revenue Service called for engagement in educational efforts aimed at improving taxpayer knowledge, attitudes and behaviours (Kornhauser, 2007).

Many OECD countries now recognise the limitations of the traditional enforcement-based techniques on tax compliance and the growing importance of taxpayer education programmes in improving tax morale and tax compliance. The OECD (2015) undertook a global survey of various programme initiatives finding that many specifically target school children and/or university students, the objective being to raise the tax-literacy of young adults before they transition into the labour market.

Some argue that improved education enhances tax compliance. It is purported that better-educated individuals should have a greater understanding of tax law and fiscal connections (e.g. state-provided benefits and services funded by tax revenues) and therefore should be more tax-compliant (Lewis, 1982; Togler, 2007). The counter-argument is that better-educated individuals have a greater awareness of possible government waste and have an added advantage of understanding opportunities for evasion and avoidance (Togler, 2007). Given these two alternate perspectives on education, there should be due consideration for the empirical evidence on its effects on tax morale and tax compliance. Togler (2007) found relevant research results were

mixed and surmised that they might be indicating that the current politico-economic situation influences the education variable.

Previous Empirical Work

Roberts, Hite and Bradley (1994) examined the preferences for and understanding of progressive taxation using a sample of 460 university students from two Higher Education Institutions (HEIs) within the USA. The survey questions were framed in both abstract and concrete terms and with further consideration for '(1) order effects, (2) specific definitions and examples, (3) alternative scales, (4) taxes paid versus residual income reference points, and (5) a post-test quiz' (Roberts, Hite and Bradley, 1994). The authors found the subjects preferred progressive taxation in the abstract and favoured regressive/proportional taxation in concrete situations, concluding that there was a significant framing phenomenon associating progressive taxation with higher taxes for higher income earners even though the taxes liabilities were less than the liabilities owed under a proportional tax system.

Eriksen and Fallan (1996) conducted a quasi-experiment that pre- and post-tested two groups of students from a Norwegian university on their tax knowledge and attitudes towards taxation. The experimental group of students engaged in a tax law elective between pre- and post-testing while the control group did not. The tax law elective was considered the stimulus in the experimental group. The authors found that the experimental group of students engaged in the tax law elective improved the tax knowledge significantly and changed their attitudes to tax evasion whereas no such changes were observed in the control group.

Song and Yarbrough (1978) surveyed a random selection of 640 households in a North Carolina University city, yielding 287 usable surveys. They considered influences on tax ethics and the impact of greater fiscal knowledge, concluding that great fiscal knowledge results in higher levels of tax ethics.

Gilligan and Richardson (2005) surveyed postgraduate business students at three universities in Hong Kong and Australia. Their survey posed several questions on perceived tax fairness and tax non-compliance behaviour. Cultural tax system structural differences were hypothesised to explain variations in correlations coefficients between the two nations.

McGee (2006) surveyed university students in the US and in Germany on their tax ethics and tax evasion tolerance. Their questionnaire provided eighteen statements on tax evasion which were used in this study. McGee found variations in the conviction of the respondents, but none of the questions resulted in very strong convictions either in support or opposition to tax evasion. He did deduce that females had stronger opinions that tax evasion was unethical in comparison with the male participants.

Chen and Volpe (1998) surveyed 924 college students on aspects of financial literacy including investment and savings, insurance and borrowing. Previous studies found heterogeneous levels of financial literacy among different groups of students (Chen and Volpe, 1998). The authors found that business majors, older, more senior students and those with employment experience scored higher.

The literature often considers various socio-demographic factors as potentially influential in tax morale and tax compliance behaviour. Such factors include academic rank (Chen, 1998), gender (Chen, 1998), race (Chen, 1998; Hogart and Hilgert 2002), nationality (Chen, 1998), class rank (Chen, 1998), work experience (Chen, 1998), age (Chen, 1998; Hogart and Hilgert 2002) and income (Chen, 1998; Hogart and Hilgert 2002).

3. Research Methods

The Students

The researchers surveyed second and third-year university students from two post-92 UK universities with an aim to investigate the inter-relationships between financial literacy, tax literacy, tax morale and tax compliance attitudes of young adults.

The students surveyed were enrolled on various courses. The control groups did not receive any tax tuition in their respective courses, whereas the experimental groups received tax tuition during the relevant academic year. The surveys were conducted at the beginning and the end of the academic year. Therefore, the experimental groups were surveyed before and after their tax tuition.

The students surveyed in University A included students enrolled in nursing, marketing, economics accounting and finance, and accounting and tax. The students engaged on all of these courses did not receive any taxation content from their respective first years of study. The nursing, marketing and economics students will not have any taxation content in their respective second years of study. The accounting and finance and accounting and tax students will undertake a unit in the first semester entitled 'Business Tax Planning' in which a general awareness and appreciation for the UK corporate and individual tax systems are conveyed. The accounting and tax students undertake another tax unit in the second semester entitled 'Law of Personal Tax 1' in which they further enhance their awareness and appreciation for the UK personal tax system.

The students enrolled on nursing, marketing and economics courses are the control group. They are not expected to have significant differences in their responses to the first and second surveys as they will not have received any tuition in taxation during their second years of study. The experimental groups are the accounting and finance and the accounting and tax students with the stimuli being the tax tuition in one (accounting and finance) or two (accounting and tax) units of study.

The students surveyed in University B included final year undergraduates enrolled in general business or accounting and finance programmes. None of the students received any taxation content in their first or second years of study. The students all undertook a unit entitled 'Taxation Theory and Practice' in which a general awareness and appreciation for the UK corporate and individual tax systems is conveyed, along with detailed learning of the finer details of the systems, sufficient to secure exemptions from the foundation taxation papers of the taxation of the main UK accounting bodies.

University B was unable to secure a control group from other disciplines due to institutional factors – the main one being a mass staff severance exercise run immediately before the start of the study and the loss of the gatekeepers who had been willing to provide access to their students.

The Survey

Socio-demographics

The socio-demographic characteristics captured in the survey were gender, age, nationality, residency tenure, ethnicity, employment, marital status, presence of children, and religiosity. Other aspects explored in the survey included trust in government and personality traits.

Trust in Government is a well-recognised societal determinant of tax morale (Torgler, 2017, among others). The respondents were asked to rank their individual levels to which they find various national institutions trustworthy. This aspect of the survey was on a ten-point scale, where one is very untrustworthy and ten is very trustworthy. The institutions under scrutiny were:

- *EU Government*
- *UK Government*
- *UK Courts*
- *Police*
- *Military*
- *Her Majesty's Revenue and Customs (HMRC)*
- *National Health Service (NHS)*
- *Banks and other financial institutions*
- *The British Broadcasting Corporation (BBC)*

Finally, the respondents were asked to consider ten sets of personality traits that may or may not apply. This is a recognised method of profiling respondents which may inform policy and practices to ensure efficient and effective innovation and/or reform. The respondents were asked for their levels of agreement, on a seven-point Likert scale, *if they saw themselves as...*

- ... extraverted, enthusiastic*
- ...critical, quarrelsome*
- ... dependable, self-disciplined*
- ... anxious, easily upset*
- ... open to new experiences, complex*
- ... reserved, quiet*
- ... sympathetic, warm*
- ... disorganised, careless*
- ... calm, emotionally stable*
- ... conventional, uncreative*

Tax Morale

There were eighteen statements in which the respondents were asked to state their levels of agreement when underpaying taxes could be justified. This was on a seven-point Likert scale, consistent with the literature (McGee, 2006). The framing of the statements varied with respect to positive versus negative and general versus personal. The statements began: *please tell me for each of the following statements whether you think underpaying taxes is justifiable if ...*

- ... most of the money collected is spent wisely*
- ... a large portion of the money collected is spent on projects that benefit me*
- ... a large portion of the money collected is spent on worthy projects*
- ... tax rates are low*
- ... it means that if I pay less, others will have to pay more*
- ... the tax system is unfair*
- ... the tax system is complex*
- ... the risk of being caught is high*
- ... the penalty for underpayment is low*
- ... a large portion of the money collected is wasted*
- ... a large portion of the money collected is spent on projects that do not benefit me*
- ... a large portion of the money collected is spent on projects that I morally disapprove of*
- ... the risk of being caught is low*
- ... the penalty for underpayment is high*
- ... tax rates are too high*
- ... everyone is doing it*
- ... the tax system is fair*
- ... the tax system is simple*

Respondents' views on the UK individual tax system

There were five statements in which the respondents were asked to state their levels of agreement with respect to their general views on the UK personal tax system. This also was measured by a seven-point Likert scale for consistency. The statements were as follows:

- *The UK tax system for individuals is fair.*
- *The UK tax system for individuals is simple.*
- *UK tax rates for individuals are low.*
- *The risk of individuals being caught for underpaying UK taxes is high.*
- *The penalties to individuals for the under-payment of UK taxes are high.*

Tax compliance

The survey had two questions regarding tax compliance behaviour. The first question considered the tax compliance behaviour of others by asking the respondents' opinions of the percentage of taxpayers that pay *less tax than they legally owe* (i.e. 1% to 20%; 21% to 40%; 41% to 60%; 61% to 80% or 81% to 100%). The second question considered the students' own tax compliance behaviour by asking the respondents how often they would take advantage of a reduced bill from

a plumber in which VAT would be omitted if its payment was in cash (i.e. always; often; occasionally; depends on the amount; or never).

Financial and Tax Literacy

There were a variety of questions that tested respondents' financial and tax literacy (FTL), including specific knowledge and application questions on value added tax, income tax, national insurance contributions (NICs), allowances and deductions within the UK tax framework, as well as general knowledge questions on the UK individual tax system. The questions are not summarised here but the complete survey is provided as an appendix to this report.

The researchers do not use financial/tax literacy and financial/tax knowledge interchangeably. According to Houston (2009), conceptually, financial literacy can be observed along two dimensions: understanding (finance knowledge) and use (finance application). Hence, having finance knowledge does not imply that literacy, as literacy, should include both knowledge and application.

All other phases depend on having concrete and well-defined construct.

The OECD International Network on Financial Education (INFE) has defined financial literacy as follows: 'A combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing' (OECD INFE, 2018, p4).

OECD INFE members agreed that the various terms used to describe this concept (including in particular financial literacy and financial capability, but also financial culture and financial insight) could be used relatively interchangeably as they reflect similar perceptions of the reality they aim to cover.

It is important to distinguish between those who answered incorrectly and those who answered 'do not know' as there is a distinction between knowledge and lack of knowledge (Lusardi and Mitchell, 2007).

Methodology

Descriptive Statistics

The total number of surveys completed was 377. More than half (59.42%) of the students surveyed major in accounting and received tax tuition in their second year. The other students were fairly evenly split between business majors (19.63%) and non-business majors (20.95%), with neither cohort receiving tax tuition as part of their courses. Of the 127 students surveyed in the autumn (before receiving tax tuition), 97 were surveyed again in the spring (after receiving tax tuition). As the surveys were anonymous, the researchers are unable to identify the exact number of students that were surveyed twice, although the overlap will have been significant.

The personal characteristics of the students surveyed are presented in the Table 1.

Table 1. Characteristics of the Respondents

<i>Courses enrolled</i>	<i>Number</i>	<i>Percentage</i>
Accounting Majors (with tax tuition)	224	59.42
Business Majors (without tax tuition)	74	19.63
Non-Business Majors (without tax tuition)	79	20.95
<i>Courses with tax tuition</i>		
Autumn	127	56.70
Spring	97	43.30
<i>Gender</i>		
Female	195	51.72
Male	176	46.68
Other	6	1.60
<i>Age</i>		
18-20	200	52.91
Over 20	178	47.09
<i>Marital status</i>		
Single	350	92.59
Other	28	7.41
<i>Nationality</i>		
UK	326	87.17
Other	48	12.83
<i>Ethnicity</i>		
White	283	74.87
Black	23	6.12
Asian	57	15.16
Other	13	3.46
<i>Currently employed</i>		
Yes	166	44.15
No	210	55.85
<i>Completed tax return</i>		
Yes	102	28.18
No	260	71.82

In terms of socio-demographic characteristics, most of the surveyed students were female (51.72%), between 18-20 years of age (52.91 %), single (92.59%), white (74.87%) and UK citizens (87.17%). Of the students surveyed, 44.15% were employed, and 28.18% reported to have completed a tax return.

4. Research Results

Tax Morale

The respondents were asked to indicate their levels of agreement or disagreement with eighteen statements in which underpaying taxes may be justified by ticking boxes from one to seven, where one equals *strongly agrees* and seven equals *strongly disagrees*. Lower responses to these statements is indicative of lower tax morale and higher responses is indicative of higher tax morale. The statements and the respective ranks and scores are reflected in Table 2.

Table 2: Combined Scores on Tax Morale (1 = strongly agrees; 7 = strongly disagrees)

Rank	Statement: <i>Please tell me for each of the following statements whether you think underpaying taxes is justifiable if...</i>	Mean Scores	S.D.	Median	Mode
6	... most of the money collected is spent wisely	4.1	1.73	4	3
9	... a large portion of the money collected is spent on projects that do benefit me	4.27	1.64	4	4
4	... a large portion of the money collected is spent on worthy projects	4.02	1.67	4	4
17	... tax rates are low	4.86	1.65	5	6
15	... it means that if I pay less, others will have to pay more	4.81	1.63	5	6
3	... the tax system is unfair	3.87	1.72	4	3
2	... the tax system is complex	3.83	1.81	4	4
7	... the risk of being caught is high	4.19	1.79	4	4
13	... the penalty for underpayment is low	4.59	1.62	4.5	4
5	... a large portion of the money collected is wasted	4.05	1.82	4	3
8	... a large portion of the money collected is spent on projects that do not benefit me	4.26	1.66	4	4
10	... a large portion of the money collected is spent on projects that I morally disapprove of	4.3	1.59	4	4
14	... the risk of being caught is low	4.65	1.57	5	4
12	... the penalty for underpayment is high	4.54	1.58	4	4
1	... tax rates are too high	3.82	1.66	4	4
11	... everyone is doing it	4.43	1.65	4	4
16	... the tax system is fair	4.82	1.61	5	4
18	... the tax system is simple	5.12	1.52	5	6

The three statements yielding the lowest mean scores (below 4) were:

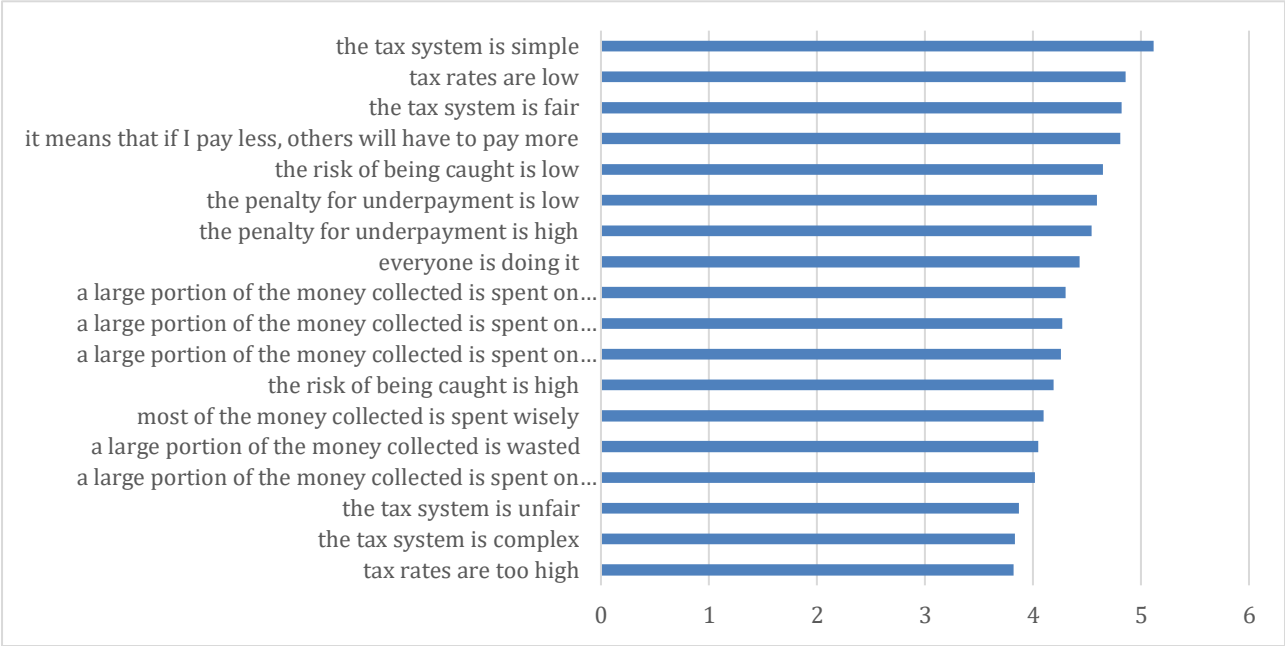
- ... tax rates are too high (3.82)
- ... the tax system is complex (3.83)
- ... the tax system is unfair (3.87)

Consistent with this, the three statements with the highest mean scores were:

- ... the tax system is simple (5.12)
- ... tax rates are low (4.86)
- ... the tax system is fair (4.82)

The full range of mean scores for the eighteen statements are reflected in Figure 1.

Figure 1. Range of Mean Scores of Tax Morale questions



Source: Authors' calculations

Heterogeneity analysis

In this section, we look at the impact for different population groups. Review of the literature shows that tax morale varies among different groups with different socio-demographic and socio-economic characteristics such as gender, age and employment. Considering the cohort surveyed and the focus of the analysis, we are further interested to analyse whether tax morale differs between students in different cohorts.

We use the Wilcoxon-Mann-Whitney test to see if there are any statistically significant differences between the underlying distributions of the tax morale scores between the different genders, age groups, employed/never employed, cohorts with/without tax tuition and autumn/spring cohorts with tax tuition. Table 3 summarises the findings.

Table 3. Tax morale by different subgroups of the surveyed students

Statement: Please tell me for each of the following statements whether you think underpaying taxes is justifiable if...	Gender		Age		Cohort		Tax tuition		Employment		Tax return Completed	
	Male Mean (median)	Female Mean (median)	18-20 Mean (median)	Over 20 Mean (median)	Without tax tuition Mean (median)	With tax tuition Mean (median)	Autumn Mean (median)	Spring Mean (median)	Yes Mean (median)	No Mean (median)	Yes Mean (median)	No Mean (median)
... most of the money collected is spent wisely.	3.93 (4)	4.24* (4)	4.16 (4)	4.03 (4)	4.29 (4)	3.93 (4)	3.93 (4)	4.05 (4)	4.18*** (4)	3.31 (3)	4.12 (4)	4.08 (4)
... a large portion of the money collected is spent on projects that do benefit me.	4.06 (4)	4.45** (4)	4.29 (4)	4.23 (4)	4.68 (5)	4.08** (4)	4.08 (4)	4.11 (4)	4.33** (4)	3.66 (3)	4.20 (4)	4.26 (4)
... a large portion of the money collected is spent on worthy projects.	3.97 (4)	4.06 (4)	4.11 (4)	3.92 (4)	4.11 (4)	3.94 (4)	3.94 (4)	4.08 (4)	4.08** (4)	3.46 (3)	3.89 (5)	4.07 (5)
... tax rates are low	4.86 (5)	4.89 (5)	4.78 (5)	4.95 (5)	4.93 (5)	4.84 (5)	4.84 (5)	4.97 (5)	4.94** (5)	4.12 (4)	5.01 (5)	4.79 (5)
... it means that if I pay less, others will have to pay more	4.56 (5)	5.05*** (5)	4.85 (5)	4.76 (5)	4.9 (5)	4.62 (5)	4.62 (5)	4.84 (5)	4.87** (5)	4.2 (4)	4.67 (5)	4.85 (5)
... the tax system is unfair	3.56 (3)	4.14*** (4)	3.95 (4)	3.77 (4)	4.26 (4.5)	3.78* (4)	3.78 (4)	3.75 (4)	3.83 (4)	4.18 (4)	3.64 (4)	3.94 (4)
... the tax system is complex	3.74 (4)	(4)	3.95 (4)	3.68 (1)	3.93 (4)	3.84 (4)	3.84 (4)	3.86 (4)	3.81 (4)	3.97 (4)	3.54 (4)	3.94 (4)
... the risk of being caught is high	4.05 (4)	4.32 (4)	4.32 (4)	4.05 (4)	4.47 (4)	4.11 (4)	4.11 (4)	4.17 (4)	4.25 (4)	3.61 (4)	3.83 (4)	4.32 (4)
... the penalty for underpayment is low	4.33 (4)	4.84*** (5)	4.54 (4)	4.66 (5)	4.65 (4)	4.47 (4.5)	4.47 (4.5)	4.61 (5)	4.65*** (5)	4 (4)	4.65 (5)	4.58 (4)
... a large portion of the money collected is wasted	3.61 (3)	4.45*** (4)	4.18 (4)	3.89 (4)	4.46 (5)	4.09 (4)	4.09 (4)	3.82 (4)	4.04 (4)	4.12 (4)	4.13 (4)	3.79 (3.5)
... a large portion of the money collected is spent on projects that do not benefit me	4.03 (4)	4.48*** (4)	4.33 (4)	4.18 (4)	4.46 (5)	4.3 (4)	4.3 (4)	4.18 (4)	4.28 (4)	4.09 (4)	4 (4)	4.34 (4)
... a large portion of the money collected is spent on projects that I morally disapprove of	4.02 (4)	4*** (4.56)	4.57 (4)	4.12 (4)	4.7 (5)	4.32** (4)	4.32 (4)	4.02 (4)	4.34 (4)	3.94 (4)	4.21 (4)	4.34 (4)
... the risk of being caught is low	4.4 (4)	4.66*** (4)	4.56 (4)	4.75 (5)	4.93 (5)	4.57 (5)	4.57 (5)	4.45 (4)	4.66 (5)	4.51 (4)	4.63 (5)	4.65 (5)
... the penalty for underpayment is high	4.4 (4)	4.66 (4)	4.62 (4)	4.44 (4)	4.59 (4)	4.61 (4)	4.61 (4)	4.52 (4.5)	4.58* (4)	4.06 (4)	4.26 (4)	4.61 (5)
... tax rates are too high	3.56 (3)	4.05*** (4)	3.92 (4)	3.69 (4)	4.13 (4)	3.85 (4)	3.85 (4)	3.7 (4)	3.83 (4)	3.67 (3)	3.7 (4)	3.86 (4)
... everyone is doing it	4.23 (4)	4.61** (4)	4.31 (4)	4.57 (4.5)	4.69 (5)	4.34 (4)	4.34 (4)	4.44 (4)	4.47 (4)	4.06 (4)	4.38 (4)	4.47 (4)
... the tax system is fair	4.68 (5)	4.94 (5)	4.81 (5)	4.83 (5)	4.98 (5)	4.71 (5)	4.71 (5)	4.58 (4)	4.9*** (5)	3.97 (4)	4.75 (5)	4.85 (5)
... the tax system is simple	4.99 (5)	5.24 (6)	5.11 (5)	5.14 (5)	5.36 (6)	5.11 (5)	5.11 (5)	4.86 (5)	5.19** (6)	4.48 (4)	5.14 (5)	5.12 (6)

***p<0.01; **p<0.05; *p<0.10.

If the p-value is less than ten percent ($p < 0.1$), the results then suggest that there is a statistically significant difference between the underlying distributions of the tax morale scores. We can determine which groups have higher levels of tax morale by comparing the underlying scores.

Eleven of the eighteen statements exploring respondents' tax morale show statistically significant differences between female and male students, with female students intimating higher tax morale. This is consistent with the literature (Alm and Torgler, 2006; Frey and Torgler, 2007; Daude *et al.*, 2013). The seven statements where no statistically significant differences are detected includes the three questions with the highest mean scores noted above.

The literature indicates that the elderly seem to have higher tax morale (summarised in Doerrenberg and Piechel, 2013), yet our analysis shows that there are no statistically significant differences between the underlying distributions of the tax morale scores for any of the eighteen statements between the different age groups (i.e. 18-20 years and over 20 years). However, this is not a surprising result, as there is no large variation in students' age, with most of the students being in their early twenties.

Only three of the eighteen statements have been answered significantly differently between tax and non-tax tuition cohorts. In particular, students enrolled on tax tuition courses claim more justification to underpay taxes (i.e. cheat) when the tax system is unfair or money is spent on projects with which they morally disprove. Surprisingly, students in the tax tuition cohort have lower tax morale than students on non-tax tuition cohorts, even when money is spent on projects from which they benefit. The answers of the cohort receiving tax tuition in the spring do not differ statistically from the autumn/spring cohorts. This analysis ignores the responses of the spring tax cohort in order to establish a base-level of tax morale before such tuition.

Following on, the tax morale of students receiving tax tuition is considered before (autumn cohort) and after (spring cohort) any tax tuition. Such tax tuition has not resulted in statistically significant differences in any of the responses provided by the autumn and spring cohorts. This intimates that the level of tax morale has not measurably improved or decreased as a result of improved tax literacy. There are, however, marginal improvements observed in this study.

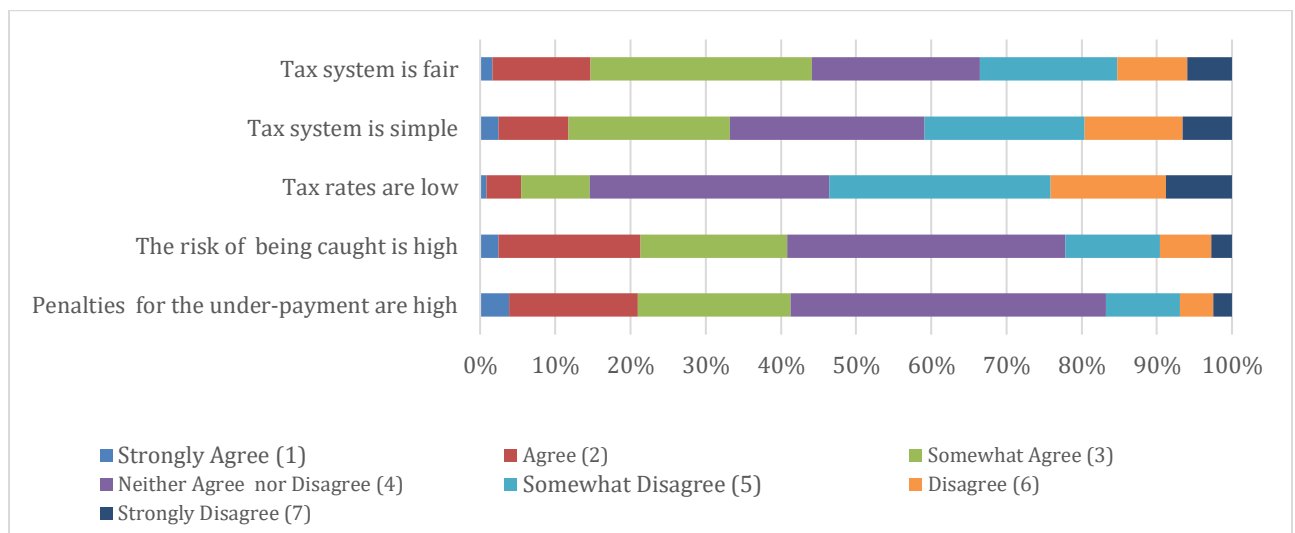
Nine of the eighteen statements on tax morale show statistically significant differences with the respondents in employment demonstrating higher levels of tax morale to those without employment experience. The statements in which these differences are detected are the questions which are positively framed (i.e. money collect is spent wisely, the tax system is fair, etc.) and regardless of penalties being high or low.

Finally, there are no statistically significant differences between the underlying distributions of the tax morale scores for any of the eighteen statements between the respondents that have experience of completing tax returns and those that do not.

Respondent views on the UK individual tax system

The respondents were asked to indicate their perceived levels of agreement with five general statements on the UK tax system by ticking a box from one to seven where one indicates a strong level of agreement and seven indicates that the respondent strongly disagrees with the statement. The statements and the respective distribution of responses are reflected in Table X.

Figure 2. Responses to Statements Exploring Individual Views on Fairness of UK Tax System



Source: Authors' calculation

Firstly, taking the first statement under consideration, 44% of the students agreed (scores between one and three) that the UK tax system for individuals is fair in comparison to the 34% that disagreed (scores of or between five and seven). With respect to the second statement, 33% of the students agreed that the UK individual tax system was simple, whereas 42% disagreed. The majority (54%) of students disagreed with the statement that the UK tax rates for individuals are low and only 15% agreed with this statement.

The last two statements are based on tax administration. Almost twice as many students agreed with the statement on a high risk of being caught with those that disagreed (i.e. 41% agreed and 22% disagreed). Similarly, 41% agreed with the statement that the penalties are high, whereas 17% disagreed with that statement.

The researchers then perform hypothesis testing on the first three statements with respect to whether or not the respondents were employed and whether or not they had ever completed a tax return. The results are presented in Table 4.

Table 4. Personal perspectives on UK tax administration

Statements regarding the UK Tax System	Status	Mean	Standard Deviation	Median	p-value
The tax system is fair	Employed	4.02	1.45	4	0.0022
	Never employed	3.18	0.98	3	
	Tax return completed	3.87	1.5	4	0.5693
	Tax return not completed	3.96	1.4	4	
The tax system is simple	Employed	4.24	1.46	4	0.0374
	Never employed	3.69	1.24	4	
	Tax return completed	4.14	1.58	4	0.5844
	Tax return not completed	4.21	1.39	4	
The tax rates are low	Employed	4.71	1.29	5	0.0009
	Never employed	4.03	0.95	4	
	Tax return completed	4.58	1.42	5	0.715
	Tax return not completed	4.69	1.21	5	

As reflected above, whether or not the students were employed yielded statistically significant differences, whereas whether or not they completed tax returns did not. The researchers were surprised by the number of students indicating they had completed tax returns.

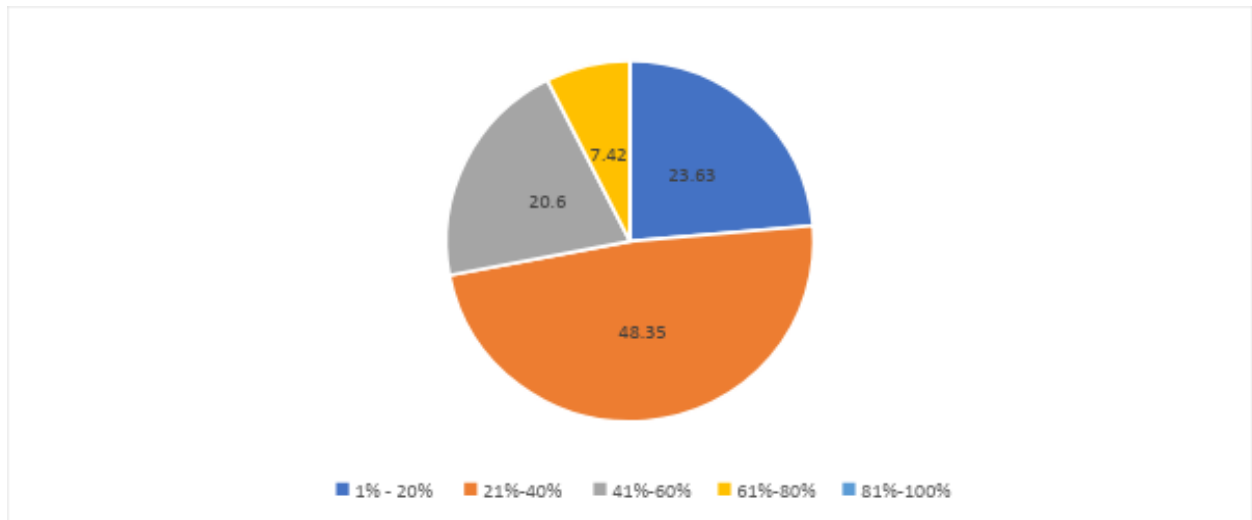
Tax Compliance

Luttmer and Singhal (2014) argue that individual compliance might be influenced by peer effects and social influences. The individual compliance behaviour may be used as a signal to their peers and society.

The respondents' perception of the tax compliance behaviour of others was alarming. The majority of students surveyed (68.95%) believe that 21% to 60% of UK taxpayers pay less than what they legally owe. This negative perception may be a result of social and mainstream media coverage of *unethical, morally repugnant* and *aggressive* tax avoidance.

The pie chart below depicts the complete breakdown of responses to the question: *'In your opinion, what percentage of taxpayers pays less than they legally owe?'*

Figure 3. Perceived norm of cheating in a society



The other tax compliance question explored the respondents' own tax compliance behaviour by asking them how often they would take advantage of an opportunity to pay less in cash in order to evade VAT. The majority (55%) of students responded 'always' or 'often' in taking advantage of these opportunities.

Those findings should initiate a discussion about the government's role in overturning the perception of the social norm of cheating. One of the suggestions would be provision of the data about compliance behaviour to the public. Some researchers have done field experiments in which taxpayers were notified about high levels of tax compliance in the country. The findings were mixed: from authors that did not find that this significantly influenced taxpayers' behaviour (Fellner *et al.*, 2013) to some that have found that such messages increase rate of early payments (Hallsworth *et al.*, 2014).

Financial and Tax Literacy

Previous studies found that course choices depend on *cognitive* abilities (Heckman *et al.*, 2006). In particular, students that have better cognitive abilities (primary mathematical knowledge and arithmetic reasoning) are more likely to pursue careers in accounting and finance. As expected, this study also reflects a marked differentiation in financial and tax literacy (FTL), before any tax tuition is given, in the cohorts enrolled on accounting and tax courses to those enrolled in non-accounting and tax courses.

The first set of results regarding FTL reflects the base-level differences between students enrolled on tax tuition courses before receiving such tuition, in comparison to all other students surveyed. We have used cross-tabulations and the Chi-square test to assess whether differences in answers are statistically significant. Table 5 reports percentages of students answering each of the four basic financial literacy questions.

Table 5. Basic financial literacy - percentages of correct and incorrect answers

Basic financial literacy					
Question	Course	Incorrect	Correct	Do not know	Chi2 (p-value)
Numeracy (q.17)	without tax tuition	44.23	42.31	11.54	0.003
	with tax tuition	40.16	53.54	1.57	
Inflation (q.18)	without tax tuition	23.08	42.95	31.41	0.000
	with tax tuition	13.39	70.08	11.02	
Interest on student loan repayments (q.26)	without tax tuition	82.05	11.54		0.006
	with tax tuition	70.82	10.24		
National minimum wage (q.34)	without tax tuition	46.79	39.74		0.000
	with tax tuition	23.62	33.07		

Note: Correct, incorrect, and do not know answers do not sum up to 100% because of refusals to answer.

The results show that there are statistically significant differences in the level of basic financial knowledge between the groups. In general, while the students enrolled on tax tuition courses better understand how compound interest rate works and the effect of inflation (numeracy and inflation questions) than other students, other students has slightly better general financial knowledge.

Breaking down by the individual questions, slightly more than half (53.5%) of tax tuition students answer numeracy questions correctly in comparison to only 42.3% of other students. A sizable proportion of tax tuition students (around 70%) answer the question on inflation correctly, while the number of correct answers stays as low as 43%. At the same time, students in both cohorts have a relatively low-level of general financial knowledge: only 33.1% of students enrolled on tax tuition courses and 39.7% of students enrolled in other courses correctly identified the minimum wage rate. Surprisingly, even fewer students are aware of the interest rate on student loan repayments, with only 10 - 11% of students from both cohorts providing the correct answers.

Next, we assess students' levels of general tax knowledge and application, the results of which are reflected in Table 6.

Table 6. General tax knowledge and application - percentages of correct and incorrect answers

General tax knowledge and application (i.e. literacy)					
Question	Courses	Incorrect	Correct	Do not know	Difference
Concepts of average tax rates and marginal tax rates (q.19)	without tax tuition	12.18	11.54	70.51	0.010
	with tax tuition	10.24	24.41	55.12	
Calculation of VAT (q.20)	without tax tuition	41.67	35.26	19.23	0.000
	with tax tuition	50.39	39.37	3.15	
Calculation of income tax (q.21i)	without tax tuition	45.51	50.64		0.017
	with tax tuition	33.07	55.91		
Calculation of national insurance contributions (q.21ii)	without tax tuition	41.67	52.56		0.030
	with tax tuition	44.09	41.73		
Calculation of income tax (q.23i)	without tax tuition	60.90	32.69		0.034
	with tax tuition	49.61	35.43		
Calculation of national insurance contributions (q.23ii)	without tax tuition	38.46	55.13		0.008
	with tax tuition	30.71	51.18		
Calculations of IT, NIC and student loan repayments (q.24)	without tax tuition	80.77	13.46		0.000
	with tax tuition	61.42	16.54		

Note: Correct, incorrect, and do not know answers do not sum up to 100% because of refusals to answer.

As was the case with our findings on basic financial literacy, we have found statistically significant differences in all answers to the application of general tax knowledge between students enrolled on tax courses versus other courses, with tax students demonstrating a better understanding of progressive taxation and a higher ability to apply knowledge in VAT and income tax calculations. Interestingly, students enrolled on other courses perform somewhat better when general knowledge and application of NIC are tested.

We also considered students' general public finance knowledge in our survey. Table 7 reflects the results of this literacy dimension.

Table 7. General Public Finance Knowledge -percentages of correct and incorrect answers

General Public Finance Knowledge				
Question	Courses	Incorrect	Correct	Chi2 (p-value)
NIC funding (q.27)	without tax tuition	35.9	64.10	0.642
	with tax tuition	38.58	61.42	
Public spending (greatest) (q.28i)	without tax tuition	25.64	74.36	0.000
	with tax tuition	47.24	52.76	
Public spending (least) (q.28ii)	without tax tuition	48.72	51.28	0.142
	with tax tuition	57.48	42.52	
Contributor (greatest) (q.29i)	without tax tuition	41.67	58.33	0.347
	with tax tuition	47.24	52.76	
Contributor (least) (q.29ii)	without tax tuition	53.59	56.41	0.857
	with tax tuition	42.52	57.48	

Note: Correct, incorrect, and do not know answers do not sum up to 100% because of refusals to answer.

As reflected, there was only one question in which a statistically significant result was found, which was with respect to where the greatest amount of public spending was directed. Interestingly, students enrolled on other courses were more knowledgeable in this regard, than those enrolled on tax courses.

The next set of results reflects the differences in FTL of the students *before* and *after* receiving tax tuition. Only the responses of accounting students enrolled on courses with tax tuition are reflected in these results. The first table reflects responses to the five basic financial literacy questions.

Table 8. Basic Tax Literacy - percentages of correct and incorrect answers

Basic Financial Literacy					
Question	Timing of the Surveys	Incorrect	Correct	Do not know	Chi2 (p-value)
Numeracy (q.17)	before tax tuition (autumn)	40.16	53.54	1.57	0.059
	after tax tuition (spring)	23.71	71.13	1.03	
Inflation (q.18)	before tax tuition (autumn)	13.39	70.08	11.02	0.298
	after tax tuition (spring)	7.22	75.26	8.25	
VAT (q.20)	before tax tuition (autumn)	51.67	40	1.67	0.4120
	after tax tuition (spring)	41.94	46.24	4.3	
Interest on student loan repayments (q.26)	before tax tuition (autumn)	70.82	10.24		0.630
	after tax tuition (spring)	67.01	14.43		
National Minimum Wage (q.34)	before tax tuition (autumn)	23.33	32.5		0.008
	after tax tuition (spring)	23.62	33.07		

Note: Correct, incorrect, and do not know answers do not sum up to 100% because of refusals to answer.

As reflected in the table above, the only two questions yielding statistically significant differences on basic financial literacy were the numeracy question (compound interest calculation) and the question on the national minimum wage. Inflation is not embedded in the curriculum on the tax modules. VAT is briefly covered in the first semester of the second year, but significantly reinforced in the final year of study, which may explain the lack of progression. The next table reflects responses to the seven general tax literacy questions.

Table 9. General tax knowledge and application - percentages of correct and incorrect answers

General Tax Literacy					
Question	Timing of the Surveys	Incorrect	Correct	Do not know	Chi2 (p-value)
Concepts of average tax rates and marginal tax rates (q.19)	before tax tuition (autumn)	10.24	24.41	55.12	0.049
	after tax tuition (spring)	18.56	30.93	37.11	
Calculation of VAT (q.20)	before tax tuition (autumn)	50.39	39.37	3.15	0.4120
	after tax tuition (spring)	41.24	46.39	4.12	
Calculation of income tax (q.21i)	before tax tuition (autumn)	33.07	55.91		0.0000
	after tax tuition (spring)	8.25	82.47		
Calculation of national insurance contributions (q.21ii)	before tax tuition (autumn)	44.09	41.73		0.592
	after tax tuition (spring)	38.14	48.45		
Calculation of income tax (q.23i)	before tax tuition (autumn)	49.61	35.43		0.0007
	after tax tuition (spring)	32.99	56.7		
Calculation of national insurance contributions (q.23ii)	before tax tuition (autumn)	44.09	41.73		0.592
	after tax tuition (spring)	38.14	48.45		
Calculations of IT, NIC and student loan repayments (q.24)	before tax tuition (autumn)	61.42	16.54		0.338
	after tax tuition (spring)	65.98	19.59		

Note: Correct, incorrect, and do not know answers do not sum up to 100% because of refusals to answer.

The results show that tax tuition improves the general knowledge of tax terminology and, quite significantly, the students' abilities to apply general tax knowledge in the calculation of income taxes. While disappointing, it was not surprising that there are no statistically significant improvements in the students' literacy with regard to NIC. This was not surprising as NIC is only briefly considered in the second year curriculum at University A.

The next table reflects the responses to the five public finance literacy questions.

Table 10. General Public Finance Knowledge - percentages of correct and incorrect answers

Public finance literacy				
Question	Timing of the Surveys	Incorrect	Correct	Chi2 (p-value)
National Insurance Contribution-funding (q.27)	before tax tuition (autumn)	38.58	61.42	0.805
	after tax tuition (spring)	40.21	59.79	
Public spending maximum (q.28i)	before tax tuition (autumn)	45.83	54.17	0.108
	after tax tuition (spring)	35.05	64.95	
Public spending minimum (q.28ii)	before tax tuition (autumn)	58.33	41.67	0.057
	after tax tuition (spring)	45.36	54.64	
Contributions maximum (q.29i)	before tax tuition (autumn)	47.5	52.5	0.031
	after tax tuition (spring)	32.99	67.01	
Contributions minimum (q.29ii)	before tax tuition (autumn)	41.67	58.33	0.103
	after tax tuition (spring)	30.93	69.07	

Note: Correct, incorrect, and do not know answers do not sum up to 100% because of refusals to answer.

The findings on public finance literacy have also been encouraging in that the accounting students demonstrate a better understanding about public contributions and spending after their second year's tax tuition. The differences are statistically significant at the conventional levels of significance.

The one question on how NICs are utilised did not show a statistically significant difference as a result of tax tuition. Once again, this is explained by the constraints and focus of the tax modules, as such information is simply not conveyed.

When asked for personal preferences regarding the imposition of taxation, whether with progressive rates or a proportional (flat) rate applied, the majority of respondents chose the progressive tax system. The responses were based on a five-point Likert scale and are reflected as the blue bars in Tables 11 and 12 on the next page.

Responses to this question were considered in light of responses to Question 19 and Question 31 to ascertain the respondents' levels of tax literacy. Question 19 asked the students to identify the type of tax system (i.e. progressive, proportional or regressive) in which average tax rates are the same as marginal tax rates. Question 31 asked the students to rate the levels of fairness of actual taxes imposed on two taxpayers, one with income that is twice as much as the other. The responses to Question 31 were also based on a five-point Likert scale and are reflected as the red bars in Tables 11 and 12 on the next page.

Table 11. Personal Preferences of Tax Structure – statements in abstract terms

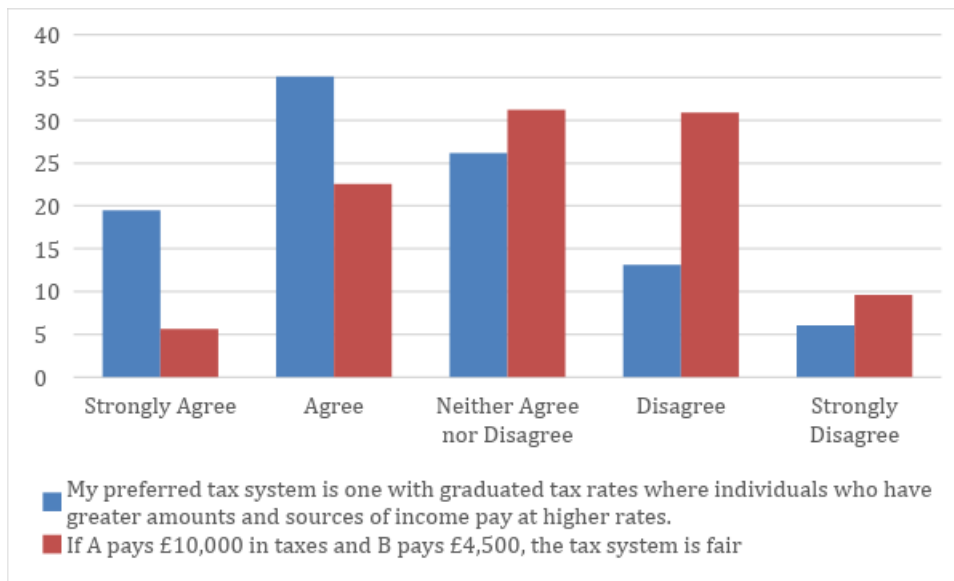
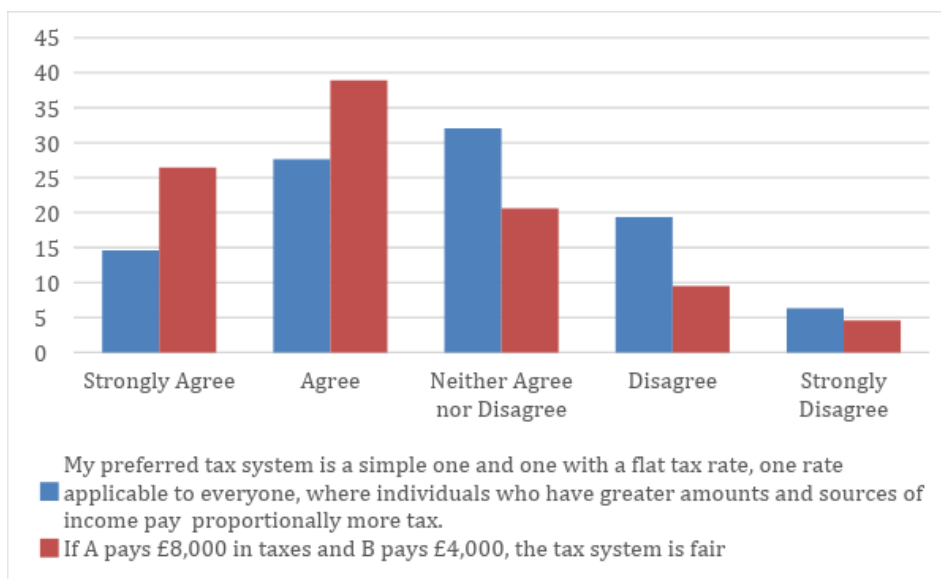


Table 12. Personal Preferences of Tax Structure – statements in concrete terms



Roberts *et al.* (1994) found there to be a significant difference between respondents’ answers to abstract versus concrete tax questions indicating a significant lack of knowledge with respect to terminology.

The number of respondents that correctly answered the question regarding a proportional tax system (i.e. Question 19), where average and marginal tax rates are the same was only 22.6%. The inconsistencies between personal preferences and perceptions of fairness responses lead the researchers to the same conclusion as Roberts *et al.*; there is a general lack of understanding with respect to tax terminology. The researchers performed regression analysis but found no statistically significant differences between the cohorts with and without tax tuition.

5. Conclusions, Recommendations and Plans for Dissemination

Conclusions, Limitations and Further Research

This research considers the inter-relationships of financial and tax literacy, tax morale and tax compliance attitudes of select samples of university students from two post-92 universities. The samples included cohorts that did not receive any tax tuition and cohorts that received one or two modules in UK taxation. The students were surveyed at the beginning and end of the 2015/16 academic year.

The results show that gender, cohorts with or without tax tuition, and with or without employment experience influence tax morale. Consistent with the literature, female respondents tend to have higher tax morale in comparison to the male respondents. Interestingly, before any tax tuition is given, students enrolled on such courses have lower tax morale in comparison to those enrolled on other courses. Those respondents that had employment experience tended to have a higher level of tax morale in comparison to those without employment experience.

There is a general perception that the UK individual tax system is fair, but complex and the rates are too high. This is particularly strong for those in employment, regardless of whether or not they have completed tax returns. Alarming, the majority of respondents do not have a high regard for the tax compliance of others as they assume between 21% and 60% of taxpayers underpay their taxes. Further, over half of the respondents would cheat themselves by paying cash to a plumber that would exclude VAT from the invoice.

As would be expected, the tax tuition received by the students surveyed enabled the cohorts to significantly outperform the other (non-tax) students with regard to literacy in tax, but there was little difference in the base-level results for public finance and there was an even split in results for financial literacy. Following their tax tuition in the year, the students showed significant improvements in general knowledge of tax terminology and, quite significantly, their ability to compute income tax liabilities. The area that showed disappointing results with no significant improvement was with respect to general tax knowledge and literacy around NIC. Finally, the spring cohorts showed significantly better understandings of aspects of public finance as a result of their tax tuition.

This research is subject to limitations. First, the data has been extracted from relatively small cohorts of students from two UK universities and the conclusions therefore may not be generalised. Second, tax morale and tax compliance behaviour have been measured using subjective survey ratings. This raises reliability concerns as these findings could be prone to measurement error. Finally, previous studies question the validity of instruments due to limited numbers of constructs. We address this concern by including a sizable number of constructs in assessing financial and tax literacy and tax morale. There remains scope to further assess financial literacy in future research.

This research does however show the positive impact of focused tax tuition on university students in raising financial and tax literacy as well as developing an appreciation for public finance. While the researchers were unable to conclude whether enhanced literacy resulted in enhanced tax morale with the spring cohort, the results nevertheless demonstrated marginal improvements in

this regard. Further research on the causation between tax literacy and tax morale is necessary to draw such inferences.

Recommendations

Taxpayer education should be introduced early in life and then continuously reinforced and further developed. While the UK Government and the Chartered Institute of Taxation are already actively engaged in improving the tax literacy of young people, there is more that could be done in this area that may also positively impact taxpayer compliance and morale.

The development and dissemination of *Junior Tax Facts* and *Tax Facts* have been admirable initiatives taken by HMRC in raising tax awareness in primary and secondary school-children, respectively. There remains, however, a gap in the desired knowledge and understanding of young people entering the job market. Of particular concern are those that will opt for self-employment and be required to engage with HMRC through *Making Tax Digital* from 2019.

We hope the Low Incomes Tax Reform Group (LITRG) within the CIOT will find this report useful and an inspiration for further enhancements and the continued development of their [Tax Guide for Students](#) website. This is an excellent website providing essential tax information for students and their tax advisers. We would first like to suggest that this is enhanced with a general introduction to public finance to highlight the link between good citizenship and good tax morale. There may be an opportunities for the CIOT to work with other professional organisations to develop some web-based, interactive, mechanism to engender a better understanding of the interconnection between tax and public expenditure so that participants will have a better understanding of how the public finances work.

Our second recommendation is for the provision of nationwide, extracurricular tax tuition in higher education. This may be done in conjunction with providing more general personal financial guidance and support for all students at university. The National Union of Students and the CIOT might consider a collaboration on this. The LITRG would ideally assist in the development of suitable training materials, linking to the resources provided on their website. CIOT members or local branches might consider working with university student unions to better educate their students on tax matters.

Thirdly, and to ensure the greatest impact of raising the general financial and tax literacy of young people is achieved, a comprehensive programme should be embedded in secondary schools' curricula. This will target all young people before they enter the job market, regardless of whether they go on to higher education.

The inherent obstacles to overcome with respect to our third recommendation are time limitations within the national school curricula, limitations of public finances that would be required for effective programme design and the limitations of human resources for delivery. The last limitation may be effectively addressed with continued use of technology and building on the [Tax Facts](#) and [Junior Tax Facts Programmes](#). These programmes, while admirable starting points for introducing concepts, would benefit from interactive enhancements, expansion and 'next-stage' initiatives. To reiterate, taxpayer education must be recognised as a continuous process and further development and new initiatives are warranted. The CIOT might consider working

with HMRC in evaluating the current use and usefulness of these programmes in the State School System and then collaborate on the next-stage enhancements. HMRC tax literacy programmes and the LITRG's Tax Guide for Students website should provide cross-references with respective web links to ensure young people are signposted to the helpful and reliable information provided by both organisations.

Modern media offers a number of opportunities, as recognised in the European Commission's Guideline for a Model for a European Taxpayers' Code (European Commission, 2016). HMRC, the CIOT and its members should continue to broadcast webinars and tax tutorials through their respective websites and through YouTube. Twitter is being used as an effective tool to timely communicate updates and signpost to sites providing more information and promote online services. These tools, while excellent, are only effective if there exists a wide-spread general awareness of tax issues and available and reliable help tools.

The implementation of *Making Tax Digital* next year necessitates tax-awareness across UK society, and the place to start is with the younger generation: the future employees, apprentices and entrepreneurs in the classroom.

Dissemination Plans

This Report will be offered to the CIOT in July 2018 and available for immediate publication on their website. The project and its findings were shared at Bournemouth University Festival of Learning in June 2018. The findings will next be presented in September 2018, at the Tax Research Network's Tax Education Day, an event sponsored by the CIOT and attended by tax academics, policy makers and practitioners.

The essence of this report will be summarised into an article intended for *Tax Adviser*. The findings in this project will complement the findings of a related project undertaken by the team in which US and UK public and private sector employees were surveyed on their financial and tax literacy and tax morale. This widened scope will result in another article intended for a peer-reviewed journal. The findings of this parallel research have already been summarised and will be presented at the Tax Research Network's 27th Annual Conference.

References

- AKERLOF, G. A. 1980. A theory of Social Custom of Which Unemployment may be One Consequence. *The Quarterly Journal of Economics*, 94(4), pp.749 - 775.
- ALLINGHAM, M. G. & SANDMO, A. 1972. Income Tax Evasion: A theoretical Analysis. *Journal of Public Economics*, 1, pp.323 - 338.
- ALM, J. 1991. The Perspectives on Experimental Analysis of Taxpayer Reporting. *The American Review*, 66(3), pp.577-593.
- ALM, J. 1992. Why do People Pay Taxes? *Journal of Public Economics*, 48(1), pp.21 - 48.
- ALM, J. & TORGLER, B. 2006. Cultural Differences and Tax Morale in the United States and in Europe. *Journal of Economic Psychology*, 27(2), pp.224-246.
- BECKER, G.S., 1968. Crime and punishment: An economic approach. In *The economic dimensions of crime* (pp. 13-68). Palgrave Macmillan, London.
- CHEN, H. & VOLPE, R. 1998. An Analysis of Personal Financial Literacy Among College Students. *Financial Services Review*, 7(2), pp.107-128.
- CHUNG, P. 1976. On Complaints about High Taxes, an Analytical Note. *Public Finance*, 31(1), pp.36 - 47.
- CULLIS, J., JONES, P. & LEWIS, A. 2006. Tax Framing, Instrumentality and Individual Differences: Are There Two Different Cultures? *Journal of Economic Psychology*, 27(2), pp.304-320.
- DAUDE, C., GUTIERREZ, H. & MELGUIZO, A. 2013. What Drives Tax Morale? A Focus on Emerging Economies. *Review of Public Economics*, 207(4), pp.9 - 40.
- DE STEFANO, V. 2015a. Crowdsourcing, the Gig-Economy, and the Law Introduction. *Comparative Labor Law & Policy Journal*, 37, pp.461-470.
- DE STEFANO, V. 2015b. The Rise of the Just-in-Time Workforce: On-Demand Work, Crowdwork, and Labor Protection in the Gig-Economy. *Comparative Labor Law & Policy Journal*, 37, pp.471-504.
- DOERREBERG, P. & PIECHEL, A., 2013. Progressive Taxation and Tax Morale. *Public Choice*. 155(3-4), pp.293-316.
- ERIKSEN, K. & FALLAN, L. 1996. Tax Knowledge and Attitudes Towards Taxation; A Report on a Quasi-Experiment. *Journal of Economic Psychology*, 17(3), pp.387 - 402.

EUROPEAN COMMISSION, 2016. A Guideline for a Model for a European Taxpayers' Code. Europa Publishing, Brussels. ONLINE, Available at: [https://ec.europa.eu/taxation_customs/sites/taxation/files/guidelines_for_a_european_taxpayers_code_en.pdf](https://ec.europa.eu/taxation_customs/sites/taxation/files/guidelines_for_a_model_for_a_european_taxpayers_code_en.pdf) Last accessed on 11 June 2018.

FEHR, E. & FISCHBACHER, U. 2004. Social norms and human cooperation. *Trends in Cognitive Sciences*, 8(4), pp.185-190.

FELLNER, G., SAUSGRUBER, R & TRAXLER, C. 2013. Testing Enforcement Strategies in the Field: Threat, Moral Appeal and Social Information. *Journal of the European Economic Association*. 11(3), pp.634–60.

FREY, B. & FELD, L. 2002. Deterrence and Morale in Taxation: An Empirical Analysis. CESifo Working Paper Series No 760. August 2002 ed. SSRN Website

FREY, S. & TORGLER, B., 2007. Tax morale and conditional cooperation. *Journal of Comparative Economics*. 35(1), pp.136-269.

CESifo Website: CESifo. Available at: <https://academic.oup.com/cesifo>, Last accessed 28 June 2018.

GILLIGAN, G. & RICHARDSON, G. 2005. Perceptions of tax fairness and tax compliance in Australia and Hong Kong -a preliminary study. *Journal of Financial Crime*, 12(4), pp.331-343.

GORDON, J. P. F. 1989. Individual Morality and Reputation Costs as Deterrents to Tax Evasion. *European Economic Review*, 33(4), pp.355 - 363.

GRAETZ, M. J. & WILDE, L. L. 1985. The Economics of Tax Compliance: Fact and Fantasy. *National Tax Journal*, 38(3), 355 - 363.

HALLSWORTH, M., LIST, J.A., METCALFE, R.D. & VLAEV, 2014. The Behaviorist as Tax Collector: Using Natural Field Experiment to Enhance Tax Compliance. *Journal of Public Economics*, 148, pp.14-31.

HANSEN, P. 2003. *Taxing Illusions, Taxation, Democracy and Embedded Political Theory*, Fernwood, Black Point, NS.

HASSELDINE, J., HITE, P. A., JAMES, S. & TOUMI, M. Carrots, Sticks, Sole Proprietors, and Tax Accountants. IRS Research Conference, 2005. Citeseer, 191-210.

HOGARTH, J.M. & HILGERT, M.A. 2002, Financial Knowledge, Experience, and Learning Preferences: Preliminary Results from New Survey on Financial Literacy. Proceedings of the American Council of Consumers Interests 2002 Annual Conference.

HOUSTON, S.J. 2010. Measuring financial literacy. *The Journal of Consumer Affairs*. 44(2), pp.296-316.

- KAHAN, D. & BRAMAN, D. 2005. Culture Cognition and Public Policy. *Yale Law & Policy*, 149.
- KOLSTAD, I. 2007. The Evolution of Social Norms: With Managerial Implications. *Journal of Socio-Economics*, 36(1), pp.58-72.
- KORNHAUSER, M. 2007. A Tax Morale Approach to Compliance: Recommendations for the IRS. *Florida Tax Review*, 8, 601-640.
- KORNHAUSER, M. E. 2009. The Tax Literacy Project. *ABA Section of Taxation News Quarterly*, 29, pp.9-10.
- LAFFONT, J. J. 1975. Macroeconomic Constraints, Economic Efficiency and Ethics. *Economica*, 42, pp.430 - 437.
- LEWIS, A. 1982. *The Psychology of Taxation*, Oxford, Martin Robertson & Company Ltd.
- LISI, G. 2015. Full length article: Tax morale, tax compliance and the optimal tax policy. *Economic Analysis and Policy*, 45, pp.27-32.
- LUTTMER, E. F. P. & SINGHAL, M. 2014. Tax Morale. *Journal of Economic Perspectives*, 28, pp.149-168.
- MAZAR, N. & ARIELY, D. 2006. Dishonesty in everyday life and its policy implications. *Journal of Public Policy & Marketing*, 25, pp.117-126.
- MCGEE, R. W. & TYLER, M. 2006. Tax evasion and ethics: A demographic study of 33 countries. Available at SSRN 940505.
- LUSARDI, A., & MITCHELL, O.S. 2007. The importance of financial literacy: Evidence and implications for financial education programs. *Policy Brief. The Wharton School*.
- MYLES, G. D. & NAYLOR, R. A. 1996. A Model of Tax Evasion with Group Conformity and Social Custom. *European Journal of Political Economy*, 12, pp.49 - 66.
- NAYLOR, R. A. 1989. strikes, Free Riders and Social Customs. *Quarterly Journal of Economics*, 104, pp.771 - 805.
- OECD 2015. *Building Tax Culture, Compliance and Citizenship: A Global Source Book on Taxpayer Education*. Paris, France: OECD.
- OECD (2015), *Building Tax Culture, Compliance and Citizenship: A Global Source Book on Taxpayer Education*, OECD Publishing, Paris. ONLINE, Available at: https://read.oecd-ilibrary.org/taxation/building-tax-culture-compliance-and-citizenship_9789264205154-en Last accessed 11 June 2018.
- OECD 2017. *Tax Administration 2017: Comparative Information on OECD and Other Advanced and Emerging Economies*. OECD Publishing, Paris. ONLINE, Available at: https://read.oecd-ilibrary.org/taxation/tax-administration-2017_tax_admin-2017-en#page1 Last accessed 26 June 2018.

OECD 2018. *OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion*. OECD Publishing, Paris. ONLINE, Available at: <https://www.oecd.org/finance/financial-education/2018-INFE-FinLit-Measurement-Toolkit.pdf> Last accessed 2 July 2018.

OLSON, N. 2009. Minding the Gap: A Ten-Step Program for Better Tax Compliance. *Stanford Law & Policy Review*, 20, 7-26.

ROBERTS, M., HITE, P. & BRADLEY, C. Understanding Attitudes Toward Progressive Taxation. *Public Opinion Quarterly*, 58, pp.165-190.

SONG, Y. & YARBROUGH, T. 1978. Tax Ethics and Taxpayer Attitudes. *Public Administration Review*, 38, pp.442-452.

SUGDEN, R. 1984. Reciprocity: the Supply of Public Goods through Voluntary Contribution. *Economic Journal*, 94, pp.772 - 787.

TOGLER, B., SCHAFFNER, M. & MACINTYRE, A. 2007. Tax Compliance, Tax Morale, and Governance Quality. CESifo Working Paper.

TORGLER, B. Tax morale and tax compliance: A cross culture comparison. Proceedings. Annual Conference on Taxation and Minutes of the Annual Meeting of the National Tax Association, 2003. JSTOR, 63-74.

TORGLER, B. 2006. The importance of faith: Tax morale and religiosity. *Journal of Economic Behavior & Organization*, 61, pp.81-109.

TORGLER, B. 2007. Tax compliance and tax morale: a theoretical and empirical analysis / Benno Torgler, Cheltenham: Edward Elgar, 2007.

Appendix 1: Tax Literacy: Improving Tax Compliance Survey

BACKGROUND INFORMATION

In this section, please respond by ticking one box for each question and where appropriate, fill in the blank spaces.

1. I identify as: Female Male Other I prefer not to say
2. What is your age? 18-20 21-25 over 25
3. What is your nationality? UK Other (please specify): _____
4. How long have you lived in the UK?
 all my life less than 3 years somewhere in between
5. What is your ethnicity?
 White
 Black or Black British – Caribbean
 Black or Black British – African
 Other Black background
 Asian or Asian British – Indian
 Asian or Asian British – Pakistani
 Asian or Asian British – Bangladeshi
 Chinese
 Other Asian background
 Mixed – White and Black Caribbean
 Mixed – White and Black African
 Mixed – White and Asian
 Other mixed background
 Arab
 Other ethnic background (Please specify)

 Prefer Not to Say/Information Refused
6. Are you currently employed? Yes No
7. Have you been employed in the past? Yes No
8. Have you ever completed a tax return? Yes No
9. Have you ever paid tax on your earnings? Yes No
10. What is your marital status?
 Single (never married)
 Married or in a civil partnership
 Separated
 Divorced
 Widowed
11. Do you have children?
 Yes
 No
12. Onto which course are you enrolled?
 Accounting and Finance Accounting and Tax Accounting and Business
 Finance and Business Business Studies (any pathway)
 Other (please specify): _____
13. Would you say you are a religious person? Yes No I prefer not to say

14. Please tell me for each of the following statements whether you think underpaying taxes is justifiable if ...

	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
... most of the money collected is spent wisely							
... a large portion of the money collected is spent on projects that benefit me							
... a large portion of the money collected is spent on worthy projects							
... tax rates are low							
... it means that if I pay less, others will have to pay more							
... the tax system is unfair							
... the tax system is complex							
... the risk of being caught is high							
... the penalty for underpayment is low							
... a large portion of the money collected is wasted							
... a large portion of the money collected is spent on projects that do not benefit me							
... a large portion of the money collected is spent on projects that I morally disapprove of							
... the risk of being caught is low							
... the penalty for underpayment is high							
... tax rates are too high							
... everyone is doing it							
... the tax system is fair							
... the tax system is simple							

15. Please let us know your view on the UK tax system for individuals.

	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
The UK tax system for individuals is fair.							
The UK tax system for individuals is simple.							
UK tax rates for individuals are low.							
The risk of individuals being caught for underpaying UK taxes is high							
The penalties to individuals for the underpayment of UK taxes are high.							

16 In your opinion, what percentage of taxpayers pays less tax than they legally owe? Would you say:

- 1% - 20%
- 21%-40%
- 41%-60%
- 61%-80%
- 81%-100%

17 Suppose you had £100 in a savings account and the interest rate is 1% per year and you never withdraw money or interest payments. After 5 years, how much would you have on this account in total? (Please choose 1 of the options below.)

- More than £105
- Exactly £105
- Less than £105
- Do not know

18 Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

- More than today
- Exactly the same
- Less than today
- Do not know

19 Average tax rates are the same as marginal tax rates in a -

- progressive tax system
- proportional tax system
- regressive tax system
- any tax system
- do not know

20 The plumber comes out to fix a leak in your kitchen. She tells you the bill will be £120 but offers to knock off the VAT (Value Added Tax) if you pay her in cash.

i) How much would you expect to pay if the bill did not include VAT?

- £110
- £100
- £96
- do not know

ii) How often would you take advantage of such an offer?

- Always
- Often
- Occasionally
- Depends on the amount
- Never

21 You work part-time and earn £10,800 a year (£900 a month).

i) How much income tax would you expect to pay for the year?

- Nil
- about £300
- about £1,300
- over £2,000

ii) How much in national insurance contributions would you expect to pay for the year?

- Nil
- about £300
- about £1,300
- over £2,000

22 Do you think things in this country are generally going in the right direction or are they seriously off on the wrong track? Please indicate on the scales below, 10 being the right direction and 1 being the completely wrong track

Completely the wrong track.....The right direction									
1	2	3	4	5	6	7	8	9	10

23 You work part-time and earn £20,400 a year (£1,700 a month).

i) How much income tax would you expect to pay for the year?

- about £1,500
- about £2,000
- about £2,500
- over £4,000

ii) How much in national insurance contributions would you expect to pay for the year?

- about £1,500
- about £2,000
- about £2,500
- about £4,000

24 You have graduated and are earning £25,000 a year. You are offered £1,000 worth of overtime. How much would you expect to be deducted from the £1,000 for income tax, national insurance contributions and student loan repayments?

- about £100
- about £200
- about £300
- about £400
- about £500

25 Where would you turn to find answers to these questions? _____

26 What rate of interest do the Student Loans Company charge a student while they are still studying?

- Nil
- Retail Price Index (RPI), currently 1.6%
- 3%
- RPI plus 3%, currently 4.6%
- It depends on your household income

27 National Insurance Contributions (NICs) are paid by employees, employers and the self-employed. NICs are mainly used to (choose one):

- fund the National Health Service (NHS)
- help families on low incomes
- pay benefits to those out-of-work
- pay pensions to the elderly
- fund the police and armed services

28	<p>i) Please identify which service requires the <i>highest</i> percentage of public spending from the list below (choose only one):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Defense <input type="checkbox"/> Welfare <input type="checkbox"/> Transport <input type="checkbox"/> Education <input type="checkbox"/> Health Care <input type="checkbox"/> Pensions 	<p>ii) Please identify which service requires the <i>lowest</i> percentage of public spending from the list below (choose only one):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Defense <input type="checkbox"/> Welfare <input type="checkbox"/> Transport <input type="checkbox"/> Education <input type="checkbox"/> Health Care <input type="checkbox"/> Pensions
----	---	---

29	<p>i) Please identify the <i>greatest</i> contributor to the Government from the list below (choose only one):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Corporation Tax <input type="checkbox"/> Income Tax <input type="checkbox"/> VAT <input type="checkbox"/> NIC <input type="checkbox"/> Council Tax <input type="checkbox"/> Capital Gains and Inheritance Taxes 	<p>ii) Please identify the <i>least</i> contributor to the Government from the list below (choose only one):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Corporation Tax <input type="checkbox"/> Income Tax <input type="checkbox"/> VAT <input type="checkbox"/> NIC <input type="checkbox"/> Council Tax <input type="checkbox"/> Capital Gains and Inheritance Taxes
----	---	---

30 The questions below ask about your personally preferred tax system. There is no right or wrong answer. We are only interested in your opinion.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
My preferred tax system is one with graduated tax rates where individuals who have greater amounts and sources of income pay at higher rates.					
My preferred tax system is a simple one and one with a flat tax rate, one rate applicable to everyone, where individuals who have greater amounts and sources of income pay proportionally more tax.					

31 The questions below ask about your perceptions of the tax system by comparing two different taxpayers: A and B. For each of these questions, A has taxable income of £60,000 and B has taxable income of £30,000.

	Very Fair	Moderately Fair	Neither Fair nor Unfair	Moderately Unfair	Very Unfair
If A pays £8,000 in taxes and B pays £4,000, the tax system is					
If A pays £10,000 in taxes and B pays £4,500, the tax system is					
If A pays £9,000 in taxes and B pays £5,000, the tax system is					

32 There are many different institutions in this country, for example, the government, courts, police, HMRC, NHS. Please indicate on the scales below, where 1 is very untrustworthy and 10 is very trustworthy, how much your personal trust in each of the following is:

	Very untrustworthy.....Very trustworthy									
	1	2	3	4	5	6	7	8	9	10
EU Government										
UK Government										
UK Courts										
Police										
Military										
Her Majesty's Revenue and Custom (HMRC)										
National Health Service (NHS)										
Banks and other financial institutions										
The BBC										

33 Here are a number of personality traits that may or may not apply to you. Please, indicate the extent to which you agree or disagree with each statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other. I see myself as...

	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
Extraverted, enthusiastic							
Critical, quarrelsome							
Dependable, self-disciplined							
Anxious, easily upset							
Open to new experiences, complex							
Reserved, quiet							
Sympathetic, warm							
Disorganized, careless							
Calm, emotionally stable							
Conventional, uncreative							

34. What is the National Minimum Wage (NMW) for a 19 year old?

- £3.30 an hour
- £3.87 an hour
- £5.30 an hour
- £6.70 an hour
- £7.20 an hour

Thank you!

Thank you very much for taking time to respond to this questionnaire. The results will help the Charter Institute of Taxation and HMRC to appreciate the impact tax literacy has on tax morale and tax compliance. Individual responses will be kept confidential.