

Briefing Paper BP3/2015

Tax Behaviour: A Review of Existing Research

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Introduction

Traditional economic theory is based on the assumption that agents make rational decisions. However this assumption is being questioned, as individuals do not always make decisions for purely economic reasons. This has led to the development of behavioural and experimental economics.

Behavioural economics brings “psychological insights to bear on economic phenomena” (Loewenstein, 1999), through introducing the idea that there is irrationality in human behaviour. Moreover, there has been a move from economics as an observational science to an experimental science; before this transition, phenomena could not be recreated in a lab, but as an experimental science, hypotheses can be tested in a controlled environment.

The first economics experiments were conducted in the 1940s/1950s and since then, economists have been able to use laboratory experiments to imitate and simplify highly complicated models and markets to analyse decision making (Davis & Holt, 1993). This has significantly impacted on how economists are able to test theories, since laboratory

environments allow greater control over theoretical assumptions being made, which is not always possible when analysing natural data (Davis & Holt, 1993).

One area which experimental economics has been addressing is the study of tax behaviour and what influences tax evasion activity. 14% of the UK's tax gap is estimated to be due to tax evasion and given that the government budget was £102.3 billion in deficit for 2013/14 (Office for National Statistics, 2014), closing the tax gap really is a priority. Schwartz and Orleans's (1967) research showed that "conscience appeals are more effective than sanction threats" (pg. 299) to increase tax compliance. Thus we need to look closely at the line between tax avoidance and tax evasion and identify the *psychological* factors which influence tax behaviour. Once identified, they can help inform policy making.

This briefing paper will identify three factors which influence an individuals' decision on whether to evade taxes. These are: perceived inequity in tax rates, individuals' personal value of gains from transfer payments and level of effort in work. Experimental evidence will be used to analyse the extent to which each of these factors influence tax evasion.

1. Perceived inequity in tax rates

The first factor which has been highlighted as being influential on the level of tax evasion is the level of perceived inequity amongst taxpayers. A widely held view, as found in survey data, is that there is a positive relationship between perceived tax inequities and tax evasion. This section draws on Spicer and Becker (1980) to review the evidence for this.

This experiment was carried out on fifty-seven subjects, all students at the University of Colorado. It was created to be a tax game, where subjects were allocated a salary each month and had to decide how much to declare as reported income on which they would pay tax. Participants were told the probability that their income declaration would be audited and how much the fine would be. Although all subjects were paying the same level of tax, in order to test the impact of perceived inequity on tax evasion some members were given notes to alter their perception of the level of tax they paid; 19 participants were told they

were paying more tax than the average, a further 19 participants were told they were paying less tax than average and the remaining were told the truth i.e. that they were all paying the same level of tax.

The results of this experiment can be shown in Figure 1:

PERCENTAGE OF TAX EVADED BY PERCEIVED RELATIVE TAX RATES	
	% of Tax Evaded
"Low-Tax" Group^a	12.26
"Medium-Tax" Group^a	24.50
"High-Tax" Group^a	32.63
All Groups	23.13

^aThe "Low-Tax" group includes those participants who were told that their tax rates were lower than average, the "High-Tax" group includes those told their tax rates were higher than average and the "Medium-Tax" group includes the remaining participants.

Figure 1: Spicer and Becker, 1980

As shown in the table, only 12.26% of participants who were told that their tax rates were lower than average evaded taxes compared to 32.63% of participants who were told their tax rates were higher than average. Therefore, the experiment provides evidence supporting the notion that if an individual perceives their tax burden as being lower than average, they are less likely to evade tax and if they perceive the tax they are paying as being higher than average, they are more likely to evade taxes.

However, Spicer and Becker (1980) do acknowledge that there were limitations to the data they collected, since the relationship between perceived tax inequity and tax evasion was significant only at a 90% confidence level (when a multivariate analysis of variance test was used).

Furthermore, contrary to Spicer and Becker's findings, Webley et al. (1991) found that there was no significant relationship between perceived tax inequity and tax evasion and gave

three reasons for this. Firstly, they highlight the differences in methodology used in their experiments, since Spicer and Becker use a larger tax rate difference between the inequity groups than Webley et al. with the aim of creating a more realistic tax rate situation. Secondly, the participants in Spicer and Becker's experiment were told they were taking part in a "tax game" which may have affected their decision making. Finally, Webley et al. acknowledge that perhaps perceived tax inequity is just one way we can rationalise tax evasion rather than being a determinant for tax evasion.

Overall, it would seem that whilst there is some evidence for perceived tax inequity as a factor influencing tax behaviour, it cannot be a sole determinant.

2. Personal value of gains from transfer payments

As well as individuals' perception of the equity of their tax burden, Becker et al. (1987) note that their perception of personal tax may vary depending on the personal benefit derived from public expenditure and this could impact the level of tax evasion. To explore this further, they carried out an experiment to model the situation and explore the strength of this suggestion.

It is worth noting that Becker et al. based their experiment on that developed by Guth and Mackscheidt (1985) as they were the first to look at the impact of personal benefit derived from public expenditure on tax. Becker et al. ran the experiment twice; 85 students participated at the University of Bonn and 31 at the University of Cologne. In the experiment, subjects had different incomes and three bands of income tax were implemented. They were also told what share of total estimated transfer payments they receive. During the experiment, all subjects had to report whether they felt the tax they were paying in comparison with the value of their share of transfer payments was too high or too low.

As expected, it was found that tax evasion decreased as transfer payments to the individual increased. However, they also looked at the perceived tax burden in comparison with transfer payment received and this gave a somewhat surprising result since those who perceived their tax burden as being comparatively higher than the benefit from transfer payment received evaded taxes on fewer occasions. Becker et al. (1987) look at risk aversion as an explanation for this. If an individual considers their tax burden to be relatively high compared to their transfer payment received, they may think their post-tax income is not large enough to risk evading taxes and having to pay a fine, leading to increased risk aversion.

Although Becker et al.'s work (1987) provides evidence that if transfer payments to individuals increase, tax evasion should fall, it must be noted that the extent of this may be limited. If an individual *perceives* their tax burden as being relatively high compared to the benefits received in terms of transfer payments, they are less likely to evade taxes, despite receiving lower transfer payments due to risk aversion.

3. Level of effort in work

Next, I will look at the relationship between individuals' level of work effort and tax evasion. This is to say that if an individual has high aspirations and puts a great deal of effort into getting a certain job, are they then less likely to evade taxes?

Kirchler et al. (2009) conducted an experiment involving 126 students as participants, who were all enrolled in economics or economic psychology courses at the University of Vienna and the University of Economics and Business Administration of Vienna. Subjects were told they were to take the role of architects applying for building projects. There were three design conditions: control, low-effort and high-effort. In the control condition, participants were given a project and no special events were listed in the circumstances. In the low-effort condition, after applying for a project, participants were told they were the only applicant and so received the project. Also the description of circumstances highlighted that

their project ran very smoothly and so the work was relatively easy. For the high-effort condition, participants were told they were one of seven applicants for the project so had to complete a knowledge test as well. They were then each told they were the best and would be given the project. However, their work circumstances are described as being tough with a number of challenges.

The results of the experiment are shown in the following table (figure 2):

	<i>Condition</i>		
	<i>Control</i>	<i>Low effort</i>	<i>High effort</i>
<i>Aggregate level</i>			
Aggregate tax evasion	.21	.25	.18
<i>Individual level</i>			
Tax honesty			
Honest	74 (58.7%)	58 (46.0%)	73 (57.9%)
Dishonest	52 (41.3%)	68 (54.0%)	53 (42.1%)
Tax evasion severity			
Md(IR)	.50 (.57) (n = 52)	.50 (.31) (n = 68)	.45 (.42) (n = 53)

Note: Total $n = 126$. Md—Median, IR—Interquartile Range.

Figure 2: Kirchler et al., 2009

As shown in Figure 2, the aggregate level of tax evasion was equal to 21% of the taxes expected in the control condition, 25% in the low-effort condition but only 18% in the high effort condition. The level of tax honesty on an individual level follows this same pattern, as honest tax declarations were made by 58.7% of the control condition group, 46% of the low-effort group and 57.9% of the high-effort group. So, the evidence suggests that if an individual is working in high-effort conditions, e.g. a very competitive job, they are more likely to make honest tax declarations and are less likely to evade taxes.

Kirchler et al. (2009) touch on the reasons for this, looking towards risk behaviour in decision making and suggest that participants in the low-effort condition may have felt “in a run of luck” (pg. 505) and so they were more inclined to take a risk by evading taxes. High-effort participants however may have felt that it was not worth the risk of getting caught given that their working conditions were more difficult. More information about the

correlation between risk and decision making can be found in Kahneman and Tversky's work on Prospect Theory (1979).

Conclusion

In conclusion, these three factors, perceived equity of the tax burden, transfer payments received and effort made in work, to an extent all have an impact on the level of tax evasion. If individuals consider their tax burden to be relatively high compared to averages, they are more likely to evade. Moreover, if individuals receive higher transfer payments, tax evasion levels fall. Finally less tax evasion occurs in high-effort work conditions. It should also be noted that these three factors are interrelated, for example the impact of the relative tax burden compared to transfer payments received lead to a different outcome in comparison to when looking just at the transfer payments in relation to tax evasion. These are just three factors affecting tax evasion however and research into other factors affecting tax evasion is also necessary in order to close the tax gap.

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