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The Influence of Game Theory in HM Revenue and Customs' Choice of Civil or Criminal Enforcement

James Marson* and Hamza Khan**

ABSTRACT

This paper outlines the method by which self-employed individuals assess and fulfil their income tax obligations. The civil and criminal investigative powers available to Her Majesty's Revenue and Customs (HMRC) are analysed, adopting a comparative approach, following which we present an application of game theory in determining the strategy for the most advantageous options available to both the taxpayer and HMRC for payment and recovery, respectively. Game theory provides an explanation for the conscious and purposeful decision-making of competing parties, based often on incomplete information and/or the intentions of the parties. This is particularly apt given the nature of the self-assessment tax regime in England and Wales with the choice of the taxpayer to fairly and honestly disclose their income and the tax to be paid, and equally HMRC with its choice to accept or challenge the details in the taxpayer's return. As such, we use game theory as a means for determining optimal behaviours in difficult circumstances.

INTRODUCTION

Taxation is the single largest source of revenue,¹ and thus one of the most valuable tools, available to government when raising capital to run the country. It is also one of the most politically sensitive subjects in society given '... taxation is so central to politics and to public debate [and] politicians make reckless campaign promises about taxation.'² This includes the levying of tax upon citizens and companies, available tax exemptions, how the tax should be paid and what powers the state has when enforcing tax laws. Despite the introduction of poll tax in 1377 and income tax in this country in 1799, tax law, generally, remains a relatively niche area of practice and research. For example, like many of the texts written on this topic, Smith³ primarily addresses the political and ethical nature of tax, but does not provide practical advice for the taxpayer in a specific jurisdiction. Alternatively, *Tyle's Revenue Law*⁴ provides a very expansive guide on the subject, yet this text is produced for professionals and is therefore inaccessible to the uninitiated and does not address the steps that should be taken when things go wrong, for example when the taxpayer is subject to investigation by Her Majesty's Revenue and Customs (HMRC), the government department responsible for taxation. Although the literature is replete with practice notes,⁵ none of them provide an analytical view of the subject and there does not appear to be any literature providing a comparison between, or an evaluation of, the options available to the taxpayer or HMRC in a national context. Lastly, there is little available literature outlining the practical effects of the powers available to HMRC when enforcing laws around tax which can be used by the taxpayer for tax planning purposes.

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¹ <https://obr.uk/forecasts-in-depth/tax-by-tax-spend-by-spend/income-tax/> (all webpages accessed 25 June 2021).

² Smith, S. *Taxation: A Very Short Introduction* (Oxford University Press 2015), 1.

³ *ibid.*

⁴ Loutzenhiser, G., and Tiley, J. *Tiley's Revenue Law* (8th edition, Hart Publishing 2016).

⁵ See for example those available through Practical Law - <https://tinyurl.com/vcaw9pme>.

In this paper, we begin by outlining the powers available to HMRC when imposing tax laws in England and Wales and how these powers are used. We then move the discussion to an evaluation of the options available to the taxpayer and HMRC when a dispute arises between the two parties regarding the levy and payment of tax. This includes consideration of the civil and criminal routes available to HMRC before an exploration of the implications of using one route over the other and how that affects decision making is offered. The main contribution of this paper, however, is the application of game theory, using a game tree method and the principles of a game matrix, when considering the tactics available to both the taxpayer and tax authority when determining issues of strategy for tax payments and collection.

INDIVIDUAL TAX RETURNS AND DOCUMENT DELIVERY

Whilst employees are taxed on a pay as you earn (PAYE) basis, independent contractors, sole traders and partners must submit an annual self-assessment tax return. Here the individual provides information regarding their income, expenditure and claimed allowances in determining their tax liability for the year, and they are obliged to maintain the records, invoices, receipts, bank statements and other materials upon which they have relied in establishing the details of the tax return for inspection if HMRC wishes to carry out an investigation/audit.⁶ In *Spring Capital Ltd v Revenue & Customs*,⁷ the first-tier tribunal held that ‘it is reasonable for HMRC to require the taxpayer to provide the information on which it relied when compiling those entries in the return which HMRC wishes to check.’⁸ Further, HMRC is entitled to open an enquiry into a tax return without having any suspicion of irregularity,⁹ and, in respect of evidence gathering, a HMRC officer ‘does not have to have evidence that a document will definitely affect the tax position, only that it is “reasonably required” to carry out a check.’¹⁰ Yet this power is not without its judicial detractors. In *Dr K Long v HMRC*¹¹

the First-tier Tribunal rejected HMRC’s contention that a doctor’s appointment diary was reasonably required. The tribunal accepted the doctor’s evidence that the diary contained no financial information, observing that the diary was “not necessarily an accurate record of patients seen, and services provided or charged for” and that there was “no way of correlating the numbers of patients with the turnover generated.”¹²

This is also a judgment of the first-tier tribunal, however, it is a starting point when determining the limitations to HMRC’s powers to inspect documents. Additionally, *Long*¹³ addressed a particular type of document, and while we can reasonably determine that further challenges of this kind will be decided on a similar basis, this is an aspect of tax law that needs further time to develop. However, if future cases take the same approach as in *Long*,¹⁴ it will ensure HMRC

⁶ Finance Act 2008 para. 1(1) empowers HMRC to, ‘by notice in writing require a person (‘the taxpayer’) – to provide information, or to produce a document, if the officer reasonably requires the information or document for the purpose of checking the taxpayer’s tax position.’

⁷ [2015] UKFTT 8 (TC).

⁸ ‘HMRC Information Powers’ (Practical Law) <https://tinyurl.com/v34nh3rc>.

⁹ *ibid.*

¹⁰ *ibid.*

¹¹ [2014] UKFTT 199.

¹² ‘HMRC Information Powers’ (Practical Law) <<http://uk.practicallaw.thomsonreuters.com/8-385-3436?originationContext=document&transitionType=DocumentItem&contextData=%28sc.Default%29&comp=pluk>>.

¹³ [2014] UKFTT 199.

¹⁴ *ibid.*

only inspects documents that can reasonably be expected to provide an accurate and reliable picture of the taxpayers' finances and ensure it does not request sight of documents without justification, thus seeking to prevent the so-called 'fishing expeditions'¹⁵ by HMRC.

The Finance Act 2008 provides a mechanism for the taxpayer to appeal against such a notice of disclosure of documentary evidence (an information notice), and notices do not extend to a requirement to provide any information, or produce any document, that forms part of the taxpayer's statutory records, unless a tribunal has approved the giving of notice.¹⁶ This means that the taxpayer is protected from unreasonable requests for documents by HMRC. If HMRC requests documents that are part of the taxpayer's statutory record, it should not pose an unnecessary burden on the taxpayer as they should have the documents to hand. Furthermore, documents comprising the taxpayer's statutory record may be used to explain information in the tax return and could act as a defence against claims of misconduct, such as false representation.

Further, in respect of enforcement proceedings, the Finance Act 2008 provides that in the event of the taxpayer failing '... to comply with an information notice, or deliberately obstruct[ing] an officer of Revenue and Customs in the course of an inspection... that has been approved by the [tribunal]'¹⁷ the taxpayer is liable to a penalty of £300.¹⁸ It is not difficult to imagine a situation where a taxpayer, when attempting to hide several hundreds and possibly thousands of pounds of legitimately owed taxes from HMRC, may be quite willing to risk a £300 fine for the financial gains possible by their noncompliance (a point returned to in the discussion of tactics using game theory). It must also be considered that the taxpayer may have already spent the money they were attempting to hide, which means that any amendment to their self-assessment may result in financial difficulties or even bankruptcy.

Moreover, this may lead to the taxpayer appealing any amendments to their tax return. The taxpayer may feel an appeal is the only way they can save themselves from (financially) losing substantial sums of money. At the time of writing there are no statistics available regarding appeals to the tax tribunal for any year. Perhaps efforts need to be made to encourage HMRC and or HM Courts and Tribunal Service (HMCTS) to gather and/or release such data in partnership with the Office for National Statistics (ONS).

INVESTIGATING FRAUD AND THE CONTRACTUAL DISCLOSURE FACILITY (CDF): (CIVIL ROUTE)

Given the requirement for individuals to provide information to HMRC in respect of their tax returns, and mechanisms for HMRC to locate and compel their delivery to assist in the accurate identification and collection of tax payments, here we outline the (civil) mechanisms for HMRC to investigate cases of suspected fraud.

It is HMRC's policy to deal with fraud by use of the cost-effective civil fraud investigation procedures under Code of Practice 9 wherever appropriate. [Any] criminal investigation will be reserved for cases where HMRC needs to send a strong

¹⁵ 'Fishing Expedition' (LII / Legal Information Institute)
<https://www.law.cornell.edu/wex/fishing_expedition>.

¹⁶ Finance Act 2008 para. 29.

¹⁷ Finance Act 2008 para. 39(1)(b).

¹⁸ Finance Act 2008 para 39(2).

deterrent message or where the conduct involved is such that only a criminal sanction is appropriate.¹⁹

Remorse may be viewed as the best defence against criminal prosecution when the taxpayer has committed tax fraud as the only certain way to avoid such a prosecution is by entering into a contractual disclosure facility (CDF). It is, of course, unclear whether the option of CDFs creates an 'it's easier to ask forgiveness than it is to get permission' mentality or encourages taxpayers to 'come clean' when they have behaved in a dishonest manner. However, CDFs make recuperating tax easier and cheaper for HMRC and make the process less adversarial. It is also clear that HMRC, whilst not the authority which determines whether to pursue a criminal prosecution – the role maintained by the Crown Prosecution Service²⁰ – it seemingly has little interest in criminalising taxpayers when the option of 'righting a wrong' is available.

When the taxpayer is suspected of tax fraud, HMRC does not inform the taxpayer, rather it leaves it to the individual to determine whether to make a disclosure to HMRC, and will investigate their suspicions, with or without cooperation.²¹ Where the taxpayer fails to cooperate, HMRC may initiate its own investigation (which may ultimately be a criminal investigation), obtain information about financial and business affairs from third parties, charge significantly higher penalties, start legal proceedings to secure the assets of the taxpayer or to require a financial security against certain unpaid taxes and duties.²² This means that if the taxpayer knows that they have committed fraud and concludes there is a prospect of the fraud being discovered, it is in their best interest to make an admission when they discover that HMRC is investigating them. The procedure to achieve this is through a CDF:

The CDF offers you [the taxpayer] the chance to disclose any loss of tax that has been brought about by your deliberate conduct. Remember this offer expires 60 days after you receive our [HMRC] letter making the offer.²³

The taxpayer must make a full disclosure of *all* of their tax irregularities under the terms of the CDF,²⁴ which is a two-stage process. First is an outline disclosure, which involves making 'a valid outline disclosure of the deliberate conduct that brought about a loss of tax';²⁵ and a formal disclosure, concerning the making of 'a certified statement that [the taxpayer has] made a full, complete and accurate disclosure of all tax irregularities together with certified statements of [their] assets and liabilities, and of all bank accounts and credit cards...

¹⁹ 'HMRC's Criminal Investigation Policy' (GOV.UK) <<https://www.gov.uk/government/publications/criminal-investigation/hmrc-criminal-investigation-policy>>.

²⁰ Although HMRC is responsible for investigating crime, involving all the taxes and other regimes it administers, it is not responsible for criminal prosecutions. The decision whether to bring a criminal prosecution was formerly made by the Revenue and Customs Prosecution Office (RCPO). The RCPO was incorporated into the CPS on the 1st of January 2010, and it is the CPS who now decide whether to bring a criminal prosecution in England and Wales in cases of suspected tax fraud.

²¹ HM Revenue & Customs, 'Investigations Where we Suspect Tax Fraud' (Code of Practice 9, June 2014) <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/494808/COP_9_06_14.pdf>.

²² *ibid.*

²³ *ibid.*

²⁴ *ibid.*

²⁵ *ibid.*

operated.²⁶ Agreeing to, and the signing of a CDF²⁷ is the only way a taxpayer can avoid criminal prosecution.²⁸ The main criteria for using a CDF are deliberate conduct and remorse:

The CDF is only suitable for you [the taxpayer] if you: have brought about a loss of tax through your deliberate conduct, wish to fully disclose the loss of tax that you have brought about through your deliberate conduct, will work with us to put your tax affairs in order – including paying any tax, interest and penalty that you owe, stop any continuing deliberate conduct immediately. The CDF is not appropriate for people who want to disclose only careless errors or mistakes.²⁹

An argument can be made that this could amount to conversion as HMRC is threatening prosecution unless the taxpayer admits to bad behaviour, similarly to the operation of plea bargaining in the United States (US). Of course, as an alternative point of view, it is the taxpayer who has to approach HMRC and disclose any criminal conduct and can always provide evidence of their innocence before the matter proceeds to a criminal court. The CDF requires that the taxpayer admits to criminal conduct and provide a detailed account of how they committed such an act. If the taxpayer is unable to perform this latter part of the CDF contract, due to lack of evidence or the fact that they did not commit a criminal act, then it is unlikely that HMRC will be able to prove the taxpayers' guilt in the criminal court standard.

Where the taxpayer believes their deliberate conduct has not brought about a tax loss, they may sign and return a CDF rejection letter to HMRC, within the same 60-day period they have to sign and return a CDF contract. They may also send any evidence that supports their rejection, which will be considered by HMRC.³⁰ The rejection letter may be used as evidence at court or tribunal if HMRC continues with civil proceedings, and they reserve the right to lodge criminal proceedings as well given the non-existence of the CDF. The consequence is that it might be concluded that it is in the taxpayer's best interest to cooperate and engage with the process because HMRC has a wide array of powers to investigate a suspected fraud.

It could be argued that the existence of the option of agreeing to a CDF may promote tax fraud as the taxpayer may feel secure in knowing that if they get caught, they can avoid prosecution by entering into a CDF. Consequently, there is a possibility this incentivises people to engage in the process which also makes the process of recovering unpaid tax easier and cheaper for HMRC. As stated above, HMRCs' purpose, after all, is to recover tax payments, not to prosecute individuals, and tax officials prefer to avoid court and settle matters in the first instance; a practice which is heavily encouraged in civil matters. Further, and after a judgment has been awarded against the taxpayer, they may have to file for bankruptcy as they cannot satisfy payment of the tax owed and/or the costs associated with the process. This bolsters the argument in favour of CDF use because although entering into a CDF will mean that penalties (up to 200% of the tax loss) may be imposed, they can be greatly reduced through the taxpayer's conduct, such as positive behaviour.³¹

²⁶ *ibid.*

²⁷ A CDF creates a binding contract between the taxpayer and HMRC, where the taxpayer is protected from prosecution, although the terms of the CDF are non-negotiable (HM Revenue & Customs, 'Investigations Where we Suspect Tax Fraud' (Code of Practice 9, June 2014)).

²⁸ *ibid.*

²⁹ *ibid.*

³⁰ *ibid.*

³¹ 'HMRC Code of Practice 9 Contractual Disclosure Facility' (Practical Law) <<https://tinyurl.com/4ja22ryp>>.

HMRC has the option to open a criminal investigation into alleged tax return irregularities in the following circumstances: if the taxpayer rejects the offer of a CDF;³² if the taxpayer accepts the CDF but fails to make an outline disclosure or makes an invalid outline disclosure;³³ where the taxpayer makes an apparently incompatible outline disclosure;³⁴ where the taxpayer makes a false statement³⁵ or they submit false formal disclosure documents.³⁶ These actions will be considered a breach of the CDF. A breach or rejection of a CDF does not automatically mean that HMRC will refer the case to the CPS. Rather, HMRC maintains its right to explore such a possibility. However, and pursuant to HMRC's criminal investigation, it only refers cases to the CPS when it 'needs to send a strong deterrent message or where the conduct involved is such that only a criminal sanction is appropriate.'³⁷ Caselaw does not provide meaningful guidance on this as the majority of criminal cases do not proceed to the higher courts and, even when they do, the reporting makes no mention of the considerations made by investigators or prosecutors.³⁸ Furthermore, a breach of a CDF is a breach of contract so a resulting civil action would be heard by a civil court rather than the tax tribunal. However, most likely, HMRC will refer the case to the CPS rather than continue through the civil route as HMRC reserves the right to refer cases to the CPS where the taxpayer breaches the contract.³⁹ Furthermore, not prosecuting when a CDF has been breached sets a bad precedent by encouraging the breach of the contract. Taxpayers may feel that they can enter into a CDF and then break it without any consequences.

The guidance and literature make no mention of whether or not the taxpayer needs to seek legal advice before signing a CDF. It could be argued that this is ethically wrong as the taxpayer might sign a CDF without fully understanding its implications, however it must be noted that it is the taxpayer's responsibility to approach HMRC when they feel they need to disclose criminal behaviour, meaning it should be assumed that the taxpayer understands the consequences of their actions.

Despite these conclusions, it is inevitable that in some cases criminal prosecution is required when the civil route of recuperating unpaid tax fails. There is no specific offence of 'tax evasion' (tax fraud), so a variety of statutory and common law offences are employed by prosecutors. Most of these offences require a person to have acted fraudulently by misleading HMRC. This could have been done by using false invoices to reduce the taxable profits of a business or knowingly understating income in an annual return.⁴⁰ The Supreme Court, in *Ivey v Genting Casinos (UK) Ltd t/a Crockford*,⁴¹ considered 'whether the defendant was dishonest is a question of fact for the jury (or a magistrate).'⁴² The magistrate or jury must ask, what was the defendant's actual state of knowledge or belief as to the facts? [and] irrespective of the

³² HM Revenue & Customs, 'Investigations Where we Suspect Tax Fraud' (Code of Practice 9, June 2014) <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/494808/COP_9_06_14.pdf>.

³³ *ibid.*

³⁴ *ibid.*

³⁵ *ibid.*

³⁶ *ibid.*

³⁷ *Op cit n 19.*

³⁸ [2018] EWCA Crim 2294.

³⁹ 'HMRC Code of Practice 9 Contractual Disclosure Facility' (*Practical Law*) <<https://tinyurl.com/4ja22ryp>>.

⁴⁰ 'Criminal Prosecutions for Tax Fraud Overview' (*Practical Law*) <<https://tinyurl.com/4ads8jpf>>.

⁴¹ [2017] UKSC 67.

⁴² *Op cit n 40.*

defendant's belief about the facts, was their conduct dishonest by the objective standards of ordinary decent people.⁴³

This allows for a factor of plausible deniability when it comes to taxes due. Especially if an individual instructs an accountant to conduct their tax affairs. As long as the taxpayer does not ask the accountant for details, their actions will not satisfy the test in *Ivey*.⁴⁴ Although, an argument can be made that the taxpayer will be able to see the amount of tax they pay and should be able to realise that there might be an element of dishonesty in the actions taken by the accountant, suspicion does not satisfy the test and there does not seem to be a legal obligation on the taxpayer to address this. *Ivey*⁴⁵ was a not insignificant development to the law given that it replaced the criteria previously outlined by the Court of Appeal in *R v Ghosh*.⁴⁶ *Ghosh*⁴⁷ required the prosecution to prove that the defendant knew or believed that what he did was dishonest.⁴⁸ *Ivey*⁴⁹ removed this notion of actual and constructive knowledge which resulted in the test for dishonesty in a criminal case now mirroring the test in civil actions, outlined by the Supreme Court in *Barlow Clowes International Ltd (In Liquidation) v Eurojust International Ltd*.⁵⁰ Therefore, and regardless of HMRC's approach to handling tax fraud (through either criminal or civil routes), they will have to satisfy the same test, (subject, of course to differing standards of proof).

TAX FRAUD: THE CRIMINAL ROUTE

There are three statutory offences of fraud (not including fraudulent evasion of income tax), however, only two are used by the CPS to charge taxpayers for alleged tax fraud and are outlined in the Fraud Act 2006. The first offence is called fraud by false representation. A person commits this offence if they 'dishonestly make a false representation, and [intend], by making the representation— to make a gain for himself or another, or to cause loss to another or to expose another to a risk of loss.'⁵¹ In a self-assessment context, the taxpayer may be charged with this offence if they mislead HMRC by deliberately inputting false information when filling in the self-assessment form.

However, the CPS may charge the taxpayer with the offence of false accounting under the Theft Act 1968

Where a person dishonestly, with a view to gain for himself or another or with intent to cause loss to another,—destroys, defaces, conceals or falsifies any account or any record or document made or required for any accounting purpose; or in furnishing information for any purpose produces or makes use of any account, or any such record or document as aforesaid, which to his knowledge is or may be misleading, false or deceptive in a material particular; he shall, on conviction on indictment, be liable to imprisonment for a term not exceeding seven years.⁵²

⁴³ [2017] UKSC 67.

⁴⁴ *ibid.*

⁴⁵ *ibid.*

⁴⁶ [1982] QB 1053.

⁴⁷ *ibid.*

⁴⁸ *ibid.*

⁴⁹ [2017] UKSC 67.

⁵⁰ [2005] UKSC 37.

⁵¹ Fraud Act 2006 s. 2(1).

⁵² Theft Act 1968 s. 17.

At first blush, when applied to self-assessment tax returns, there does not seem to be a difference between fraud by false representation and false accounting, however, following a careful reading of the statute it is clear that fraud by false representation is broader in nature, as the language covers both oral and written representations. The CPS may wish to charge the taxpayer with false accounting as it specifically refers to documents such as a self-assessment tax return and is also likely to cover any documents that forms part of the taxpayer's statutory tax record or was relied on when giving an account of earnings and expenses to HMRC.

The second fraud offence is fraud by failing to disclose information. A person has committed this offence if they 'dishonestly fail to disclose to another person information which he is under a legal duty to disclose, and intends, by failing to disclose the information to make a gain for himself or another, or to cause loss to another or to expose another to a risk of loss.'⁵³ In a self-assessment context, the taxpayer may be charged with this offence if they omit any earnings when filling in their self-assessment form.

However, when the CPS wishes to charge an individual for income tax fraud, they might charge the taxpayer with the offence of fraudulent evasion of income tax outlined in the Tax Management Act 1970.⁵⁴ The wording in this offence is quite broad and may result in the application of a law which is more all-encompassing than necessary to catch the primary target as it includes the conduct of others, for example, a householder, who pays a builder in cash, understanding he has the requisite 'knowledge' of the fraudulent evasion of income tax.⁵⁵ And yet there is no universally accepted definition of 'knowledge,' and none is contained in these statutes. In the case of *R v Forsyth*,⁵⁶ the Court of Appeal offered an interpretation when holding that 'suspicion will not constitute knowledge; what is required is some actual awareness of a state of affairs.'⁵⁷ Furthermore, in *R v Moys*⁵⁸ the same court held that it was 'wrong to instruct a jury that a defendant closing his eyes amounted to belief, let alone knowledge.'⁵⁹ Yet, the statement in *Forsyth*⁶⁰ is *obiter*, and the case of *Taylor's Central Garages v Roper*⁶¹ undermines it by recognising 'that "knowledge" extends to "wilfully turning a blind eye"'⁶² where the accused has a conscious awareness of a risk of a prohibited result or circumstance and that information to confirm or dispel that belief is available.'⁶³ It must be noted that the judgment in *Roper*⁶⁴ was passed by the Divisional Court so an argument could be made that *Forsyth*⁶⁵ should be followed, but given its persuasive authority, this is not guaranteed.

⁵³ Fraud Act 2006 s. 3.

⁵⁴ Tax Management Act 1970 s. 106A(1)(2).

⁵⁵ See 'Evasion of Income Tax' (Practical Law) <<http://uk.practicallaw.thomsonreuters.com/0-599-5705?originationContext=document&transitionType=DocumentItem&contextData=%28sc.Default%29&comp=pluk>>.

⁵⁶ [1997] 2 Cr App R 299.

⁵⁷ 'Evasion of Income Tax' (Practical Law) <<http://uk.practicallaw.thomsonreuters.com/0-599-5705?originationContext=document&transitionType=DocumentItem&contextData=%28sc.Default%29&comp=pluk>>.

⁵⁸ [1984] 79 Cr App R 72.

⁵⁹ *Op cit* n 55.

⁶⁰ [1997] 2 Cr App R 299.

⁶¹ [1951] 2 TLR 284.

⁶² Such 'constructive' rather than actual knowledge was used in national law in s. 151(4) Road Traffic Act 1988 until found to be incompatible with EU law. However, there is no principle of law which prevents its application albeit that its implications are very broad and may lead to unintended consequences.

⁶³ 'Evasion of Income Tax' (Practical Law) <<http://uk.practicallaw.thomsonreuters.com/0-599-5705?originationContext=document&transitionType=DocumentItem&contextData=%28sc.Default%29&comp=pluk>>.

⁶⁴ [1951] 2 TLR 284.

⁶⁵ [1997] 2 Cr App R 299.

Furthermore, in the House of Lords case of *Westminster City Council v Croyalgrange and another*,⁶⁶ Lord Bridge stated

It is always open to the tribunal of fact, when knowledge on the part of a defendant is required to be proved, to base a finding of knowledge on evidence that the defendant had deliberately shut his eyes to the obvious or refrained from inquiry because he suspected the truth but did not want to have his suspicion confirmed.⁶⁷

It is certainly arguable that the test for knowledge should require actual knowledge, rather than constructive knowledge, however, this may create a loophole in the law as the taxpayer and their advisors will be able to escape liability by adopting a ‘see no evil, speak no evil, hear no evil’ attitude. Keeping this in mind, ‘the offence is committed in relation to a primary offender when he makes a false statement [to HMRC]. There must be a false declaration.’⁶⁸ The judgment in the case of *R v Martin and another*,⁶⁹ states it can be committed by a single transaction.⁷⁰ ‘However, the fewer the acts, the more easily they are explained as a negligent slip and therefore not dishonest. To avoid the defence making such assertions, [HMRC] is more likely to prosecute cases in which there are a series of acts of a continuing state of affairs.’⁷¹

[W]hen dealing with serious tax fraud, it (CPS) often relies on the common law offence of cheating the public revenue. This offence is available in relation to all of the taxes, charges and duties within the care and management of HMRC. On conviction, the maximum penalty is life imprisonment and or an unlimited fine. Cheating can only be tried on indictment, which means it must be tried in the Crown Court before a jury.⁷²

However, this may be due, in part at least, to the fact that the offence is very broad and can be satisfied without a false representation either by words or conduct. Cheating can include any form of fraudulent conduct that results in diverting money from HMRC and depriving it of money to which it is entitled. Furthermore, this offence can be used to prosecute fraud relating to Capital Gains Tax, VAT and virtually any other form of ‘tax fraud’, as s. 106A⁷³ does not cover investments or indirect tax.

Ultimately, it is for the CPS to decide what charges to bring against the defendant keeping their charging criteria in mind.

What we have presented so far is a largely economic-based approach to compliance and noncompliance of the national self-assessment tax regime. For the taxpayer, this is built upon, excluding issues of motivation, honesty and ethics, the amount of tax they would have to pay if they provided a true and fair view of their tax liability versus the likelihood of being discovered if they failed to comply with their legal obligations and the imposition of the sanctions as a result. For HMRC, it must consider the methodology used in determining a taxpayer whose return shows evidence of noncompliance, the possible success following an

⁶⁶ [1986] UKHL 9.

⁶⁷ *ibid.*

⁶⁸ *Op cit* n 55.

⁶⁹ [1998] 2 Cr App R 385.

⁷⁰ *ibid.*

⁷¹ *Op cit* n 55>.

⁷² ‘Criminal Prosecutions for Tax Fraud Overview’ (Practical Law) <<https://tinyurl.com/4ads8jpf>>.

⁷³ Tax Management Act 1970 s. 106A.

investigation, the chances of successfully recovering the owed taxes, and the choice of pursuing a civil or criminal route (depending on the motivations of such a decision). This model follows what Becker⁷⁴ identified as the basis-of-crime methodology where criminal behaviour was viewed as rational individual decision-making based on the probabilities of detection, conviction and the levels of punishment available. Indeed, in his work Becker explicitly noted how his methodology was directly applicable to tax crimes of evasion and avoidance.⁷⁵ The inclusion, and even more so the *basis* for our inclusion of HMRC in the decision-making process is due to the significant information which the taxpayer has to submit and/or make available to HMRC, and HMRC's powers to compel the delivery of information to help with its enquiries where it investigates the taxpayer's filing of their tax return. This establishes HMRC as a central player in the tax collection process, it has the power to choose to accept or challenge the veracity of the information supplied by the taxpayer, it can investigate the claim, and it may choose whether to pursue an action against the taxpayer under a civil route or to pass on the information to the CPS who may seek a criminal prosecution against the taxpayer.

Collectively, the self-assessment tax collection process does, as noted by Graetz et al. resemble a 'game' with choices of compliance and noncompliance, investigations, the imposition of penalties and sanctions (both minor and significant), and winning and losing, each determined through the interactions between the taxpayer and HMRC.

GAME THEORY

The above information has been presented to demonstrate offenses that individuals may commit when completing and returning their self-assessment tax returns. Naturally, and unlike PAYE schemes, self-assessment requires the taxpayer to determine issues regarding their income, allowances, and deductions from the tax due to be paid to HMRC. Individuals may complete these annual returns individually or through the use of (amateur or professional) advisers, and some returns will be unintentionally incorrect, with others involving a deliberate choice by the taxpayer to present inaccurate information in order to pay less tax than they legitimately owe. Game theory as applied to issues of taxation and tax evasion has been subject to international scrutiny. Sokolovskyi⁷⁶ used the Nash-equilibrium conditions in pure strategies when analysing the problem of optimisation of tax burdens, describing the dependence between actual tax burdens from those which are declared. More closely related to this paper was the study into tax compliance and enforcement, using game theory as an exploratory tool, undertaken by Graetz et al.⁷⁷ This was a fascinating study but one based on the US with its different regulatory provisions (and perhaps even different motivations of the regulators than exists in the UK).

Many theories have been presented for these choices, and individuals may hold, through their own legal consciousness at least,⁷⁸ a justification for trying to pay as little tax as possible, but what we present now is the application of game theory to explain how both the taxpayer and HMRC might rationally consider their choice in either attempting to pay less tax than is owed

⁷⁴ Becker, G. S. 1968. 'Crime and Punishment: An Economic Approach' 76 *Journal of Political Economy* 169-217.

⁷⁵ *ibid*, 170 and 172.

⁷⁶ Sokolovskyi, D. 2018. 'Game-Theoretic Model of Tax Evasion: Analysis of Agents' Interaction and Optimization of Tax Burden' MPRA Paper 86415, University Library of Munich, Germany.

⁷⁷ Graetz, M. J., Reinganum, J. F., and Wilde, L. L. 1986. 'The Tax Compliance Game: Toward an Interactive Theory of Law Enforcement.' 1(2) *Journal of Law, Economics, & Organization* 1-32.

⁷⁸ Engel, D. *How does Law Matter in the Constitution of Legal Consciousness?* (Evanston: Northwestern University Press, 1998).

and which route to take when enforcing payment from a recalcitrant taxpayer, respectively. This is because, when submitting their tax return, taxpayers have a choice to complete the submission honestly, or they can attempt to ‘cheat’ the system through various measures, but for simplicity we will consider this to be by not declaring all of their income. The problem that immediately presents itself is how first, the taxpayer establishes whether they should be honest or cheat – and to what extent. And for HMRC, whether they accept the tax return as being honest or whether it should go to the trouble and cost of investigating the submission to determine whether, and to what extent, additional tax payments are due (and the likely success of recovering these). Evidently, there exists a risk/reward assessment being undertaken by each party, but perhaps these are not equally distributed,⁷⁹ especially if the action by the taxpayer leads to a criminal route being followed by HMRC and the CPS. Economic theorists have postulated how these competing interests might be determined, adopting the Nash-equilibria model, yet this does not exactly fit these circumstances due to the lack of best responses available due to the variables present with self-assessment tax returns. A mixed strategy equilibrium might be more useful, using probability methods of determining the numbers of taxpayers making self-assessment returns, the numbers likely to cheat, at what level, the time and resources available to HMRC to conduct investigations, the choice of taxpayers to investigate, and the likelihood of success in recovering the full tax payment owed. It has been suggested, using this modelling, that, and albeit in a US context, some two-thirds of taxpayers are likely to be honest, with one-third who are not. For the tax office, the same presentation⁸⁰ found that there would need to be investigations conducted for 2/7 of the tax returns submitted to reach the equilibrium of finding those taxpayers who were dishonest about their level of income and taxes owed. Applying this in a UK framework, this may lead to a situation where HMRC simply randomises the investigations of taxpayers as a means of little more than a prediction of the proportion of the population who correctly pay their income tax. Even where the rate of investigations is increased, this does not, of itself, increase the rate of compliance with the tax regime. This is largely due to the nature of equilibria in this tax payment ‘game’ where those players’ preferred choices (the tax cheat to ‘get away’ with paying less tax and the HMRC to ensure it recovers as much owed taxes as possible) are established and from which neither has any incentive to deviate – there is no benefit for each player by unilaterally changing their choice and this leads to the stable outcome. As such, perhaps another tactic is required.

Game theory is the study of the ways in which interacting choices of economic agents produce outcomes in terms of the ‘... preferences (or utilities) of those agents, where the outcomes in question might have been intended by none of the agents.’⁸¹ As a theory it emphasises optimal decision-making on the basis that such decision-makers are acting in a rational manner. As such, it proceeds that these decision-makers attempt to anticipate, decide on decisions and also complete actions for their own benefit. Thus it offers a view of the strategic interactions available to decision-makers based on the available tools and explains behaviours and influences which determine these actions. Interesting, albeit in the context of a business

⁷⁹ For a fascinating discussion of the distribution of wins and losses and human reaction to such events see Ruggeri, K., Alí, S., Berge, M. L., Bertoldo, G., Bjørndal, L. D., Cortijos-Bernabeu, A., Davison, C., Demić, E., Esteban-Serna, C., Friedemann, M., Gibson, S. P., Jarke, H., Karakasheva, R., Khorrami, R. P., Kveder, J., Andersen, T. L., Lofthus, I. S., McGill, L., Nieto, A. E., Pérez, J., Quail, S. K., Rutherford, C., Tavera, F. L., Tomat, N., Van Reyn, C., Večkalov, B., Wang, K., Yosifova, A., Papa, F., Rubaltelli, E., van der Linden, S., and Folke, T. 2020. ‘Replicating Patterns of Prospect Theory for Decision Under Risk.’ 4 *Nature Human Behaviour* 622–633.

⁸⁰ Polak, B. Economics 159: Game Theory ‘Mixed Strategies in Baseball, Dating and Paying Your Taxes’ *Yale Open Courses* <<https://oyc.yale.edu/economics/econ-159/lecture-10>>.

⁸¹ Ross D, ‘Game Theory’ in Zalta, E. N. (ed), *The Stanford Encyclopaedia of Philosophy* (Metaphysics Research Lab, Stanford University 2019) <<https://plato.stanford.edu/archives/win2019/entries/game-theory/>>.

environment, Ozkan-Canbolat et al.⁸² contend that the theory facilitates the making of the right decisions in situations where choices are affected by the decisions of others. So, for example, as the taxpayer and HMRC are each dependent upon the choices made by each other, game theory can help them in making the correct choices, and interestingly, this extends to the decisions of others regardless of whether they are rational or not.

Our use of game theory is used to evaluate the efficiency of the methods available to HMRC when recouping unpaid tax and what the taxpayer should do in response.

There are two types of games [in game theory]. There are finite games, and [...] infinite games. A finite game is defined as [a game of] known players, fixed rules, and agreed-upon objectives [; Baseball or Chess.] An infinite game [is] a game of known and unknown players, the rules are changeable, and the objective is to perpetuate the game [such as the economy.] When you [pit two finite players against each other], the game is stable. [...] When you pit two infinite players against each other], the system is also stable. [...] Because in an infinite game, there are no winners and losers. [...] So, we work to keep the game in play. [...] The only thing a player can do is drop out when they run out of resources or the will to play. Problems arise however when you put a finite player [against] an infinite player [as] the finite player gets caught in [a] quagmire.⁸³

In tax law, it can be assumed the taxpayer is a finite player, because they are a known player, following the fixed rules (tax laws that apply at the time) with the objective of either paying as little tax as possible or paying the exact amount they owe and not making any mistakes when submitting the self-assessment tax return. The game starts on the 6th of April and ends on the 5th of April each year. HMRC, on the other hand, appears to be an infinite player, because it is an institution (with no single known player and a revolving door of politicians and civil servants heading it), which can change the rules any time through legislation with the objective of getting everyone to pay their tax; something which is a never-ending goal.

Based on the difference in the players' (HMRC and the taxpayer) approach to the game (tax), game theory can be used to present an overview of the choices in strategy available. This can then be used by the players to analyse and evaluate the best course of action for them.

Continuing with the determination of the game applicable here, two main types apply: games of perfect and games of imperfect information. The difference between these two types of games 'is related to (though certainly not identical with!) a distinction between ways of representing games that is based on order of play.'⁸⁴ Order of play comes in two types; 'sequential-move games as being ones in which players choose their strategies one after the other (games of imperfect information), and of simultaneous-move games (games of imperfect information) as ones in which players choose their strategies at the same time.'⁸⁵ However, this description is a misnomer, 'because what is of strategic importance is not the temporal order of events per se, but whether and when players know about other players' actions relative to having to choose their own.' For example, the taxpayer may fill in and submit their self-

⁸² Ozkan-Canbolat, E., Beraha, A. and Bas, A. 2016. Application of Evolutionary Game Theory to Strategic Innovation' 235 *Procedia, Social and Behavioural Sciences* 685–693.

⁸³ Sinek, S. 2016. 'What Game Theory Teaches Us About War' <<https://www.youtube.com/watch?v=0bFs6ZiynSU>>.

⁸⁴ Op cit n 81.

⁸⁵ *ibid*.

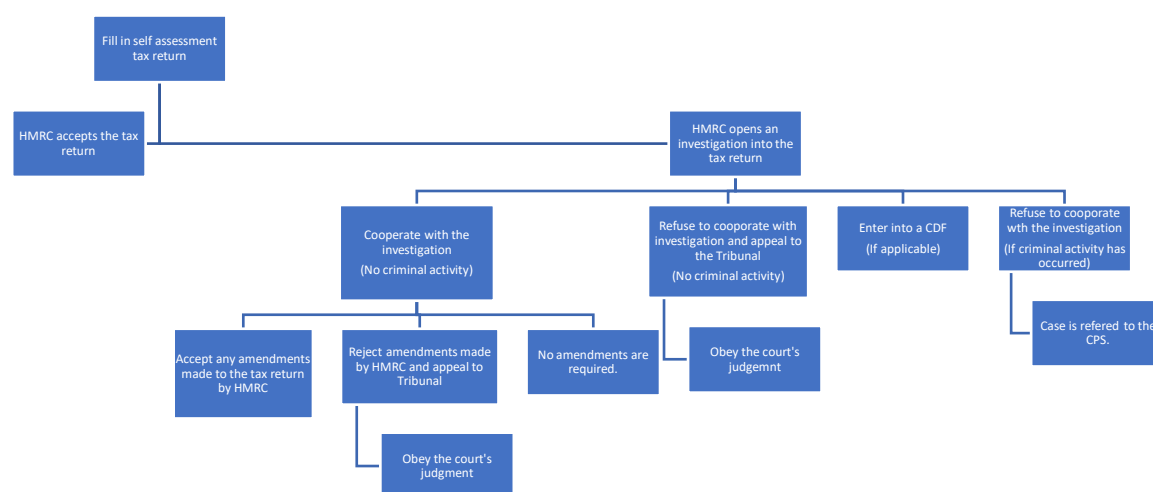
assessment tax return to HMRC, after which they will wait to see if HMRC accepts the tax return or opens an enquiry. Before even hearing about HMRC's response, the taxpayer can plan for any eventuality as HMRC has clearly outlined their plan for recuperating unpaid tax in Code of Practice (CoP) 9⁸⁶ and other legislation (see above).

Although, the taxpayer is unlikely to predict the quality of the investigation, Cop 9, legislation and case law can be used to predict how HMRC is likely to conduct their investigation based on the powers available to them. For example, inspection or documents and search of premises.

There are two methods in which game theory can be used to predict outcomes. The first uses a 'game tree'⁸⁷ and facilitates backward-induction when strategizing by allowing the individual to work

backwards from eventual outcomes to present choice problems. Since a player's utility function indicates which outcomes, she prefers to which, we also know which paths she will prefer. Of course, not all paths will be possible because the other player has a role in selecting paths too and won't take actions that lead to less preferred outcomes for him.⁸⁸

A game tree for the taxpayer is likely to look like this:



The game tree for the taxpayer outlines various options available to the taxpayer and it is up to them which path they take. This is ultimately contingent on the taxpayer's circumstances, point of view and personal objectives. However, it is fair to assume the best possible outcome for the taxpayer is that no amendments are required, and the worst is a criminal prosecution. The steps that need to be taken in the event the case is referred to the CPS are not explored in this tree as they fall outside the scope of this paper.

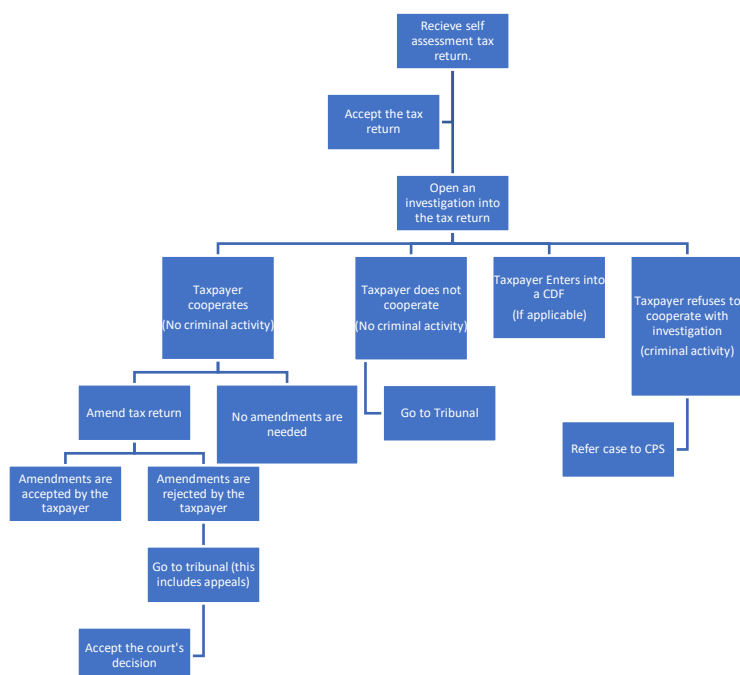
⁸⁶ HM Revenue & Customs, 'Investigations Where we Suspect Tax Fraud' (Code of Practice 9, June 2014) <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/494808/COP_9_06_14.pdf>.

⁸⁷ Op cit n 83.

⁸⁷ Op cit n 81.

⁸⁸ *ibid*.

A game tree for HMRC is likely to look like this:



It seems HMRC has various outcomes that would be acceptable to them. If no amendments are required, HMRC will not have to pursue the matter any further. On the other hand, if amendments are required, ideally for HMRC, the taxpayer will accept the amendments and pay the unpaid tax. Furthermore, if criminal activity has occurred, ideally, the taxpayer will enter a CDF and pay any outstanding tax. As stated before, HMRC is likely to avoid referring the case to the CPS if possible. This means that there is one mutually beneficial outcome and one outcome both parties would like to avoid. The game tree for HMRC does not explore what happens once the case is referred to the CPS, because once a referral has occurred, HMRC will have no influence over how the case proceeds.

A second method of applying game theory is through application of the principles of a matrix.

Trees are used to represent sequential games, because they show the order in which actions are taken by the players. However, games are sometimes represented on matrices rather than trees. This is the second type of mathematical object used to represent games. Matrices, unlike trees, simply show the outcomes, represented in terms of the players' utility functions, for every possible combination of strategies the players might use.⁸⁹

The tax system is a hybrid of both sequential and simultaneous games. Thus, using the principles employed when creating a matrix in conjunction to a game tree will allow both HMRC and the taxpayer to establish the most effective strategy. As stated before, both players can use the game tree to work out the steps needed to achieve their desired outcome, however, the principles of a matrix allows them to evaluate the effect that their opposing parties' moves

⁸⁹ *ibid.*

have on their strategy. Furthermore, it allows both parties to identify any mutually beneficial moves which would allow both parties to ‘win.’

Table 1 applies the principles of a matrix to demonstrate the possible outcomes that can result from the submission of a self-assessment tax return. Here there are four possible outcomes: win (W), lose (L), partial win (PL) and unknown (?). The outcome for the taxpayer is presented first and the outcome for HMRC is stated second:

Table 1

Reaction to taxpayer submission of self-assessment form	Outcomes	
	Taxpayer	HMRC
HMRC accepts the tax return	W	W
HMRC opens an investigation and accepts the tax return	W	W
HMRC opens an investigation and amends the tax return which is then accepted by the taxpayer	PW/W	W
HMRC opens an investigation and amends the tax return which is appealed by the taxpayer	?	?
HMRC opens an investigation, and the taxpayer enters into a CDF	PW	W
HMRC opens an investigation and refers the case to the CPS	?	?

As tax is a hybrid game of both perfect and imperfect information, it is not practicable to display the possible outcomes as a matrix, however it is possible to apply the principles of a matrix, which shows that HMRC accepting the tax return (with or without an investigation) is a mutually beneficial outcome. However, HMRC can only do this if the tax return is completed correctly and there is no discrepancy. Furthermore, the taxpayer accepting an amended tax return will result in either a partial win or a complete win for the taxpayer and a complete win for HMRC. This is because HMRC would have amended any discrepancies and the correct amount of tax would have been paid. However, whether this is a win or partial win for the taxpayer depends on whether they receive a partial refund or have to pay more tax. Regardless, this could be considered a win scenario as the matter is ultimately resolved and comes to an end.

It is unclear what kind of an outcome appealing an amendment to the tax return by HMRC will achieve. This is very circumstance specific and depends on the outcome of the case. It must be noted that entering a CDF is likely to be a win for HMRC and a partial win for the taxpayer. HMRC recuperates the unpaid tax while the taxpayer is guaranteed protection from prosecution but will have to pay back any tax owed. Additionally, HMRC referring the case to the CPS will result in a partial win for HMRC as winning the case will result in consequences for the taxpayer, however, HMRC prefers to just recuperate unpaid tax and avoid prosecutions. This is contingent on if the CPS wins the case. Furthermore, it is very likely that this will be a lose scenario for the taxpayer, however, they will win if they successfully win their case against the CPS.

Using both the game tree and the principles of a game matrix will provide the taxpayer and HMRC an overview of the routes that their decision-making can take, and thus, being so informed, can assist in their strategic, rational choices.

CONCLUSIONS

In this paper we have attempted to explore, broadly at least, the application of an aspect of game theory as it applies to interactions between taxpayers and HMRC in respect of self-assessment income tax returns. We have demonstrated the mechanisms available to HMRC when they consider that noncompliance with the law has taken place through a taxpayer's self-assessment return, and used a game tree to explain the various routes to detection and enforcement. Using a 'game' analogy, there are evidently winners and losers in the application of such a tax regime, and HMRC's role as the tax authority allows it greater leverage to not only apply the rules of this game, but also seek a change in their creation and application.⁹⁰ This might be achieved through, for instance, increasing the sanctions available against noncompliant taxpayers. As argued by Graetz et al.,⁹¹

an increase in the fine for underreporting reduces both the likelihood that a potential noncomplier actually fails to comply and aggregate noncompliance... The direct impact of an increase in the fine is to increase the marginal benefit of auditing, but it also increases the marginal cost of noncompliance so that strategic taxpayers respond by increasing their compliance rate. (p. 18)

Yet increasing the tax, particularly on high income taxpayers, sees increases in noncompliance (underreporting of income) but with (marginal) gains to investigations. Investigations in these circumstances can either rise or fall depending on the risk preferences of taxpayers. However it is difficult to ascertain the full effects of these initiatives, and the powers exercised by HMRC, as such evidence relies on case law (assuming the cases proceed to litigation) and there are no complete published figures outlining statistics in relation to practices, implementation or challenges. The lack of comprehensive data regarding appeals to the tax tribunals has made it problematic to objectively assess the effectiveness of the appeals process and it is recommended that HMRC, HMCTS or the ONS research and make available annual statistics relating to the amount of cases heard by the tax tribunal, the nature of the cases and the parties' success rates.

Further, and in respect of CDFs, there are no statistics available regarding their use. Information on number of CDFs HMRC has entered into, and the percentage of CDFs breached by either party, should be made available for transparency and scrutiny in order to determine whether they serve their intended purpose and also to assess whether the option is being abused by taxpayers.

Finally, although HMRC has a wide array of powers it can use to ensure tax laws are abided, it also possesses significant oversight when using these powers. The judiciary provides an important role in oversight too, however the taxpayer must complete the process of an investigation, be subject to a decision of HMRC, appeal, and then have the courts determine the issue for this oversight to actually have any effect in civil cases. In comparison, during criminal investigations, HMRC's actions are subject to greater levels of scrutiny as warrants are required to exercise most of the available criminal investigation powers. Nonetheless criminal investigations are rare as HMRC prefers to avoid referring cases to the CPS and uses CDFs to resolve matters outside the criminal courts. Avoiding litigation is often beneficial for

⁹⁰ <<https://taxagents.blog.gov.uk/2020/11/16/legislation-day-2-announcements/>>.

⁹¹ Op cit n 77.

the taxpayer as they are likely to maintain control of the dispute process. However, this is not always possible, and the taxpayer may feel they must challenge HMRC where they feel any amendment to their self-assessment tax return is unjust. This ultimately returns us to where we began – rational actors choosing, according to numerous factors, the details for the calculation of taxes and equally, their opponent in this game choosing to accept or challenge the calculation of these submissions. Using the game tree, and concurring with Allingham and Sandmo,⁹² the rational maximising taxpayer considers the rate or probability of the imposition of sanctions, the penalty rate versus the proportional tax schedule, and being as certain as possible about both, calculates the risk and probability of compliance and noncompliance accordingly. HMRC undertake a similar cost, risk and reward assessment, and the game continues.

⁹² Allingham, M. G., and Sandmo. A. 1972. 'Income Tax Evasion: A Theoretical Analysis,' 1 *Journal of Public Economics* 323-38.