

# THE EFFECT OF RECIPROCITY AND SOCIAL NORM NUDGES ON TAX COMPLIANCE

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**Abstract:** Nudging has become a policy tool used by governments across many areas, including taxation, to encourage or discourage certain behaviours amongst citizens. Given the current interest of scholars and governments in nudging and the move by some revenue authorities (such as the South African Revenue Service (SARS) and the Kenya Revenue Authority) towards using advertising campaigns as both an education tool and as a tool to communicate reciprocity messages, this paper aims to shed light on the current understanding from literature of the impact of communicating such messages as a nudge to encourage voluntary tax compliance.

The paper also investigates the impact of timing on the effectiveness of such nudges based on the literature reviewed.

The paper also discusses the planned research method that will be followed in the study. The study will adopt a mixed-method approach in addressing the research questions. Initially, a qualitative phase will be carried out by conducting focus groups with taxpayers, tax practitioners and tax educators. The aim of the focus groups is to gather information to be used to determine the content of the reciprocity and social norm nudges to be used in the second phase. The second phase of the research relates to two sets of classical experiments.

## 1. Introduction

Taxes are an important component of any economy; they play a vital part in the provision of basic public services and goods for the benefit of all citizens of a country. It is for this reason that tax authorities, from both developed and developing nations, have been tasked by their governments with increasing the overall levels of tax compliance. This has become an increasingly important task in light of the increasing dependence by many economies on tax revenues and the continuous search by some African countries for solutions to reduced dependence on foreign aid.

In executing their task of increasing the levels of tax compliance, tax authorities have widely implemented enforcement strategies such as tax audits and penalties (McKerchar & Evans, 2009:175). These enforcement strategies are, however, both costly and time consuming (Kirchler, Hoelzl & Wahl, 2008:220). As a result, tax authorities have increasingly turned their attention towards identifying and promoting voluntary compliance, sometimes as an alternative to enforcement strategies, but more usually as a complement.

Strategies to promote voluntary compliance are wide-ranging, and include measures which seek to change the behaviour of taxpayers by making them more willing to comply with their tax obligations. This paper seeks to provide an understanding of the

effect of communicating reciprocity and social norms messages as a “nudge” to encourage voluntary tax compliance.

Reciprocity nudges refer to nudges using beliefs about the use of resources by the government. Social norm nudges are nudges using beliefs about other taxpayers’ behaviours (Castro & Scartascini, 2015:66).

This paper outlines the research objectives and questions which my PhD research will seek to examine, discusses the rationale for the research followed by a literature review to obtain an understanding of the current knowledge of the impact of reciprocity and social norm nudges on tax compliance. And finally, the planned research design is discussed.

## **2. Research objectives and questions**

The main aim of this study is to determine the effect of reciprocity and social norm nudging on the tax compliance behaviour of individual taxpayers in South Africa.

The secondary objectives are

- To make recommendations about the content and timing of reciprocity and social norm nudges in order to formulate a conceptual framework for best practice.
- To determine whether the effect of reciprocity and social norm nudges differs based on factors such as age, gender, income level and population group of the taxpayer.

In order to achieve these primary and secondary objectives, this study aims to address three related research questions:

- What is the effect of reciprocity and social norm nudges on the tax compliance behaviour of individual taxpayers in South Africa?
- What type of content and what timing is appropriate, when using reciprocity and social norm nudges to encourage voluntary tax compliance?
- Does the effect of reciprocity and social norm nudges differ, based on variables such as age, gender, income level and population group of the taxpayer?

## **3. Rationale for the study**

The OECD (2004:70) noted that ‘...in order to manage and improve compliance with tax and other relevant laws, revenue authorities need to adopt an administrative approach that encourages voluntary compliance within a co-operative and participative regulatory environment’. As highlighted by this statement, voluntary compliance has become an increased focus area for tax authorities. An enforced compliance strategy, utilising economic deterrence measures as the only measures to increase tax compliance, may not have a positive effect (Richardson & Sawyer, 2001:196).

In several countries (despite increasing fines and penalties), tax evasion levels have not decreased (Kim, 2008:411). Measures to encourage voluntary compliance are therefore being pursued by countries around the world. This study explores one such

strategy in the context of South Africa: the potential to improve tax compliance outcomes by using specific taxpayer “nudges”, delivered in the form of communications to taxpayers designed to encourage and enhanced taxpayer compliance.

This study is important for several reasons. In the first place it seeks to shed light on the effectiveness of reciprocity and social norm nudges when used as strategies to promote voluntary tax compliance in a developing country such as South Africa. South Africa is a diverse country, and the effects of reciprocity and social norm messaging may differ for different subcultures of the population. South Africa is also an important tax role-player in Africa and numerous African countries consult South Africa for advice on tax related matters. The African Tax Institute, based in South Africa, is an important institution, providing training and technical assistance to African public officials and academics (African Tax Institute, not dated).

This study also aims to create awareness in developing countries of the importance of employing reciprocity-based and norm-based strategies to encourage voluntary tax compliance.

Thirdly, the study contributes to the body of knowledge by providing a better understanding of how the effectiveness of reciprocity and social norm nudges may be affected by variables such as age, gender, level of income and the population group of the taxpayer.

Kornhauser (2007:153) analysed previous nudge related studies and found that normative appeals may fail as a result of the extended time lag between the communication of the nudge message and the compliance decision. This study further adds to the body of knowledge by considering the time related effects. This will be achieved by factoring the effects of time into the experimental design.

Finally, the study will make a contribution as a result of the methodology that will be used. There is currently no evidence of an experimental study investigating the effect of reciprocity and social norm messaging from a South African taxpayer perspective. Therefore this will be the first known one in South Africa.

## **4. Literature review**

### *4.1 Nudge theory*

Nudging is a concept that originates from behavioural economics<sup>1</sup>. Nudges are increasingly being embraced by policy makers, including tax policy makers, as they are often cost effective and have the ability to be used to promote both economic and non-economic goals (Sunstein, 2014:1). Nudging has been brought to the forefront in recent years by a book written by Richard Thaler and Cass Sunstein (2009).

The behavioural economics research has mainly focused on two components:

- identifying ways in which observed human behaviour differs from the behaviour that has been modelled by standard economic models; and

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<sup>1</sup> Behavioural economics is a body of research that incorporates research methods from psychology into economic theories (Sugden, 2009:365).

- showing how this observed behaviour matters in an economic context (Mullainathan & Thaler, 2000).

Behavioural economics recognises that humans have limitations when required to make decisions and that they are not homo economicus <sup>2</sup> (Bhargava & Loewenstein 2015:2, Thaler & Sunstein, 2009:7). These cognitive limitations arise because of the complexity of the human mind which is thought to have two underlying systems that control reasoning. The first system (referred to as System 1 or Automatic system) is fast, unconscious and automatic and the second system (referred to as System 2 or Reflective system) is slow, controlled and self-aware (Frankish, 2010:914). Table 1 summarises the key feature of these two systems.

**Table 1: Key features of system 1 and system 2**

	<b>Automatic (System 1)</b>	<b>Reflective (System 2)</b>
<b>Process</b>	Uncontrolled	Controlled
	Effortless	Effortful
	Associative	Deductive
	Fast	Slow
	Unconscious	Self-aware
	Skilled	Rule following
<b>Attitudes</b>	Implicit	Explicit
	Cultural stereotypes	Personal beliefs
	Slow acquisition and change	Fast acquisition and change
	Fast access	Slow access

Source: Hansen and Jespersen (2013:13), Frankish (2010:922)

The dual process theory explains these two systems. This theory states that behaviour is a result of either one of the two thinking systems. Behaviour that results from System 1 is typically automatic; an example of this would be walking. Behaviour that results from System 2 is reflective; an example would be holding your breath when passing a bad smell on the street (Hansen & Jespersen, 2013:14). At times, when making decisions, humans follow their automatic system without pausing to consult their reflective system (Thaler & Sunstein, 2009:24). Nudge theory also acknowledges that the manner in which choices are framed can also affect human's decision making capabilities (prospect theory). Thaler and Sunstein (2009:40) provide an example relating to energy conservation where one nudge was framed as a loss and the other as a gain. It turned out that the nudge framed as a loss was more successful than the gain framed nudge in encouraging energy conservation. They further state that

<sup>2</sup> This is the traditional economic description of a human being as a calculating and unemotional maximizer who makes choices on a rational basis (Mullainathan & Thaler 2000, Thaler & Sunstein, 2009:7).

'framing works because people tend to be somewhat mindless, passive decision makers. Their Reflective system does not do the work that would be required to check and see whether re-framing the questions would produce a different answer'.

Nudging is defined as "any aspect of the choice architecture<sup>3</sup> that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives" (Thaler & Sunstein, 2009:6). The definition provided by Thaler and Sunstein was revised by Hausman and Welch (2010), who defined nudges as 'ways of influencing choice without limiting the choice set or making alternatives appreciably more costly in terms of time, trouble, social sanctions, and so forth. They are called for because of flaws in individual decision-making, and they work by making use of those flaws' (Hausman & Welch, 2010:126). Hansen (2016) also provides a similar definition to that of Hausman and Welch (2010). He defines nudges as 'a function of any attempt at influencing people's judgment, choice or behaviour in a predictable way (1) that is made possible because of cognitive boundaries, biases, routines and habits in individual and social decision-making posing barriers for people to perform rationally in their own declared self-interests and which (2) works by making use of those boundaries, biases, routines, and habits as integral parts of such attempts' (Hansen, 2016:158).

The literature refers to different types of nudges. Hansen and Jespersen (2013) refer to nudges with reference to whether they are transparent or not. They provide two types of nudges. The first is a transparent nudge. A transparent nudge is a nudge for which the intention behind it and the way in which behaviour is intended to be changed is reasonably expected to be transparent to the person being nudged. The second type of nudge is a non-transparent nudge. This is a nudge in which the intention behind it and the way in which behaviour is intended to be changed cannot be reconstructed by the person intended to be nudged (Hansen & Jespersen, 2013:18).

Hagman, Andersson, Västfjäll and Tinghög (2015) adopt a further classification of nudges as pro-self nudges and pro-social nudges. This classification is based on the identification of the target of the nudging: either a specific type of person or society more generally. Pro-self nudges focus on self-welfare. The basic structure of these nudges is that individuals have to choose between different options with the aim that the individual will choose the option that is beneficial to their well-being in the long run and limit a situation where current-self incurs high costs on future-self due to lack of willpower (Hagman, *et al.*, 2015:441). Pro-social nudges promote pro-social behaviour. These nudges 'aim to counterbalance rational maximization behaviour in order to avoid overuse or under-provision of public goods' (Hagman *et al.*, 2015:442).

Nudges have, however, been critiqued for their potential to infringe on people's freedom of choice. There are concerns that nudges can be paternalistic. Paternalism is defined as 'the interference with a person's liberty of action justified by reasons referring exclusively to the welfare, good, happiness, needs, interests or values of the person being coerced' (Dworkin, 1972:65). Dworkin (1972:65) provides comprehensive examples of actions that may be regarded as being paternalistic, including laws forbidding people from swimming at a public beach when there are no

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<sup>3</sup> A choice architecture is the person or organisation that has the responsibility for organising the context in which people make choices (Thaler & Sunstein, 2009:3).

life guards on duty and laws requiring motorcyclists to wear safety helmets when riding their motorcycles.

The use of paternalistic measures, particularly by authorities, has long been criticised as limiting peoples' liberty to make their own choices. As noted by Mill (1859) 'The struggle between Liberty and Authority is the most conspicuous feature in the portions of history with which we are earliest familiar, particularly in that of Greece, Rome, and England' (Mill,1966:1) It has however been argued that depending on the circumstances some type of paternalism may be appropriate; the type of paternalism that is permitted is termed libertarian paternalism. (Thaler & Sunstein, 2003:175). Some scholars have however cautioned that using actions that force people to make choices, such as providing false information to push people towards a certain choice, or exploiting imperfections of human judgement in order to push them towards a choice, cannot be viewed as libertarian paternalism (Hausman & Welch, 2010:130).

Another criticism regarding the use of nudges, particularly where the choice architecture operates in a democratic state, is that they may go against democratic ideas such as freedom of choice, public consultation or dialogue and also contradict the idea that governments are supposed to treat citizens with respect and afford them the opportunity to make their own decisions, even where those decisions may be flawed (Hausman & Welch, 2010:134, Hansen & Jespersen, 2013:5). Hausman and Welch (2010:134) however concede that it is sometimes acceptable for governments to 'shape people's choices.'

In 'shaping people's choice' it would be important to think about when a nudge is needed. People will need a nudge when they are faced with difficult decisions or rare decisions, for which they do not get prompt feedback, and when they have trouble translating certain aspects of a situation into terms which they can understand (Thaler & Sunsten, 2009:79). Furthermore, 'investment goods' and 'sinful goods' are prime candidates for nudges. Example of investment goods are exercise, flossing of teeth and dieting; for these goods the costs are borne immediately but the benefits are delayed. Examples of sinful goods are smoking and alcohol. The pleasure from sinful goods is received immediately but the consequences are suffered later (Thaler & Sunsten, 2009:80). Tax compliance can be seen as an 'investment good', as the cost (payment of taxes) is borne before the benefits in the form of public goods and services can be received.

Nudging has been used to influence decisions relating to both 'sinful goods' and 'investment goods' in sectors such as organ donation, health, taxation, energy conservation and transportation. Table 2 indicates the results from studies that have shown a positive effect of nudges on behaviour.

**Table 2: Examples of success from nudging**

Sector	Nature of the nudge	Aim of the nudge	Results	Reference
Organ donation	Default nudge	To increase organ donation rates.	Donation rates were about twice as high when opting-out as when opting-in.	Johnson & Goldstein, 2003
Health	Convenience, attractiveness and norms nudges	To encourage Junior-high school students to make healthier choices.	Students were 13.4 per cent more likely to take a fruit and 23 per cent more likely to take a vegetable.	Hanks, Just & Wansink 2013
Taxation	Social influence nudge	To encourage tax compliance.	Social norm message had a positive effect on tax compliance.	Coleman 1996
Energy conservation	Social influence nudge	To promote household energy conservation.	Providing high-energy-consuming households with descriptive normative information regarding the average home energy usage in their neighbourhood decreased consumption.	Schultz, Nolan, Cialdini, Goldstein & Griskevicius 2007
Transportation	Social influence nudge	Pedestrian safety	Information on peer compliance of pedestrian laws had a stronger influence on pedestrian safety behaviour.	Gaker, Zheng & Walker 2010

Whenever there is a nudge there is also a choice architecture that facilitates the effectiveness of the nudge. The choice architecture is an important part of nudging

(Hansen & Jespersen, 2013:7). The choice architecture is tasked with the responsibility of organising the context in which people make choices (Thaler & Sunstein, 2009:3). Given the definition of a choice architecture, it would appear that many people and institutions are choice architectures. This includes governments, people who design ballots papers and doctors who offer alternative treatment to their patients (Hansen & Jespersen, 2013:7).

Thaler and Sunstein (2009:109) provide six principles of a good choice architecture as shown in Table 3.

**Table 3: Six principles of a good choice architecture**

<b>Principle</b>	<b>Explanation</b>
<b>Incentives</b>	Good choice architects can assist by directing peoples' attention to incentives.
<b>Understanding mappings</b>	A good system helps people improve their ability to map and therefore take the best option for them.
<b>Defaults</b>	People will normally take the option that requires the least effort.
<b>Give feedback</b>	This is the best way to help people improve their decisions.
<b>Expect error</b>	People make mistakes, a well-designed system should expect users to err.
<b>Structure complex choices</b>	The more numerous and complex choices are, choice architectures have more to think about and are more likely to influence choices

Source: Thaler and Sunstein (2009:93-108)

A combination of a good architecture and a well-structured nudge does not guarantee that a nudge intervention will be successful. The suggestion that “one-nudge-fits-all” is not correct (Jung & Mellers, 2016:62). Studies conducted in the United States, Australia, Brazil, Canada, China and South Africa amongst other countries have found that people view nudges differently.

In summary, it can be inferred from the literature discussed above that behavioural economics recognises that humans have limitations when required to make decisions and that there may be a need to assist people with decision making. Based on the past studies as indicated in Table 2, it can be argued that nudge theory can be successfully applied to assist in this decision making process by encourage or discourage certain behaviours. As its application is not limited to specific sectors or discipline, this offers an opportunity to explore the use of nudges as a mechanism to encourage voluntary tax compliance. The following sections discusses how nudges have thus far been used in the field of taxation to influence tax compliance and what



is the current understanding on their effectiveness to improve voluntary tax compliance.

#### *4.2 The use of nudge theory in taxation*

Research has consistently shown that tax compliance is affected by norms regarding trust, beliefs in the legitimacy of the government, procedural justice, reciprocity, altruism and identification with a group (Kornhauser, 2007:13). It has also established that peoples' beliefs can be affected by providing them with information regarding these norms (Castro & Scartascini, 2015:66). The use of messages, whether delivered through letters, television or other media, to encourage taxpayers to comply with their share of taxes can be seen as nudging taxpayers in what is considered to be the right direction of complying with their tax obligations.

There has been a steady increase in the number of studies that have involved sending taxpayers messages that may have a positive effect on tax compliance (Ortega & Scartascini, 2015:2). Section 4.3 discusses studies that have used social norm messaging as a means of influencing tax compliance behaviour and Section 4.4 then discusses studies that have used reciprocity messages for the same purpose.

#### *4.3 Tax and social norm nudging*

The results of studies that have relied on using social norm nudging as a mode to influence taxpayer tax compliance behaviour have been mixed, with some studies reporting a positive effect and others reporting no effect.

In a study conducted by Coleman (1996), communicating a social norm message was found to have a modest effect on tax compliance behaviour. The study by Coleman (1996) was a field experiment conducted with large sample size of 47 thousand participants in the United States. In the study 20 thousand taxpayers received a letter from their local tax commissioner which contained a message about the tax compliance behaviour of others. The study measured payment of taxes, filing errors and whether tax returns were submitted on time. To measure whether the intervention or nudge was successful, the change in the reported income and taxes paid for the 1993 tax year was compared to that of the 1994 tax year.

Blumenthal, Christian and Slemrod (2001) investigated the effect of normative appeals on tax compliance. Like the Coleman 1996 study, the Blumenthal *et al* study consisted of a large sample of participants. The results of this study found that normative appeals have no significant effect on tax compliance. There was no evidence that nudging taxpayers with mail-based letters had an effect on tax compliance.

In the study there was a time lapse between when the letters were sent out to the taxpayers and when the taxpayers had to file their returns, and this could have had an influence on the observed results.

Hasseldine, Hite, James and Toumi (2007) investigated the effect of persuasive communication on tax compliance. A field experiment was conducted with actual taxpayers. The taxpayers sampled in the study were sole traders with a turnover below

a threshold of £15 thousand. Taxpayers with a turnover below £15 thousand qualified for a simplified tax reporting system. There were five experimental treatments: (1) a simple offer of assistance ("enabling"), (2) a citizenship appeal (combination of a social norm and reciprocity message), (3) a threat of audit, (4) a threat of audit with the possibility of penalties, and (5) a virtual guarantee of an audit once the return was filed.

The effectiveness of the nudge was measured by observing its effect on sales and net profits. The results of the study found that the enabling letter was not effective for increasing turnover in excess of the threshold for self-prepared returns. Sanctions letters were more effective than the citizenship letter for changes in net profit but only for the self-prepared returns and not for the paid-preparer returns. Sanctions letters were more effective than the citizenship letter for reported turnover. The sanctions letter and the citizenship letter significantly affected the amount of net profit reported. In their conclusions to the study Hasseldine *et al* also recommended further research to consider the longevity of the effect of these nudges on compliance.

Social norms were also found to have no effect on compliance in a study conducted by Fellner, Sausgruber and Traxler (2013). The study was conducted in Austria with 50 498 individuals who were required to register and pay for a television or radio licence. The individuals selected for the study were identified as potential evaders by the enforcement authority. The field experiment consisted of a six treatment groups: (1) a threat message treatment group, (2) a moral appeal message treatment group, (3) a social norm message treatment group, (4) a threat and social norm treatment group, (5) a threat and moral appeal treatment group, (6) a baseline group, together with a control group.

The messages were sent to the individuals by mail by the enforcement authority. The effectiveness of the nudge was measured by comparing the number of registered payers. The study found that there were more registrations from the groups that received a treatment compared to the control group. Neither the moral appeal nor the social norm treatments had an effect beyond the baseline group, therefore did not increase compliance. It was also noted in the findings that the social norm message treatment had a different effect when individuals believed that evasion was common and when they believed that compliance was rare. When individuals believed evasion was common the treatment had a slightly positive effect on compliance and when they believed that evasion was rare the treatment had slightly negative effect on compliance.

The Fellner *et al.* (2013) study was one of a few studies that considered the longevity of the experimental treatments on compliance. Six months after the experiment was conducted, the authors noted that only 2.36 per cent of the individuals who registered had deregistered. A large proportion of those that deregistered were those that received the threat message.

The majority of these studies have been conducted in developed countries. One of the few studies to be conducted in developing country is that of Castro and Scartascini (2015) conducted a field experiment in Argentina which explored whether providing information to taxpayers influenced their tax compliance decision. The field experiment was conducted to examine whether including reciprocity, peer compliance and enforcement messages in the tax bill would affect tax compliance.

This study focused on the effect of social norm and reciprocity messages sent together with taxpayers' tax bills for property taxes. Thus the study focused on the payment of taxes rather than the reporting (or non-reporting) of tax liabilities. One letter contained a reciprocity message, another a peer-effect message and the last one a deterrence message. No average effects were found on the taxpayers who received the peer-effects messages.<sup>4</sup> Although the study makes an important contribution, the results observed could also be underestimated for the reason that even though all taxpayers in the study received the messages, not all of them would have read the message. Furthermore, the month long time lag between the communication of the messages and the compliance decision is an issue that might have contributed to results observed in the study.

As evidenced by the studies mentioned above, the main method of delivery of social norm nudges has been the use of physical letters with little focus on other modes of delivery. It is important that other modes of delivery to be explored in order to find the most effective way to deliver these nudge messages (Mascagni, 2018:281). The studies have also been largely conducted in developed countries with little attention paid to developing countries. Ortega and Scartascini (2015) is another one of few studies conducted in a developing country and that also examined the use of different modes of delivery.

The authors conducted a field experiment in Colombia to determine the effects of different message delivery mechanisms on tax compliance. The field experiment consisted of three experimental groups and a control group. Nearly 21 thousand taxpayers who had declared but not yet paid their taxes were sent messages using three different delivery modes. The first group of taxpayers received the message in a physical letter, the second group received the message via an email and the third group had their message delivered to them by a tax inspector. The message delivered in all three treatment groups was the same. The message contained deterrence information and also a moral suasion message. The results of the experiment were that the treatments had a positive effect on tax compliance behaviour of taxpayers. Twenty per cent of the individuals who received a message from the tax authority paid their debt and 11 per cent paid in full. For those individuals who did not receive a message (the control group) only 5 per cent paid part of their debt and 2 per cent paid in full. The conclusion was that the nudge was effective in increasing tax compliance.

With regard to the mode of delivery, personal visits by the inspectors and emails were found to be more effective than a physical letter. Taxpayers who were sent the physical letter were found to be four percentage points more likely to pay their debts compared to the control group. Taxpayers who were sent an email were found to be 15 percentage points more likely to make payment compared to the control group. Taxpayers who received a personal visit from an inspector were found to be 13 percentage points more likely to make payment compared to the control group. Despite the effectiveness of communicating nudges using emails and personal visits from tax inspectors, this is unlikely to be feasible in most developing countries where

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<sup>4</sup> Results relating to the deterrence treatment found that those who received the deterrence message had a higher probability to comply than taxpayers in the control group. The results relating to the reciprocity treatment are discussed in this study under section 4.4.

there are limited resources for personal visits by inspectors and where certain taxpayers might not have access to email.

These conclusions – the overall inconclusive nature of the research combined with the relative lack of research that has taken place (1) in developing countries, (2) into the effects of alternative communication strategies and (3) into the impact of time – represent significant gaps in the literature relating to social norm nudges in the tax field. These same themes are also shown to be present in the literature that considers tax and reciprocity nudging, dealt with in the following section.

#### *4.4 Tax and reciprocity nudging*

As previously stated in the introduction, reciprocity nudges refer to nudges using beliefs about the use of resources by the government. Similar to the results of studies that have examined the use of social norm nudging as a mode to influence taxpayer tax compliance behaviour, studies that have examined the use of reciprocity nudges have produced mixed and somewhat inconclusive results.

Roberts (1994) examined the effect of communicating public service information on attitudes towards fairness of income tax and tax compliance in the United States. The author conducted an experiment where six public service announcements were shown to participants. The first three videos, termed the cognitive approach videos, communicated messages about (1) vertical equity, (2) lowering of tax marginal rates and reduction in tax shelter activities and (3) the use of tax revenue to fund public goods such as highways and schools and information that 'most Americans do pay their fair share'. The message also addressed tax evasion.

The last three videos, termed effective approach videos, communicated (1) the increase in the tax burden of high-income earners, (2) broadening of the tax base, lowering of tax rates and reduction of taxes for the majority of taxpayers and (3) the use of tax revenue to fund public goods such as highways and schools and information that "most taxpayers do pay their fair share". The message also addressed tax evasion.

The effectiveness of the treatments were measured with a questionnaire that the participants completed after being exposed to the treatments. The results suggested that communicating public service information to taxpayers was effective in improving attitudes towards fairness and tax compliance.

A few years later Blumenthal et al. (2001) found different results to those observed by Roberts. The study investigated the effect of normative appeals on tax compliance. In this field experimental study 20 thousand taxpayers received a reciprocity nudge in the form of a "support valuable services letter". The results found that the letter had no effect on tax compliance behaviour.

Torgler found similar results to that of Blumenthal *et al* in a 2004 study. The field experiment was conducted in Switzerland to determine the effects of normative appeals on tax compliance behaviour. In the study two normative appeals messages were communicated to the participants of the study. One of the normative appeal

message which emphasised reciprocity stated *'In Switzerland, contrary to other countries, the citizens have the opportunity to actively participate in the legislative procedure. This advantage is also reflected in the tax legislation, which stipulates self-declaration by the taxpayers. This Swiss system presupposes that citizens have a sense of responsibility and are ready to maintain the functioning of municipalities, cantons, and the state. With your conscientious tax declaration you contribute to preserving this democratic and liberal structure.'* The findings were that normative appeal messages have no effect on tax compliance.

Hasseldine et al. (2007)'s results indicated that a citizenship letter significantly affected the amount of net profit reported. The study investigated the effect of persuasive communication on tax compliance: one of the treatment letters sent to taxpayers as a nudge was a citizenship appeal letter which highlighted the benefits of public goods financed by tax revenues.

One of the experimental treatments in Arial (2012)'s study tested the reciprocity channel of influencing tax compliance behaviour. The persuasive message in the experiment included a message about how tax revenues were allocated to public goods. The results of the study showed that the persuasive message had no effect on tax compliance.

Castro and Scartascini (2015) conducted a field experiment in Argentina which explored whether providing information to taxpayers influences their tax compliance decision. The study looked at the effect of social norm, reciprocity and deterrence nudges on tax compliance. The results of the study also found that the reciprocity nudge had no effect on tax compliance<sup>5</sup>.

The study provided multiple reasons for the result observed (no observed effect). Regarding the reciprocity message, one of the reasons provided was that the message seemed to have a positive effect on taxpayers who received a lower quality of public services and a negative effect on those who received better service.

One known study conducted in Africa on the effect of nudging on tax compliance behaviour is that of Mascagni, Nell and Monkam (2017). The field experiment was conducted in Rwanda with the help of the Rwanda Revenue Authority. The study investigated the best delivery method to reach taxpayers with messages designed to improve compliance. The participants were businesses and individuals who received deterrence, reciprocity and reminder messages. The messages were delivered using three different methods: letter, email and SMS.

The results indicated that all treatments had an effect on tax compliance. Reciprocity messages were found to be more effective than deterrence messages. Low cost delivery methods (email, SMS) were found to be highly effective when compared to letters. This is an important study as it's the first known of its kind that tested the effects of nudging in an African country and is also one of few studies to have tested different delivery methods.

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<sup>5</sup> Results relating to the deterrence treatment found that those who received the deterrence message had a higher probability to comply than taxpayers in the control group. The results relating to the social norm nudge are discussed in this study under section 4.3.

Bott, Cappelen, Sorensen, and Tungodden (2017) conducted a randomised field experiment in Norway to test the effect nudging had on self-reported foreign income. Treatment letters were sent to 15, 708 taxpayers who were allocated to the control group or one of the treatment groups. The taxpayers in the control group did not receive a letter, whilst the other four groups received one letter that contained information on how to report foreign income (base letter) or a letter that informed the taxpayer about the tax compliance behaviour of others (social norm), or a letter that communicated some of the public uses of tax revenues (reciprocity) and in the last letter taxpayers were informed that the tax authority had knowledge about their foreign income (deterrence).

The results were that receiving a letter containing a reciprocity message had a significant effect on tax compliance. The letters appeared to have motivated those taxpayers that were already reporting some foreign income to reduce their misreporting. The study further found that females and older taxpayers were more likely to be tax compliant than male and younger taxpayers, and that those with higher income reported higher foreign income. Therefore, it appears that the nudges were more effective on female taxpayers, older taxpayers and those who had reported higher foreign income.

The study also tested the long-term effects of the treatment letters by examining self-reporting behaviour a year after participants were exposed to the treatment letters. Self-reported foreign income was found to be higher in the moral treatments than in the other treatment groups but this was not significant. The authors state that the reason for this observed result may be that the moral treatment letters may have made moral arguments salient but did not make a fundamental change in the taxpayers' individual preferences and therefore did not change their behaviour.

To conclude, the current literature on the effects of reciprocity nudges on tax compliance is somewhat inconclusive. Some studies report no effect whilst other report a positive effect on tax compliance and, as with the studies conducted on social norm nudges, a very limited number of these studies have been conducted in developing countries. Furthermore, the use of alternative delivery methods (apart from physical letters) has not been extensively tested.

## **5. Planned research design**

The study applies mixed methods and uses the *qual-QUAN* notation in integrating the qualitative approach with the quantitative approach. This notation means that the qualitative method (conducting of focus groups) plays a supplementary role and that the data collected by applying this method cannot stand on its own as a separate study. The data collected by using the qualitative method are used in the quantitative method to determine the best content, from a South African context, of the reciprocity and social norm nudge messages. This is done based on the understanding that the "one-nudge-fits-all" strategy is not correct.

### *5.1 Qualitative method*

Two focus groups will be conducted with taxpayers, tax practitioners and tax educators. Non-probability sampling will be used to select the participants of the two focus groups. The focus groups will be mixed groups, which means that the groups will be mixed with regard to age, gender and race in order to ensure that the focus groups reflect the demographics of South African taxpayers. There will be some element of segmentation as participants with tax related expertise will be grouped separately from other participants in order to limit inhibitions of possible contributions from participants which may occur as a result of status differences or dominance of certain individuals.

The focus group discussions will centre upon two of the research questions which are:

- What type of content is appropriate, when using reciprocity and social norm nudges to encourage voluntary tax compliance?
- What timing is appropriate, when using reciprocity and social norm nudges to encourage voluntary tax compliance?

### *5.2 Quantitative method*

A quantitative experimental approach will be adopted in order to test the cause and effect relationship between the nudge messages and tax compliance.

The experiment in this second phase will initially involve two experimental groups (the norm group and the reciprocal group) and a control group. The two experimental groups and the control group will each consist of 30 to 40 participants to ensure that adequate data is collected as required for any statistical analysis. Hence the initial iteration will involve up to 120 participants in total.

The second phase of the experiment will be repeated with a different set of 80 participants with the time lag between the viewing of the video and making of the compliance decision being the only difference between these two experiments. This is done in order to test the effect of the time lag between the viewing of the video and making of the compliance decision. The repeat experiment will also consist of 30 to 40 participants in each group. There will be no control group in this second phase.

Students from the University of Pretoria will be recruited to participate in the experiments.

In this study a between-subjects design will be used. An important element of this design is that different participants are used for each of the different treatment conditions which allows for one score to be collected for each participant.

The experiments will simulate the general environment of a voluntary reporting system that is followed by most countries. The participants in both experiments will earn income by performing tasks. They will then decide on how much (if any) of the income earned to declare. Therefore taxes are only paid on income which they have reported to the tax authority. This is similar to a voluntary reporting system which is applicable to individuals who are self-employed or individuals earning income from which tax is not withheld from the source. The experiments will also incorporate a probability of

being audited and a penalty should a participant be audited and found to have under-declared their earnings.

The effectiveness of the different experimental treatments will be measured by conducting a comparative analysis of income reported by the participants in the different experimental groups. The nudge will be deemed to have a positive effect on tax compliance if the reciprocity message group or the norm message group report higher income compared to the control group.

The quantitative data obtained from the experiment will then be statistically analysed using SPSS, a statistical software package to determine whether there is a correlation between communicating social norm or reciprocity messages and tax compliance.



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