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**Tax morale and behaviour**




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# Tax Morale and Behaviour

By

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*requirements for the Degree of Doctor of Philosophy*

# Certificate of Ethical Approval

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Ta Morale and Tax Behaviour

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**Declaration**

I hereby declare that this research has been conducted solely by me under the guidance of my Director of Studies, Dr Karl Shutes.  I have not copied others' works nor has someone completed the work for me.  Relevant works by authors have been acknowledged in this research.

**Dedication**

To my beautiful sons, Tom, Theo and Louis.

# ABSTRACT

This thesis investigates the impact of factors affecting tax morale applying an

ordered logit modelling technique across a range of variables, considered to

influence tax morale. The scope of this thesis is limited to the exploration of the

theoretical results through a behavioural lens suggesting those influences which are

of significance. Future work may entail taking the results from this work further and

producing a more practical tool from a behavioural economics perspective.


The contributions made by this thesis to the knowledge of the subject are that it

extends literature by relaxing the proportional odds assumption thereby revealing

those variables that influence tax morale in a disproportionate manner.  The

literature hitherto, assumes linearity amongst variables. The thesis applies the model

to a number of variables which take a broader perspective, investigating social,

political and economic variables. The thesis also contributes to the literature as the

methodology applied enables a distinction to be drawn in respect to developed and

emerging economies, with the dataset drawing upon 12 countries (Australia, Brazil,

China, India, Poland, Russia, Singapore, South Africa, Spain, Sweden, USA and

Zimbabwe) responses over the period 2008-2012.  This has resulted in the following

findings.


Firstly, it identifies the impact of tax policy effects over the period 2008-2012 on

ordered logit coefficients, indicating which variables would be of significance and

worthy of closer examination.  The model further relaxed the proportional odds

assumption to take account of responses which did not behave in a linear manner. This approach has not been developed in the literature thus far. This is examined through thematic groupings of variables including, socio-economic, institutional, political economy, state-building and religiosity and beliefs.  The major contribution to governments worldwide is the ability to identify factors that influence tax policy and therefore develop legislation and strategies to encourage greater compliance without coercion.

Secondly, the empirical results are situated in the context of behavioural models, thereby contributing to the growing body of behaviourally inspired research. The interpretation of results included testing the applicability of behavioural theories including Prospect Theory, Framing and Loss Aversion. The interpretation of the empirical results revealed behavioural interpretations do enhance the understanding of taxpayer motivations.  Of note is the application of Prospect Theory which describes the potential for altering the tax payer perspective.  The impact is further examined by comparing estimates by country by coefficient. The thematic country results produce differing statistically significant results with complex interactions of themes.  This finding has potential implications policy setters worldwide and which will be the subject of continuing research.

Thirdly, the outcomes derived were triangulated with the Corruption Perception Index (CPI) for robustness.  This revealed the findings regarding a country's level of tax morale were broadly consistent with that of the CPI's.  Additional descriptive statistics were calculated and whilst of little interest individually, do provide helpful

background to the results presented. The main finding of the thesis, is that through

the use of the Ordered Logit model applied, the influences which most strongly

affect taxpayer behaviour can be identified. Through the development of

behaviourally inspired strategies, focussed future taxpayer strategies can be

developed thereby demonstrating the potentially important implications for tax

compliance.

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# Chapter 1: Introduction

Recent research focuses on how differing values and social norms across countries effects economic behaviour. One area in which such studies are acutely relevant is tax compliance. An influence that has been suggested as a factor in compliance behaviour is tax morale, or "the intrinsic motivation to pay taxes"(Alm and Torgler, 2006). The topic of tax morale and as a result tax compliance poses a challenge to administrations throughout the OECD and developing countries. The issue is intricate and multi-faceted. Governments are under significant pressure to provide public services, such as education, health and justice, with reducing resources.

Hallsworth (2014:658) suggests that "improving tax compliance is a major policy goal for developed economies". Furthermore, he states that an "eroded tax base constrains a government's choice of economic strategies, often leading to higher and more distortionary taxes, increased borrowing or reduced provision of public goods and services". He proposes the often cited view that public perception is that others are not paying their share and therefore portrays disrespect for the governing law and diminishes trust between individuals and the state builders.

A recent study entitled "Tax and Benefit Policy: insights from behavioural economics", commissioned by the Institute of Fiscal Studies (July, 2012) suggests that much is to be learned from applying ideas from behavioural economics to hitherto complex policy areas. One of these areas is identified as tax policy with particular emphasis on tax compliance. Estimating the scale of, and trends in, net tax gaps is difficult and a relatively untested area of work for governments in the EU and around the world (HMRC, 2017).

Following renewed international interest in the problem by policy influencers such as the OECD, World Bank, International Monetary Fund and the United Nations in the form of the Platform for Collaboration on Tax, this thesis investigates the effect of behavioural influences on taxpayer compliance from the period 2008 - 2012. The main objective is to explain the reasons that cause differing tax payer behaviours, the corollaries of such actions and the governmental and policy makers responses. An econometric perspective is adopted, with behavioural models providing a theoretical framework for analytical purposes.

This chapter provides an introduction to the topic of tax morale, and the development of the intersecting disciplines giving rise to such interest. Policy objectives are discussed, followed by a brief discussion of the research problem. The section concludes with justification of the research subject and an outline of the thesis.

## 1.1    Background

A tax gap can be defined as the difference between tax revenues collected and those (taxes) that could under current legislation be expected in the absence of tax evasion. The tax gap is often referred to when considering the degree of success, a particular tax or system has generated. It has also been muted that the tax gap could provide a useful metric of performance for tax agencies. The methods used to calculate the tax gap data can reveal the extent of the 'hidden economy' or 'hidden income' often ignoring behavioural influences.

As an illustration the gap between tax collected and that theoretically due under current legislation in the United Kingdom, is stated as 6.5% of the UK's theoretical tax

liability which equates to £36 billion (HMRC, 2016). The importance of this illustration is to put in context the value of such a shortfall.  In 2005-06 the tax gap was reported at 8.3% which, if it had remained at such a level would be equivalent to £47 billion, thereby depriving the UK government of £11 billion which could be distributed amongst public services.  Quantified financial estimates of the tax gap vary between £35 and £38 million (HMRC, 2016).  US Internal Revenue Service (IRS) estimates show that for the period 2008-2010 $458 billion was not paid.  The recent study undertaken by the IRS, reporting on the period 2008 – 2010, shows no significant change in the amount of the tax gap or the rate of compliance. Unlike the UK, that invested heavily in technology, improving detection and collection procedures the US has not experienced an improvement in taxpayer behaviour.  The lack of change reflects, to some extent, the severe recession during the time period covered.  Of interest is the IRS' commitment to seeking a high level of voluntary tax compliance ensuring faith and fairness in the tax system (IRS, 2017)

The European Commission estimates that 20-25% of GDP in Italy and Greece is in the shadow economy (European Commission, 2013). These statistics are a characteristic example of the state of public finances/fiscal policy of less developed economies where governments face an ever-increasing challenge in acceptance and collection of tax revenues.   (Daude, Gutiérrez and Melguizo, 2012)  reported the main factors affecting tax compliance across countries to be weak tax enforcement and administration, social preferences linked to fairness and transparency and low fiscal legitimacy, further suggesting the need to understand these issues in order to develop effective policies.   Tax revenues significantly differ across countries Figure 1.1

illustrates tax revenues generated over a five-year period 2008-2013 for the countries

included in this sample.
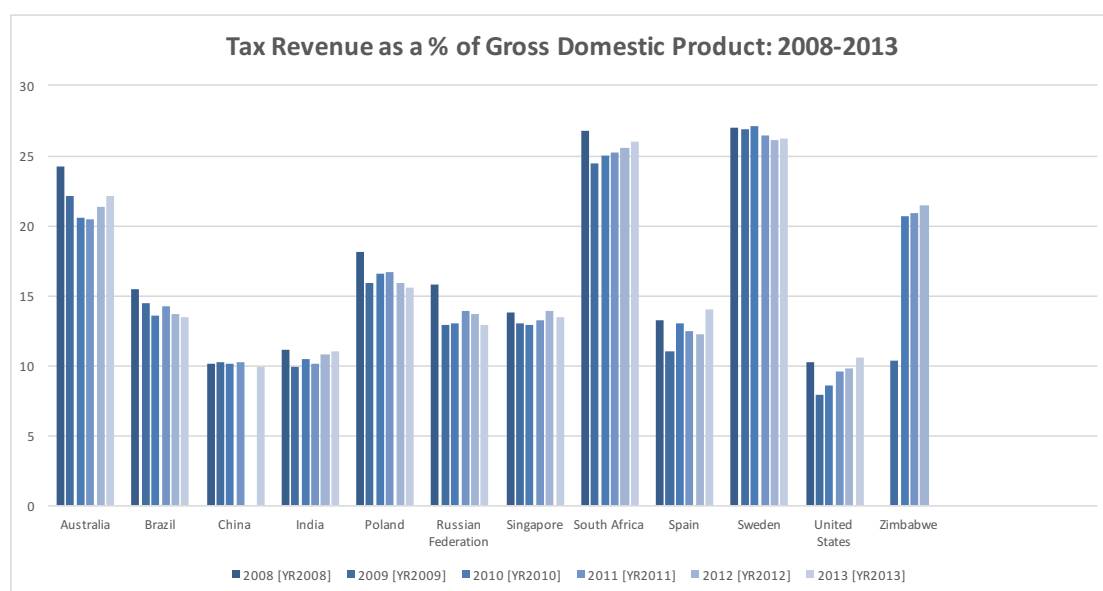


Figure 1: Tax Revenues as a percentage of Gross Domestic Product across participating countries: 2008-2013

*Source:* International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP estimates.

Tax revenue as a percentage of Gross Domestic Product (GDP) indicates the share of

a country's output that is collected by the government through taxes.  It is held as a

measure of the degree to which a government controls the economy's resources.  The

average tax to GDP ratio reported in 2016 was 34.3% (OECD, 2017).  Of the countries

included in the sample Australia, Poland, South Africa and Sweden have the highest

tax-to-GDP percentage implying effective control of economic resources.  China whilst

one of the lowest percentage returns has remained constant over the sample period.

All countries in the sample reflect a reduction in percentage of tax to GDP following

the 2008 economic crash by varying degrees.  Countries in the sample showing an

increasing tax-to-GDP percentage implies that tax revenues are growing at a faster rate than GDP, reflecting the effectiveness of tax policy.  Conversely a declining tax-to-GDP percentage suggests lower tax revenue and less efficient tax policy.

Daude, Gutiérrez and Melguizo (2012) propose that whilst there are many economic reasons to expect a positive correlation between the level of economic development and tax revenues, significant differences in correlation exist. They further cite, for example, Jordan and Guatemala whilst having similar levels of GDP per capita; tax revenues in Jordan are around 33% of GDP, while Guatemala revenues amount to around 13% of GDP. Referring to more developed countries, Australia and Sweden have very similar GDP per capita levels. Sweden imposes taxes almost 20% of GDP higher than Australia (48.9% versus 28.9%) (OECD, 2017).

Many studies looking at tax behaviour have focused on measuring attitudes and social norms.  Onu and Oats (2016) suggest that attitudes are considered to be relatively stable across an individual's lifespan and are therefore useful indicators of the actions people take. This thesis investigates attitudes and values of individuals and how they contribute to their behaviour and decision making under risk and uncertainty. Wicker (1969) found no correlation between what people report their attitudes to be and their actual behaviour. Onu and Oats (2016) further question the validity of such analysis of attitudes suggesting that attitudes play a part in influencing tax behaviour. Of greater interest is (Onu and Oats, 2016) recent reflections on the influence of social norms.  Their work draws upon the use of the social norms approach in fields such as health and environmental matters.  Taking these experiences, the authors propose social norm campaigns for improving tax compliance. The paper addresses theoretical aspects of behavioural norms and highlights knowledge gaps that are currently

present amongst the academic community and tax practitioners.  Many social norm campaigns lack the longevity and sustainability required to create a culture of taxpaying.  The influence of social norms on tax morale is further investigated later in this thesis.

This research sheds more light onto the aforementioned concerns of the policy makers in addressing tax morale. It explores and applies the behavioural models utilised in Behavioural Economics to understand behaviour under risk and uncertainty to decision-making relative to tax payer behaviour.

Alm, Kirchler and Muehlbacher (2012) suggests that "the pressure on national finance since 2008 has provided greater impetus to address these issues, as have concerns that the globalisation of economic activity is creating new opportunities for tax evasion".

Recent decades have seen an explosion of theoretical and empirical research into taxpayer behaviour (Saez, Slemrod and Giertz, 2012). Policy makers across the globe have, perhaps unsurprisingly, become increasingly interested in the findings from this stream of research. Worthy of note too is the increasing intersection of academic disciplines. Earlier literature reflecting the economic nature of tax morale is agreed to have been stimulated by Allingham and Sandmo (1972); Srinivasan (1973); Kahneman and Tversky (1979); Thaler and Sunstein (2003); Slemrod (2007); Kirchler, Hoelzl and Wahl (2008). Developing the dialogue further, integrating economic theory with behaviour is the cross disciplinary expansion of research emerging from psychological influences. Much theoretical and experimental work has been undertaken by Wenzel (2004); Alm and Torgler (2006); Sharot, Velasquez and Dolan (2010); Thaler, Sunstein and Balz (2010); Cullis, Jones and Savoia (2012) and Nofsinger and Varma (2014).

Andrikopoulos (2007) suggests scholars are focusing attention on behavioural aspects of finance, including psychological theories as a means of providing alternative explanations for movements in financial markets.

Drawing on an emerging body of literature Torgler (2003); Torgler (2004); Alm and Torgler (2006); Feld and Frey (2007); Frey and Torgler (2007); Torgler et al. (2007); Alm, Kirchler and Muehlbacher (2012); Calvert and Alm (2014); it is increasingly accepted that an individual's decision to comply or not with tax rules is based on a collection of influences, rather than the traditional view of a decision being based upon the existence of a threat of punitive measures or ones of deterrence. Standard economic models often predict far too little tax compliance with the corollary being far too much evasion Markowitz (1952); Allingham and Sandmo (1972).

Leicester et al (2012) report on insights that can inform the creation of tax and benefit policy development. The research suggests that some of the most relevant insights from behavioural economics can influence the choices individuals make under the traditional economic choice framework. Under the traditional framework individuals are assumed to make choices that are rational, self-interested and consistent. Evidence emerging from behavioural economics suggests that observed outcomes are not aligned to the standard approach and a number of behavioural insights can be used to gain a deeper, richer understanding giving rise to the difference. Such insights collectively form part of the behavioural economics discipline. Those of greatest interest in the development of tax policy are briefly discussed here and in greater detail in Chapter 5. Leicester et al (2012) suggest the following behavioural insights bear most relevance to decision making. Bounded rationality considers why individuals make choices, often relating to complicated, risky decisions, according to 'heuristics' or 'rules of thumb', which in some cases lead to sub-optimal decisions. Framing suggests the way in which a choice is presented, nuanced or communicated has a significant impact on the likely outcome of choice. Prospect theory suggests

that individuals under-weight the likely outcome of a decision under uncertainty, that they underestimate the true risk of the decision. Individuals often refer to a notional reference point that may or may not be objective and are risk seeking in loss-making situations. This thesis uses some of the aforementioned behavioural insights to interpret tax payer behaviour in this thesis. The insights identified (Leicester et al. 2012) are relevant to why people do or do not comply with tax law resulting in the theoretical tax gap. Identifying causality through behavioural techniques could provide significant policy interventions to reduce the gap and provide insight for policy formation.

Further substantiation of the need for such research is provided in the HMRC Compliance Perceptions Survey, hereafter CPS (2014). First undertaken in 2010, looking at survey data from 2008-10 and again in 2012 and 2014 drawing on data from 2008 to 2014. The CPS asks about the "fairness and burden of compliance; the prevalence and acceptability of evasion and the consequences where evasion is detected". For an organisation such as HMRC to conduct such a survey further gives evidence of the shift from a punitive compliance system to a position where consideration of behavioural factors are now at least seen as contributing factors to compliance. Respondents to the survey were asked if they felt fairly treated by HMRC with an increase in the self-employed category of 7% (69% in 2008 to 76% in 2014). For employees, the respondents view of fair treatment dropped still remained higher than in the first year of the survey but showed a reduction of 4% over the previous years' result. The CPS (2014) survey reports categorically across all survey years and from all sectors (SME's; self-employed and employed) that income or corporation tax evasion is unacceptable.

The reasons presented are interesting. One third of the self-employed and employed respondents view tax evasion as illegal and therefore would not evade tax. The probability of being caught and the opportunity to evade are low as might be expected. Of interest is the notion of honesty, morality and fairness to others. The report concludes by suggesting perceptions and attitudes of tax evasion have improved, most notably amongst SME's. Perceptions of the unacceptability of evasion have been maintained but the perception of effective deterrents has declined. The contribution of this report to the rationale of this thesis is significant. In the UK HMRC reports stable response rates to the attitude of taxpayers on the topic of evading tax. However, a tax gap still remains in the UK causing doubt as to whether the government really has a good understanding of the perception of tax morale. This thesis will provide a rich insight into the factors influencing tax morale and inform methods of developing tax policy.

A developing body of literature exists describing behaviourally-inspired models which attempt to prove causality between taxpayer compliance and taxpayer behaviour. Although widely used in the field of economics such techniques are relatively new to taxation and appear to lend themselves to the intrinsic motivation to pay tax known as tax morale. Tax compliance, poses a challenge to governments throughout the OECD and globally. Tax revenues pay for the right to live in a civilised society, in countries building social, legal and economic infrastructure necessary for the fulfillment of society's basic needs.

## 1.2    Research Justification

Allingham and Sandmo (1972) assume that tax payers are rational decision makers; that tax compliance could only be achieved by means of coercive methods, such as fines, penalties and audit. However, the literature has revealed that the compliance rate is far higher than what the standard economic model would predict (Weigel, Hessing and Elffers (1987); Alm, McClelland and Schulze (1999); Cullis, Jones and Savoia (2012).

Brizi et al. (2015) evidences the need for further research to understand the drivers of non-coercive methods of tax compliance such that an understanding of why individuals comply or not can be articulated.   Brizi et al. (2015) find through social value orientation a link between tax morale and intended tax compliance.  Meaning that individuals with a prosocial disposition tended to display lower non-compliance values.  Whilst this work is rather abstract in nature it still nevertheless serves to suggest a need for further such research.

Within the literature three main areas appear to be emerging; the application of behavioural economics techniques to different areas of policy; tax compliance and influences thereon for example tax morale, social norms and values and the relationship on a macro level with the shadow economy and taxpayer perception of corruption. Alm and Torgler (2004) suggest the size of the underground economy is a useful measure of tax evasion.

Given the significant tax gap identified by numerous worldwide governments, some hitherto referred to, a need to understand how to address this gap has been identified. Furthermore, a substantial body of emerging literature suggests that tax compliance depends on things other than the punitive system of deterrence (McClelland and

Schulze, 1999; Frey and Feld, 2002; Alm and Torgler, 2006). Standard economic models of tax compliance appear to be unable to predict accurately the levels of compliance, predicted levels of non-compliance being far higher than actual ones (Allingham and Sandmo, 1972; Kahneman and Tversky 1979). Most individuals across the world demonstrate an intrinsic desire to pay their taxes. This is often referred to as Tax Morale (Alm 2006). Such things as social norms, attitudes, perceptions and cultural values are believed to contribute to the desire to pay tax. Empirical models created by Allingham and Sandmo (1972) fail to accurately predict levels of compliance and evasion. Societal institutions may act as constraints with perceived levels of corruption differing across countries. Therefore, the influence of tax morale on a taxpayer is of significance in contributing to the question of tax compliance Kirchler, Maciejovsky and Schneider (2003); Long and Swingen (1991) argue that some taxpayers are simply not predisposed to evade taxes. Torgler (2003) shows that individuals who comply tend to view tax evasion as "immoral" and that individuals with tax evaders as friends are more likely to be evaders. The phenomenon of tax morale is not a new one but remains to be one which is difficult to define, quantify and address through policy intervention.

A substantial body of literature has addressed tax compliance, most notably Allingham and Sandmo's (1972) seminal work on the classical model of tax evasion, in an economic context. The work that follows illustrates the need for further research to establish the cause and effect of tax morale. Valuable insight can be gained from the study of the intuitive behaviour of the taxpayer, considering social norms, values and attitudes of taxpayers, thereby going further than the research to date which typically performs some form of econometric modelling but not definitively concluding a causal

relationship. An addition to the current body of research in providing richer evidence in this area is that of the causal relationship with corruption and the measurement and existence of the shadow economy.

Tax systems are dynamic, iterative systems which change over time for any number of reasons. The most common influences on a changing tax system are political or economic but this may only reveal part of the story. James (2012) suggested a tax system, whilst primarily concerned with revenue generation, is used to influence behaviour; for example, encouraging a positive contribution to society. It can be concluded that the influence tax policy has on behaviour is a reciprocal relationship with behaviour influencing tax policy design. The greater is the evidence and understanding of behavioural influences the more robust policy decisions and design will be with the corollary of greater voluntary tax compliance and reduced activity in the shadow economy.

### 1.2.1   Research Objective

Given this background, the desire to better understand the relationship between tax morale and tax compliance raises the following primary research aims to be addressed in this thesis:

- To identify the factors influencing Tax Morale and Tax Behaviour.

- To analyse the World Values Survey (WVS) data from the 2012 wave identifying influences on taxpayer attitude, morale, and perception over time.

- To triangulate data with that obtained from the Transparency International dataset on corruption to identify significant correlation.

- To inform future Tax policy development of behavioural influences and resulting benefits.

- To test/investigate the applicability of prospect theory and other behavioural concepts in the field of taxation.

The research will contribute a number of additional insights including an explanation of the antecedents of current policy in order to gain an understanding of and to influence the creation of behaviourally influenced tax policy. In addition, the research will offer tentative suggestions on the likely future of taxation policy formation and implementation.

This thesis examines the influences on tax morale on a sample of countries taken from the World Values Survey (WVS henceforth). The research utilises the latest data responding to the question addressing tax morale *"do you justify cheating on taxes if you have the chance?''*. The survey includes 57 countries which, for practical purposes have been grouped on the basis of geographical location.

Using data taken from the WVS database the thesis utilises a multivariate regression analysis framework as a means to investigate changing attitudes and norms (or differences) in tax behaviour of individuals. The selected sample includes socioeconomic variables. Through analysis of behavioural factors the strength of relationship between the respondents' perceptions of the variables and the justification for cheating on tax can be better understood.

The methodological approach taken is similar to that of Alm and Torgler (2006) where they examine the influence of values, social norms and attitudes across 30 OECD member countries measuring the effect these have on economic behaviour. Using a multi-variate analysis, with Tax Morale as the dependent variable, the research showed a strong negative correlation between the size of the shadow economy and

the degree of tax morale. This work was able to identify variables such as Religiosity and Trust in Government as influential factors. However, little discussion is evident regarding the relationship between Tax Morale and the Shadow Economy. By triangulating the methodological work undertaken using the latest WVS data and data obtained from the Transparency International, the following is investigated:

i. Tax morale in the context of its relationship with corruption, and,

ii. Specific components of tax morale, which to a greater or lesser degree will influence the size of the shadow economy.

The theoretical framework within which the data will be analysed is through the lens of Behavioural Economics, specifically that of prospect theory. Kahneman and Tversky's (1979) seminal work introduces prospect theory. Redhead (2008) suggests that there are three key characteristics at the heart of this theory:

1) Perceived probabilities are subject to bias - such probabilities are known as decision weights are often too high or too low with reference to the actual probability of an event (decision).

2) Individuals are more concerned about gains and losses rather than wealth. For example, presented with a choice of a guaranteed gain versus a guaranteed loss, the individual will choose the gain however when presented with a guaranteed loss or the risk of a loss the individual is most likely to be prepared to take the risk of the loss. Much of this theory rests on the issue of an individual's reference point, in tax terms if an individual is pre-disposed to pay tax their reference point will be in the loss domain, they have accepted they will pay a tax charge, whereas an individual not predisposed to paying tax will

typically be in the gain domain.  Therefore, the reference point for each individual is an indicator of their level of  tax morale.

3) Personal utility is more affected by losses than gains.

With reference to taxation, Cullis et al (2012) present an application of prospect theory in which "framing" is analysed. The way a question is "framed" influences a taxpayer's response. The study further investigates the fundamental importance of the reference point and the influence tax morale and social norms have on taxpayer's perceptions and their attitude to loss-aversion. According to their findings, prospect theory provides an important insight into the way social norms frame taxpaying decisions. Hence, the application of this theoretical model is of particular interest, not only because of its relevance to taxpayer compliance and tax morale but also its potential wider application to accounting research.

## 1.3    Thesis Structure

The thesis begins in chapter two with a discussion of the literature providing a landscape within which to situate the research.   It includes definitions, theories and empirical evidence of tax morale.   Furthermore, a discussion of the theoretical framework, followed by a summary of tax research that has been undertaken on tax behaviour, as well as relevant research on the topic of tax evasion and corruption. Its objective is to provide an understanding of tax morale, its influences and to identify gaps from within the existing literature to provide space to make an original contribution.

Chapter 3 presents the data, methodological notes and hypothesis development, including the type and origin of data used. This chapter introduces all relevant

statistical models as well as the econometric methodology adopted, i.e.an ordered logit model.

Chapter 4, presents the empirical results, including the correlation coefficients, the stage testing typical of ordered logit and the application to prospect theory.

Chapter 5 presents the analysis of the data collected and concentrates on drawing conclusions from the analysis. It presents the evidence of relationships between tax morale and the variables. It further draws on the analysis applying it to prospect theory.

The study concludes in Chapter 6 with a summary of the findings suggestions for further research.

## 1.4 Summary

The thesis has two primary objectives. Firstly, it provides an account of the development of the behavioural economic techniques over time and an explanation of both how and why such techniques are of increasing value to tax policy formation in addressing the common problem of tax compliance.

Drawing on behavioural economic models this thesis uses prospect theory as a theoretical framework. This framework is utilised to study perceptions and influences on tax payer morale and the subsequent effects on tax compliance and the shadow economy. It is envisaged this analysis will consider the changing perceptions over time and analyse the antecedents giving rise to such changes. The use of prospect theory links to the exploration of the application of behavioural models to hitherto largely unexplored subject areas such as taxation and accounting.

# Chapter 2: Literature Review

## 2.0    Introduction

The previous chapter has introduced the area of research for this thesis. This chapter sets out the literature in distinct themes. The chapter starts with an outline of research in the developing literature relating to tax morale, positioning the research within the current literature. The second section addresses the literature in the wider context of taxation and tax policy development. The third section explores research in the context of behavioural concepts providing the basis for a theoretical framework. Such factors as the system of tax administration, the perceived tax burden, tax awareness, compliance perceptions, trust, corruption and power are reviewed, revealing gaps in the literature to be addressed by current research.

## 2.1    Developing literature – Tax Morale

The empirical analysis of tax morale can be logically related to the literature about the "median voter theorem" (Downs 1957). Onu and Oats (2016) suggest that tax morale or more explicitly, social norms (the influence of) began with modern sociology. Durkheim (1949) posited that "social norms ensured the functioning and cohesion of society, regulating individuals' place and role in social life".

One of the most highly regarded economic philosophers of the last century, Adam Smith, suggested in his seminal work "Wealth of Nations" that "the subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities " (Smith 1776)

The level and progressivity of taxation and fiscal distribution depend on whether the median voter benefits or not from these policies. Individual characteristics of state citizens significantly affect the levels of tax morale.

Becker (1968) provides a useful framework within which research relating to tax compliance and further tax morale can be philosophically positioned. Becker uses economic analysis to develop policies to combat illegal behaviour. These works are generally regarded in the academic community as the "economics of crime". In this work Becker considers the economic value of punishments when used to redress a crime. The essay considers the perceived level of the crime and attempts to develop variable punishments based upon the severity of the crime. He goes further to determine optimal policies to combat illegal behaviour rationalising further such that any policies such be decided upon in the context of the optimal allocation of resources. An interesting perspective is that of the perception of crime. Becker suggests "to some, gambling, prostitution and abortion should be freely available while to others, gambling is sinful and abortion is murder". Becker uses economic analyses as a tool for designing optimal public and private policies that fight against illegal behaviour. He defines optimal policies as those decisions that reduce the social loss in income caused by crime. Becker's study integrates the behavioural components which link the cost implied by crime eradication. The model attempts to cover all sorts of violations. The point drawn from this discussion and which links with the research in this thesis is that of moral value and what is the moral cost of not conforming to a moral value. Becker's insights on crime and punishment triggered a flourish of literature on tax evasion. Tax morale has hitherto been defined as the intrinsic motivation to pay tax. Failure to comply, through low tax

morale, has been addressed through economic methods, with limited success.  The

need to address morality and the moral cost of low tax morale could address

weaknesses in the current system (McGee 2012).  Doerrenberg (2015) developed a

similar theme of research as this work. They recognised the link with Becker's (1968)

research based on the economics of crime approach and further positioned their

work within the Allingham and Sandmo (1972) approach of modelling tax evasion

decisions assuming an expected utility maximisation problem.

The literature suggests a number of characteristics which are more strongly associated

with strong tax morale (Torgler, 2005; Daude and Melguizo, 2010). Interestingly,

gender had hitherto been recognised as an instrumental factor in tax morale, with

women displaying stronger tax morale than men. However, the literature is not

unanimously supporting this assertion with many articles suggesting a more balance

view.

Jimenez and Iyer (2016) examined the social factors influencing an individual's

intentions to comply with tax or not.  They report that as the strength of social norms

increases in favour of tax compliance an increase in compliance intentions is observed.

Of particular note is the inclusion of the perception of fairness as a function of trust,

hitherto not previously explored.

Institutional aspects, trust, democracy, satisfaction and political participation feature

strongly in the literature. Kastlunger et al. (2011) suggest that the increase in the

shadow economy and tax non-compliance over the last decade have forced policy

makers to address the issue in ways other than coercive. The authors propose a model

based on Becker's (1968) theory of crime. However, Hofmann, Hoelzl and Kirchler

(2008) recognised the value in taking account of factors such as fairness and social norms. The authors designed a study by applying two types of power (legitimate and coercive) on three sample groups. They conclude that whilst power influence tax compliance there may be differences in absolute levels of trust, perceived power and the propensity to evade taxes.

Lago-Penas and Lago-Penas (2010) consider data from the European Values Survey. Their study examines cross-national differences in tax morale, looking specifically at sociodemographic characteristics, personal financial experiences, political attitudes and GDP.

Alm and Torgler (2006) investigate the influences of individual's values, social norms and attitudes on taxpayer behaviour. Using the World Values Survey (WVS) data set, Alm and Torgler (2005) highlight the role of cultural differences in influencing attitude to paying taxes. The dataset used contains information on individuals from a wide range of countries over several years of data.

The principal assumption underlying the paper is that taxpayer compliance depends upon factors other than ones of deterrence, penalties or fines. Other factors being referred to collectively as "tax morale", a taxpayer's intrinsic motivation to pay taxes. The study refers to earlier literature which was found to be less useful in the sense that they used experimental techniques focusing on a small number of countries and with a single year's data. This further work addresses these shortcomings by widening the dataset and the time period.

When reflecting on previous work in this area the authors suggest that a considerable body of literature focuses on other areas of economic research specifically in behavioural economics. After a discussion of this literature the authors conclude in

identifying a gap insofar as much of the existing literature (Yaniv, 1999; Cummings et al. 2009; Cullis, Jones and Savoia, 2012 and James, 2012), give a passing mention to tax morale but go no further in exploring the factors which shape tax morale. Furthermore, factors contributing to the emergence of or measurement of tax morale are noticeably absent indeed providing a gap in the current literature.

The study moves on to describe the WVS dataset and its efficacy at examining "tax morale" as a dependent variable. The WVS asks identical questions to a representative sample of 1000 individuals in more than 80 countries. Questions include religion, culture and perhaps most pertinent tax compliance. The authors reflect on the use of a single question versus a multi item index, which may be more appropriate given that tax morale is likely to be multidimensional from a behavioural perspective. They also recognise a major weakness of using a single item measure as not adequately capturing the interrelated facets of tax morale and may also be adversely affected by random errors in measurement.

Applying probit estimation methods, the authors progress through three WVS waves (years) of data, 1990, 1995 and 1999-2000, firstly attempting to illustrate that residents of Spain exhibit a lower tax morale than residents of the United States and secondly, using multiple regression analysis on sixteen Western European countries and the United States. In both instances the study was able to conclude that tax morale is higher in the United States than in Spain and is highest in all of the Western European countries examined. Introducing alternative trust variables such as i) trust in the legal system and ii) trust in Parliament, Alm and Torgler (2004) discover that both trust variables have a significantly positive effect on tax morale, therefore supporting the notion that trust matters for tax morale.

Much of the research in tax compliance concentrates on traditional deterrence strategies for example audit, penalty and tax rates on compliance. Alm and Torgler's (2005) paper suggests that tax payer behaviour cannot be explained completely by the coercive aspects of economic analyses hitherto explored.

Their approach on using a longitudinal study of phenomena attributable to behavioural attitudes allows future research to build upon these findings adding a further dimension and richness with the use of the latest "wave" dataset for 2012.

Their paper supports the notion that further research into the intrinsic motivation for paying taxes across multiple countries and over multiple time periods is justified to inform future policy.

Many contemporary studies are grounded on the notion of the compulsory payment of taxation. Empirical research has shown that levels of compliance cannot be explained or influence by rewards and punishments imposed through fines and penalties (Alm, Bahi and Murray, 1990; Feld and Frey, 2002; Lago –Penas, 2010) The level of enforcement, coercive or otherwise does not provide a reasonable explanation of the level of compliance nor the difference in levels of compliance from one developed country to the next. Furthermore, an alternative, more widely accepted explanation is based upon tax morale and the notion of "civic duty". Torgler and Schneider (2004) "define tax morale as a moral obligation or an intrinsic motivation to pay taxes". Lago-Penas et al. (2010) justify their research thus "understanding individual and national heterogeneity in tax morale is crucial for implementing policies to improve tax morale and thereby tax compliance". Their study provides a comparative analysis in seventeen European countries in order to determine the sources of heterogeneity in tax morale and identify to what extent

individual and contextual level variable account for systematic differences at both, the individual and aggregate level. The ESS provided a 30 item module on economic morality, focused on trust and confidence in business and state/government institutions.

A helpful chart of recent research in this area is presented illustrating those using a multilevel weighted ordered logit regression model. The main influences on tax morale are categorised into four groups of variables:

• Socio-demographic – gender, age, marital status, religiosity and employment status

• Political and social attitudes – trust in courts, legal system, politicians and democracy

• Fiscal parameters – tax rates, fine rates, audit probability, risk aversion, GDP

• Contextual level variables – national differences, level of democracy and culture

The research concludes that tax morale is shaped by socio-demographic factors, personal financial experiences and political attitudes. More interestingly, tax morale is found to be negatively related to self-employment and education.

Ross and McGee (2012) use data from the WVS to analyse the effects on tax morale in the BRIC (Brazil, Russia, India and China) countries. Using a similar question as in previous studies regarding tax evasion, i.e. "Please tell me for each of the following statements whether you think it can always be justified, or something in between: Cheating on taxes if you have a chance".  The study tested the various relationships and impact on tax morale of a large number of demographic variables, including age, gender, religion, trust and education with data extracted from the World Values

Survey. Of particular interest is the depth of the analysis of the the specific variables. For example, the variable religion reports in considerable detail religious preferences i.e. Jewish, Muslim, Buddhist, Orthodox, Pentecostal, Evangelical, Independent African Church, Protestant, Catholic Hindu, Jehovah, providing a very discrete analysis of religious bias and its relationship with tax morale. Ross and McGee (2012) found some interesting relationships between the variables but perhaps its most useful contribution is the method of analysis, providing a framework for analysing future WVS results. Lubian and Zarri (2011) focus on what they perceive to be an "economically relevant form of morality, an individual's moral attitude towards taxation - tax morale". Interestingly this research measures the impact of tax morale on happiness. This research contributes to two bodies of research, namely, the economics of happiness, and, the relationship between tax morale and tax compliance. The authors suggest that the rationale between tax morale and tax compliance is that insofar as citizens are driven by a positive moral attitude towards taxation, the level of tax compliance will be higher. Using a dataset of Italian taxpayers' opinions on civic responsibility and taxation, they further test whether or not virtuous taxpayers are significantly happier than less virtuous ones after controlling for demographic and socio-economic factors. Worthy of note are the categories which the questionnaire attempts to segregate the multifaceted nature of tax morale; Kantian, Community, Redistributive, Vertical and Fairness. In detail,

Kantian – paying taxes is one of the basic duties of citizenship; identifying a strong commitment to paying taxes, whether fair or not, revealing a strong moral duty.

Community – the harm not paying taxes causes to the whole community; the consequences of cheating.

Redistributive – it is right to pay taxes, which helps the weak.

Vertical – where an individual avoids paying taxes because they know or feel that the government spends the money inappropriately.

Based on prior literature, (Spicer and Lundstedt, 1976) they describe a theoretical model whereby an individual will feel cheated if they believe that the tax payment is not spent wisely with a reciprocal action being to refuse payment of taxes in full or to just pay what they feel worthy of. This relationship captures, in essence, the theoretical Behavioural Economics model of prospect theory as developed by Kahneman and Tversky (1979).

Fairness - paying taxes relies upon the perceived fairness of the tax system. The paper continues to describe the various taxpaying biases interpreting the various economic and philosophical categories and relating them to tax morale. The researchers go further to determine a causal link between happiness and tax morale. James (2012) using data from the 1995-1997 WVS, provides evidence that ethics affects happiness but does not explore an economically relevant form of morality such as tax morale. This paper is one of few in the area of tax morale which attempts to position the morality of tax compliance and tax morale into a philosophical framework. More recently, Calvet and Alm (2014) examine the effect of empathy and sympathy on tax compliance by referring to the classical model of economics of crime presented by Allingham and Sandmo (1972).

### 2.1.1   Trust, Power and Corruption

Hammar, et al. (2008) identify the factors that cause taxpayers to perceive that others are evading tax. It attempts to understand the perceptions of tax evasion held by

individuals on the basis that understanding perceived tax evasion will inform and prevent true tax evasion. Their study analyses the level of perceived tax evasion - that is, the way in which taxpayers perceive others to be paying, or not paying tax - by performing a survey based on ten Swedish taxes, ranging from income tax, to wealth and gift taxes. It also discusses the role of trust, both general trust, in the taxpayer's society and fellow taxpayer's, and specific trust, put in politicians. The authors put forward the suggestion that collective trust in society contributes positively to tax compliance, whereas distrust in politicians increases the probability of tax evasion twofold - this phenomenon is explained by the theory that taxpayers will be less likely to contribute to a tax that they believe is being spent poorly. The testable hypothesis is that people with higher levels of general trust in society will engage in less tax evasion, whilst conversely, people who distrust society in general will perceive there to be more tax evasion. However, this hypothesis only applies to broad taxes - a person can perceive there to be little overall tax evasion on one tax, and perceive there to be a high amount of evasion on other taxes. Therefore, this effect is stronger for broader tax bases. Another hypothesis is that if the tax rate is regarded as too high, then the perception of tax evasion increases. A third hypothesis was the idea that distrust in politicians increases the perception of tax evasion, and the effect of this is stronger for redistributive and fiscal taxes, which are more likely to be evaded if people do not like the aim of the politician in these taxes. A fourth hypothesis was rather simplistic, and assumed that the perception of tax evasion did differ between taxes.

The ten taxes were municipal income tax, state income tax, payroll tax, corporate tax, gift tax, wealth tax, real estate tax, annual vehicle tax, emissions tax, and alcohol tax.

These ten taxes are analysed based on their motives - whether fiscal, redistributive, or external; as well as this, numerous tax bases are also listed, including the possibility and ease of evasion. A mail questionnaire was used with a random sample of3000 Swedes, aged between 1 8 and 85 years. From a total number of replies of 1774, 94.1 % or respondents (n-1670) answered one of the questions on tax evasion - 'how common do you think tax evasion is among people who are obliged to pay the following taxes'. The results of each tax were compiled into a table, which four different answers available - very common, rather common, rather unusual, or very unusual. The number of very common and rather common answers were added together, then subtracted from the total number of rather unusual and very unusual answers, which yielded an end value that demonstrated the level of perceived tax evasion – whether common, or uncommon, and how much so for each one. Furthermore, to measure the effect that raising tax rates had on perceived tax evasion, 'logistic regressions' were employed run, which predict the probabilities of thinking that a tax rate is too high, based on variables. The perception of evasion for each tax they found varied widely, ranging from 49% for annual vehicle tax, to 36% for gift tax, and 31 % on wealth tax. The paper discusses these results from the perspective of tax motives, and reveals a pattern. The taxes which people assume others to evade - primarily the taxes on gifts and wealth- are taxes which are aimed at redistributing wealth from a small group of people, to a large group - they are also the taxes with the smallest tax base, whilst the least perceived evaded taxes are the ones which are assumed to be paid by many people - the vehicle and emissions taxes, as well as the alcohol tax - and are partially motivated from an externality perspective. The logistic regression analysis yielded the result that the variable which had caused

the greatest impact on perceived tax evasion was the distrust in politicians. To conclude, the main result found was that distrust in politician's increases perceived evasion the most, with generalized distrust also having a profound effect - as well as this, the most perceived evaded taxes were the ones aimed at a small tax base, with a distributive motive.

Hammar et al. (2008) continue to identify key explanations which they consider important; self-interest such as maximising expected income through non-payment of tax, social norms, the perceived fairness of a particular tax, social acceptability of a tax, for example the Poll tax in the UK. Using the survey data collected, a logistic regression was estimated, with a value of above one indicating that the variable increases the probability of perceived tax evasion, with below one meaning that the variable decreases the same probability and the farther from I , the greater the impact. According to their findings, the level of distrust in politicians or the levels of individual taxation increase the perception of tax evasion. In addition to this the authors suggest that tax evasion is not a generic phenomenon but one which is shaped by the type and level of taxation. The influence of institutional behaviour has been shown as having a strong link to tax morale.

This research reaffirms the direction of research by demonstrating the contribution that trust plays in considering the influences on tax morale. Very little work has been undertaken in this area, specifically linking trust and tax morale. An opportunity to contribute to the academic literature building on Hammar et al. (2008) and Torgler (2004) various works would strengthen this field of research.

Andrighetto et al. (2016) examine the cultural differences using a set of cross-cultural tax experiments to discover whether the level of tax evasion differs between Swedish

and Italian tax payers. Using similar techniques to that of Alm, Bahi and Murray (1990) the researchers develop a range of decisions regarding declared income, and differing taxation schemes. The experiments were framed using context heavy vocabulary relative to the specific field of taxation. Their findings were consistent with those of Allingham and Sandmo (1972) in that the level of compliance far exceeded the level predicted by expected utility theory. This research very effectively demonstrated that when a taxpayer is presented with a consistent, transparent tax system, an efficient redistributive regime, and clear sanctions the level of honesty reported is high (for both Swedes and Italians). Comparing this to the national stereotypes, that Italians are less compliant, exhibiting lower tax morale and that the Swedish population are generally perceived to be compliant and non-corrupt (CPI ranking 4), the findings are surprising. The authors introduce an interesting concept of fudging, whereby, an element of moral ambiguity is introduced to the decision. Andrighetto et al. (2016) describe fudging as an opportunity for individuals to exercise greater moral license to indulge in (moderate) wrongdoing. The Swedish participants, by contrast are reported as possessing clear-cut behaviours that pre-dispose them to a greater degree of self-regulation and social control. The authors suggest further research by policy makers may focus on the norms surrounding tax compliance.

Richardson (2006), attempts to investigate the 'impact of tax fairness dimension' on tax compliance behaviour, within Hong Kong. 'Tax rate fairness dimensions' are defined as variables that affect the overall perception of tax fairness - for example, six are identified in the paper, as general fairness, tax rate structure, middle income earners tax share/burden, exchange with the government, self-interest, and special provisions for high income earners. These dimensions all contribute to the taxpayers'

perception of a tax as fair - this is the meaning of tax fairness dimensions. The research also attempts to compare these results to other studies, carried out in the US, in order to determine differences or similarities between different cultures and investigates the extent to which western tax fairness dimensions exist in an Asian country.

The research discusses the tax structure of Hong Kong, pointing out the differences between Hong Kong and US tax structure. It discusses the differences in US and Hong Kong culture - how Hong Kong Chinese are considered to be collectivists, placing emphasis on the importance of belonging to a group, who will protect their members in exchange for loyalty. On the other hand, the US is considered to be an individualistic society, placing emphasis on the individual's right to support himself. As such, in the US, everybody is supposed to take care of themselves, and their immediate family. The differences between US and Hong Kong culture are apparent and significant enough to warrant further investigation.

The analysis presents five hypotheses; that there is a positive association between tax fairness dimensions and tax compliance in Hong Kong, that there is a positive association between older taxpayers and tax compliance in Hong Kong, that there is a positive association between female taxpayers and tax compliance in Hong Kong, that there is an association between education level in taxpayers and tax compliance in Hong Kong, and that there is an association between the occupation status - that is, the taxpayers position in society - and tax compliance in Hong Kong. The study uses a survey questionnaire administered to 302 postgraduate business students at two Hong Kong universities in the year 2003, across a period of regular class meetings. Anonymity was secured by not asking for personal identification on the questionnaires, and survey participants were volunteers. The survey itself gathered

information on tax fairness dimensions, tax noncompliance based on demographics, and the perception of how fair tax is. Participants were asked to scale 24 items, as five-point scales, either very fair-very unfair, or strongly agree-strongly disagree., The research concludes that of the eight dimensions identified, general fairness caused the greatest variation, followed by tax rate structure, and middle income earners' tax burden. The dimensions which caused the least variation were tax system equality, low income earners' tax burden, and any special provisions for high income earners. The most important dimensions were general fairness, tax rate structure and government tax fairness. As well as this, the paper points out that self-interest and special provisions for high income taxpayers are of less significance than in the US, and concludes that British colonialism has played an important part in transferring western tax fairness dimensions to Hong Kong. Richardson (2006) attributes the differences in tax fairness dimensions to the differences in culture between Hong Kong and the US - that is, the difference between individualism and collectivism. Concluding that an important implication is that, different tax compliance variables can have distinct impacts on taxpayers across cultures.

Calvet and Alm (2012) investigate the effect of the emotions of 'empathy' and 'sympathy' on tax compliance, by using a series of 'Tax Compliance Games' to determine participant responses to a series of priming exercises. Attempts are made to identify and measure subjects' empathy and sympathy, using a series of scales, and questions about various social behaviours. The research chooses to focus on empathy and sympathy, because it recognises the wide range of emotions which could possibly affect tax compliance, and because these two emotions had not been previously explored in studies - those that had been written at the time tended to focus on purely

logical motivations for tax compliance, such as profit and loss, or fear of audit, whereas the focus on moral identity, portrayed by empathy and sympathy. The authors point out that a largely unexplained aspect of tax compliance study is the fact that most taxpayers pay most of their tax, most of the time, and that the actual rate of audit is very low - with the result of this being that the incentives to evade tax are, in reality, very high. In an attempt to reconcile this discrepancy, the suggestion of morality was identified as this 'missing factor' - that it is not logic that motivates taxpayers to comply, but their own morality, be it that they receive a positive feeling when they pay taxes, or that they receive a negative feeling when they don't. The emotions of sympathy and empathy seem to have been chosen for no other reason than they had not been investigated before.

A series of 'one-shot Tax Compliance Games' are used to determine the willingness of the participants to comply with tax regulations. A theoretical model was constructed, that attempted to describe the effect of morality on tax compliance as well as this, methods were used to measure and identify subjects' emotions, and in one exercise, a priming exercise was utilised to promote empathy.

Lefebvre et al. (2015) tests the effects of information about tax compliance on individuals decision making. The research examines how individuals' tax compliance decision is affected by the receipt and knowledge of social information. The research considers the behaviour of participants from Belgium, France and the Netherlands affording a cross-cultural comparison. The findings of this research concluded that knowledge of other taxpayers' behaviours had an asymmetric influence on their own behaviour, creating a peer effect. Lefebvre (2015) suggests this research complements previous research on social norms and further suggesting that cross-

country differences in the overall attitude toward governments can be ameliorated so as to enhance tax compliance. The research usefully reinforces the notion that by disseminating information about the extent to which people comply with taxes may encourage greater compliance. Furthermore, they reveal an avenue of research for further exploration suggesting that the nature of endogenous social interactions on tax compliance would help disentangle the influence of social learning and conformity.

Batrancea et al. (2012) considers previous contributions to the literature relating to tax compliance, referring to Allingham and Sandmo's model of tax evasion and Yaniv (2009) consideration of the relationship between tax compliance and the tax rate. This research whilst providing a descriptive review of previous literature, concludes that tax compliance is not only influenced by economic factors but also behavioural issues. Batrancea et al. (2012) suggests research developing an understanding of psychological and sociological features should be developed. Further proposing that such contributions would considerably increase tax compliance through the involvement of taxpayers and tax authorities.

Casal et al. (2016) suggest that reducing the social distance between taxpayers and tax authorities would increase taxpayers acceptance of tax compliance requirements. Their results showed that having a voice on tax contributions and tax distribution leads to higher compliance. The research contributed a number of findings to the literature surrounding tax morale. The notion of participative procedural justice, for example where the taxpayers have a voice on the distribution of tax revenues tax evasion was found to be lower. This finding concurring with that of Djawadi and Fahr (2013). Where tax paying is linked to the perhaps negative connotation of paying tax rather

than the positive framing of public wealth distribution Casal et al. (2016) found tax evasion reduced.

This research supports the prospect of policy makers framing tax compliance more favourably to encourage taxpayers to engage in a greater level of compliance. In addition to this, Casal et al. (2016) report, as with many other studies (Alm, Jackson and McKee, 2009) into gender, that females demonstrate a more compliant attitude than males. This and the supporting literature around gender suggests that tax policy creation should use to great effect the female voice to encourage a stronger sense of duty to supporting public expenditure. They conclude their paper stating that their work clearly suggests alternatives to enforcing tax compliance than using coercive deterrence tools. This might seem an obvious statement however, it does seem worth reinforcing this point. An increasing body of tax compliance, tax morale research sets out to prove that coercive methods of influencing tax behaviour are not likely to be as successful as behavioural influences on tax behaviour. This literature review serves to demonstrate by reviewing the tax compliance literature over the last (almost) thirty years that this point could be taken as fact and resource, both researchers and policy makers might be better served designing behavioural non coercive solutions to improve tax morale.

Dulleck et al. (2016) explore the effects of social norms in understanding tax compliance. Unlike many of the research studies into tax compliance (typically data, survey or experimentally driven) the researchers analyse the influence of psychic stress on social norms in the tax compliance context, suggesting that there is a positive correlation between psychic stress and tax compliance. This research is interesting as

it develops the field of research into the physiological effects of interventions on tax compliance.  This research is important for policy development through the manipulation of moral sentiments, such as guilt to increase tax morale.  The authors interpret their results such as to suggest that high levels of psychic stress are triggered by moral emotions which motivate compliance decisions.  This work further illustrates the benefits of working with noneconomic and nonmonetary incentives, such as norms.  Greater emphasis on more scientific data can help to understand, explain and even predict taxpayer behaviour.  I would question this on the basis that it assumes that each taxpayer will report the same behaviour on each occasion they are measured which is unlikely to be the case given other biological, environmental and emotional influences.

Lisi (2015) reviews optimal tax theory and its relationship with the intrinsic motivation to pay tax (specifically tax morale).  Whilst being a very mathematical article it goes some way to describing the shortcomings of optimal tax theory attempting to include the relationship between tax compliance and tax morale.  The author concludes by suggesting that the optimal mix of policy instruments designed to reduce tax evasion depends on the taxpayers' morality.  Therefore, in designing compliance strategies, having an understanding of the populations biases toward morality would allow tax policy developers to develop strategic approaches deliberately designed to appeal to those morals.

 Luttmer and Singhal (2014) present interesting research testing the hypothesis that tax morale encourages voluntary compliance and so by improving social norms, creating a culture of compliance and emphasising the social and moral benefits of

compliance.   They describe tax morale as operating in various channels and guises and go further to reveal such channels.  They also discuss methods of leveraging such channels and mediums.  There are interesting references to the various non pecuniary methods of tax collection, specifically the many variants of "name and shame" programs, including the USA and Ireland.   The notion of shame featuring heavily in their narrative.   The also draw out the opposite strategy often lesser employed, researched and talked about whereby high-paying taxpayers are recognised for their contribution and fortitude.  The article proceeds to outline the many contributors to tax morale covered by any number of the previously included articles, such as religiosity, culture, peer effects and social influences and reciprocity.  The authors continue to present the findings from the rather novel approach of field experiments referring specifically to (Hallsworth et al. 2014; Del Carpio, 2013).  Whilst interesting this paper is more reflective of the collection of previous studies relating to tax morale.  Of particular use was the suggestions for future research such as further field experiments, a study of the results from interventions and to understand through empirical studies the relationship of welfare effects on tax morale.

Mangoting et al. (2015) discuss the benefits of developing a social contract between the taxpayer and the state.  The research proposes that taxation is a social contract perspective is based on the quality of the governments performance to manage their fiduciary responsibilities. Evidence from their research suggesting that failure to develop a strong social contract creates the opportunity for the taxpayer to believe that mismanagement on the governments part suggest that non-compliance is not a criminal offence.  This perspective is relevant to the research being undertaken in this

thesis as failure to develop a strong social contract can develop perceptions of corruption or mismanagement which de-criminalises the taxpayer's propensity to not comply.

Marandu, Mbekomize and Ifezue (2015) provide an interesting review of factors which determine taxpayer compliance from a social marketing perspective. They utilise data from empirical studies published between 1985 and 2012. The research discussed the range of variables that have been used during this period to explain tax compliance, arguing that too many have been explored such as to make comparisons difficult. Rather like this thesis and numerous other researchers the objective of the research is to identify the factors that determine taxpayer compliance; assessing the adequacy of the the factors considers in the literature and to understand the determinants of tax compliance. Whilst this sound familiar in content to much of the literature what is interesting is its application to the tax structure of Botswana.

The authors present the variables in the themes associated with tax compliance including attitude, subjective norms, Perceived Behavioural controls and the normal dummy variables (gender, age and marital status). The paper proceeds to discuss the theories of compliance used over the period. Interestingly reaffirming the theories consulted in this thesis. Reference is made to the work of Allingham and Sandmo (1972) and Becker (1968) which have proved useful for this thesis in providing cornerstone theories and benchmarks against which to frame the primary contributions of this work. Marandu et al (2015) conclude their article recognising the wide and complex phenomenon that issues driving tax morale present. They further suggest that tax authorities should utilise a combination of persuasive methods alongside coercive measures. They identify the need to direct attention to changing

the attitude of those that they term as significant others (family members, friends, colleagues and people of respect and influence) whose subtle influences can encourage greater tax compliance. They conclude their paper suggesting the development of an education program which would build a culture of tax compliance, supported by a program of media exposure which includes high profile celebrities (people of influence) and demonstrate clearly how taxes revenues have contributed to the development of their country.

Kornhauser (2007) identifies the need for further research into tax morale. She regards it as a "young" but nevertheless complex subject area. She attests to the fact that tax morale plays a major role in tax compliance. Whilst neither the exact components of tax morale nor the precise mechanisms by which they work have been fully delineated the literature has identified certain elements. The author further investigates the extent to which tax morale is affected by social and personal norms such as those regarding procedural justice, trust, belief in the legitimacy of the government, reciprocity, altruism and identification with the group.

Blanthorne and Kaplan (2008) proposed a model of the relationships amongst taxpayer's opportunity, social norms, ethical beliefs and tax compliance. The research included nine sample groups that were requested to complete a survey, 456 being completed in total. Using structured equation modelling techniques, the research suggests that taxpayers' opportunity to evade is unrelated to their social norms but rather the situational context or opportunity presented through weak processes or systems. The authors further suggest that policy makers should explore ways to better align taxpayer's social norms with respect to actual compliance behaviour. Blanthorne

and Kaplan (2008) further suggest that tax researchers can play an important role by providing evidence on the relative effectiveness of alternative methods that might be used to alter tax payer's misconceptions of social norms. They suggest that ethical norms may be addressed usefully in the context of indicating how non-compliance affects specific individuals in their community for example not providing sufficient levels of healthcare to the elderly in the community. They propose that giving tax morale a face, rather than being a faceless government body, attunes to individuals ethical and moral responsibility.

Much of prior literature identifies with the notion that tax compliance is affected by tax morale. It also concurs that the measurement of such behaviour remains invalidated. Methods such as surveys and experiments have proven indicative but remain inconclusive.

Hallsworth et al. (2014) presents an interesting alternative to the current body of research in this area. He states that recent decades have seen an explosion of theoretical and empirical research into taxpayer behaviour (Slemrod, 2007). The main body of research into this area has been established through surveys or proxy experimental research. The author proposes an interesting development, natural field experiments (NFE's). Such experiments offer advantages above hitherto employed methods. NFE's offer the opportunity to influence taxpayer behaviour through discrete interventions. Specific elements of taxpayer behaviour can be focused upon. The criticism of such experiments is the short-term nature, the economic cost of delivery and the ability to repeat the experiment achieving the desired positive effects. The field of NFE's is emerging with the most notable positive contribution being achieved through the Minnesota Tax experiment (HMRC, 2013) and the

Australian Public Service commission in 2013. However, these are essentially isolated studies. Hallsworth (2014) states that the key challenge of NFE's is to remain engaged with the tax authority over a sustained period. He concludes by suggesting the need for greater academic collaboration.

This sub-chapter has considered a breadth of literature on tax morale.  It sets out the origin of the notion of morals in Becker's (1968) seminal work.  The further exploration of literature researching morale in a tax context contributes to the selection of research aims of the thesis.  Specifically drawing on areas of gaps in the literature, for example the application of behavioural interpretations of quantitative data thereby extending the knowledge of the academic community.

## 2.2    Taxation and Tax Policy Development

### 2.2.1    Legitimacy and State Building

Levi (1988) states, that there is a perceived link between tax compliance and legitimacy. If the taxpayer perceives the need for taxation to be legitimate then they are more likely to comply. Weber (1968) states, that "what is legitimate is what it is legal for rulers to do." To minimize the costs of enforcement and to maximize the output that can be taxed, rulers have to create quasi-voluntary compliance. Quasi-voluntary compliance rests upon reciprocity. Taxpayers are more likely to cooperate if they have reasonable expectations that both the rulers and other taxpayers will also cooperate.

Levi (1988) suggests that the fiscal constitution of a government is made up of the rules and procedures relating to the extraction and collection of the revenue. The fact that the fiscal constitution is arrived at through some method of bargaining implies

that compliance will be widespread. Bargaining in the context of this research is between the government and the taxpayer. As Levi (1988) suggests the costs of compliance can be reduced in three ways: through the use of coercion, the establishment and maintenance of norms of compliance or ideological compliance, and the creation of quasi-voluntary compliance.

This is further expanded upon by North (1990) in that ideology alone will not promote compliance but that an element of self-interest will also influence compliance. Where both exist, a strong level of compliance is exhibited. The state-building role of taxation can be seen in two principal areas: the rise of a social contract based on bargaining around tax, and the institution building stimulus provided by the revenue imperative (Brautigam et al. 2008).

Steinmo (1993) provides an insight into the relationship between taxation and state capacity in economically developed countries. Each country may depend on the same types of taxes, but the degree to which they rely on one type of tax versus another, may vary considerably. Also the structure and incidence of individual taxes can differ widely to that of the same taxes but in different countries (Steinmo, 1993). Historical legacies shape taxation, state capacity and state-society relations in distinctive ways. Colonial legacies are particularly salient. Burgess and Stern (1993) state the ability to tax is closely associated with administrative capability and this is likely to improve with economic development. The seamless transition of the administrative service was attributed to particular values and structures (Lyons, 1973:480). The "constitutionalist ethos" (MacBride, 1991: 312) of the professionalised civil service and judiciary was key, as was, their increasingly Catholic and nationalist personnel (Gulliver, 2006).

Coleman (2007) discusses the findings of behavioural reactions to a series of experiments conducted by the Minnesota Department of Revenue. He suggests that findings from such experiments could be used to inform effective strategies to facilitate increased tax compliance and identify groups of taxpayers where potential future strategies would have the greatest impact.

A range of experiments on the taxpaying population of Minnesota are described including; an increased examination of audit rate of tax returns with prior notice to taxpayers; enhanced customer service; redesign of the standard tax form and letters posted to taxpayers with messages on the importance of voluntary compliance. Using a range of statistical techniques including variance analysis, linear regression, decision tree analysis (recursive modelling) and nonparametric statistical testing, the author finds that the threat of audit is positively related to both the reported income and the taxes paid, with no differentiation between low or high taxpayers.

As the paper points out the value of each of these strategies, whilst worthy of note would need to be conducted over a longer period of time to identify the true effect of each experiment. What the experiments do allow for is for the focus to be placed on specific subgroups of tax payers which consistently respond positively to the experiments and demonstrate an improvement in compliance.

The experiment described draws upon many of the characteristics recognised in the academic literature as influencing tax morale, for example, social norms, moral/immoral behaviour, coercive consequences, trust and the tax payer relationship with National Fiscal Identity. Whilst the results are described there is little attempt to assimilate them into behavioural theories therefore the value of the contribution is questionable. The methods of analysis used are varied with some

explanation of the methodology adopted provided. The further methodological analysis adds little to the results obtained therefore the reason for such choice remains unclear.

### 2.2.2  Tax Evasion and the link with Tax Morale

A significant body of literature exists focussing on the link between tax compliance and tax morale.

Andreoni, Erard and Feinstein (1998) state a greater synthesis of theory with empirical research might generate important insights. Furthermore, there is a need for more empirical and institutional research within jurisdictions outside the US.

Furthermore, Lamberton et al. (2014) propose that the degree of 'agency' that taxpayers enjoy over government spending increases tax compliance, where 'agency' takes one of two forms; direct control of government spending, or expressing one's preference between several potential courses of government action. The study points out that a great deal of tax aversion can be explained by the decoupling of tax payments and public goods obtained by return, or by frustration at a lack of control or influence over tax spending. In the first instance, the authors suggest that in states with a large tax gap, taxpayers suffer from a lack of awareness as to where tax money is being spent, and thus under-recognise the degree to which they receive government benefits. This lack of awareness feeds into a feeling of a lack of influence over tax spending, and thus prompts a negative psychological reaction to paying tax that creates aversion.

The authors go on to propose that providing taxpayers with a greater degree of agency over tax spending, by recoupling payment and benefit, and allowing taxpayers to feel as though they are party to decisions over where tax money is spent. The authors

point out that the link between agency and compliance has been demonstrated numerous times, in therapeutic, financial, and political contexts, and posit that eliciting taxpayer preferences will have a positive impact on tax compliance. Using lab experiments and online surveys, the authors demonstrate the robust effect of providing taxpayer agency on increasing tax compliance. Rather surprising, they also report no negative effects of agency on tax satisfaction, perceived audit likelihood, or perception of government.

The magnitude of compliance shifts generated by taxpayer agency is found, in both studies, to be substantial and somewhat consistent, with both experiments yielding the observation that offering greater taxpayer agency leading to an approximately 16% increase in participant compliance. However, it was reported that providing more expenditure information did not have a positive effect on tax compliance - rather, the study's findings suggested that expenditure information simply complemented the effects of greater taxpayer agency, rather than generating increase compliance independently. Furthermore, the authors acknowledge that the benefits of increased agency may only be significant in the short-term, suggesting that the novelty of greater agency might wear off after a period of years, leading to a return to a status quo of significant tax aversion among the citizenry. On the other hand, greater agency may be associated with increasing returns, as positive experiences in exerting influence over tax expenditure may prompt taxpayers to take an ever-greater interest overseeing government activity, with fiscal, political, and social benefits for both.

Ross and McGee (2012) attempt to both review the findings of more than 30 prior studies examining the effects of education level on tax evasion, whilst also expanding on previous literature by using a larger, more heterogeneous demographic to examine

the same relationship. The authors discuss a number of prior studies that view the issue of tax evasion from a religious perspective, with evidence suggesting that certain faiths - Catholicism, Judaism, and the Church of Jesus Christ of Latter-Day Saints (Mormonism) - explicitly forbid tax evasion, whilst others - Islam and Buddhism - were more mixed in the degree to which their holy texts and scholarly communities condemned or condoned tax evasion. As the authors suggest, an examination of the ethics of tax evasion from a secular perspective, by examining for instance the public finance literature, fails to find any justification for taxation. However, the authors determine that previous literature shows a more unclear relationship between education level and attitude towards tax evasion, with a number of theoretical mechanisms for education level to positively or negatively impact tax compliance been proposed. Empirically, the review found that some previous surveys had found a positive relationship between education and tax compliance, some had found a negative relationship, and others had determined no relationship to exist. Hence, past literature is found to be inconclusive.

Ross and McGee (2012) continue their study utilising a survey of a sample size of approximately 10,000 people, conducted in the United States, China, Russia, Brazil, India, and Germany. According to the findings, the Chinese sample was most opposed to tax evasion, followed by the United States and Germany, then Russia and India. The Brazilian sample was 'by far' the least opposed to tax evasion. A comparison of the relationship between education level between each sample also yielded mixed results, with poorly educated groups in Brazil, Russia, and China being those most opposed to tax evasion, and highly educated groups in India and the United States being the most opposed to tax evasion. In Germany, it was found that those with a university degree

and those with an incomplete elementary education were equally opposed to tax evasion. Thus, the authors suggest that there is not a uniform relationship between education and attitude towards tax evasion across countries and cultures.

DeBacker et al. (2012) examines the impact of enforcement policies on tax evasion in corporations in the United States, and illustrates the way in which the cultural norms of the owners of corporations from more corrupt countries impact the likelihood of corporations to engage in tax evasion. It is determined that foreign-controlled corporations from more corrupt countries are more likely to evade U.S. taxes, by linking the results of IRS tax audits with measures of corruption from the corporations' countries of origin. The authors argue that cultural factors are highly important in decisions to evade tax, in that they affect the willingness of a taxpayer to comply. It is found, using tax audits and the Corruption Perception Index, that high corruption norms are strongly associated with increased tax evasion among small- and medium-sized firms, with the effect diminishing gradually as the firms' size increase. Furthermore, corruption norms have a stronger effect on tax evasion when a firm is multinational, or when the owners are based in a tax haven. Finally, the study reports that increase tax enforcement activities have little effect on the behaviour of firms with higher corruption norms.

Coricelli et al. (2013) find a positive relationship between the use of 'shaming' on an individual who has evaded tax and tax compliance, but distinguishes between two types of shaming - stigmatisation, or shaming followed by reintegration and forgiveness. Their evidence shows the positive effect that shaming-based deterrence strategies has on tax compliance - however, the authors acknowledge that in certain cases, the opposite effect is found, with a shaming-based deterrence strategy causing

a greater resistance to compliance and future disrespect for law. Moreover, whilst also being elicited by sanctions following non-compliance, emotions also constitute a driving force of the behaviour surrounding compliance. The authors go on to argue that potential evaders pre-emptively experience the emotions associated with the sanctions levelled upon those found to be evading; furthermore, these emotional reactions are found to have various effects upon the way in which individuals framed the decision of whether to comply or not.

As the authors suggest, when evasion is made public, but the contravener is subsequently forgiven and reintegrated, compliance is positively affected; compared to when evasion is made public, and is not immediately followed by integration. These findings illustrate the way in which individuals are desensitised to shaming-based deterrence methods if they are not reintegrated into their community after being publicised. As the authors conclude, small alterations in deterrence policy can have differing effects on compliance, and that public exposure as a deterrence tool ought to be carefully administered.

Ross and McGee (2012) use data from the World Values Survey to examine the relationship between various demographic factors and tax compliance in Poland, with a sample size of 949 respondents. They report a significantly positive relationship between tax evasion and progressively younger age groups, higher education levels, and income. Negative relationships are found between tax evasion and confidence in government, confidence in the justice system, and religiosity. Furthermore, all participants working in the public sector appear to be significantly more averse to tax evasion than those in the private sector, whilst the population of the town in which a

participant lived is found to have a positive relationship with the acceptability of tax evasion.

McGee and Gelman (2008) utilise data from Human Values and Belief Surveys to identify the attitudes of the Jewish populations of several countries and compare them with other ethnic groups. Beginning with a discussion of the significant body of theological literature on the philosophical distinctions that various branches of Judaism make regarding tax evasion and tax compliance, the authors go on to analyse the survey data. Whilst it is found that followers of Judaism, and all major religions, displayed a view of tax evasion that was less forgiving than their national averages. Hindus and Muslims are found to be least favourable of tax evasion, with Orthodox Christians and Jews being comparatively most favourable. When the question was adjusted to discuss the acceptability of hiring an accountant to pay less tax, Hindus and Jews are found to be the most accepting of paying less tax.

A series of 18 statements were later used to refine the parameters within which Jewish attitudes towards tax evasion were measured. It was found that Jewish attitudes towards tax collection were largely in favour of compliance; however, the acceptability of tax evasion was seen to increase if a situation was put forward in which the government levying taxes was corrupt or discriminatory towards Jews. Furthermore, tax evasion was found to be more acceptable to many if the situation put forward involved taxes being levied by a frivolous or wasteful government. It was also found that females were more firmly opposed to tax evasion than males, confirming a pre-existing trend found in literature prior to this study.

Ross and McGee (2012) examine the relationship between attitudes to tax collection and various demographic variables in the Netherlands, stating the dearth of literature

on tax compliance in the Netherlands as a motivation for doing so, utilising data on the Netherlands from the World Values database, with a sample size of around 1,000. The study compared aversion to tax evasion with a diverse range of demographic variables.

The authors determined the existence of a number of valuable relationships between tax compliance and other variables. For instance, a distinctly positive relationship between the degree to which a person thought the government ought to be responsible for its citizens and aversion to tax evasion was found. Similarly, it was determined that a positive relationship between confidence in government and aversion to tax evasion existed, as was the case between confidence in the justice system and aversion to tax evasion.

Brautigam (2008) positions taxation firmly within the statebuilding domain. Two principle areas have contributed to the direction of research in this thesis. Firstly, institution building and secondly the notion of a social contract underpinning the the necessity to raise tax revenues.  Steinmo (1993) provides further insight between taxation and the statebuilding capacity of developed countries.  The relationship between the taxpayer and the tax collector is one of agency, the level of influence the taxpayers have over the spend of tax revenues.  The consideration of such themes in this research is necessary to understand the level of agency or influence the institutional and statebuilding relationship between tax payer and government.

## 2.3    Behavioural Economics and Taxpayer Behaviour

### 2.3.1    Introduction

In Chapter 1, it was argued that levels of tax compliance can be attributed to an individual's intrinsic motivation to pay tax. Behavioural Economics literature has documented many cognitive and heuristics biases that affect decision-making under uncertainty. Much of the literature is written by economists for economists. Hitherto the literature concentrates on highly topical areas as finance-related instances, for example, the 2007 financial crisis. However, a "drift" towards broader areas of application is noticeable (Shefrin, 2000; Shiller, 2000; Barberis and Thaler, 2003; Kornhauser, 2007; Hirshleifer, 2001). It is the same decision-making under uncertainty principles that influence a tax payer's decision to evade taxes or not. Hence, this thesis draws on the developing literature in this emerging field which is relevant to the issue of tax compliance and extending to the concept of tax morale. In the first section, the types of behavioural biases that may contribute to the better understanding of tax morale are examined. To that end, some of the most relevant and important behavioural models are introduced with a discussion of their implications for the propensity of individuals to avoid taxes (or not). Some of these theories warrant further discussion, based on relevance, as identified through prior literature or empirical evidence. The chapter concludes with a review of the theoretical framework within which my empirical evidence will be interpreted.

### 2.3.2    Understanding Behavioural Biases

Behavioural Economics seeks to combine behavioural and cognitive psychological theory with conventional economics and finance to provide explanations for why people make irrational financial decisions. It can be split into cognitive psychology

(how people think), affective psychology (the emotional response related to an evaluation) and a behavioural component (the behavioural tendencies associated with an attitude) (Kornhauser, 2007; Onu and Oats, 2016). A number of biases from both cognitive psychology and behavioural tendencies can influence decision-making. According to Hirshleifer (2001: 1533-1597), the four main categories of psychological factors include:

*Heuristic Simplification*

Heuristic simplification arises from the limitations of an individual's cognitive powers, for example memory and thought (Redhead, 2008). It involves the process of using mental shortcuts to deal with complex decisions. When individuals are confronted with complex situations such as statistical probability, frequency or incomplete information, they utilize a limited number of heuristics to reduce the decision to a simpler task (Kahneman et al. 1982). Heuristics can also be explained in simple terms as the cognitive processed with which individuals use to solve problems that involve a high degree of risk-taking and uncertainties. Some may refer to heuristics as "rules of thumb". In the opinion of Myers (1989: 286), "all of us have a repertoire of these strategies based on bits of knowledge that we have picked up, rules we have learned or hypotheses that worked in the past". Plous (1993: 109) suggests that it is easier to estimate how likely an outcome is by using a heuristic than by tallying every past occurrence of the outcome and dividing by the total number of times the outcome could have occurred using standard probability theory and following appropriately a Bayesian probabilistic framework. In most cases, rough approximations are sufficient just as people often satisfice rather than optimize)". Rules of thumb are an example of heuristic simplification. Such shortcuts can produce a tainted perception of the

situation being considered. In other words, " Heuristics are mental shortcuts or strategies derived from our past experiences that help us get to where we need to be but at the cost of sending us in the wrong direction" (Ricciardi and Simon, 2001:19).

## Prospect Theory

Prospect Theory is an alternative decision-making framework to that of the expected utility maximization. It is advocated under conditions of uncertainty where loses appear to influence human emotions more heavily than gains. The theory was popularized by the seminal work of Kahneman and Tversky (1979). It is noted by Olsen (1997) that the theory gives weight to the cognitive limitations of human decision-makers. Under the assumption of prospect theory, Thaler and Johnson (1990) found that when faced with chronological gambles, investors prefer to take risk even if they will make money on initial gambling than if they lose. Kahneman and Tversky (1979) explained that this theory is based on the notion that people are loss-averse, in that they are more concerned with losses than gains. Investors' interpretation of this theory is assigning more significance to avoiding losses than to making gains.

The major foundation of prospect theory is the value function by Kahneman and Tversky (1979), illustrated in Figure 2.0
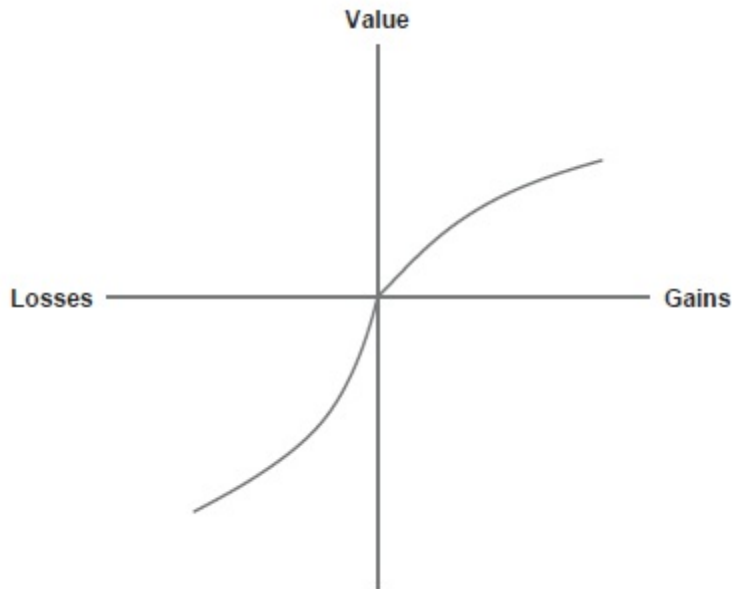
*Figure 2:* Source: Prospect Theory Utility Curve; Kahneman & Tversky (1979)

The above figure is a hypothetical value function of wealth based on a reference point that determines the subjective impression of individuals. It is upwards-sloping (concave) for wealth levels above the reference point and downward-sloping (convex) for wealth levels below the reference point. It should be noted that the reference point is merely an individual's comparison point, for any one decision at any given point in time. For example, an individual with an expectation of paying $x$ amount in personal income tax may have a reference point "$a$". This reference point may shift from "$a$" to "$b$" let's say due to an unforeseen taxable income which generates an increased tax liability, greater than the original expectation. The individual's reference point shifts from the null point to the left of the reference point creating a feeling of loss. The converse is also true generating a feeling of happiness. The feeling of loss is roughly twice as much as the emotion generated by the gain estimated using a prospect function algebraically formulated as

$$\pi(\rho) = \frac{\rho^{\gamma}}{[\rho^{\gamma} + (1 - \rho)^{\gamma}]^{\gamma_{\gamma}}}$$

where $\pi(\rho)$ is the probability of the prospect, and $\gamma$ is the value function with properties of $\gamma(z) = z^\alpha$ for $z \geq 0, 0 < \alpha < 1$ (for gains) and $\gamma(z) = -\lambda(-z)^\beta$ for $z < 0, \lambda > 1$ , $0 < \beta < 1$ (for losses).

Kahneman and Tversky's work demonstrates that individual's attitudes towards risk and the potential gains emanating therefrom is different from the risk of making a loss. Investors (decision-makers) treat outcomes as losses or gains from a subjective reference point in two respects, firstly, individuals are naturally risk-averse when confronted with a sure gain, and secondly, individuals are inherently risk-seeking when confronted with a sure loss (Kahneman and Tversky, 1979). In order to avoid a potential realised loss an individual would prefer to gamble potentially resulting in an increase loss. Further biases relating to this theory and which are highly relevant to this work include mental accounting, regret theory and loss aversion.

## Loss Aversion

Kahneman and Tversky (1979) explain loss aversion as being the essence of prospect theory and demonstrate how decision-makers behave when faced with choice under uncertainty. In brief, it states that humans feel more pain for what they lose rather than pleasure with an equivalent gain. With reference to our issue of tax evasion attitude we can hypothesise that based on the concept of loss aversion, an investor has a fixed reference point and this reference point can be likened to an individual's forecast tax payment position. All subsequent gains and losses (less or more actual tax liabilities payment) are evaluated under the reference point (Redhead, 2008:37). With loss aversion, the pain of losses exceeds the pleasure of gains when both gains and losses are of the same magnitude. With disappointment aversion, pain or pleasure is brought about by deviations from expectations. When this deviation occurs, the

disappointment related to outcomes below expectations is stronger than the pleasure related to outcomes that is beyond expectations. Kahneman (2011) states "there is considerable loss aversion even when the amount at risk is miniscule relative to one's wealth".

Boyce et al (2016) consider loss aversion as a general pervasive bias occurring regardless of the context or the person making the decision. Novemsky and Kahneman (2005) suggest that losses are felt twice as much as equivalently sized gains. Using data from the German Socio-Economic Panel study, using nine waves of data spanning a period from 2005 to 2013. They consider the impact a loss aversion effect on such factors as life satisfaction, conscientiousness, household income and demographic characteristics. The research shows that loss aversion depends on an individual's conscientiousness surmising that conscientious individuals appear to derive greater utility from the economic domain. The research concludes stating that the use of personality psychology has the potential to instigate a second wave of behavioural economics to predict individual specific reactions to economic circumstances.

## Disposition Effect

Kahneman (2011) refers to the disposition effect as "an instance of narrow framing". The disposition effect is an anomaly of Behavioural Economics. It relates to the tendency of investors to sell shares whose price has increased, while retaining assets that have dropped in value Shefrin and Statman (1985). The disposition effect is consistent with prospect theory, continuing the premise that economic agents do not make decisions based upon their final outcomes. Instead, they choose a value as a reference point and make decisions based upon gains or losses from that value. The

theory also requires agents to be risk-averse concerning gains, but risk-seeking concerning losses. As applied to tax compliance this would suggest that individuals may chance under-reporting their income as the associated tax payment would be considered as a loss.

## Anchoring

Tversky and Kahneman (1974) refer to anchoring as a phenomenon whereby individuals tend to be unduly influenced in their assessment of the value of an asset or transaction, even when the value is clearly uninformative. Redhead (2008:27) suggests "people are heavily influenced by past or suggested market prices, for example, when forming judgements about what may be considered appropriate prices the housing market is a good example.

## Herding

Herding is one of the most popular and well-documented behavioural explanations for the existence of group movements towards or away from a particular decision. Redhead (2008) explains that when uniformity exists concerning the market's direction, there is the likelihood that there will be market movement towards that direction. However, herding can be quite a slow and deliberate evolution taking some time to develop a direction. In the tax literature, behaviour typified as herding (although not called this) is a major cause of tax compliance or non-compliance. Rational individuals are not immune to this herd-like behaviour when they take into account the judgements of others. Although it looks like a rational behaviour, it creates a group (crowd) behaviour that is irrational and causes market fluctuations. Investors with no right to inside information act irrationally on noise as if it were a useful piece of information (Thaler, 2005).

## Overconfidence

Daniel and Titman (2001) state that overconfidence is one of the most documented biases in literature of Behavioural Economics. It is a psychological bias that arises partly from self-attribution bias. It creates belief that investors can predict the market. There is a tendency for investors to regard successes as arising from their expertise while failures are due to bad luck or the actions of others, resulting in excessive overconfidence in one's own powers of forecasting. Overconfidence explains the high volume of trading observed in financial markets. It is another characteristic that influences a person's risk perception since there are many ways in which an individual tends to be overconfident about their decisions in terms of risk-taking behaviour.

Another interesting category of overconfidence bias is the notion of *"it won't happen to me"*. This is as asserted by Ricciardi (2008:98), is where individuals consider themselves invulnerable to specific risky activities or events on an individual basis while they would readily concede to these risks on a societal level. This results into individuals underestimating the probability of occurrence of certain extreme-like events (black swans) leading to detrimental outcomes when these occur in real life (Taleb, 2007).

This section of Chapter 2 sets out the behavioural influences that aid understanding of why people make what appear to be irrational decisions. It reviews relevant behavioural theories arising from the literature thereby signaling the opportunity to further explore the relevant theories to quantitative data. For example, Cullis, Jones, & Savoia (2012) explore the application of Prospect Theory to tax morale or Onu and Oats (2016) and they're work referring to the uses and influence of social norms.

## 2.4    Prospect theory tax evasion practices

The saying often goes "the problem of tax compliance is nearly as old as taxes themselves". Explaining tax non-compliance and therefore proposing techniques to reduce non-compliance is of interest to governments and other stakeholders the world over. For many years the economics of tax compliance have been studied with quantitative models of tax compliance being proposed and developed further. Allingham and Sandmo's 1972 neoclassical model of income tax evasion, from a theoretical standpoint is often quoted in any such research. Allingham and Sandmo (1972) studied the level of tax compliance in relation to the level of taxation. Their initial question investigated whether varying the level of taxation would affect the level of compliance. For example, the obvious argument is a higher rate of tax would reduce compliance.

Further developing this hypothesis, the authors considered a taxpayer with exogenous income $y$ is required to pay tax at the rate $t$. The taxpayer is required to pay tax to the government $x$. If honesty prevails $x = y$. However, if human nature prevails the taxpayer may act dishonestly and not declare all income, thereby understating the tax due. Andreoni et al. (1998) provide a summary of the Allingham and Sandmo model of tax evasion concluding that " *... the most significant discrepancy that has been documented between the standard economic model of compliance (presented by Allingham and Sandmo) and real-world compliance behaviour is that the theoretical model greatly over-predicts noncompliance*"

This standard economic model assumes that taxpayers make decisions based on four parameters: i) the probability of evasion detection, ii) punishment of evasion, iii) tax rates and iv) income level. Tax payers are in the most compliant; however, the

literature would suggest that factors influencing their compliance are not driven by punitive measures such as audit or threat of penalty but some other factors. Andreoni et al state that in the early 1980's the empirical academic literature on tax compliance consisted of only a few studies, based upon surveys of taxpayer attitudes or on very small idiosyncratic datasets. The literature has been developing at a pace but notwithstanding this it is still reliant on surveys, datasets and more recently experimental techniques. Andreoni et al (1998) state "the empirical literature is still in its youth, with many of the most important behavioural hypotheses and policy questions yet to be adequately investigated".

It is clear that the most reliable method of estimating compliance is to use actual tax return information. Andreoni et al refer to datasets as a reliable source of data. The benefit being that they often include socioeconomic, demographic and attitudinal variables which allows for the dependent variable, in this case tax morale, to be tested for cause and effect. It is suggested that survey data is most useful when incorporated into econometric models to test alternative theories of taxpayer motivation and behaviour. In conclusion, the Allingham and Sandmo (1972) model have mainly served to generate sensible predictions about tax evasion. It does nothing more than guide empirical research in the choice of independent variables to explain the compliance decision. Andreoni at al. (1998) conclude by saying that "…more work needs to be done exploring the diverse psychological, moral and social influences on compliance behaviour and integrating these factors into economic models of compliance".

The literature has moved on in two ways. The use of theoretical models emerging from the relatively new field of behavioural economics has greatly improved the empirical

research along with the advancement in experimental approaches and greater sophistication of survey datasets.

## 2.4.1    Theoretical model

Kahneman and Tversky's seminal paper on Prospect Theory: An analysis of Decision under Risk (1979) suggests that most individuals comply with rules or axioms most of the time. Expected Utility Theory has dominated the analysis of decision making under risk, where it has been generally accepted as a normative model of rational choice and widely applied as a descriptive model of economic behaviour. For example, it is assumed that most people would comply with the prevailing rules and that most people actually do most of the time. Kahneman and Tversky continue to present a series of choice problems which systematically violate the axioms of expected utility theory. This presentation serves to undermine this theory affording the opportunity to present an alternative model, Prospect Theory.

Decision making under risk is perceived as a choice between prospects of gambles. In Behavioural Economics term this could be viewed as a choice between two contracts, one yielding x, with a given probability, $\rho$, simplified to $(x, \rho)$. Expected Utility Theory is based upon three tenets:

i)      Expectation – the expected utility of the outcomes of the prospects

ii)     Asset integration – a prospect is acceptable if the utility resulting from integrating the prospect with one's assets exceed the utility of those assets alone.

iii)    Risk aversion – in expected utility theory, risk aversion is equivalent to the concavity of the utility function.

The prevalence of risk aversion is perhaps the best known generalisation regarding risky choices and in many ways led the early decision theorists of the eighteenth century to propose that utility is a concave function of money (Pratt, 1975).

The paper continues to demonstrate several phenomena which violate these tenets of expected utility theory. Using student responses to hypothetical choice problems. As the writers point out the validity of hypothetical testing is questioned suggesting that greater reliance may be placed upon field experiments, by naturalistic or statistical observations of economic behaviour. Whilst the writers counter the alternative method suggested using field/laboratory experiments implies contrived circumstances thereby contriving the resulting outcome. No such criticisms were made of the use of statistical economic data. Reference is made to the contribution of such writers as Allais, Markowitz, Williams, Fishburn and Kochenburger regarding the prevalence of risk seeking in choices between negative prospects.

Prospect theory as developed by Kahneman and Tversky (1979) used simple prospects with monetary outcomes and stated probabilities. It distinguishes two phases in the choice process: editing and evaluation.

Kahneman and Tversky suggest that the editing phase consists of preliminary analysis of the available prospects, yielding a simpler representation of those available. The function of this phase being to organise and reformulate the options so as to simplify the evaluation and choice. The editing phase is divided into Coding of outcomes as gains or losses; Combination; simplifying the probabilities associated with identical outcomes are combined; Segregation: separating the riskless element. These steps are applied to each prospect individually. A subsequent Cancellation step is applied to two or more prospects, discarding common constituents.

The second phase of Prospect theory is the Evaluation phase whereby the prospect of the highest value is identified. The overall value of an edited prospect is denoted $V$, is expressed in terms of two scales, $\pi$ and $v$. The first, $\pi$ gives each probability $p$ a decision weight, $\pi(\rho)$, which reflects the impact of $\rho$ on the over-all value of the prospect. This is not a probability measure and is typically less than unity. The second scale, $v$ assigns to each outcome x, a number$v(x)$, which reflects the subjective value of that outcome. Outcomes being defined relative to a reference point which serves as the zero point of the value scale. Therefore, $v$ measures the value of deviations from that reference point, i.e. gains and losses.

Markowitz was the first to propose that utility be defined on gains and losses rather than on final asset positions.

Markowitz also noted the presence of risk-seeking in preferences among positive as well as among negative prospects, and he proposed a utility function which has convex and concave regions in both the positive and negative domains. A point referred to heavily in Cullis et al's (2012) work. The application of prospect theory allows us to take account of situations where individuals do not follow the expected axiom. By attaching values to changes rather than final states, and that decision weights do not coincide with stated probabilities. Such departures from Expected Utility Theory lead to inconsistencies in decision theory and violations of dominance as we see in Taxpayer behaviour. Quite often a taxpayer does not have the opportunity to discover that his predisposed preferences could violate decision rules such as legislation that he may implicitly wish to obey.

The key concept with prospect theory is that the identifiable value is the changes in wealth or welfare rather than final states. This assumption being compatible with

those sensors experiences which help us learn such as touching boiling water or determining when something is too bright or loud; the same applies to non-sensory perception such as health or wealth. It depends upon the individuals start point depending on their current assets.

Kahneman and Tversky continue to hypothesise that the value function for changes of wealth is normally concave above the reference point and convex below it. The marginal value of both gains and losses generally decreases with their magnitude. The proposal that the value function is

     i)       Defined on deviations from the reference point

     ii)     Generally, concave for gains, and convex for losses

     iii)    Steeper for losses than for gains

Decision weights are inferred from choices between prospects but are not probabilities: they do not obey the probability axioms and they should not be interpreted as measures of degree or belief. Decision weights measure the impact of events on the desirability of prospects, and not just the perceived likelihood of such events.

The salient properties which relate the decision weights to stated probabilities. The decision weight, $\pi$ is an increasing function of $\rho$. Outcomes contingent on an impossible event are ignored. The reference point is considered to be one's current assets but where a shift in reference occurs through a change in the status quo, for example an unexpected tax deduction is viewed as a loss rather than a reduced gain. A change in reference point alters the preference order for prospects. The location of the reference point and the manner in which choice problems are coded and edited

emerge as critical factor in the analysis of decisions. Adapting to one's new reference point is also critical for example a gambler after a day of betting with regular losses expecting to make up the losses with a win by the end of the day.

The merits of prospect theory when applied in an empirical context are discussed by Cullis et al. (2012). The authors set out to explore the way social norms can frame the decision to pay tax. Crawford and Ostrom (1995), define "Social Norms" as a "shared understanding about actions that are obligatory, permitted or forbidden". The authors consider whether prospect theory can be used to provide an insight into the influence of social norms on taxpayer behaviour in line with the theories and hypotheses introduced in the prior literature (Allingham and Sandmo, 1972; Kahneman and Tversky, 1972; Ratto et al. 2005).

In the very same study, Cullis et al. (2012) discussed the positioning of the value function and its influence on the general shape of the curve and especially how the value function and an individual's compliance with taxation is influenced by social norms. The swivelling of the slope reacts to the differing intensities of responses, for example, social norms in Britain where the individual feels a stronger need to conform with social norms and support the public sector thereby deriving a higher intrinsic value whereas the "shift" of the curve changes triggered by different behavioural responses for example, individual 2's sense of duty towards paying tax as opposed to individual 1's reluctance to pay tax. Individual 2 is naturally pre-disposed to the tax charge as they perceive the state has an entitlement to the revenue, whereas individual 1 feels entitled their total income. The study moves on to discuss the usefulness of prospect theory, specifically how decisions are framed and outcomes differ in different countries. Using a hypothetical experiment, the authors identified a

correlation between tax paid and a higher likely detection rate, with the framing effect not being statistically significant. Using a large dataset of students of differing disciplines cross-culturally, Cullis et al. (2012) note that "differences in tax compliance depend upon differences in national tax culture" with both education and national fiscal identities are relevant when explaining tax compliance.

This paper also suggested that social norms can be influenced by differences in national and fiscal identity although the authors did not proceed with the empirical examination of such hypothesis. Overall, the results suggest that individuals are influenced by signals given by political leaders, social institutions and informal sectors. Nonetheless, as the authors point out a weakness of this study is the reliance upon student results in empirical work; whilst indicative and commonly used as a method of behavioural simulation the responses are not representative of taxpayer responses.

Kornhauser (2007) uses a review of a wide spread of literature on tax morale and interviews with the IRS and HMRC in an attempt to explore the key components of tax morale further making a series of recommendations to governments on how to improve it. The author characterises tax morale as "why people pay taxes", pointing out that examining anti-evasion incentives only provide a fraction of the motivations of taxpayers in determining whether or not to fully comply with tax collection. The author identifies the main components of tax morale as cognitive processes, social or personal norms, and demographic factors, examining each in turn.

Cognitive processes are identified as the unconscious biases and reactions of taxpayers to the act of paying tax; the study refers firstly to the way in which tax decisions are 'framed', and secondly to the 'shortcuts', or unconscious associations, that taxpayers heuristically make with regards to tax over the course of their life. The

author argues in favour of 'prospect theory' as a way of explaining behaviour towards tax evasion, holding that people tend to be risk-seeking in regards to loss, and thus will willingly risk penalties through tax evasion if a tax is framed as a loss, rather than a bonus. Consequently, it is argued that tax compliance ought to increase if paying taxes is seen as a gain, rather than a loss, through the way in which decisions are framed, or if taxes are portrayed as positive contributions to society rather than coercive obligations. The author goes on to explore the ways in which taxpayers' differing worldviews affect their attitude towards tax compliance, arguing that antipathy towards government is often accompanied by antipathy towards tax-paying, whilst a taxpayer indifferent to the choice of a government as a positive influence will be more likely to see paying taxes as their civic duty.

Social and personal norms, defined by the author as shared or internalised beliefs concerning the manner in which people should behave, are argued to be relevant to tax evasion in their effectiveness in enforcing particular behaviours in communities - for instance, tax compliance. The author demonstrates the existence of a positive relationship between personal values such as honesty and altruism, and tax compliance. However, it is acknowledged that social norms can also negatively impact tax compliance - for instance, when a particular group is indifferent to tax compliance, or even actively encourages tax evasion, those with personal values encouraging tax compliance may follow the group's behaviour due to their perception that they are unnecessarily supporting 'free-riders'. Personal norms relating to justice, fairness, and the legitimacy of those in authority may relate to augmented identification with wider social norms, and thus that the legitimacy of the. government which taxes support is key in ensuring high tax morale. Furthermore, honesty and fairness in a tax authority

can act as a social norm of its own; hence, high moral calibre of a tax authority can encourage taxpayers to view taxpaying as more 'fair', thus increasing tax compliance. With regards to the role of demographic factors, women tend to be more tax compliant than men (Kornhauser, 2007). Older individuals are more compliant than young ones as well as there is a positive relationship between tax compliance and religiosity. Other variable, such as income, marital status, and educational status, were found not to possess clear relationships with tax compliance, with the literature surrounding them being more mixed in their conclusions.

Dhami and Nowaihi (2007) analyse US and UK tax data under two models, one based upon expected utility theory, the other on prospect theory. Motivated by the inadequacy of EUT in explaining several aspects of tax evasion, they propose that prospect theory provides a more robust and realistic model in explaining the areas where EUT accounts of tax evasion and empirical evidence contradicts. The authors give several such areas - firstly, that EUT models vastly overestimates the extent of tax evasion; secondly, that EUT models under the assumption of decreasing absolute risk aversion display a decrease in tax evasion simultaneous to an increase in the tax rate, contradicted by a large majority of experimental, econometric, and survey data; and thirdly, that EUT models disregard previous interactions, such as obligatory advance tax-payments, between taxpayer and authority. The authors argue that these 'tax evasion puzzles' are irreconcilable with expected utility theory. The authors' proposed model of 'cumulative prospect theory', characterising taxpayers as loss averse with respect to a reference income, accurately predict the magnitude of tax evasion when compared with the empirical data. The authors propose a model in which individual's overweight small probabilities, while underweighting large ones, thus accounting for

a realistic rate of tax evasion. Whilst prospect theory's acknowledgement of exponentially decreasing loss aversion as costs increase accurately predicted an increase in evasion with an increase in the tax rate. 'Thus, the authors conclude that taxpayer behaviour strongly supports prospect theory.

This is also corroborated by Dhami and Al-Nowaihi (2010) who carry out two parallel analyses of United States tax data using a model based upon expected utility theory and a model based upon prospect theory in an attempt to determine which model best explains observed evasion rates under particular rates of tax and government expenditure. As the authors point out, the majority of literature on tax evasion has used an EUT approach irrespective of the numerous flaws in such an approach, ranging from its inability to correctly model taxpayer reactions to increasing tax rates to the use of examples where of inaccurate quantitative predictions of tax evasion based upon an EUT approach are produced. It is found that whilst the EUT model incorrectly predicts the magnitude of both tax revenue and the tax gap for the dataset used, a prospect theory approach produces correct predictions for observed levels of tax evasion and tax collection. However, EUT was found to be a more effective model in predicting taxpayer preferences over private and public provision of services, as expressed through surveys and elections.

Trotin (2012) examines the determinants of tax evasion under the framework of prospect theory. She goes on to state that Prospect Theory has become one of the most prominent alternatives to the more traditional, accepted alternative of expected utility. Prospect Theory differs from expected utility theory in that it measures the differences between final levels of income and a pre-determined reference income; as well as not as previously accepted by expected utility, the final value of wealth.

The author continues to define the "framing effect" phenomenon. The utility function is convex for gains and concave for losses. It can be noted that individuals appear to care more about losses than gains as demonstrated by the shape of the "S" curve. The more shallow curve in the positive/gains quadrant reflect the more gradual or measured response to a gain when contrasted with the loss quadrant where the steepness of the negative curve presents more sharply demonstrating the increased emotional impact a loss has on an individual. There is risk-averse behaviour in the case of gains and risk-seeking behaviour in case of losses. A behavioural trait overcome by Prospect Theory is that individuals tend to overweight unlikely events but underweight average and likely ones. This perhaps explains the success of National Lotteries. The paper progresses putting forward many of the empirical arguments put forward by Allingham and Sandmo (1972); Alm et al (1992); Kahneman and Tversky (1992); Andreoni et al (1998) and Dhami and Al-Nowaihi (2007).

### 2.4.2   Datasets and Experiments

The merits of using datasets created from surveys are demonstrated in Alm and Torgler's (2006) seminal comparative study of cultural factors that affect tax morale across countries. Their empirical approach attempts to estimate the determinants of tax morale. The authors investigate the influences of individual's values, social norms and attitudes on taxpayer behaviour. Using the World Values Survey (WVS) data set, Alm and Torgler (2005) highlight the role of cultural differences in influencing attitude to paying taxes. The dataset used contains information on individuals from a wide range of countries over several years of data.

The principle assumption underlying this work is that taxpayer compliance depends upon factors other than ones of deterrence, penalties or fines. Other factors are

referred to collectively as "tax morale", a taxpayer's intrinsic motivation to pay taxes. Referring to earlier studies which were found to be less useful in the sense that they used experimental techniques focussing on a small number of countries and with a single year's data, further work addresses these shortcomings by widening the dataset and the time period. When reflecting on previous work in this area Alm and Torgler (2005) suggest that a considerable body of literature focuses on other areas of economic research specifically in behavioural economics. After a discussion of this literature the authors conclude in identifying a gap insofar as much of the existing literature, Cullis et al (1997); Yaniv (1999); Cummings et al (2009) and James (2012), give passing mention of tax morale but go no further to explore the factors which shape tax morale. Furthermore, factors contributing to the emergence of or measurement of tax morale are noticeably absent indeed providing a gap in the current literature.

Alm and Torgler (2006) describe the WVS dataset and its efficacy at examining "tax morale" as a dependent variable. The WVS asks identical questions to a representative sample of 1,000 individuals in more than 80 countries. Questions include religion, culture and perhaps most pertinent tax compliance. Alm and Torgler (2005) reflect on the use of a single question versus a multi item index, which may be more appropriate given that tax morale is likely to be multi-dimensional from a behavioural perspective. The authors recognise a major weakness of using a single item measure as not adequately capturing the interrelated facets of tax morale and may also be adversely affected by random errors in measurement.

Applying probit estimation methods, a type of regression where the dependent variable can only take two values, as in binary coding, the authors progress through

three WVS waves (years) of data, 1990, 1995 and 1999-2000, firstly attempting to illustrate that residents of Spain exhibit a lower tax morale than residents of the United States and secondly, using multiple regression on sixteen Western European countries and the United States. In both instances the authors are able to conclude that tax morale is higher in the United States than in Spain and is highest in all of the Western European countries examined. Several trust variables are introduced; Trust in the legal system and Trust in Parliament. Alm and Torgler (2006) discover that both trust variables have a significantly positive effect on tax morale, therefore supporting the notion that trust matters for tax morale. Supporting this evidence is the work undertaken by Hammar et al. (2008) in which survey data is analysed focusing on the importance of trust in taxpayers and trust in politicians. The key outcome being that distrust of politicians increases perceived evasion of redistributive and fiscal taxes and that distrust of politicians has a greater effect than trust or distrust of fellow citizens. Much of the research in tax compliance concentrates on traditional deterrence strategies for example audit, penalty and tax rates on compliance. Alm and Torgler's (2006) work suggests that tax payer behaviour cannot be explained completely by the coercive aspects of economic analyses hitherto explored. Using a multi-variate analysis across datasets (1990, 1995 and 1999-2000), the authors provide a longitudinal study of phenomena attributable to behavioural attitudes.

An interesting study undertaken by Ross and McGee (2012) serves to further demonstrate the examination of data taken from the World Values database and how various demographics interact with attitudes towards tax evasion. This study examines the interaction of several variables that have not hitherto been examined. The study examines in excess of 20 demographic variables including, gender, age,

occupation, marital status, religion, education to name but a few using a 10-point Likert Scale where 1 stands for never justifiable and 1 for always justifiable. This approach of using a range of responses is having the benefit of promoting more accurate truthful responses, as opposed to the approach of pinpointing one's level of underreporting that encourages the respondent to lie.

Their findings suggest that women are significantly more opposed to tax evasion, something confirmed in prior literature. Many previous studies have examined the influence of age on one's predisposition to pay tax, some of which conclude that as individuals grow older they become more tax compliant and have greater respect for authority/legislation/political responsibility. On the contrary, some previous studies have concluded that younger people are more ethical, perhaps showing greater idealistic beliefs in ethical responsibilities.  Suffice to say that this article provides no further clarification on whether age, either younger or older influences one's level of tax morale. Notwithstanding this evidence, it is widely accepted that the population have a greater respect for authority as they grow older. Moreover, the article progresses by examining each variable such as marital status, age, religion, number of children, importance of God in one's life, level of education, employment status and feeling of happiness. Perhaps most noteworthy, is the comprehensive study undertaken on the Netherlands, never previously undertaken and the use of a methodology which can be replicated in other studies. Whilst the aforementioned research at first glance is very similar to that being undertaken in this thesis, this research will go further to take the indications obtained from statistical analysis of the World Values Survey and situate them in the context of Behavioural Economics theory, thereby going somewhere to explaining the relevance of such statistics. The

approach taken in this thesis relaxes the proportional odds model assumption such that the effect of variables behaving in a non-linear manner can be considered. Furthermore, this model allows consideration of variables by individual country element and allows country specific influences to be identified.  Blanthome and Kaplan (2008) pursue an interesting line of enquiry using structural equation modelling to test taxpayers' opportunity, social norms, ethical beliefs and tax compliance providing an error-free measure of latent variables. Their work contributes to the tax compliance literature by proposing a new model of the links among opportunity to evade, social norms, ethical beliefs and tax behaviour behaviour/intentions. The model presented builds upon prior research that self-interest influences one's own ethical beliefs (Thompson and Loewenstein, 1992; Babcock  1995). The later refers to this as an egocentric interpretation or bias. Their study tests the strength of relationship between the opportunity to underreport income with ethical beliefs and social norms. Interestingly the extension to current academic tax compliance research through proposing and testing of a model in which the noneconomic variables are contingent upon one's economic condition or situation further supports the interest and expansion of this area of research, thereby implicitly supporting this work. Furthermore, Blanthorm and Kaplan (2008) suggest that social norms influence, ethical beliefs indirectly affects evasion intentions and behaviour. Using primary series of interviews as a primary source of data, their findings conclude that the taxpayer's opportunity to evade is unrelated to their social norms. Wenzel (2005b) found that taxpayers generally overestimate other taxpayers' acceptance of tax evasion; to the extent that social norms directly or indirectly influence compliance

behaviour. Much of their research extends the work of Allingham and Sandmo (1972) and Erard and Fenstein (1994).

This sub-chapter discusses the commonly reported methods of researching tax morale in the literature. Andreoni et al (1998) remark upon the use of quantitative datasets to establish the relationship between socio-economic, demographic and attitudinal variables on tax morale. The literature moves on to discuss the use of theoretical models that are emerging from behavioural economics coupled with advancements in experimental approaches. The gap addressed through this research and which is supported by the literature (Yaniv (1999), Cummings et al (2009) and James, (2012)) is created by researchers giving passing mention of tax morale but to go no further to explore the factors that shape it.

This thesis goes further, to take the indications obtained through quantitative analysis and situate them in the context of behavioural economics theory.

## 2.5    Summary

The literature covered in this chapter demonstrates thematically that tax morale differs significantly and across countries. Prior studies are generally consistent in their reference to the importance of trust and the relevance of social norms. A number of strategies by which tax morale can be measured and subsequently increased have been discussed; for example, the relationship between trust and tax morale, implying clear policy strategies to induce trust at the constitutional level. Furthermore, the use of the combination of statistical analysis and experimental strategies to measure tax morale and perceived tax morale is consistent with intended future research.

The relationship between the state and the taxpayer contributes to previous research undertaken in this area and compliments academic literature by Steinmo (1993) referring to the relationship between the taxpayer and the State and which discuss how the relationship can be strengthened by well-functioning state institutions. Such strategies are likely to provide higher tax morale and so lead to an increased desire to pay taxes.

Papers in the Behavioural Economics literature usually refer to specific bias types to explain specific behavioural shocks. Few, however, attempt to apply the types of potential biases identified by Hirshleifer (2001) to tax compliance and even fewer to tax morale. None appear to distinguish between biases and specific circumstances of individual countries or continents. This is a gap in the literature that I intend to cover in my empirical testing section.

An observation worthy of note throughout the literature review is the bias towards discussing countries with a strong tax morale offering reasoned arguments for these phenomena; however, little discussion is undertaken regarding the countries with weaker tax morale. In conclusion, identifying factors that influence tax morale has consequences for real behaviour and policy formation. The literature chosen in this analysis serves to justify the research being undertaken in the area of tax morale, trust and corruption.

# Chapter 3: Data Description and Methodology

## 3.1    Introduction

This chapter begins by providing an introduction to the chapter followed by a discussion of the philosophical positioning of the thesis.  The chapter continues with a discussion research design, the principles adopted and how this work is influenced by the literature.  It continues with a discussion of the data and data choice.  The chapter concludes with a discussion of the benefits and limitations of the methodology and how the limitations have been addressed.

The primary topic of the research in this thesis is to gain a better understanding of the relationship between a given set of variables, acting as a proxy for specific beliefs and behaviours and their influence on tax morale.  It reports the data sources, the data, the choice of relevant data and regions, the time period for use in this research and the associated modelling techniques for the analysis.  The focus of the study is based on thirteen countries over the period 2008-2012.  This being representative of one wave of the World Values Survey (WVS) panel survey.  For comparative purposes and to provide robustness a further comparison is made with the level of perceived corruption in the countries included in the study.

 There have been many approaches to research within the field of taxation with no one methodology proving to be better that another.  Recent decades have seen an explosion of theoretical and empirical research into taxpayer behavior (Slemrod, 2016; Gangl, Hofmann and Kirchler, 2015; Kasper and Kasper, 2016).  Each

methodology has inherent strengths and weaknesses addressing individual research questions.  Improving tax compliance is a major goal for developed and developing economies.  A weak tax base constrains a governments choice of economic strategies, forcing it to consider higher and more distortionary taxes, increased borrowing or reduced provision of public goods and services.  Researchers often have their own preferences for a particular method, often influenced by their own ontological and epistemological standpoint.  McKerchar (2011) states *"a researcher must adopt a strong conceptual framework for a piece of work and be prepared to justify it to others"*.

The justification of the method used in this thesis is augmented and strengthened by reference to a range of disciplines, such as public policy, economics, taxation, political science and psychology. By doing so it is intended to provide greater insight into the topic, increase the validity of the approach used and demonstrate the multi-disciplinarity of the research area.

## 3.2    Research Philosophy

Research can be more easily justified if a philosophy is adopted which more readily fits within the commonly accepted research paradigm. In this section I will discuss the different research philosophies and methodologies available.  Furthermore, this section will help to justify those methods applied in my thesis after exploring the research paradigms of positivism and interpretivism.

The study of taxation is often considered from one of two perspectives, namely in the context of revenue law or from the strict economic analysis viewpoint.  However, it could be posited that taxation is a social phenomenon which can and has been

studied through many disciplinary lenses, including accounting, applied economics, psychology, political science and philosophy. Each discipline adopts its own epistemological foundations that encourage an increased frequency of application of specific types of research methodology.

A substantial body of literature exists on the design and conduct of tax research, from which emerges two core philosophical paradigms. Burke (2007) suggests that clearly positioning research within a particular paradigm, communicates the standpoint of the research allowing others to understand the context within which it is placed. Other authors use metaphors to describe a research paradigm, for example, Grix (2004) describes paradigms as organizing frameworks or disciplinary frameworks that guide researchers. Burke (2007) describes the research paradigm as a "set of lenses", which allows the researcher to view the research within the context of a particular set of disciplinary assumptions.

A research paradigm has its own set of identifiable characteristics that imply the nature and conduct of the research proposed. McKerchar (2009) suggests that paradigm choice may be viewed as a reflection of the researchers own view of the world (ontology) and beliefs surrounding the creation of knowledge (epistemology). Furthermore, that implicit beliefs coupled with the researcher's prior experiences will influence the philosophical approach to research.

Guba and Lincoln (1994) suggest fundamental questions can be used to situate research within a paradigm:

1. Ontology: this is concerned with the nature and form of reality. It considers the assumptions about the way the world operates and the commitment held to particular views. Ontology has two aspects:

   a. Objectivism which argues that social entities exist in reality external to social actors. For example, the government of a particular country. To further evidence this view one might suggest that a government must adhere to the tax legislation, this being an accepted formal structure which locates society within a hierarchy which operates in an objective manner.

   b. Subjectivism which suggests that social phenomena are created from the perceptions and consequent actions of social actors. Furthermore, the constant iterations of these actions provide continually revised social phenomena. Remenyi et al (1998:35) suggest the need to study the details of the situation to understand the reality or perhaps a reality working in the background.

2. Epistemology: is concerned with what constitutes acceptable knowledge in a particular field; what is the relationship between the knowledge holder and what can be known. Epistemology refers to a set of criteria which can be used to evaluate claims of knowledge.

Distinguishing features of positivism and interpretivism are apparent from the underpinning techniques of each approach. McKerchar (2009) describes the positivist approach as being based on a realist, foundationalist ontology which views the world as existing independently of our knowledge of it. Positivism is adopted by those researchers seeking objectivity in their explanation of social reality. Positivism can be defined as an approach where facts are clearly defined and results are clearly measurable. In this paradigm the researcher is viewed as detached from the subjects under study and the explanations derived are based on empirical evidence and tested theories. The knowledge produced by a positivist approach is based on deductive reasoning, whereby the research follows a structured process identifying relationships, logical conclusions and making predictions in line with appropriate confidence levels. A researcher with a positivistic outlook is likely to adopt a quantitative methodology, typically empirical in nature, relying on deductive reasoning. Fotheringham (2006) suggests that by adhering to scientific rules, mathematics and statistics, positivism is thought to advocate the quantification of science. Nonetheless, positivism in some way simplifies reality by viewing limited variables and adopting a reductionist approach to exploring the relationships between the variables being studied.

By contrast, the view taken by the interpretivist is based on the assumption that the researcher cannot be detached from the subjects being studied. Interpretivism provides an understanding of social reality that is based on the interpretation of the researcher. It does not provide a conclusive explanation from which causal relationships can be identified and predictions made. Denscombe (2002) describes

the explanations of an interpretive researcher as messy and open-ended rather than neat and complete.  Researchers in the interpretivist paradigm are likely to adopt a qualitative approach to research, requiring inductive reasoning rather than following deductive logic.  This approach often requires a innovative means of collecting data. Interpretivism refers to such procedures as those associated with phenomenology, ethnography, hermeneutics and case studies.  Interpretivist research takes a holistic approach involving as many variables as can provide an explanation.  This all-inclusive approach is more difficult to replicate, assumptions and generalisations being more sophisticated often creating difficulties in proving the validity of such research.

McKerchar goes on further to say, quantitative research is empirical in nature, relying upon deductive reasoning, being commonly applied in the scientific field and refers to practice dating back to Hippocrates c.450BC.  In contrast, she states that qualitative research was founded in the 1900's and is more commonly used in the social sciences, distinguishably still evolving.

Whilst it is widely recognised that these two paradigms are philosophically opposed it is equally valid to accept that a continuum exists between them.   Axinn and Pearce (2006) present the argument that the dichotomous unidimensional distinction between quantitative and qualitative research is unhelpful suggesting that it is only a distinction between whether or not data is coded into numbers or text.  This perspective is a little too simplistic; different methodologies produce different research designs be they text or data. Moreover, research is influenced by convention that has developed over time and come to be the expected norm by

peers and the research community.  Sarantakos (2005) succinctly expressed

methodology as being more than, and not being determined by, the nature of data

presented.

McKerchar (2009) posits that unless the choice of research methodology is based

upon a solid and defensible foundation and has a clear purpose at the outset it is

unlikely to add anything of value to the existing literature.  She continues to suggest

that to identify a clear purpose one may identify a gap in the literature, to be

addressed by new research, thereby making a valid contribution.  However, viewing

these perspectives as a continuum is helpful in that it helps to identify opportunities

for qualitative paradigms to contribute to positivist paradigms through triangulation.

The differences between positivism and interpretivism outlined above suggest that

the positivist viewpoint is more closely aligned to this research due to its

quantification of variables, comprehensive regard to science and philosophy and its

defined outcomes.

Boll (2014) described two approaches to studying tax compliance, one represented

by behavioral psychologists, who focus on the relationships between tax compliance

and various behavioral factors, and the other represented by critical tax researchers,

who show how taxpayers are disciplined by the state/tax administration to become

compliant. As extensive as these views on tax compliance are, they cannot cover

every analytical option. Boll further posits that tax compliance can be seen as a

socio-material assemblage, a collection of theories built out of the intersection of

technology and organization; perhaps a way of synthesizing this is to view the

research in this thesis on tax compliance as an assemblage of law, accounting, economics and psychology.  For a long time, the tax field has been dominated by rational choice, black letter law (well established legal rules) and quantitative approaches (Boden et al., 2010; Onu and Oats, 2015). In recent years, however, the tax field has witnessed an increase in theoretical approaches as several disciplines engage in providing knowledge on various aspects of taxation. Qualitative and interpretative approaches have begun to mark themselves as providers of knowledge in the field, using to great effect approaches and frameworks emanating from philosophers Foucault, Bordieu and Montesquieu. Such political and social philosophers frame an avenue of research often associated with interpretivism.

3.2.1 Development and nature of accounting research

When considering the philosophical positioning of tax research and in turn the research undertaken in this thesis, it is essential to understand and reflect on the position of the research in the wider philosophical paradigm landscape of accounting research.  The following sub-section gives a helpful account of the multi-paradigm nature of accounting research, drawing upon relevant articles that detail the historical development of paradigms used in accounting research.  Laughlin (1995;1999) provides a lengthy overview of the emergence of key philosophical contributions from as early as the 16th century through to 20th century.  He provides a view of the landscape which shows how paradigm shifts over this period have influenced the development of accounting research approaches.  Lee and Humphrey (2006), similarly charts the journey of UK accounting research from largely positivistic, quantitative discipline to a more pluralistic discipline with research, conferences and journal articles acknowledging the value of the pluralistic

approaches. Lukka (2010) further examines the role and effects of paradigms in accounting research, focussing specifically on management accounting. Riahi-Belkaoui (2004) analyses data from 30 countries in determining the strength of relationship between the taxpayer social contract and the state. The paper aligns very closely with the research undertaken in this thesis, using a similar paradigm and a similar research approach.

Laughlin (1995;1999) considers the development of theoretical and methodological approaches to accounting research highlighting the eclectic range of empirical contributions. The article suggests that the proliferation of approaches whilst causing disruption in the hitherto research approaches, has now served to confuse the basis upon which research decisions are made.

The paper progresses with a review of various schools of thought (symbolic interactionism, ethnomethodolgy, structuration, Marxism and the labour process theory) existing in accounting research. Of note is the view that a range of intellectual "borrowing" from social and political thinking has developed to serve the growing interest in the nature of the function of accounting within organisations.

Laughlin (1995;1999) posits that there are three major streams of empirical investigative endeavour which are traceable respectively to Augustus Comte, Immanuel Kant/Georg Hegel and Immanuel Kante/Johann Fichte. He further

compares the historical links of such contributors to the endeavours of early

scientists such Bacon (1562-1626) (that a rational world was waiting to be

discovered through rational processes) with that of the early empiricists such as

Locke (1632-1704), Berkeley (1685-1753).  Citing Scruton (1982, p.14) Laughlin

reports the rationalist view being that it was possible through reason to obtain an

"…absolute description of the world uncontaminated by the experience of any

observer".  Furthermore, citing Brown (1969, pp.60-1) "empiricists", on the other

hand, "…argued that individuals have no ideas at all other than those which come via

their senses".  Resulting from this, empiricists suggest that any statements, apart

from those of pure logic, can be known to be "…true or false only by testing them in

experience" (Brown, 1969, pp.60-1).  Laughlin extends his review of the major

schools of thought (rationalists and empiricists) citing various critical junctures in the

development of thought leadership and the roles notable contributors (Comte and

Kant) played in the emerging philosophies.  The paper further proceed with points of

note including the development of the notion of a paradigm, Laughlin cites Kuhn,

stating the a "paradigm "binds a community of scholars together and guides their

"normal science" behaviour.

Laughlin proceeds further proposing his notion of a "middle-range" thinking to

empirical research as exemplified by Habermas (1984, 1987).  Whilst recognising

such a theory cannot be uniformly accepted as a way forward for empirical research

in accounting, it is nevertheless sufficiently provocative to stimulate debate

concerning a particular position.

The article, whilst a useful review of the development of theory, methodology and change challenges the approaches adopted in accounting research. Furthermore, the article provides a basis upon which to question and challenge the positioning of research in the emerging accounting research academia.

Progressing the development of research in the accounting discipline, Lee and Humphrey (2006) recap on the historical origins of research in accounting through a comprehensive review of the academic contributions, tracking the emergence of the academic discipline of accounting.  Lee and Humphrey (2006) describe the development of the academic accounting function within the academic community of Universities. The strength of the academic community only really developing in the early to mid 1970's, stimulating the natural corollary of enquiry and research. This generation of researchers were dissatisfied with the hitherto accepted quantitative approaches used to explain the accounting phenomenon.  From 2004 onwards sub-disciplines of accounting research emerged including: accounting education; accounting history; auditing; critical accounting and the political economy of accounting; financial accounting; management accounting and control; public sector accounting; and social and environmental accounting and auditing.

Noteworthy is the absence of any reference to taxation.  The sub-disciplines mentioned hitherto are dominated (to varying levels) by qualitative research approaches. The focus of accounting research more readily lending itself to qualitative research due to the focus on different types of organisation or practice. Contrasting the sub-disciplines with the discipline of taxation reveals a level of

maturity in research approaches. Suggesting that Taxation research that currently

relies heavily on quantitative approaches, positioned in a positivist paradigm, will in

time mature (as accounting has) to embrace greater use of qualitative techniques.

The growth in behavioural analysis and interpretation of large statistical databases

might indicate the recognition of the use of qualitative interpretations.

Lee and Humphrey (2006) continue the article by describing the progress of

qualitative research in management accounting and control and auditing.

Interestingly both disciplines, quantitatively based, considered the process of, say,

auditing not in the traditional manner of confirmation of process equalling a true

and fair view but rather to gain an understanding of how audit methods were

applied and developed in a range of organisational contexts. The article

demonstrates the growth and eminence of qualitative research in the academic

community. Confirmation of the academic community of practice is evidenced by

the increasing number of high ranking journals and international conferences. The

article proceeds by describing the various forms of qualitative research methods,

providing examples of applications of such techniques as semi-structured interviews,

participant-observation, documentary evidence in use in historical research and

ethnography.

An attempt to predict the development of such methodologies in the area of Finance

suggests that assimilation of ideas from outside of the discipline will increase the

development of qualitative studies. The relevance of the research undertaken in this

thesis, brings together fields outside of the discipline of taxation, drawing upon the

fields of economics and psychology.  Lee and Humphrey (2006) encourage the development of intersecting disciplines which can be used to enrich the understanding of the phenomenon of taxation.

In conclusion, Lee and Humphrey (2006) report the progression of accounting research from a largely, positivistic, quantitative, academic discipline suggesting that it is better described as a pluralistic discipline using qualitative approaches to explore and explain a range of accounting issues.

Lukka (2010) discusses the roles and effects of paradigms in accounting research. The author further suggests that the bulk of accounting research undertaken pursues only  marginal contributions within one theoretical and methodological framework and applies taken for granted research methods.  The assertion is made that the research outcomes produce relatively unsurprising results.

Lukka (2010) citing Thomas Kuhn (1962) states a paradigm refers to a set of practices that define a scientific discipline over a particular period.  Moreover, Kuhn professed a paradigm to be about several things; what is to be studied, formulation of research questions, methods used to conduct the studies and the interpretation of results. Kuhn describes the collection of accepted practices as being a paradigm; the form of which is followed collectively until such a time when a change of practices emerges and results in a paradigm shift.  An example of such paradigms from accounting research cited by Lukka (2010) include, positive accounting theory (PAT).  The proliferation of paradigms is inevitable given that most researchers have implicitly

adopted philosophical assumptions unaware of the range of approaches they could have applied. Paradigms emerge from the existing literature with new researchers content to conform to such paradigms or those influenced by their peer group. Relevant to this thesis is the assertion made that accounting is strongly dominated by one paradigm, suggesting the economics-based research agenda is the premier type of accounting research, thereby established as the mainstream paradigm. Whilst this was hitherto, the case, that top ranking American journals favoured such positivist paradigms, researchers are increasingly reporting explanations of social phenomena using the interpretive paradigm and the critical paradigm's. The former recognises that the world can be viewed as socially constructed. The latter assuming that deep-seated structural contradictions and conflicts in society which require explanation.

The author identifies and reflects upon the academy of research in accounting and the growing multi-paradigmatic approaches, acknowledging the dominance of single paradigms whilst noting the emergence of new, more reflective paradigms. Reflecting on the paradigms prevalent in taxation, similar observations can be made. Research in taxation very much reflects the strength of paradigm in accounting research, that being derived from economics/finance based research. A similar pattern as that of accounting research is identifiable, in so far as emerging research paradigms are increasing in profile, prestige momentum, clearly demonstrating the opportunity for researchers to belong to differing paradigm perspectives.

Riahi-Belkaoui (2004) explores the notion of a social contract between tax payer and state. Using empirical evidence from 30 countries he uses a regression model to measure the change and influence of a number (4) of variables on a tax compliance score. The variables selected for inclusion in the model include, high levels of economic freedom, important equity markets, effective competition laws and high moral norms. The main contribution of this research argues that tax compliance will be at it's highest where the government/state guarantee the maintenance of a social contract. The paper continues by drawing upon the key contributions to tax compliance and reason for non-compliance. The paper identifies the common themes in research in tax compliance being that tax non compliance is deterred by sanctions, that cheaters are rarely caught and penalised and current models often over-predict levels of non-compliance (e.g. Allingham & Sandmo, 1972; Alm, McClelland & Schulze, 1992). Riahi-Belkaoui (2004) proceeds through the paper drawing upon literature relevant to the notion of citizenship and the relationship of the taxpayer with the state. The paper bears a striking resemblance the work in this thesis, albeit on a narrower scale; testing the relationship between citizenship and tax compliance. Interestingly the author uses violent crime rates as a proxy for low moral norms as suggested by Coffee (2001). Concluding the paper Riahi-Belkaoui (2004) proposes future research may expand the determinants of tax morale to include social and religious norms. Furthermore, it suggests use of bigger samples of countries and choice of different determinants of tax morale would provide greater verification of the question of tax compliance. The research in this thesis draws upon a broader number of contributing variables, from a larger sample of countries

and from a consistent dataset thereby addressing some of the weaknesses highlighted in this paper (Riahi-Belkaoui, 2004).

This sub-section is intended to provide an insight into the development of the multi-paradigm nature of accounting research and its development over centuries from a predominantly positivistic, quantitative paradigm to an increase in pluralistic paradigms. The contribution of this sub-section is twofold. Firstly, to provide an understanding of the paradigm shift over the centuries, noting the increasing acceptance of qualitative research in the field of accounting. Secondly, to consider the choice of paradigm in this thesis through better understanding the origins and contrasting with alternative paradigms. The section confirms the positioning of the work in this thesis and demonstrates that alternative paradigms employed in accounting research have been considered.

This research adopts a positivist research philosophy using a quantitative approach as informed by significant pieces of research in the existing literature in this area (Alm & Torgler, 2006; Cullis, Jones and Savoia, 2012). Current social science scholarship on tax compliance can almost entirely be divided into two bodies of literature: one by behavioral psychologists focused on giving statistical, evidence-based answers as to which factors influence tax compliance behavior (e.g. Cialdini, 1989; Kirchler, 2007; Murphy, 2008; Torgler, 2008; Wenzel, 2007) and critical tax studies, which provide qualitative and interpretative analyses of how the state disciplines taxpayers (e.g. Preston, 1989; Lamb, 2001; Likhovski, 2007; Tuck, 2010; Gracia and Oats, 2012). Although both bodies of literature focus on providing

knowledge about how the will to comply is constructed, the approaches map onto two distinct camps within social science, the former tending to have a managerial focus in providing recommendations to the regulating tax bodies relying on an evidence-based approach, the latter having a critical focus relying on interpretation and constructivism (McKerchar, 2008).

This research employs quantitative research techniques and methods. Quantitative research being defined as a method of "explaining phenomena by collecting numerical data that are analysed using mathematically-based methods (Aliaga and Gunderson, 2000). The justification for the use of a positivist approach has evolved from a summary of the application of positivism in the academic literature relating to behavioral finance and economics where it is almost exclusively applied. Hitherto, taxation research within the economics disciplinary research area remains firmly within the positivist paradigm. The application of positivism is not as prevalent in the taxation literature, rather many researchers develop their research from a legislative standpoint thereby lending itself to a more interpretivist paradigm.

The purpose of this research is to enhance the current tax and accounting literature by providing research which has been undertaken from a significantly different methodological and philosophical standpoint. The benefit of applying a positivist paradigm to the discipline of taxation is to inform and substantiate future tax policy decisions and demonstrate the contribution that using such research methods can make within the discipline of tax research.

## 3.3 Research Design

When considering research design, a view of techniques was considered, Empirical versus Theoretical.

Both methods are equally valid and in fact intertwined. Empirical research cannot be undertaken in isolation but must be framed within a theoretical concept to make a valid contribution to knowledge. Theoretical research cannot be viewed in isolation, despite the notion that a theory may be abstract. More likely a theory is placed in the contextual surroundings derived from the creation of empirical evidence. The question arising from this being, does theoretical work have any real meaning without empirics to provide evidence of application.

The research approach describe in the following paragraphs is very much informed by the literature in tax morale Research designs which utilize quantitative methodology often use various forms of laboratory experiments (Torgler, 2003; Alm and Torgler, 2006; Cullis, Jones & Savoia, 2006) and surveys such as the Minnesota Tax Experiment (Cole, 1996) as their main strategy for data collection. The benefits of such strategies are that cause and effect relationships are more easily identifiable and relating and comparing variable is more easily facilitated. Causality is often cited as an output from research however, demonstrating such a relationship (causality) is normally difficult to evidence fully. For example, questions such as "does tax morale affect the size of the shadow economy?" can be indeed investigated in a structured manner with the identification of variables influencing tax morale being critical to the validity of the analysis.

Typical quantitative methodological techniques involve the use of surveys or experiments as a mean of collecting data about variables upon which a relationship or comparison is to be drawn. Variables follow the convention of being described as independent or dependent. An independent variable is likely to cause the outcome being considered whilst the dependent variable is the outcome variable. In the context of the research undertaken in this thesis, the independent variables influencing tax morale, may include tax rates; deterrence methods such as risk of audit; social norms; religiosity; age; gender; trust or institutional/political factors. The independent variable is one which will influence the outcome under consideration (exogenous). Continuing with the above example, the dependent variable in this research is tax morale; this being the outcome variable, dependent upon the influences of the independent variables (endogenous). In line with methodological approaches a hypothesis (or set of hypothesis) including the null hypothesis are developed for each of the relationships being tested. McKerchar (2009) refers to mediating variables (dummy variables); ones which whilst have an effect, such as age or gender, do not cause a change in the dependent variable. Increasingly common place amongst tax compliance and morale research is the use of experiments to hypothesise a response to a fictitious set of circumstances, representing the simulation of a taxpayer decision, typically using students as proxy's for taxpayers (Alm & Torgler, 2012). This approach has been shown to be relatively inexpensive and has given some notable insights to taxpayer behaviour, albeit in proxy form. An alternative approach commonly utilized is surveying populations by sample groups. Inherent problems in this approach are the selection of the sample group, population size, elimination of any bias and external validity.

Survey techniques are often referred to as rather blunt instruments in gathering information about a population. However, despite such criticisms, they are extremely effective in generating large sets of statistical data. The outcome is commonly presented within a specified statistical confidence level.

As previously discussed, common data collection techniques include experiments or survey data. Using experiments in the field of taxation can prove unreliable as it is unlikely that an individual will truly declare their tax position for fear of later retribution. As a result, many researchers use simulation experiments with university students commonly used as "proxy taxpayers". This methodology is weak as many university students have not paid taxes and therefore it could be argued that they do not yet have a real appreciation nor a true position regarding tax morality. Alm and Jacobson (2007) argue that the use of students is valid in that their cognitive processes are not dissimilar to those of the taxpaying population. They further state that a growing body of evidence exists supporting that the experimental responses of students are seldom different than the responses of other subjects. Alm, Bloomquist et al (2015) suggest that tax compliance is especially amenable to laboratory investigation. Whilst identifying the weaknesses in their approach, such as the creation of as real a microeconomic system in the laboratory as mimics that occurring in tax compliance. Undertaking such experimental research can be expensive and to assume the same level of decision making within the laboratory would be emulated outside of the laboratory would be unrealistic. Levitt and List (2007) level the strongest criticism of laboratory experiments insofar as subjects included are often drawn from student populations,

they further suggest the experiences of students (education, age and less representative) influence the results attained in the laboratory.

## 3.4   Data

The identification of the data collection period for this research was heavily influenced by the reporting cycle of the World Values Survey Wave 6 2010-2014 Official Aggregate (WVS), typically four-year collection cycles.  This thesis utilises data collected from two worldwide surveys, WVS and the Transparency International (2016) Corruption Perception Index 2016 (CPI).  The former is a worldwide investigation of socio-cultural and political change that collects comparative data on values and belief systems among people around the world.

The survey is undertaken with representative samples of at least 1,200 individual responses per country and is conducted in more than 80 countries.  The surveys are conducted on a face-to-face basis, in the respondent's natural language. The survey results have been weighted to take account of national population parameters.  The WVS asks identical questions to respondents thereby providing the opportunity to examine cross-country comparisons of societal attitudes.  The parameters set for the WVS are as discussed in the collection of rules and procedures set out for data collection.  The WVS requires implementation of a common questionnaire fully and faithfully, in all countries included into the wave.   The original questionnaire is not permitted to be changed unless approval has been sought by the Executive Committee.   The WVS questionnaire is available in English, Spanish, Arabic and Russian. All the other translations are conducted by national teams of representatives

with the proviso that the questionnaire must be translated into all languages which serve as the first language for 15 % (or more) of the population.

The minimum sample size - i.e. the number of completed interviews which are included into the national data-set in most of the countries is 1,200. Samples must be representative of all people in the age 18 and older residing within private households in each country, regardless of their nationality, citizenship or language.

The main method of data collection in the WVS survey was face-to-face interview at respondent's home / place of residence. Respondent's answers could be recorded in a paper questionnaire (traditional way) or by CAPI (Computer Assisted Personal Interview).

Following the sampling, each country is left with a representative national sample of its public. These persons are then interviewed during a limited time frame decided by the Executive Committee of the World Values Survey using uniformly structured questionnaires. The survey is carried out by professional organizations using face-to-face interviews or phone interviews for remote areas. Each country has a Principal Investigator who is responsible for conducting the survey in accordance with the fixed rules and procedures. Internal consistency checks are made between the sampling design and the outcome and rigorous data cleaning procedures are followed at the WVS data archive. No country is included in a wave before full documentation has been delivered. This means a data set with the completed methodological questionnaire and a report of country-specific information (for example important political events during the fieldwork, problems particular to the country). Once all the surveys are completed, the Principal Investigator (PI) has access to all surveys and data. Non-response is an issue of increasing concern in

sample surveys. WVS investigators were expected to make every reasonable effort to minimize non-response, specifically:

> "In countries using a full probability design, no replacements are allowed. PIs should plan on as many call-backs as the funding will allow.
>
> In countries using some form of quota sampling, every effort should be made to interview the first contact.
>
> In any case, a full report on non-responses is required.

The WVS survey was required to cover all residents (not only citizens) between the ages of 18 and 85, inclusive. PI's can lower the minimum age limit as long as the minimum required sample size for the 18+ population (N=1200) is achieved.

The survey draws opinions on aspects of social attitudes relating to religion, culture and the focus of this thesis, tax compliance.  Such survey data is generally described as being structured and tend to be aligned with quantitative methodology.  In this thesis a quantitative approach is adopted using survey data from the WVS and the CPI.  This data is essential when testing hypotheses and will allow statistical representations of the populations to be developed.  An inherent weakness in this approach is the significance of the sample population, its size and sampling rate, means of selection and issues of bias or framing.  McKerchar (2009) describes surveys as "rather blunt instruments for gathering information".  However, the benefit of surveying large populations in order to produce statistical evidence is believed to outweigh this concern.  Many similar previous studies (Torgler 2003; 2004; 2005; Alm and Torgler 2006; Kornhauser, 2007) have utilised said data to great effect, generating interesting results from previous combinations of studies.  The

merits of using datasets created from surveys are demonstrated in Alm and Torgler's (2006) seminal comparative study of cultural factors that affect tax morale across countries and whose empirical approach attempts to estimate the determinants of tax morale.

As previously mentioned in the literature review undertaken in chapter 2, Alm and Torgler (2006) investigate the influences of individual's values, social norms and attitudes on taxpayer behavior.  Using the WVS (2012) dataset, they highlight the role of cultural differences in influencing attitudes to paying taxes.  The dataset used in this research contains information on individuals from a wide range of countries over several years of data.

The principle assumption underlying this research is that taxpayer compliance depends upon factors other than ones of deterrence, penalties or fines.  This is in contrast to earlier studies which were found to be less useful in the sense that they used experimental techniques focusing on a small number of countries and with a single year's data.  This thesis addresses these shortcomings by widening the dataset and the time period under examination.

The WVS is a global network of social scientists studying changing values and their impact on society, in particular social and political life.  The survey, which first started in 1981, seeks to use rigorous, high-quality research design in each participating country.  The WVS consists of nationally representative surveys conducted in almost one hundred countries which collectively contain almost 90% of the world's population, using a common questionnaire.  The WVS is the largest non-commercial, trans-national, time series investigation of human beliefs and values conducted, currently including interviews with almost 400,000 respondents.

Moreover, the WVS is the only academic study covering the full range of global variations, from very poor to very rich countries, from very compliant, democratic countries to very corrupt countries in all of the worlds major cultural zones.  Such data has also been widely used by government officials, journalists and students, and groups at the World Bank have analysed the linkages between cultural factors and economic development. The survey is a worldwide investigation of socio-cultural and political change that collects comparative data on values and belief systems on the worldwide population.  The WVS provides a 30-year time series for the analysis of social and political change.  It provides a collection of data commencing with the 1981 European Values Study (EVS), followed by a second wave in 1990 and a third wave in 1995.  The EVS and WVS again did a joint survey in 1999-2001; and the WVS carried out its most recent wave of surveys in 2005-2007.  The remaining wave of data was released gradually from 1 May 2014 onwards, thereby completing the dataset used in this research.

The WVS data used in this research was narrowed down to 13 representative countries.  The process of reduction was based upon quality and quantity of survey data available, representation of the statistical population and indicated by the ordered regression method as discussed in Chapter 4.

The criterion applied to the selection of countries was mindful of including "developed" or "emerging" economies whilst also aiming to cover a wide geographical region.  In addition, all countries with nil responses provided for the selected questions were excluded to ensure a consistent sample. Future research

may look at themes of nil responses to try to understand the reasoning for such a response.  In detail, the finalized countries to be included in the sample were:

*EUROPE:  Poland, Spain and Sweden*

*PACIFIC/ASIA: Australia, Singapore and USA*

*EMERGING REGIONS/COUNTRIES: (BRIC) Brazil, Russia, India and China*

*AFRICA: South Africa and Zimbabwe*

This categorisation, whilst economically logical, it is also in line with previous research undertaken thereby providing comparable results over time.  The specific questions, most closely identified as influencing tax behavior and in turn tax morale were extracted.  The reduction process was two-fold, firstly contingent upon the quality of response to the key question which later formed the dependent variable.  For example, a common response would be to show neither one view nor the other.  Secondly, further filtering of the countries to be included in the sample was required to accommodate the complexities of the model being used; ordered logit regression.  The responses were received on an ordinal scale graded 1-10 depending on strength of preference.  Incremental differences in responses between scoring a 4 or 5 or a 5 to a 6 presented no significant gain in knowledge for research purposes.  Hence, ordered logit regression was therefore adjusted to show greater extremes or "strength" of feeling.  The data collected has been extensively cleaned, allowing for the focus of the study to turn to the impact selected variables has when justifying cheating on taxes.  The focus was separated into two main categorical groups: socio-

economic and institutional related influences. Concerning the former, the analysis considered the following socio-economic variables:

i. Marital status: married/living together; divorced or separated; widowed/single.

ii. Religion: religious or not religious

iii. Gender: Male/Female

iv. Educational attainment: from having no formal education to University level

v. Employment status: employed; self-employed; no employment

vi. Economics status: self-perceived status classification

vii. Financial satisfaction: whether the individual/family have sufficient means to get by

viii. Life satisfaction: how content with life in general is the respondent

The second grouping of variables deals specifically with more general aspects of institutional influence. These variables can provide an insight and further explain how citizens perceive how taxes are being spent and thus may affect their willingness to pay. This includes:

i. Support for democracy: how citizens value having a democratic political system

ii. Trust in the government: the confidence of a household in a national government

iii. Preferences for redistribution of wealth: is equalisation of income important

iv. Support for political representation: are the individuals representing political parties

The methodology adopted to investigate the factors affecting tax morale and tax behavior is an econometric analysis. The sample uses both developed and developing countries responses. It investigates taxpayers' perceptions and justifications for cheating on taxes. Using an ordered logit model to estimate the strength of the effect of socioeconomic variables in understanding differences in tax morale across individuals and countries.

The Corruption Perception Index (CPI), developed and administered by Transparency International was first undertaken in 1995. Each year countries are scored on how corrupt their public sectors are perceived. It measures the perceived level of public sector corruption in over 176 countries. It is a composite index, a combination of polls, drawing on corruption-related data collected by a variety of reputable institutions, including independent institutions specializing in governance and business climate analysis. The sources if information used for the 2014 CPI are based on data gathered in the past 24 months. The index reflects the views of observers from around the world, including experts living and working in the countries and territories evaluated in this thesis.

Corruption generally comprises illegal activities, which are deliberately hidden and only come to light through scandals, investigations or prosecutions. There is no meaningful way to assess absolute levels of corruption in countries or territories on the basis of hard empirical data. Possible attempts to do so, such as by comparing bribes reported, the number of prosecutions brought or studying court cases directly linked to corruption, cannot be taken as definitive indicators of corruption levels.

Instead, they show how effective prosecutors, the courts of media are in investigating and exposing corruption. Capturing perceptions of corruptions of those in a position to offer assessments of public sector corruption is the most reliable method of comparing relative corruption levels across countries.

Previously, the dataset included all countries, categorised by continent and the score attributed indicates the perceived level of public sector corruption on a scale of 0-100, where 0 means that a country is perceived as highly corrupt and a score of 100 means that a country is perceived as not corrupt. A country's rank indicates its position relative to the other countries/territories included in the index. Ranks can change if the number of countries included in the index changes. A limitation of the CPI is that it views corruption from a limited perspective, capturing perceptions of the extent of corruption in the public sector, from the perspective of business people and country experts. From 2012, the raw scores from each of the data sources are reported.

## 3.5    Benefits/limitations of research methods employed.

A key weakness in this area of research is the difficulty in obtaining reliable measures of non-compliant behavior. The use of audit data, whilst expensive to collect has major drawbacks surrounding the validity and honesty of the response or true action of the individual. Survey data relies on self-reporting, the exploration of beliefs and attitudes towards the subject, such as perceived probability of detection, acceptability of evasion and views about the prevalence of non-compliance (Vogel, 1974). Behavioural intentions, derived from hypothetical situations more often than not do not translate into actual tax behavior (Elffers et al. 1987). People may not

give honest responses; wish to comply with social norms or avoid incriminating themselves (Wenzel, 2005b).

The limitations of empirical approaches have led to the further development and use of other such empirical techniques such as laboratory experiments. Such experiments benefits from being able to observe behavioural reactions, isolate and test for specific variables and are relatively inexpensive to facilitate. "Virtually all aspects of compliance have been examined in some way in experimental work" (Alm 2012). Critiques of such approaches suggest that findings do not apply to real-world tax behavior, thereby lacking external validity being quite different from the real world experience of paying tax. A further criticism of experimental tax behavior research is that concerning the participants. In most cases, the subjects are students and are therefore not considered to be representative of the taxpayer population. Furthermore, students (typically economics students) are likely to be younger, better-educated and less experienced at paying taxes than the population at large (Levitt and List, 2007). A lack of representativeness exists. Weaknesses therefore exist in the empirical collection of tax payer behavior and attitudes through both audits and through survey means.

To address these criticisms an emerging means of collecting data with greater representation is that of Natural Field Experiments (NFE's). Hallsworth et al., 2014) suggests such methodology holds the greatest promise for advancing tax compliance research insofar as observing real environmental responses. He further states NFE's make the decisive shift to the environment in which real decisions take place, thus allowing the normal cues and heuristics to operate. Slemrod (2007) further evidence

support for NFE's suggesting they present the opportunity to measure the relative

effects of different real-world policies as implemented in practice, which greatly

increases their policy relevance.  Notable recent studies using NFE methodology

being HM Treasury, Minnesota Field experiment and a study of behavioural

influences in tax: evidence from Guatemala (Kettle, Hernandez et al 2015).  NFE's

offer many advantages and address many of the shortcomings of alternate

methodologies hitherto mentioned however NFE's do have weaknesses.  NFE's only

examine factors that can be operationalised through discrete interventions, thereby,

excluding other behavioural factors which may contribute to the landscape.  Many

NFE's have a very short term focus restricting any meaningful long-term analysis.

Perhaps obviously the costs associated with such experimentation are normally

greater than the benefit received particularly in less developed economies.

Using the WVS dataset has the advantage of being a wide-ranging survey reducing

the probability of participants feeling suspicious, perhaps of discovery, thereby

possibly giving rise to distorting framing[2] effects.  The WVS uses a single question to

assess the level of tax morale:

"Please tell me for each of the following statements whether you think it can always

be justified, never be justified, or something in between: Cheating on tax if you have

the chance" (WVS Survey, 2012)


The use of a single question has the advantage of minimizing problems of complexity

that may be associated with the creation of a multi-item index.  Such indexes can

often confuse or confound results by indicating low correlation between items.

However, equally justified is the use of a multi-item index.  By using a single item

measurement tool the research may lack the capability to capture the inter-related facets of tax morale. Furthermore, Alm and Torgler (2006) recognise that a multi-item index has the advantage that errors should tend to average out thereby producing a reliable measure. Further criticism of the single-item index may include a lack of precision when isolating key contributing factors, obtaining a truer representative sample of opinion rather than taking one opinion in isolation. The above authors posit the view that in some circumstances it may be justified to not pay taxes, for example in a dictatorship. Furthermore, individuals may search for a voice to express their dissatisfaction with a particular government policy, one such way being refusing to pay taxes. An example of this is the failed introduction of the Poll Tax in the UK during the late 1980's.

The use of WVS data can help overcome these criticisms as it allows for comparisons of tax morale to be measured over time. However, there remains a risk of individuals declaring high tax morale values for fear of detection. In an attempt to ameliorate such effect, the introduction of the CPI data provides a ranking by country, or the worldwide perception of corruption. Schneider (2013) suggests that a significant factor affecting the size of the shadow economy is tax morale. The author talks of the vicious and virtuous circle created between tax morale and tax receipts and the shadow economy. Situating the research in the context of tax morale and its influence on the shadow economy provides robustness to the empirical data analysis.

## 3.6 Development of Testable Hypotheses

Having identified the issues associated with the data, the collection method and approach to analysis, this section describes the statistical methodology applied in the thesis. As identified in Chapter 2 the purpose of this thesis is to identify factors that influence tax morale such that policy development can be better informed. The hypotheses may be stated thus:

H1: Respondents of older years demonstrate stronger tax morale

H2: Socio economic factors (gender, marital status, class and level of education) influences tax morale

H3: Countries with high level of trust in their government are positively related with a higher level of tax morale

H4: Taxpayers with a high level of confidence in statebuilders exhibit strong levels of tax morale

H5: Respondents that hold strong religious beliefs are positively related to higher levels of tax morale

H6: Countries that exhibit high levels of democracy are positively associated with high levels of tax morale

H7: Respondents with high levels of life satisfaction exhibit stronger tax morale

For ease of reference, Table 1 presents the hypothesis statements cross-referenced with the relevant literature articles from which the hypothesis statements have emerged.

*Table 1: Hypothesis Statements*

| Hypothesis | Description | Literature Reference |
|---|---|---|
| H1 | Respondents of older years demonstrate stronger tax morale | Erard (1993) <br> Wenzel (2004) |
| H2 | Socio economic factors (**gender, marital status, class and level of education**) influences tax morale | Andreoni, Erard and Feinstein (1998) Education <br> Hasseldine (2002) *Gender* <br> Hasseldine and Hite (2003) *Gender* <br> Alm and Torgler (2006) *Marital Status; Class* <br> Muehlbacher and Kirchler (2010) *Education* <br> Onu and Oats (2014) |
| H3 | Countries with high level of **trust** in their government are positively related with a higher level of tax morale | Feld and Frey (2007) <br> Kirchler, Hoelzl and Wahl (2008) <br> Cummings et al (2009) <br> Hammar et al (2010) <br> Muehlbacher and Kirchler (2010) |
| H4 | Taxpayers with a high level of **confidence** in **statebuilders** exhibit strong levels of tax morale | Burgess and Stern (1993) <br> Steinmo and Tolbert (1998) <br> Alm and Torgler (2006) <br> Brautigam et al (2008) <br> Slemrod (2016) |
| H5 | Respondents that hold strong **religious** beliefs are positively related to higher levels of tax morale | Brooks and Bold (1989) <br> Torgler (2006) <br> Ross and McGee (2012) |
| H6 | Countries that exhibit high levels of **democracy** are positively associated with high levels of tax morale | Alm, McClelland and Schulze (1999) <br> McClelland and Schulze (1999) <br> Torgler (2005) <br> Daude and Melguizo (2010) |
| H7 | Respondents with high levels of **life satisfaction** exhibit stronger tax morale | Lubian and Zarri (2011) <br> Christian and Alm (2014) |

## 3.7 Econometric Modelling Methodology

This thesis adopts a quantitative approach which utilises the following techniques to

*analyse* and to subsequently *interpret* using a conceptual framework.

- Analysis: A multivariate linear regression using a weighted ordered logit

- Interpretation: Behavioural Economics frameworks including the application of Prospect Theory

An important contribution of this thesis is to further extend the previous models developed in the contemporary literature in this field of research (Alm and Torgler 2006, and Cullis et al, 2012) by establishing the extent to which Tax Morale is affected by social norms. Previous studies have focussed on a single theme, for example, religiosity using this in isolation to understand it's influence on tax morale. Whilst useful this single focus does not take account of any inter-relating effects themes may have on each other. The interpretation of such work is often left at the derivation of indicators with little discussion, understanding or application offered. This thesis takes the regression results and offers an interpretation using a range of behavioural models. The regression model has been extended to provide a greater depth of analysis of each of the results. Through relaxing the proportional odds assumption, the sensitivity to change within the variable can be observed allowing the identification of nuanced behaviours. For example, much previous work has determined that gender is significant in understanding tax morale, that females are generally more tax compliant than males. By extending the model, it is now possible to understand the factors influencing male taxpayers at a discrete level, within a variable providing a more nuanced view of behaviours. This extension allows policy makers to observe more specific detail, at a granular level enabling greater focus in developing specific targeted campaigns and policies. This thesis uses an ordered logit model, further developing the techniques hitherto used. It is further supplemented by an interpretation of the results using behavioural models including

prospect theory, loss aversion and framing.  This contributes to the existing

literature, complimenting research which has utilised a number of alternative

methodological approaches.  Past approaches have included research using multiple

linear regression models with weighted probit and tobit estimations or multivariate

analysis with probit estimates (Alm and Torgler, 2006; Cullis et al., 2012; Daude et

al., 2012).  This thesis extends the current literature by using a proportional odds

model.  This approach goes beyond that current explored in the literature.  In

addition this thesis presents country specific modelling using the LASSO approach.


As discussed above, most previous quantitative studies of tax morale rely on

regression techniques of one sort or another, to analyse the relationship between

tax morale, which is treated as an ordinal variable and the effect of various

explanatory variables.  However, as McKelvey and Zavoina (1975) demonstrate,

regression models can be problematic when dependent variables are ordinal

responses.  In such a case, the usual assumptions of regression, such as linearity are

not sufficiently met and the regression models often fail to truly measure the non-

linear relationship intrinsic to the data.  To accommodate such an issue, for ordinal

dependent variables, the most appropriate model is the ordered logit or probit

model.  For mathematical simplicity this thesis uses the ordered logit model.  In the

ordered logit model, the ordinal response variable is viewed as the discrete

realisation of an underlying, unobservable (latent) continuous random variable.  The

categories are envisaged as contiguous intervals on a continuous scale.  The

selection of variables examined in this thesis is guided by past research on tax

morale.   Each of the variables are measured on an ordinal scale, typically 10-1

(satisfied – not satisfied).

Some variables included in the model are presented on an ordinal scale.  For

example, V201 – Justified Cheating on Taxes; is an example of an ordinal scale

measured from 1- 10, never justified to always justified or something in between.  In

addition, this model includes nominal scale variables such as gender, age and

literacy.  These are known as dummy variables quantified as 1 or 0, with 1 indicating

the presence of a variable, for example female=1, male=0.

The type of data collected and measurement thereof, namely that expressing the

strength of an individual's preference, has influenced the choice of econometric

method.  This choice is further supported by the literature (Wenzel (2004); Alm and

Torgler, (2006) and Cullis, et al (2012).

Regression models involving nominal scale variables, such as with WVS data, are an

example of a class of models known as qualitative response regression models.  In

ordered logit, the primary objective is to estimate the probability of tax morale

(TAXM) reducing or increasing given the influence of the independent variables.

Both logit and probit models are suitable methods for determining the effect of

explanatory variables on tax morale.  Both give similar results when used for non-

binomial choices, for example where one has to choose between two alternatives.  If

the logit outcome is positive this can be interpreted having an increased probability

(logodds) of affecting tax morale positively.  When negative the justification for

cheating on taxes is likely to have a lower probability of improving tax morale.  The

probit model is an alternative to logit.  The main difference between the two

methods is that the logit approach is based on the logistic distribution (logodds), whereas the probit method is based on a normal distribution. Both methods result in a qualitatively similar outcome, giving similar results. This research uses the following:

$$Y_i = B_1X_{i1} + B_2X_{i2} + ............B_kX_{ik} + U_i$$

Where $Y_i$ is unobserved, the $X's$ are the regressors and $U_i$ is the error term. $Y_i$ is known as the latent variable.

The data used in this thesis reflects the following model:

$$Y_i = 1, \text{ if } Y_i < a_1$$

$$Y_i = 2, \text{ if } a_1 < Y_i < a_2$$

$$Y_i = 3, \text{ if } a_2 < Y_i < a_3$$

Where $Y_i$ falls within one of the ordered categories, each category being separated by the threshold parameters or "cut-offs". The thresholds demarcate the boundaries of the categories. As such this model typifies the data used in this thesis. The ordered logit model estimates the coefficients of the regressors and also the threshold parameters.

The equation is made up of two components, a deterministic and a residual component. $Y_i$ is equal to the mean value of the populations of which it is a member plus or minus a random element. The random element being unexplainable and without structure. The primary objective of regression analysis is to explain the average behaviour of $Y_i$ in relation to the $X$ variables. Normally, each coefficient measures the rate of change in the mean value of the $Y_i$ for a unit of change in the value of an independent variable, holding all the values of all other variables constant. The error term $U_i$ is a catchall for all the variables that cannot be

introduced in the model for a variety of reasons, for example being unable to quantify those that have an impact.  This thesis will identify and measure the effect of various factors upon tax morale, identifying which of those tested have a significant impact.

The data in this research has been collected based on an individual making a discrete choice.  The questionnaire used in WVS (2014) asks the respondent to express a preference in term of strength of agreement to a specific statement and is included in Appendix 1.   The strength of preference as can be illustrated in this research is:

*"Never justifiable…………………………….……Always justifiable"*

*"1,…2,….3,…4,…5,…6,…7,…8,…9,…10"*

## 3.8    Triangulation and analysis

Triangulation enhances research credibility and robustness.  The collection of data from secondary survey data, WVS, in combination with secondary survey data collected from Transparency International's – Corruption Perception Index, (CPI) assists with clarification of potential subjectivity within particular data sources. The data extract from the Corruption Perception Index is presented in *Appendix 2*. Triangulation also assists with the external validity of the research, through the mix of various variables.  Using a single dataset may be argued to be an obtrusive measure that produces distorted results sur to the questions asked of the participants, specifically, concerns regarding the potential for "framing" effects to present could bias the survey.  Combining the WVS dataset with a secondary data source, CPI, will provide greater validation of the research results.  To provide

greater assurance, the research highlights the issues of the time periods under

investigation and the many potential influences that may impact of the outcomes.

An excellent example of such triangulation is illustrated in Table 2.0 where the

proportions of respondents answering the question (V201) "is it justified to cheat on

taxes" is compare with the CPI ranking.

## Proportions of Answers To Question 201 By Country

Q201 - Is it justified to cheat on taxes

| | Australia | Brazil | China | India | Poland | Russia | Singapore | South Africa | Spain | Sweden | United States | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Never_justifiable | 0.66918 | 0.66288 | 0.52929 | 0.23451 | 0.55179 | 0.43009 | 0.51391 | 0.35250 | 0.68485 | 0.61624 | 0.69445 | 0.52871 |
| 2 | 0.13221 | 0.05591 | 0.18203 | 0.14436 | 0.13714 | 0.11894 | 0.14708 | 0.09144 | 0.12225 | 0.13679 | 0.10838 | 0.13483 |
| 3 | 0.08141 | 0.04418 | 0.12539 | 0.12340 | 0.09040 | 0.10280 | 0.10049 | 0.07411 | 0.07501 | 0.07848 | 0.04973 | 0.08377 |
| 4 | 0.02411 | 0.02785 | 0.05020 | 0.11045 | 0.05935 | 0.08030 | 0.05985 | 0.05779 | 0.04438 | 0.03618 | 0.02598 | 0.08313 |
| 5 | 0.03900 | 0.06343 | 0.03793 | 0.09699 | 0.08293 | 0.10592 | 0.08555 | 0.07532 | 0.05381 | 0.04933 | 0.06488 | 0.05391 |
| 6 | 0.02218 | 0.03129 | 0.02858 | 0.08022 | 0.02483 | 0.05470 | 0.03042 | 0.09169 | 0.01122 | 0.02725 | 0.02085 | 0.05464 |
| 7 | 0.01122 | 0.01750 | 0.01826 | 0.05553 | 0.02127 | 0.03469 | 0.02112 | 0.08557 | 0.00510 | 0.01815 | 0.01592 | 0.03714 |
| 8 | 0.00583 | 0.02497 | 0.01449 | 0.08933 | 0.01414 | 0.03056 | 0.01828 | 0.06730 | 0.00182 | 0.01178 | 0.00497 | 0.01013 |
| 9 | 0.00057 | 0.01090 | 0.00669 | 0.03761 | 0.00268 | 0.01675 | 0.01057 | 0.05893 | 0.00000 | 0.00463 | 0.00213 | 0.00876 |
| Always_justifiable | 0.01429 | 0.06110 | 0.00712 | 0.02759 | 0.01545 | 0.02525 | 0.01273 | 0.04534 | 0.00156 | 0.02117 | 0.01270 | 0.00499 |

## Corruption Perception Index

| | Australia | Brazil | China | India | Poland | Russia | Singapore | South Africa | Spain | Sweden | United States | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Corruption Perception Index - 2016 Ranking | 13 | 79 | 79 | 79 | 29 | 131 | 7 | 64 | 41 | 4 | 18 | 154 |

*Table 2*: Proportions of answers to tax morale question

Table 2 whilst descriptive, is very useful in illustrating the need for the research

undertaken in this thesis.  At a very high level it serves to present the correlation

between perception and tax evasion.  In Zimbabwe only 52% of respondents believe

it is never justifiable to cheat on taxes, with a varying distribution across the

remaining categories.  This is interesting when compared with the CPI ranking, 154 in

Zimbabwe's case going some way to corroborate the WVS data.  That the perception

of corruption within the demographic is consistent with the results presented in the

WVS.

The sample included in this thesis is a rather eclectic collection of countries which

serve very well the relationship between the perception of corruption and that

declared by individual respondents.  The sample includes twelve countries which

present an interesting picture of the perception of corruption.  Five of the countries

in the sample, Australia, Poland, Singapore, Sweden and the United States all

positioned in the top thirty positions (a high ranking meaning a lower perception of

corruption). Also of interest is the relative proportion of respondents indicating that

it is never justifiable to cheat on taxes; USA and Sweden both reporting 60% or

above as never cheating on taxes.

Countries with high level of perceived corruption such as, Zimbabwe (154 CPI

ranking), Russia (131 CPI Ranking) China, India and Brazil (with CPI ranking of 79) and

South Africa (64) typically have a lower percentage of respondents in the WVS

stating it is never justifiable to cheat on taxes, most notably South Africa (35%),

Russia (43%) India (23%) China (52%).

The quantitative program "R" has been used to analyse the data,  with package

ordinal (R: A language and environment for Statistical Computing).  Data from the

WVS was uploaded into "R", having been cleaned to allow focus on the relevant

areas of tax morale, religiosity, trust, gender and the political economy, thereby

increasing the validity of the research output through the use of an accepted

research tool for categorisation.

### 3.8.1   Contextual position of methodology in the literature

Much literature exists, demonstrating the effective contribution that can be made

through the used of ordered logit (Van Dijk and Pellenbarg, 1999; Lu (1999) and

Ayuso and Santolino, 2006) presents a useful account of the use of ordered logit

techniques in the context of residential housing satisfaction.  The purpose of the

research was to reinvestigate the effects of the factors that had been considered to

facilitate a satisfied or dissatisfied response in order to reconcile inconsistencies and

conflicts in previous studies.  The study employed data from the American Housing

Survey and used the ordered logit model in an empirical analysis.  As with this

research Lu discovered that residential satisfaction is affected by an array of housing,

neighborhood, and individual attributes. For example, being older, white,

homeowner, having higher incomes, living in more expensive homes were all found

to be associated with higher residential satisfaction.  Furthermore, Lu suggests that

whilst ordered logit models employed in the empirical analysis of his study have

some shortcomings, they are more appropriate than multiple regression techniques

used widely in research of this nature.

The use of ordered logit techniques in the literature is helpful in authenticating the

use of such a model in this thesis.  Sawkins, Seaman and Williams (1997) used the

1991 British Household Panel Study (BHPS) data set to exploit information relating to

religious activity in Britain.  They argue that church attendance and variables

influencing such attendance are inherently ordered therefore it is appropriate to

employ an ordered logit modelling framework within which to analyse the church

attendance decisions of individuals. Sawkins, Seaman and Williams caution care

around interpretation the estimated coefficients of ordered logit equations.  A

positively signed coefficient implies an increase in the log of the odds ratio or,

informally higher values of these explanatory variables implies a greater chance of

church attendance.  They further state, the converse is true of negatively signed coefficients.

Li, Shao, Hoz and Monzon (2009) use Spanish census data to understand the impact of travel time on male and female commute mode choice based on ordered logit model.  The paper analyzed whether an ordered regression model with different travel times gives an adequate description of the commuting mode choice and to what extent the available variable are determinants of this process.

The use of ordered logit in the literature is widespread across disciplines ranging from real estate to marketing.  Neelankavil, Mummalaneni and Sessions (1995) introduce the use of ordered logit in considering whether the consumption of goods and services are influenced by cultural considerations.  This paper is set in the context of advertising in East Asian countries. Their findings allowed them to determine the effect of a group of categorical variables on a single dependent categorical variable.


Ayuso and Santolino (2007) use an ordered logit approach to predict automobile claims with bodily injury. Their approach is similar to that used in this research (albeit fours categories) in that the thresholds are determined according to three categories; only recovery days, non-severe injury and severe injury.  The estimation of the parameters in this paper was obtained using maximum likelihood. The authors consider the chi-squared statistic as significant suggesting that their model gives better predictions.  Referring to the parallel line proportional odds test, which considers whether it is reasonable to apply an ordered logit model.  The parallel lines proportional odds test in this research showed that they were equal for all response

categories.  Interestingly the authors recognize that an ordered logit model may help to estimate the victim's severity level, however normally automobile companies are not aware of all attributes that may possibly have an influence.  Van Dijk and Pellenbarg (2000) explore the determinants of firm migration in the Netherlands.  The authors explore the range of factors (measurable and unobservable) that influence the intensity of their feelings.  Interestingly the authors make a useful comparison between the use of Ordered Logit and Ordered Probit in deriving predictions. Greene (1997, p.673) states that the probit specification is only a trivial modification and appears to make virtually no difference in practice.  The main difference being that Ordered Logit has a standard logistic distribution, whereas ordered probit has a standard normal distribution.

## 3.9    Summary

This chapter set out to describe the data and sources to be used in the thesis.  It began by explaining the motivation of the research and positioning it within the current literature.  It set out the time period of the study, the geographical area of the study and the methodology employed throughout the analysis.  In contrast to prior research, the study uses an ordered logit regression model that is capable of identifying possible relationships amongst variables.  The empirical results and discussion are presented in the following chapter.

# Chapter 4: Econometric Analysis

## 4.1    Introduction

In earlier chapters it has been noted that tax payer behavior is influenced by a range of discrete perceptions.  The work that follows demonstrates the effects of each set of variables on a collective populations' perception of tax morale.  It is worth re-stating the definition of tax morale "an intrinsic motivation to pay tax" Alm (2006). Las Penas (2010) noted that tax morale is a function of individual and contextual level variables.  The empirical analysis that follows evidences the variation of attitude and perception towards tax morale based on an analysis of socio demographic characteristics, personal wellbeing, political experiences and institutional tax arrangements.

The variables examined have been derived partly from the literature and also from the survey results.  This thesis identifies new and original areas of influence hitherto not discussed in the literature.  Referring to the empirical approach taken, in extending the model by using LASSO variables are identified that are of importance to the individual country's.  This results in two novel contributions to methods currently practiced, these being the accommodation of different drivers within different countries and secondly where countries result did not converge.

Furthermore, the consideration of behavioural models and social norms discussed in Chapter 5 sub-sections 5.2 and 5.3 have not hitherto been discussed in the literature in such a contextual study. It also presents data from the most recent WVS wave (2008 – 2012) not currently examined in the literature at the time of writing the thesis.  The data will be triangulated with data taken from the corruption perception

index thereby providing robust evidence of internal (to country) and external perspective.

## 4.2    Chapter Aims

In this chapter the key characteristics influencing a nationality's tax morale are identified.  This is firstly presented on a country by country basis to identify key influences present on a local/regional basis.  Secondly, countries are consolidated to identify themes of influences across cultures.  This is finally compared and contrasted with data from the corruption perception index.

Chapter 3 discusses the econometric modelling techniques employed in this thesis.  The following section of this chapter outlines the model and the adjustments made to the model to provide robustness.  The coefficients are presented, described and interpreted throughout the chapter, drawing the readers attention to the salient facts.  Additional descriptive statistical indicators are presented, by country moreover as a means of evidencing accuracy of prediction.

## 4.3    Ordered Logit Regression Analysis

The method of analysis adopted in this thesis is the ordered logit regression described in Chapter 3.  The salient difference between this method and ordinary regression analysis being that it accommodates or rather reveals the strength of feeling reported on an ordinal scale using an ordered limited dependent variable.  Using this method of analysis provides a deeper, more precise and accurate understanding and reflection of sentiment underpinning the influences of tax morale.

The analysis displays the strength or emotion of feeling reflected through the

reporting of coefficients that have been calculated with reference to the threshold

parameters (cut-off points) used in ordered logit.  The following is a reminder of the

model used:

$$\mathcal{Y}i = \ \beta 1 \chi i 1 + \beta 2 \chi i 2 + \cdots \ldots + \mu i$$

Where $\mathcal{Y}i$ is unobserved, the $\chi$'s are the regressors and the $\mu i$ is the error term.  $\mathcal{Y}i$

is known as the latent variable.

The data used in this thesis reflects the following:

$$\mathcal{Y}i \ = 1, \ if \ \mathcal{Y}i < a_1$$

$$\mathcal{Y}i \ = 2, \ if \ a_1 < \mathcal{Y}i_i < a_2$$

$$\mathcal{Y}i \ = 3, \ if \ a_2 < \mathcal{Y}i < a_3$$

This model is considered appropriate as the dependent variables are binary taking a

value of 0 or 1. Logit regression is a non linear regression model that forces the

output (predicted values) to be either 0 or 1.  It estimates the probability of the

dependent variable to be 1 (Y=1). This is the probability that some event happens.

Logit coefficients are in log-odds and unlike ordinary regression coefficients cannot

be read as regular OLS coefficients.  To provide a sensible interpretation of the log-

odds I estimated the predicted probabilities of $\mathcal{Y}i = 1$.

In order to enhance the predictability and level of accuracy with the model, variables

were selected to ensure that the most important ones were included. To further

ensure convergence of the ordered logit estimator, a LASSO estimator (Least

Absolute Shrinkage and Selection (Tibshirani (1996) was used as a first step.  The

LASSO was used to identify the variables that were important in the country of the

study.  These variables were then used in the Ordered Logit.  This has two

implications.  Firstly, models differ between countries to allow for different drivers

and secondly, models are more likely to converge as it was often the case that the

fullest models did not converge using the whole data set by country for a number of

different reasons. For example, not all data was available in the dataset therefore

the model did not work and secondly in some country cases the algorithms did not

converge.

The data has been modelled through an iteratively; firstly, using the full (standard)

model having identified the key variables for relevant countries through LASSO, an

ordered logit was run testing for proportional odds (parallel line test).  Having

identified those variables which do not "fit" the full (standard) model i.e. they

behave in a non-linear manner a further ordered logit is run revealing the nominal

effects. As stated previously the model estimation started with the full set of

variables described previously. The results are presented for the full model and the

nominal model by country in *Appendix 3*.  In layman's terms, the full model assumes

a linear movement of response between variables and categories within variables.

Therefore, fails to accurately reflect the nature or strength of the influence on tax

morale or whether it's justifiable to cheat on tax.  The nominal model addresses this

assumption by further constraining the model for a better fit.


The nominal model coefficients have been used for analysis purposes.  Models for

full and nominal outcomes are interpreted using probabilities and odds ratios for

logit models.  Odds ratios can be interpreted as:

For a unit increase in $X^x$, the odds of *A* versus *B* change by a factor of $Y^y$, holding other variables constant.  It is conventional to talk about a percentage change in the odds.  Long (2014) gives a very helpful overview of the justification of choice of methods where ordinal variables are ranked on multiple dimensions.  Referring to the diagram below, each ordinal outcome can be dichotomized, with different intercepts for each binary model but which has identical slopes.  The equality of slopes is known as the parallel lines assumption or for logit the proportional odds assumption. Long (2014) suggests that in his experience tests of parallel regressions are usually rejected, as is the case in this thesis.  The notion of proportional odds can be rejected as not all variables fulfill the assumption of the model.
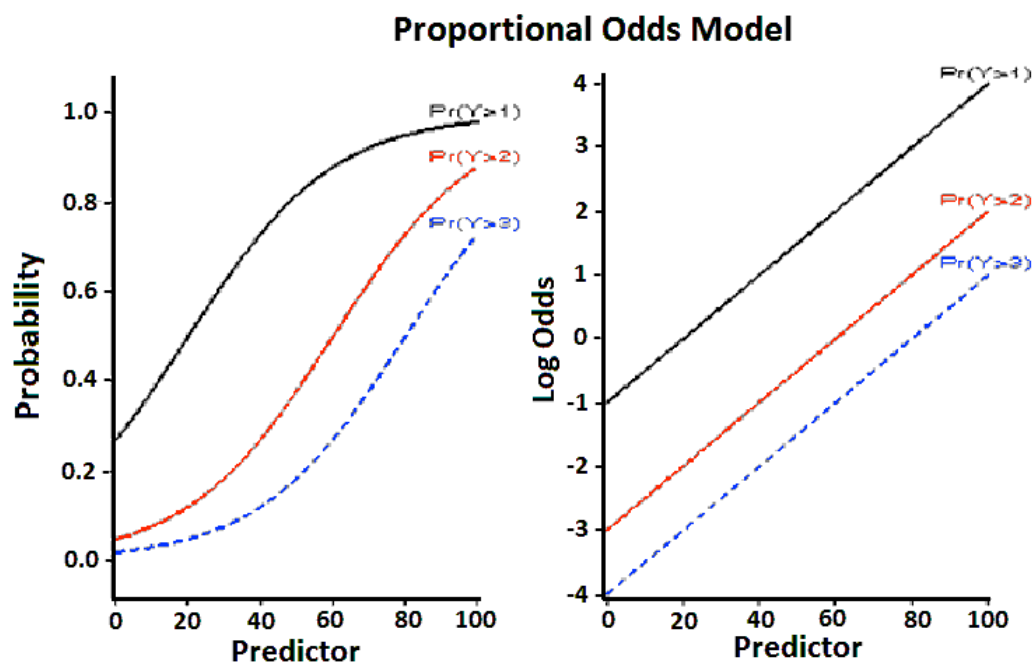


*Figure 3*: Proportional Odds Model

The proportional odds model suggests that all variables behave in a linear manner, that all responses are equally distributed.  For example, the likelihood of all male Australian taxpayers behaving in the same proportion. Whereas, the model in this thesis proves that not all male

Australian taxpayers consider paying tax in the same proportion. Through relaxing the

assumption, the varying odds of the non-linear behaviour can be observed. Figure 4.1 above

shows on the right-hand sight the behaviour of those under the assumption of proportional odds

(that all behave in a linear manner). The diagram on the left demonstrates the variability and

non-linear behaviour of responses when the proportional odds assumption is relaxed i.e the non-

proportional odds observations.

Additional statistical evidence is presented in Appendix 3 including the $R^2$

(McFadden) a test of the goodness of fit of the model, how much of the influence on

tax morale is explained by the variables chosen in the model. Logistic regression

models use the method of maximum likelihood, for example the parameter

estimates are those values which maximise the likelihood of the data being

observed. The $R^2$ McFadden takes the likelihood value from the fitted model as a

proportion of the null model. This indicator measures the proportion of the variation

in the dependent variable, tax morale explained by the independent variables

included in the model. A normal result would be expected to lie between 0 and 1, 0

indicating a complete lack of fit and 1 indicating a perfect fit. A drawback of this

model is that by including a greater number of variable the $\mathcal{R}^2$ value can be

increased artificially. To address this weakness, the adjusted $\mathcal{R}^2$ model is used. It

applies a "penalty" for added further regressors thereby reducing the manufactured

high $\mathcal{R}^2$.


A further statistical indicator is Akaike's Information Criterion (AIC). This is a

measure of the relative quality of the statistical model. Akaike, (1974) compares the

quality of a set of statistical models to each other. For example, this research is

interested in the factors which influence tax morale and how strong those variables

contribute to an individual's tax morale.  Where a number of regression models are

adjusted for various factors for example education, gender, or political preference;

The AIC will take each model and rank them from best to worst. The "best" model

will be the one that neither under-fits nor over-fits.  The model with the lowest AIC is

normally the preferred choice.  In the discussion regarding the results I will use the

conventional levels of significance: t > 1.66,1.96 or 2.33 the coefficients are

significant at, respectively, the 10%, 5% or 1% level.

Further robustness has been built into the modelling of the variables by undertaking

a test of proportional odds.  This test considers whether it is reasonable to apply an

ordered logit model or whether it is preferable to fit a classical logit model.

Therefore, the ordered logit model is a particular case of the logit model where the

parameters are equal for all response categories. (Greene, 1997).

*Appendix 4* presents a listing of the parallel shifts test for each country, for relevant

variables.  The first iteration described as "none" is the log likelihood of the "null" or

"empty" model; a model with no predictors only a constant.

Summary results displayed include the Log Likelihood of the fitted model.  An LR test

is the test that at least one of the predictors' regression coefficient is not equal to

zero in the model.  Also indicated is the number of degrees of freedom of the chi-

square distribution used to test the LR test statistic, defined by the number of

predictors in the model.  The LR statistic can be calculated as follows:

$$-2*(L \text{ (nominal model)} - L \text{ (fitted model)})$$

Using Australia as an example, this can be applied as follows:

-2*((-1125.9) – (-1119.4)) = 13.0458

Pr(>chi$^2$) $X^2$ $n$ - where $n$ is the degrees of freedom in the regression, is the probability of getting an LR statistic as extreme as, or more so, than the one observed under the null hypothesis; the null hypothesis is that all of the regression coefficients in the model are equal to zero. In other words, this is the probability of obtaining the chi-squared statistic if there is in fact no effect of the predictor variables. This p-value is compared with a specific alpha (level of "significance") level, the willingness to accept a type I error. In this research this is set at 5%, 1% and 0.1% as is typical.

## 4.4    Empirical Results

This section of Chapter 4 will discuss the empirical results obtained which will provide an insight into the perceptions of respondents including institutional, the effectiveness of legal systems, social norms and an insight into the perceived prevalence of bribery. Individual factors such as personal norms and trust in institutions will also be discussed.

### 4.4.1   Independent Variables: Institutional, Political, Statebuilders, Religiosity/Beliefs and Socio-economic factors

Appendix 5 displays the coefficients for each country by theme for all variables used in the analyses. Despite an increasing body of literature on the determinants and influences on tax compliance, the driver of compliance behaviour are not entirely clear (Alm, 2012). A range of institutional factors such as enforcement (Andreoni et al. 1998) social factors such as social norms (Alm et al. (1999), Onu and Oats, (2014)) and individual factors such as an individual's willingness to pay taxes (Alm & Torgler, 2006, Cullis et al. 2012). Whilst a number of factors have found to be significant in

influencing tax compliance little has been reported about their relative contribution to shaping taxpayer behaviour. I explore large-scale survey data to investigate how these factors impact on taxpayers' intrinsic desire to pay tax. I consider cross country comparisons and themes, which can be of use to both in-country policy makers and global policy makers.

### 4.4.2    Results

In the following section Ordered Logit regressions are presented. I have adopted a matrix approach to interpreting results; reporting individual country characteristics and developing further cross country themes of note. Each country specification presents the coefficients and standard error of the full model and the nominal model. This was thought helpful from a comparative methodological point of view. The variables are organised into themes illustrating where relevant the effects of socio-economic factors, institutional factors, political economy factors, statebuilding factors and religious belief factors. The choice of these subsets has been informed in two ways. Firstly, by the literature, most notably Alm and Torgler (2006); Torgler and Schneider (2002) and Onu and Oates (2014). Secondly, through the methodology. The variables of key importance, or rather those which have the most influence on tax morale are selected using a logistic regression LASSO, which enhances the prediction accuracy and interpretability of the statistical model and aids the convergence of the models.

Coefficients and their standard errors, from the ordered logit models are presented by country on two bases. Firstly, the full model and secondly the nominal model. The nominal model allows for the proportional odds restriction to be relaxed

thereby allowing for different slopes for different outcomes.  The applicability of these models are also tested using the Likelihood Ratio (LR) test. Noteworthy is that there is very little difference between the two models but nevertheless the adjustment provides greater robustness in the results as the proportional odds model is not satisfied.  The LR test is a statistical test which helps select the model that provides that makes the data most likely, testing which of two models fits best. In this thesis the null hypothesis is that the standard model (without nominal effects) is the best model; however, the null hypothesis should be rejected where the test statistic is larger than that reported in the chi-squared distribution table (at a given level of confidence) and at a certain number of degrees of freedom.  If the null hypothesis is rejected then the second model, in this case that relaxed for nominal effects suggests a significant improvement over the original model (the standard model).  The following table presents the LR test for the results in this thesis.

*Table 3* LR test statistic comparison.

| Country | LR Test statistic | Degrees of Freedom | Critical number | *Null* Hypothesis |
|---------|------------------|--------------------|-----------------|-------------------|
| Australia | 24.342 | 6 | 10.6446 | Reject |
| Brazil | 3.9223 | 0 | 0 | |
| China | 36.927 | 11 | 17.2750 | Reject |
| India | 105.06 | 8 | 13.3616 | Reject |
| Poland | 3.2857 | 2 | 4.60517 | |
| Russia | 30.164 | 12 | 18.5494 | Reject |
| Singapore | 46.096 | 10 | 15.9871 | Reject |

| | | | | |
|---|---|---|---|---|
| South Africa | 148.14 | 12 | 18.5494 | Reject |
| Spain | 1.8399 | 2 | 4.60517 | |
| Sweden | 40.109 | 10 | 15.9871 | Reject |
| USA | 7.768 | 4 | 7.77944 | |
| Zimbabwe | 8.4951 | 2 | 4.60517 | Reject |

From Table 3 - LR test statistic comparison it is possible to identify those countries where the nominal model is an improvement over the standard model for example, Australia, China, India, Russia, Singapore, South Africa, Sweden and Zimbabwe all have a higher LR test statistic than chi-squared statistic. We can therefore reject the null hypothesis that the variables included in the model do not influence tax morale. When considering Brazil, Poland, Spain and the USA the nominal effects model did not provide a significant improvement and therefore we do not reject the null hypothesis. This is interesting because when looking more closely at the individual variables within these countries some of the individual variables were indeed significant as Table 4.0 identifies:

*Table 4.0* – LR test statistic for Nominal effects (example Brazil)

| Significant Variables for Brazil | LR Test statistic | Degrees of Freedom | Critical number | *Null* Hypothesis |
|---|---|---|---|---|
| V59 | 6.875 | 2 | 4.60517 | Reject |
| V138 | 12.3564 | 4 | 7.77944 | Reject |
| V140 | 16.5703 | 4 | 7.77944 | Reject |

| | | | | |
|---|---|---|---|---|
| V141 | 13.1252 | 4 | 7.77944 | Reject |
| V147 | 25.5601 | 6 | 10.6446 | Reject |
| V211 | 13.3721 | 6 | 10.6446 | Reject |

Of the 20 variables included in the Brazilian model 6 of the variables are significant under the nominal effects model rather than the standard model.  Appendix 6 provides the full analysis of LR tests across the individual countries and variables. Further descriptive statistics are included in Appendix 7 for completeness.

In some cases, country coverage is limited due to insufficient data, thereby constraining my ability to propose strong arguments around regional performance. The focus of the analysis is on the signs and robustness of the variables rather than on the magnitude of the coefficients.  The different scales of variables make comparisons of this type less meaningful however do provide a useful indication of influence.

For clarification variables which have a strong influence on tax morale, those that are statistically significant are those indicated with a *P* value > 0.05 at 5% significance level and can therefore reject the *null* hypothesis.  This will be used to identify those variable that strongly affect tax morale.

Examination of the data indicates that for the twelve countries (Australia, Brazil, China, India, Russia, Singapore, South Africa, Spain, Sweden, Poland, USA and Zimbabwe.) included within the sample, the variables selected independently impact on tax morale.  The following presents a more detailed examination structured thus:

1) Identification of key themes across regions and countries

2) An examination of individual country results or where appropriate a collection of countries or region.

3) Discussion of corruption perception index

## Socio Economic Theme

The variables considered under this theme include Gender, Marital status, Class, Citizenship and Level of Education and are presented in Appendix 5. In line with findings of Alm et al (2006); Bobek, Roberts and Sweeney, (2007) and Jones, Cullis and Savoia (2012) it can be noted that such factors have emerged from the literature and have a significant impact on tax morale. The Gender variable is significant and positive across seven countries indicating that an individual is likely to demonstrate stronger tax morale if female. Marital status is estimated to contribute to a stronger tax morale being significant and positive in Poland, Singapore and USA. Social class is significant and positive in India, Russia, South Africa, Sweden and Spain. Suggesting that considering oneself as upper class would estimate a positive effect on tax morale. The citizenship variable, whilst interesting is not significant across all countries within the sample. The exception to this being the USA where neither being a citizen or not being a citizen was expected to have any significant effect on tax morale. Question 246 asks " Are you a citizen of this country? Using this variable as a regressor can show whether a sense of citizenship increases or decreases tax morale. In the case of the USA, categories (citizen/non-citizen) are significant but negative (citizen -1.81762; non-citizen -1.68942) indicating that being in either category does not influence tax morale. This result is perhaps reflecting the very broad diversity of the USA demographic. The level of education completed by respondents was significant and positively contributed to the likely improvement in

tax morale in India and Sweden. However, Australia and Russia both produced a negative result indicating the level of higher education does not positively affect tax morale.

Results indicate that being male and from Australia, Brazil, China, Poland, Russia, Sweden and the USA suggests that the ordered logit for males being in a higher tax morale category is significant and positive. Interestingly this is not true of India, Singapore, South Africa, Spain or Zimbabwe.

Looking more closely at Gender, the ordered log-odds estimate in the nominal model (with the proportional odds relaxed) of comparing males to females on expected tax morale, given the other variables remain constant in the model is 0.566. The ordered logit for males being in a higher tax morale category is 0.566 more than females in Australia. This is interesting in of itself. This result is not saying that Australian males have a higher tax morale than females; moreover, that by increasing Australian males behaviour by one unit will increase tax morale by 0.566. Of interest is when one reviews the thresholds for Gender in the model restricted for nominal effects. The following data is relevant:

| Gender: Cut-point | Threshold Coefficient |
|---|---|
| Never justifiable Sometimes | -0.5551 |
| Sometimes Often | -0.7365 |
| Often Always | -2.622 |

These are the estimated "cut points" on the variable used to differentiate low tax morale from middle and high tax morale when values of the predictor variables are evaluated at zero. The principle adopted in interpreting these results is that by moving an Australian male from the "often/always" (justified to cheat on tax) to the next category would increase tax morale by 2.622; to move from "sometimes/often" to never justifiable would increase tax morale by 0.7365.

Reviewing the threshold coefficients for the "level of education" from the restricted model reveals some interesting estimations of note. In improving the level of education of the respondent the following improvements to the perception of tax morale can be achieved.

| Level of Education: Cut-point | Threshold Coefficient |
|---|---|
| Never justifiable|Sometimes | 0.8151 |
| Sometimes|Often | 0.2765 |
| Often|Always | 1.7325 |

Interpreting these estimates; by improving the level of education by one unit would suggest an improvement of tax morale. For example, moving an individual from "often/always" would improve the likelihood of better tax morale by 1.7325.

Worth reflecting on at this point is the means by which the variables exhibiting the strongest effects on tax morale were identified. Referred to earlier was the test for parallel shifts. This tests whether at least one of the predictors' regression

coefficients is not zero and therefore has an effect on the dependent variable.

Appendix 6 refers to those variables within countries that have a significant effect on

tax morale. As a reminder the parallel shifts test begins with the null model (empty

of likely impactful variables) and proceeds iteratively to include variables until it has

converged, known as the full model.  Those variables of note or impact are identified

with the full model proceeding to identify the coefficients of significance and note.


These findings are consistent with the literature specifically, Feld and Frey (2002)

and build on the results of Kirchler (2007) and Casal et al. (2016) suggesting that

social and individual factors shape the taxpayer's motivation to comply.

## Institutional Theme

The impact of institutional factors on tax morale is significant.  In line with findings of

Kasper et al (2015).  Specifically, variables believed to be of significant influence

include, Happiness, Life Satisfaction, Trust, Financial satisfaction, Political views,

National Pride.

Results from the full model suggest that happiness, satisfaction with one's life is a

significant factor contributing to tax morale. Brazil, China, Russia, Singapore and the

USA each predict coefficients suggesting an influence on tax morale. Incidentally,

Russian respondents indicate a level of unhappiness which could also be reflected in

the level of tax morale.

The variable measuring life satisfaction is significant and positive for Russian

respondents, with Brazil, China, Singapore and USA respondents indicating a

negative effect of life satisfaction on tax morale.

Of interest is the significance of the view of Indian, Polish and Russian respondents in the need to be careful when trusting people.  India suggesting a positive significant influence on tax morale.

The variable Labor Union whilst interesting does not present any statistical contribution other than Singapore, South Africa and USA where the coefficient is negative and in the 'not a member' category indicating involvement in Labor Unions is not a significant contributor to tax morale.  Being a non active member of a political party suggests little or no influence on tax morale.  Of interest is the response to party centric political perspective.  Results reported from respondents indicating a right of center perspective (India, Russia, South Africa) are all statistically significant and positive.  This suggests that individuals with right of center political views may have a stronger intrinsic motivation to pay tax thereby demonstrating a stronger tax morale.

Interestingly, national pride, either demonstrating national pride or not has a significant effect on tax morale. Particular evidence being reported in Brazil, Russia, South Africa and Sweden.

### Political Economy Theme

The variables considered under this theme are, the importance of governance and democracy; equalization of taxation; choice of leadership, equalization of income, obedience to rulers, importance of democratic governance and the scale of democratic governance.  In line with the literature, the equalization of taxation is indicated as significant at the 5% level.  This being reported for China, Russia and Singapore as having a negative effect on tax morale, suggesting that to equalize taxation across these countries would have a significant but negative effect on tax

morale.  Notably the USA estimate suggests that tax morale would increase with the equalization of taxes, being positive and significant at 0.05. The influence of the variable 'choice of leadership' was estimated as significant for Brazil, Singapore, South Africa, Sweden and the USA. Each country reporting a negative influence on tax morale. Which seems counter-intuitive when much literature discusses the importance of credible, honestly, non-corrupt leaders.  Taking this variable alongside 'obedience to rulers' the same estimates, for the same countries are reported, further including Brazil and Zimbabwe.  All estimated coefficients being negative and significant except for Singapore, which would suggest that when a leader is elected citizens of Singapore are obedient thereby demonstrating a greater likelihood of strong tax morale.  Worth noting is the presence of Zimbabwe in this theme. Notable by its absence in each of the other themes, Zimbabwe reports both variables as negative and significant.  Perhaps reflecting a lack of trust in the current democratic process and leadership of the country.  The importance of a democratic process was reported as significant in China, Singapore, South Africa and the USA being negative and significant.

## State Builder Confidence Theme

This theme analysed a number of confidence levels in state building organizations, including the church, government, political parties, parliament, major companies and banks.  Including such variables, whilst supported by an emerging body of literature, is also of interest in terms of perception of contribution of such institutions.  It can be argued that actions taken by state builders are intended to increase taxpayers' positive attitudes and commitment to the tax system.  This

reciprocity can increase compliant behaviour manifesting stronger levels of tax morale.  Including confidence in statebuilders in the model allows for a deeper analysis of confidence at the constitutional level thereby observing how the relationship between two such parties contributes to tax morale. Torgler and Murphy (2004) found that trust (confidence) is an important factor and positively shapes tax morale.   In many Romanic countries the church is historically a major state builder. Such countries have also proven to have a higher level of tax compliance Alm and Torgler (2006).


 In this research countries with strong religious influence have reported positive significant results attributed to a lack of confidence in the church.  Specifically, greater confidence of the church would increase tax morale in Brazil (although not statistically significant), Russia, South Africa, Sweden, Spain and the USA.

A similar pattern is observed and related to confidence in the government.  Brazil, Russia and Sweden report highly significant and positive coefficients, suggesting that to improve confidence in the contributors to state building would positively influence tax morale.

The coefficient for 'confidence in the government' and 'confidence in political parties' estimated for South Africa is negative and significant.  This might imply that no matter what the South African government does it still will not generate trust in its being nor in that of the political representatives of the South African population. A corollary of this being the negative influence on tax morale, an individual's intrinsic motivation to pay tax.

Contrasting South Africa's results with those of Sweden it can be observed that Swedish respondents perceive confidence in political parties and the government as significant and positive and to improve both variables would increase tax morale. The variables 'confidence in parliament' and 'confidence in banks' coefficients are not statistically significant.  An exception to this being South Africa where an increase in tax morale of 0.32 is estimated by increasing the confidence of the respondents in the banking system.

Respondents from Brazil, China & South Africa indicate an increase in tax morale where confidence in companies is improved.  Specifically, China is positive and significant at 0.1 confidence level.

## Religiosity and Beliefs Theme

Religiosity is believed to influence people's habits and may or may not encourage engagement in tax evasion (Alm & Torgler, 2006). To measure the contribution of religiosity to tax morale I have used respondents self-reported level of religiosity, their belief in God and their belief in hell.  Torgler and Murphy (2004) suggest that higher religiosity is correlated with a higher tax morale.  Empirical evidence exists that shows that states and counties with higher rates of religious attendance and memberships have significantly less violent and non-violent crime (Hull & Bold, (1989); Lipford et al (1993) and Hull, (2000).  An interesting narrative is presented by Kirchgassner (1999) who argues that state and religious authority were largely held by one person in the northern states of Europe (in contrast to the majority of Catholic countries in the South).  Proposing that offences against the state were therefore also religious offences and consequently perceived as a sin.

When considering religiosity respondents were asked whether they were religious or not. Brazil and China report positive but not significant results. Whereas, Singapore, Spain and USA report negative and significant responses. Sweden and Spain reported negative significant estimates in responding to belief in God suggested that tax morale is affected by one's belief in God. China reported a negative and significant estimate to their belief in hell suggesting to believe in hell would reduce tax morale.

### Parallel Shifts

Interpretation of parallel shifts is based upon the article by Williams, R (2016); Understanding and interpreting generalized ordered logit models published in the Journal of Mathematical Sociology.

As part of the ordered logit methodology the data is tested to see if it fulfills the proportional odds assumption. This is done by applying a parallel shift test; relaxing the model's constraints to allow for non- parallel shifts known as nominal effects. Interpreting the data estimated follows to following method. Firstly, discussion of the coefficients reported by the standard model (presented hitherto); the test for parallel shifts identifies models which did not meet the proportional odds assumption. This assumes that all pairs of variables move in a linear progression – that they present as a pair of parallel lines within each of the thresholds. This assumption is not always correct and in some cases development of the relationship between two variables may be on a non-linear basis. Rather than presenting a parallel relationship between the coefficients this identifies those variable with non-

parallel relationships – a more curved relationship at different points of the coefficient.

## Reported Results by Country

A major contribution of this research is to present an insight into variables which will have a stronger/weaker influence on tax morale than that observed through interpreting the standard model.  Appendix 6 identifies those variables, by country, that are of interest.  The threshold coefficients are reported showing the cut-off points between categories.


In the relaxed nominal effects model, the effect of gender, for an Australian male was estimated at 0.565.  In the model allowing for non-parallel shifts, taking account of nominal effects, it is seen that the effect of gender differs across the three cumulative categories starting at      -0.5551 and then declining to -2.622 across the cumulative logits, reversing the sign.  Clearly gender variable has an effect on attitudes to tax morale but that the effect does not conform to the rigid pattern assumed by the proportional odds model.   The categories, having been collapsed from ten individual categories into four more meaningful categories; never justifiable/sometimes justifiable; sometimes justifiable/often justifiable; often justifiable/always justifiable.  Estimating a single coefficient can sometimes disguise and distort the variability in effects.  Revisiting the gender variable for Australian males would now suggest that they have lower tax morale than Australian females.  However, by improving an Australian male's perspective from Often/Always justifiable to Sometimes/Often would see an improvement in tax morale of 2.622. To move from sometimes/often to never justifiable would improve tax morale by

0.7365.  The magnitude of the shift between categories is consistent with the direction of sentiment.  To move an Australian male from a position whereby he thought is was often/always justifiable to cheat on taxes to a point where it was never justifiable is a dramatic shift in social norm.

The remainder of this section will discuss each country's reported results following the test for nominal effects.

Reported results for Australia present little difference between the full model and the model adjusted for nominal effects.  Coefficients reported for variables *equalization of income* and *belief in God* are similar with insignificant differences and identical signage.  The variable for *tax morale* reports some significant differences between the threshold intercepts suggesting that some of the variables being considered do not fulfill the proportional odds model.  *Gender* and *level of education* do not move linearly between threshold cut-offs rather, the movement between each threshold differs.  To not observe this difference may present incorrect inferences about their contribution to tax morale.  In some ways masking the underlying contribution of the variables.

Reported results for Brazil are broadly similar. Some differences occur between the two models regarding the variable *choice of leadership* although not significant. Brazilian respondents regard *the equalization of income* to be significant and positive. They perceive *obedience to rulers* as having a negative but significant effect on tax morale, perhaps due to a perceived level of corruption in Brazilian elections. *National pride* is reported as having a negative but significant effect on tax morale. Other variables are broadly similar but not significant. The scale of democratic

governance reports nominal effects with the initial coefficient reported at -0.12226.

Improving the perception of governance among Brazilian respondents in the never

justifiable to sometimes justifiable would improve tax morale by 0.23072.

China reported a number of observations. Of greatest significance are the

coefficients relating to *importance of democratic governance* being broadly similar

under both models.  Chinese respondents indicate a positive effect on tax morale.

Interestingly, their *belief in God* is negative; this may be caused through

inappropriate framing of the question.

India reports interesting results. Respondents report a need to be careful when

trusting people. Inferring that improving trust in people would increase tax morale.

The *equalization of income* was reported as significant for Indian respondents; India

is reported as the second-most unequal country in the world with the highest

number of poor in the world (OECD, 2017).

The results reported from Poland were minimal but nevertheless interesting.  As

with India *equalization of income* is reported as significant. Polish males were

reported as positive and significant. The variable trust in people, did not meet the

proportional odds assumption, initially reporting a -0.5074. Encouraging behaviour

such that a Polish respondent moves from often to always justifiable (when trusting

individuals) would improve tax morale by 0.3541; from sometimes to often

justifiable (when trusting individuals) would improve tax morale by 0.1386 and from

never justifiable to sometimes would improve tax morale by 0.5825.

Both the nominal and full models for Russia produce a number of interesting results.

Many are not significant but it should be noted that they are similar in size and sign.

Of interest is the reported result for the variable *confidence in the government*.  A

subsequent discussion provides greater background to the Russian governmental structure and the consequences insofar as tax morale is concerned. Confidence in the government is reported as having a negative and significant effect on tax morale. Perhaps reinforcing the populations lack of faith in the government are the responses to voter participation (or lack thereof) both making a negative contribution to tax morale.

Singapore reports a significant number of variables which have nominal effects. As with previous countries, most variables produce similar results. Being a Labor Union member is reported as having threshold effects on tax morale although of very small scale.  Singaporeans report a positive coefficient for confidence in their government, however when examined under nominal effects two of the thresholds report a negative indicator.  The third threshold, moving from often to always justifiable reports a positive effect on tax morale.

South Africa reported the highest number of variables in the nominal effects model. A more detailed discussion interpreting the specific circumstances of South Africa's governmental and institutional structure follows in the discussion of results.  Results reported show that *choice of leadership, obedience to rulers and political views* contribute to the improvement of tax morale.

Results reported for Sweden are consistent with the literature.  Results reported under both models are broadly consistent. With nominal effects being reported for *trust in people, belief in God and Political Party membership.*

The USA reported similar results under both models and in keeping with the body of literature (Alm and Torgler, 2006) in this area.  Respondents in the USA report a

positive effect for tax morale when trusting in people. Financial satisfaction is also reported as having positive effects on tax morale.

Zimbabwe reported two variables as having a potential effect on tax morale.  The size and number of reported variables makes comparison with other countries in the sample difficult.  Of note is the Zimbabwean attitude to the scale of democratic governance, suggesting that improvement would improve tax morale.


## Discussion of Summary Statistics and Goodness of Fit.

The Akaike information criterion (AIC) for each model is broadly similar suggesting the relative quality of the models used is similar. This compares the AIC for each model and hence a means of preferred model selection. Further comparison of the descriptive statistics is done so referring to Appendix 7.   The prediction of classifications is consistent between both models, giving the percentage of correctly predicted classifications. A slightly greater level of accuracy is reported in the South Africa model (47.9% - 45.5%); Sweden similarly reported a significantly higher level of correctly predicted classifications (68.5% - 61.3%).

Adjusted McFadden $R^2$ is reported for both models.  This statistic is the measure of the log likelihood value for the fitted model as compared with that of the null model. In layman's terms, it is a measure of how closely the data are fitted to the regression line. It is the proportion of variance for the response variable explained by the predictors.


Appendix 6 presents the actual predictions in both the Ordered Logit model and the Fitted model including nominal effects. Australia, Brazil, China, Russia, Singapore,

Sweden and USA present consistent results with some minor deviations in the

"often" and "always justifiable" threshold.


India, South Africa and Zimbabwe report considerably different results in each of the

fitted model thresholds; most significantly across never justifiable and sometimes

justifiable. This difference is attributable to the nominal effects.

# Chapter 5 Interpretation/Discussion of Results

The objectives of this chapter are threefold. The first is to draw together the findings from the empirical results developed in Chapter 4 and further explore the themes identified and their impact on tax morale.

Secondly, the emergent themes will be considered through the lens of relevant behavioural models. I will consider their applicability and influence on tax morale alongside non-behavioural explanations. This objective will apply a number of behavioural concepts and ideas to the empirical results.

The third objective is to consider, where appropriate, the contribution of social norms to the econometric results. Discussing the empirical results through a behavioural lens and positioning them alongside social norms will provide a rich understanding of the perceptions likely to contribute to tax morale.

## 5.1    Themes Influencing Tax Morale

Many researchers (Feld and Frey (2007); Torgler (2007) and Cummings et al (2009)) have recognised the contribution tax morale plays in explaining observed tax compliance behaviour. Multiple investigations have assessed the impact of variables on tax evasion (which shapes tax morale), finding statistically significant evidence. It is this body of literature that supports the position and findings of this research; that scholars and policy makers need to be interested in the determinants of tax morale as it affects tax compliance behaviour and secondly by better understanding such empirical findings policy makers can alter or manipulate their approach such as, to influence behavioural approaches. This research goes further demonstrating the

impact and strength of impact of specific variables allowing more precise targeting of behavioural strategies.

According to Doerrenberg and Peichl (2013) in almost all empirical analyses, socio economic variables effect tax compliance. For example, females tend to have a higher tax morale than males. These results are robust and consistent with results found in this research. Western industrialised countries included in the analyses (Poland, Spain, Sweden, USA) all reported the positive effect of improving male tax morale relative to females over the period of the survey. This is consistent with the literature in this area (Slemrod (2007); Hasseldine and Hite (2003); Alm and Torgler (2006); Frey and Torgler (2007) and  Konrad and Qari 2012), all of which study the effects of tax morale in a westernised context. Torgler (2004) and (2005) reported the effects of gender on Latin American and Asian countries. This research is consistent with such countries contributing to the study including Brazil, China, Singapore. Alm et al (2006) examined gender as part of an overarching study of Russia further corroborating the findings of this research. In addition to the aforementioned research this study further provides an insight to gender in such countries as India and Zimbabwe where consistent results are identified.


Additional contributing socio-demographic factors have been observed in this research. Marital status (of remaining together) was reported as significant in Brazil, Russia, Singapore and the USA. This is consistent with the literature (Alm and Torgler (2006); Torgler (2006) and Frey and Torgler (2007)) suggesting that married people develop a higher tax morale than individuals. This may be due to perceived higher social constraints and social values of married people although the formal tax

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reporting system in many countries focuses, in a structural sense, on couples rather than individuals historically.

The impact of the perception of class on tax morale is interesting with India, Russia, Spain and Sweden all reporting a positive effect on tax morale from the perspective of class positioning.  This is unsurprising in India where a strong sense of class is prevalent for example the caste system.  This is an area of societal positioning which clearly contributes positively to tax compliance but which has not been explored in the literature to date.

Other variables considered across the twelve sample countries were level of education and citizenship. This finding is not unexpected and has been widely proposed with throughout the literature (Alm and Torgler, 2006). A higher level of education may be related to a taxpayer's knowledge about financial responsibility and taxation. Lewis (1982) suggests that the better educated an individual is the better informed they are about tax law and would therefore be in a better position to assess compliance preferences.  Vogel (1974) found that less educated taxpayers had less access to tax compliance information or comprehension thereof and would therefore require greater professional assistance.  A contrary view might be that better educated people might be less tax compliant, have greater access to and means for advice such as to reduce tax compliance commitments.  This is different than having a low tax morale. An individual may have a high tax morale but is educated sufficiently well to be able to navigate the optimal tax position.  Torgler (2006) discusses the effect of the level of education suggesting the link is unclear. He further suggests the need for further empirical studies to help give an idea of which effects are stronger and define the influence on tax morale.

Doerrenberg and Peichl (2010) identify trust in government and national pride as a major focus in tax morale research. There is a perception that taxpayers that trust their government, that feel involved in the election of their government and "bought in" to their ideals will be more likely to be willing to pay their taxes. Tax policy design and implementation thereof are of significant consequence to taxpayers in their willingness to pay taxes. Trust in a government or a particular affiliation with a political party or standpoint is of significance in tax morale. This research reports results consistent with the notion of trust in governmental organizations. In this research I have widen the perspective, not only considering the respondents' perception of trust in the government but to further consider the contributions of statebuilders. A common perception across some countries is that it is not only the government that is operating independently in their design of tax policy but rather that policy design is influenced, coerced and in some cases bribed in its design. Much publicity surrounds the independence of governments in discharging their fiduciary duties independently, results presented in this thesis are consistent with Doerrenberg and Peichl (2010).

In the context of this research, I felt a gap existed in much of the literature. By only reviewing trust in governments individually, a perceived conspiratorial narrative was being overlooked. Included in this research are variables relating to the respondents' confidence (trust) in church, government, political parties, parliament, major companies and banks. For example, Russia reported very significant responses to their confidence in the government. South Africa's results suggest a lack of confidence in almost all aspects of state builder confidence, most notably in the government, political parties and banks. Interestingly South Africa reported a

positive response to trust in the church. On the contrary, Sweden reported strong

positive effects on their confidence in the church, government, political parties and

banks. This perhaps reflects the relative stability of the state builders of each of the

countries.  These findings are corroborated in the various literature.  Alm and Gomez

(2008) reported significant and positive effects of different "trust in state" variables

on tax morale.  As did Torgler (2004) in his work reviewing Asian countries.  In

contrast, tax morale decreases as people believe that tax redistribution is not

equitable, in keeping with policy or where a notion of distrust or corruption exists.

Torgler et al (2005) use survey and experimental data to explore the effects of social

norms on tax compliance behaviour.  The paper provides support for the hypothesis

that tax compliance increase where individual perceptions are that the tax system is

fair and that the government is providing valued goods and services with the

revenues.  Torgler et al set their research in the context of Botswana and South

Africa. Both countries have experienced strikingly different social histories, despite

being neighbors. Thus, these countries offered a natural experiment for the

investigation of the effects of tax morale stemming from perceptions of government.

Analyses of data from surveys of public attitudes toward government show that

perceptions of government fairness and efficacy are considerably higher in Botswana

and self-reported tax compliance appears to be higher as well. Using controlled

laboratory experiments Torgler et al were able to confirm that such reported

differences in tax attitudes may be explained by social norms.

Alm, Jackson, and McKee (1993) find that compliance is higher when the public good

is voted on, rather than imposed, and when the political outcome is known to be

widely supported. Further, the manner in which the enforcement rules are

determined can also influence compliance (Alm, McClelland, and Schulze, 1999).

Social norms and morals have been cited as reasons for high compliance with rules

(Elster, 1989) and collective actions (Naylor, 1989). Even simple personal ethics

based on religion or cultural norms may affect tax compliance behavior

independently of the fiscal exchange between the government and the taxpayers

(Steenbergen, McGraw, and Scholz, 1992). Relating this relevant research to this

thesis South African results suggest low tax morale which can be improved through

focused interventions on perceived corruption, institutional contributors and the

political economy. In many ways South Africa is still in transition from the apartheid

regime.

Tax evasion is treated as a serious crime in South Africa; the tax authority exploits

high profile cases to reinforce its reputation for tough enforcement. The South

Africa Revenue Service (SARS) has a policy of not revealing the audit rules or

penalties. Comparing this with its close neighbor, Botswana, on the other hand, the

attitude of the tax authority seems to be more accommodating. For example, a

general tax amnesty was conducted in 1999.

A comparison of tax morale in Botswana and South Africa is helpful in contracting

the different strategies employed and the varying successes achieved. Whilst

geographic neighbors, the social histories of the two countries could not be more

dissimilar. Botswana's political history is virtually unique among African countries.

Although it was a colony (British) and only recently (1966) celebrated its 50 years of

independence, diamond-rich Botswana is one of Africa's oldest multiparty

democracies and it has successfully made the transition to self- governance. Several

elections have been held since independence and all have been quiet affairs with

none of the violence or corruption charges that have accompanied elections in

neighboring countries. In fact, the government of Botswana takes great pride in its

stability and refers to itself as the "gem of Africa" in many official publications. The

tumultuous political history of South Africa undoubtedly contributes to the results

indicated in this thesis.

Transparency International's Corruption Perception Index, which relates corruption

perceptions of various countries' government, indicates considerable differences

between Botswana and South Africa: Botswana's score is some 20 percent higher

(better) than South Africa's.

Interesting results that can be linked to trust in statebuilders are the variables

related to national pride and citizenship.  The literature suggests (Konrad and Qari,

2012) that a strong level of patriotic pride and connection with their country has a

positive effect on tax morale.  Citizenship was not found to have a significant impact

on tax morale other than that reported by the USA, which was positive and

significant.  The variable "National Pride" was found to be a significant contributor to

tax morale for Russia and Sweden.  The Russian response suggests a negative effect

on tax morale whereas with Sweden the response, albeit small in value, nevertheless

indicates that a sense of national pride contributes positively to tax morale.

Torgler (2006) undertook an extensive study of the relationship between religiosity

and tax morale. Whilst research in this area is somewhat limited there still remains a

view that individuals or collections of communities tend to exhibit a higher level of

tax morale.  It remains unclear whether behavioural norms, for example, moral

constraints are intrinsic to one's personality or are a results of belonging to a

community of religious and thereby influenced by religious motivations.  Adam

Smith in the "Theory of Moral Sentiments" suggested religiosity acts as an internal moral reinforcement. That said, one would expect countries with a strong religious influence and membership would have significantly higher levels of tax morale. Grasmick et al (1991) discuss the feelings of shame or guilt. Such sentiments having an influence on reporting behaviour. The measurement of religiosity in this research included the respondent level of religiosity (whether they perceived themselves as religious or not), their belief in God and their belief in Hell. The thought process leading to the selection of these variables was to recognize the church as an institution, the producer and distributor of ideologies. Therefore, if individuals believed themselves to be religious and the church to be fair and worthy individuals may be more likely to behave consistent with acceptable norms.

This research analysed additional variables which do not comfortably fit into the themes identified above. Nevertheless, I did not want to lose the contribution these variables made in understanding tax morale. Financial satisfaction, or rather dissatisfaction could negatively influence tax morale. Torgler (2006) suggests such dissatisfaction might create a sense of distress, especially when taxes have to be paid but a discrepancy exists between the actual financial situation and the aspired financial situation. He further suggests that taxes might be perceived as a strong restriction, which increases the incentives to reduce tax honesty. Torgler (2006) assimilates his argument to prospect theory (a behavioural model) arguing that people evaluate utility gains and losses not according to an absolute change but relative to a reference point (Kahneman and Tversky, 1979; Tversky and Kahneman, 1992). Torgler suggests that taxpayers compare their wealth and earnings with

other taxpayers in their social environment.  Cullis et al (2012) build on the notion of prospect theory and a taxpayers perceived reference point in their social environment.

Torgler (2006) results suggest there is a strong correlation between religiosity and tax morale.  In this research, Brazil, China, Singapore, Spain and USA reported significant effects relating to their religious classification.  In addition, results would suggest that holding a positive belief in God would positively effect tax morale. Interestingly, South Africa reported a positive significant of the belief in Hell suggesting little respect for or involvement with religiousness. The implication being that by reducing the number of South African's belief in Hell might improve tax morale. Some of the results for religiousness may require further investigations, mostly from the perspective of how the question was framed but also the number and size of observations.  Nevertheless, the contribution of religiosity to the overall context of this research still remains valuable.

## 5.2    Behavioural Interpretation of Empirical Results

Riccardi and Simon (2000) provide a useful summary of this history and emergence of behavioural models, moreover their application to the area of finance. Behavioural models have emerged from the interdisciplinary development of the fields of psychology, sociology and most commonly finance.  In this thesis it is argued that such behavioural models can be usefully applied to the area of taxation.  As with finance, the emerging research has reached a cross-road, whereby fuller explanations and understandings of behaviors and actions would benefit policy design. This research identifies themes contributing to the improvement or not of

tax morale. Examining the results through a behavioural lens will contribute to and increase the understanding of the reasoning and emotional processes involved in the decision making process. Behavioural models are useful in assessing the human impact on a decision. This research examines the empirical results as presented in appropriate thematic strands. The subject of tax in of itself is somewhat multi-disciplinary. It transcends law, finance and accounting. The discussion of behavioural models in the literature is very much influenced by the professional background of the scholar. Remaining consistent with this approach taxation has been examined very much from the perspective of an accounting scholar. Whilst an increasing number of accounting scholars are contributing to the knowledge base in this area, it is still relatively underreported in the literature. Furthermore, narrowing research to within the tax community of practitioners few attempts at understanding tax behaviour from an accounting profession perspective have been evidenced. Noted is the increasing multi-disciplinary approach to such research from the fields of economics and psychology. Social and psychology factors being introduced by Gunter Smolders (1959) coining the phrase "fiscal psychology". Hofmann, Hoelzl and Kirchler (2008) refer to an emerging field known as fiscal psychology.

In Chapter 2 of this thesis the types of behavioural models and factors that may affect tax morale were identified. Having undertaken the empirical analysis of the data the models which most greatly align with the themes identified will be focussed upon. Some of the discussion will be supplemented by a discussion in the subsequent section on social norms. Figure 5.11 is an adaptation from Hirshleifer (2001:1533-1597) presenting the most relevant behavioural biases that can be

applied to the econometric results presented in this thesis.
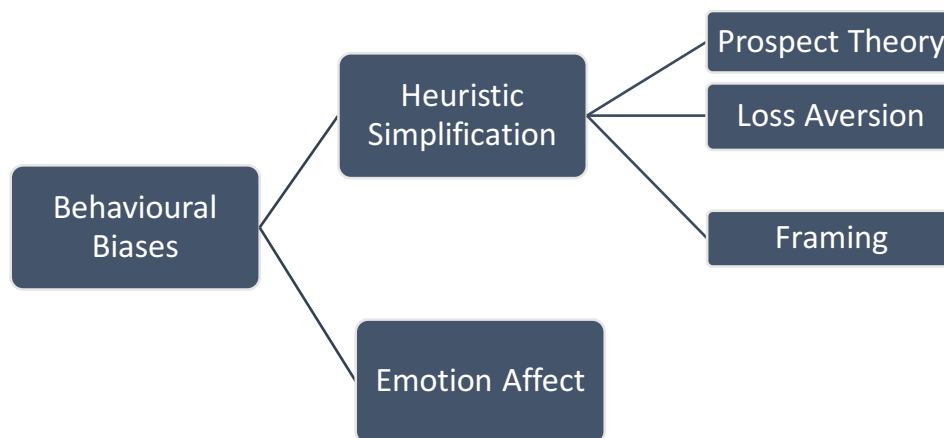


*Figure 4:  Behavioural Biases*

*Source: Adapted from Hirshleifer (2001:1553-1597)*

The behavioural biases are divided into divided two classifications of behavioural

influence; Firstly, heuristic simplification which, according to Redhead (2008)

emerges from the limitations of cognitive powers of individuals, for example,

memory, thought and reflection.   Heuristic simplification describes a series of

shortcuts used in resolving complex decisions.  They are often solutions based on

past experiences or rules of thumb that are accepted as a basis for making the type

of decision required.  Such biases relevant to this research held under the umbrella

of heuristic simplification include Prospect Theory, Loss Aversion and Framing.

Secondly, emotion effect including emotions, moods and social norms play a major

part in decision-making. Redhead (2008) suggested that social interaction includes

the transference of not only information and opinions but also evidence of mood

and emotion can be transferred.  Furthermore, he suggests that the effect of mood

and emotion on decision-making can be significant even if not related directly to the

decision at hand. Moods and emotions can be distinguished whereby a mood does not necessarily identify with an object, person or interaction nor has a particular target or cause. Emotions are often resulting from a particular interaction, with a person, event or body. Nofsinger (2005) refers to the impact of mood on a financial decision as a "misattribution bias".

When considering emotion effect examples of regret theory and decision fatigue have been used to further explore contributions to tax morale.

Kahneman and Tversky (1979) suggested that when prospect theory is used to predict behaviour "framing" is analysed with reference to "loss aversion". Citizens are more likely to under report income if tax is framed as a "loss" and more likely to respond honestly if tax is "framed as a "gain". Cullis et al (2012) used prospect theory to determine the contribution of social norms to the decision to pay tax. Prospect theory has been applied in several tax studies examining risky choice framing (Robben et al., 1990; Webley et al.1991; Schepanski & Shearer, 1995; Schmidt, 2001; Kirchler & Maciejovsky, 2001). In summary these researchers concluded that taxpayers with taxes owing are less compliant than those with a refund due to them. Thereby reinforcing Kahneman & Tversky's view that individuals are prepared to take risks when faced with a potential loss rather than accept the loss, rather reviewing the critical information in a positive or negative light.

The interpretation of the heuristic behavioural contribution to this thesis will be discussed in three parts, firstly the application of prospect theory to tax morale, following on from and intrinsically related to prospect theory is the way in which

decisions are framed to enhance the likelihood of a positive outcome and finally the notion of loss aversion and its contribution to tax morale.

## Prospect Theory

Cullis et al. (2012) present, in what is a seminal paper for this thesis, the way in which social norms frame the decision to pay taxes.  Kahneman & Tversky (1979) posited that when prospect theory is used to predict behaviour 'framing' is analysed with reference to 'loss aversion'.  Supporting the notion that individuals are more likely to under-report income if it is framed as a loss and more likely to report honestly if reported as a 'gain'.  The authors suggest that to evade tax is immoral suggesting that social norms can be used to influence such immorality.  Firstly, through addressing the intrinsic value (derived by oneself).  The personal value, perhaps never outwardly exhibited but rather that which reflects the sentiment of being true to oneself. Secondly, extrinsically, the personal value derived from conforming to the behaviour of one's peer group, social group or generally to the behaviour of others, in fear of being judged differently or negatively.

Ratto et al model the notion of 'warm glow'; the effect from acting honestly with that of applying a weighted value to the social norm of tax compliance. This may be defined as the psychic benefit *(wg+b(1-m))* when complying with a social norm.  In a community (country or social group) that displays a high level of shared understanding such that the public sector 'should' be supported than does another community without such values the psychic benefit of complying with tax is high. As is the sensitivity to the action of others, in that they believe a high proportion of their fellow citizens comply.  To link this to the empirical work in this thesis, countries which evidence strong intrinsic and moral values (indicated by such

variables as trusting individuals, being married and life satisfaction) such as Australia, Brazil, China and USA would indicate a greater level of compliance and higher tax morale. They also hold a shared belief that most fellow citizens comply with tax (as indicated by variables including Citizenship, levels of confidence, democratic leadership and income equalization). Assimilating this approach to the prospect theory curve, citizens from these countries would have a 'swivelled' value function, somewhat flatter and smoother than comparative countries, reflecting the strong positive gains. In prospect theory a tax loss is represented in the Losses negative quadrant. The loss felt for such countries (Australia, Brazil, China and USA) is far flatter as they derive greater benefit from paying expected taxes. In contrast countries exhibiting low tax morale, for example Russia and South Africa, the value function would be much steeper in the loss quadrant. Using the same variables Russia and South Africa do not identify with strong personal values around social norms mainly because their view is influenced by the perception of corruption in the institutions of their country. The feeling of losses more than gains is reflected through a much steeper curve in the loss quadrant as compared with a flatter gradient of curve in the gain quadrant.

In the previous discussion the reference point was stated at the intersection of 'O'. If the tax payer believes the reference point should be something different to '0" for example it is common in Australia to receive repayments of tax where individuals have invested in their own education. So the mindset or 'reference' point is set away from the origin. Individuals, rather than regretting providing the government with excess funds look forward to receiving the 'gain' that is the over payment. A further influence on the reference point is that of expectation, aspiration or over optimism.

An individual may adopt mental accounting[1] such that a fixed amount of personal income will be paid consistent with one's understanding of the normative principles. Furthermore, acceptance that the state has a legitimate call on a portion of their income (recognition of public service, police, schools) thereby recognizing a fair tax. Individuals of countries where such a philosophy is not held (no predisposition to recognize a payment of tax) the value function remains intersecting at the origin. Therefore, any subsequent requirement to pay tax will be felt as a loss than that experienced by the former example.

To summarise, social norms may affect value functions therefore influence individuals' levels of tax morale. Changes of slope (swivelling) reflect the changing intensities of response to changes or views of social norms which is what I believe policies makers have most influences over. In altering the intercept of the value function policy makers would have to make distinct changes to legislative requirements thereby changing individuals reference points. I believe the latter to be less likely as it relies on individuals exhibiting greater demonstrations of honesty.

## Framing

Hasseldine and Hite (2003) present an interesting application of framing in a tax behaviour context. They observe the lack of a precise definition. Levin et al (1998 & 2002); and Lauriola et al. (2002) argue that "all frames are not created equal" and go

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[1] Mental Accounting – a process of whereby people code, categorise and evaluate economic outcomes, creating individual mental accounts.

further to demonstrate different types of framing effects. They present three types of framing effects in the literature as:

1) Risky choice; where the outcome of a decision choice involves operations with different risk levels (a sure thing option versus a risky option, with both framed positively and negatively). Empirical evidence would suggest that this type of framing manipulation affects risk preferences.

2) Attribute; where a single attribute is framed (as positive or negative) with the framing affecting item evaluation. This technique is commonly employed in marketing, specifically consumer perceptions.

3) Goal Framing; where the impact of persuasive communication has been shown to depend on whether the message stresses the positive consequences of performing the behaviour of the negative consequences of not performing the behaviour. The notable difference with goal framing is that both frames promote the same end result but which (positive or negative) is more effective.

Common example of framing being usefully employed in the health context, for example influencing levels of obesity, smoking or risk s of cancer.

Extensive research has been conducted on risky choice framing (Tversky and Kahneman, 1981, Kahneman and Tversky, Thaler and Sunstein) and is often presented as part of or associate to prospect theory. From a tax research perspective, Robben et al 1990; Webbly et al 1991; Kirchler and Maciejovsky 2001) framing has been developed in the tax compliance field. Elffers and Hessing (1997) reported that taxpayers owing monies are generally less tax compliant than those expecting a refund. Hasseldine & Hite (2003) consider whether objectively

equivalent information, positively or negatively framed, affects tax compliance behaviour. They surveyed a number of adult taxpayers by presenting a positive or negatively framed question. This was conducted through an experimental vignette.

Druckman (2001) draws a distinction between *frames in communication and frames in thought*. The former described as a property of a communication and is concerned with a speakers' words, images, phrases and presentation styles eg. Theresa May persuading the electorate that BREXIT is of economic benefit. Such a frame can be described as an 'economic' frame suggesting economic considerations are relevant. Frames in communication make a considerable contribution to this thesis.

Frames in thought focus on the minds internal processes and are closely associated with social, cognitive and economic psychology. The effects of these processes, known as *valence effects*, treat the critical information in either a positive or negative light. Levin et al (1998) described these effect as a homogenous phenomenon collectively explained by prospect theory. Frisch (1993) concludes that the desire to examine framing effects is to consider whether the descriptive validity of expected utility theory has been violated.

Attribute framing and goal framing are distinct from risky choice as there is no element of risk being manipulated. Levin et al (1998) note that researchers typically turn to prospect theory to explain framing especially if the loss-framed message has a greater or positive impact.

Hasseldine & Hite (2003) found interesting and perhaps confounding outcomes from their experimental framing research. They found gender to have a significant outcome when posed with framing effects. In the sample under review they found

men were more persuaded by the negatively framed message while women were more persuaded by the positively framed message.  Hasseldine and Hite (2003) suggest that a reason women were more influenced by the positive frame message is that they were not as involved or as interested in tax matters as men.

A number of field experiments have been conducted over the last 20 or so years attempting to influence tax payer behaviour.  Mascagni (2017) provides a comprehensive review of tax experiments and their contribution to tax.  Mascagni states that the ability for governments to control and audit large numbers of taxpayers is not viable.  Therefore, ulterior perspectives of why people pay tax need to be researched.  Luttmer and Singhal (2014) identified five main mechanisms through which tax morale can be observed; 1) intrinsic motivation 2) reciprocity 3) social influences (norms) 4) culture 5) information imperfections. This identification has somewhat fuelled the increase in field experiments, which are perceived as more rigorous representations of reactions to policy. Mascagni (2017) suggests hat the use of field experiments allows the real-life assimilation of factors affecting tax payers, and provides a cost-effective way of changing perceptions and the information available. Castro and Scartascini (2013) did not report any significant effect from distributing messages on equity and public services. Mascagni (2017) observes that the lack of empirical support for moral and social factors may be due to individuals having a lower trust in government therefore any moral appeals will be less effective.  This form of moral suasion may support the results reported in this thesis, whereby addressing specific countries that have identified low trust in statebuilders such as the government are unlikely to respond positively to any form

of social norm intervention. Rather, addressing the reason for mis-trust could

potentially yield higher tax revenues negating such interventions.

Hallsworth et al (2014) conducted a large scale field experiment in the UK focusing

on social norms and concerns over public goods and services. Some examples of the

text distributed to targeted recipients include:

"paying tax means we all gain from vital public services"

"nine out of ten people in the UK pay their tax on time. You are currently in the very

small minority of people who have not paid yet"

Hallsworth et al followed up with an experiment focusing on descriptive (how other

taxpayers behave) and injunctive norms (what other people think is the right thing to

do). The former was found to have a significantly larger effect on tax morale

demonstrating the benefit of well designed, targeted social norms on tax morale.

A further example is that presented by Bott et al (2014) where Norwegian taxpayers

earning foreign income fail to report such income. Letters were sent to such

individuals highlighting the equity message "that most people pay their taxes on

time" and identifying the value of public services. The authors report moral appeals

affect moral motivation and increase tax compliance by a greater degree than

through audit and detection. Koessler et al (2016) present the interesting notion of

reward in tax compliance. In Switzerland taxpayers were enticed to comply with the

promise of being entered into a lottery with variable rewards.

Those which have contributed significantly to the literature are now discussed,

highlighting their contribution to behavioural aspects of tax morale. Coleman S,

(1996) conducted the Minnesota Income Tax Compliance Experiment in 1995,

subsequently repeated in 1996, experimented with a range of different strategies designed to increase voluntary compliance.  The strategies included:

1)  An increased examination and audit rate of tax returns with prior notice to taxpayers

2)  Enhanced customer services

3)  Redesign of the standard form

4)  Letters to taxpayers with information messages on the importance of voluntary compliance

The experiment measured the impact of each of the alternate approaches by looking at changes in reported income and tax paid.  Whilst the results of strategies 1) – 3) are generally interesting they did not generate anything of note or extraordinary.  Of particular benefit to this thesis is the effect of point 4) Letters to taxpayers with information messages on the importance of voluntary compliance. Coleman (1996) describes this intervention as a motivational or moral approach.  Two types of message were tried; firstly, that making a rational argument for paying taxes, describing specifically the amounts of tax revenue spent on education, health, local government and law enforcement, suggesting that failure to pay taxes results in the entire community suffering.

The second letter addressed the mis-perception that many people routinely cheat on their taxes. Each of the letters addressed a different level of moral reasoning.  The first letter frames the commentary very much as a politician might when standing for election, setting out economic morality encouraging individuals to exercise their personal norms using a set of internal ethical standards to reach a decision.  The second letter suggests what the socially acceptable norm is, heightening the

prevalence of the specific social norm in the Minnesotan society. The experiment

proceeds, impact being measured by increased tax income against previous years

returns. The results showed the first letter did not improve compliance but that the

second, addressing social norms, did have a moderately significant effect concluding

that a relatively cheap approach to changed messaging, by altering the perspective

of certain social norms can result in a positive change. Interestingly, the experiment

was repeated in 1996, with very little change reported. The authors contribute this

to the novelty factor associate with the initial experiment.

The research presented in this thesis would suggest that the strongest influencer of

tax morale is that which influences fiscal exchange. The countries included in this

thesis all report the value of a strong fiscal relationship with the state builders as

contributing to a higher level of tax morale. Findings from this research would

suggest this to be the case other than where indicators (including the Corruption

Perception Index) suggest a high level of mistrust or corruption as is present in result

reported for South Africa. Empirical evidence from this research concurs with

findings of Ortega and Scartascini (2016) where in low and middle income countries,

with a less well developed infrastructure response to interventions is often lower.

For example, Brazil and India might require differing treatments than that of USA or

Sweden where infrastructure may not be as well developed. The content of the

message (reminder, deterrence, public services) and the mode of delivery (letter,

email or text message) needing to be tailored appropriate to the level of institutional

development. Ortega and Scartascini (2016) undertook a field experiment in

Rwanda, demonstrating the complexity of leveraging the values of fiscal exchange to

increase tax compliance. Mascagni (2017) suggests evidence from field experiments

in low-income countries is limited and scattered and would benefit from further

research.


In conclusion evidence from such field experiments would suggest addressing social

norms, the means by which they are framed and the social group to which they are

targeted may improve tax morale.


## Loss Aversion

Kahneman and Tversky (1979) posit that individuals evaluate decisions in isolation

with respect to a salient reference point.  They further propose a reference

dependent choice theory.  This is where individual's values gain differently from

losses.  Individuals value losses more than they value equal gains; this is known as

'loss aversion'.  This behaviour causes a "kink" in the value function at the reference

point with a steeper gradient for losses than for gains.  Of interest is the second

important point Kahneman & Tversky (1979) make which is that individuals tend to

be risk seeking when facing a loss (looking for ways of reducing or making good the

loss) and risk averse in gains. Pope and Schweitzer (2009) present an interesting

study of professional golfers' performance on the PGA Tour.  They test for loss

aversion comparing the number of strokes taken against each hole's reference point

(par). Evidence from this study suggested that individuals do exhibit loss aversion.

The authors make some attempt to consider the factors contributing to explanations

such as individual differences, learning, position on the green but non accounted for

the pattern of loss aversion observed.   Pope and Schweitzer (2009) propose that

individuals perceive each hole narrowly, taking par as the reference point, rather

than viewing the course 72 shot par as the reference point consistent with the view that individual in a loss position will consider smaller individual losses rather than the prospect of a larger scale collective gain.

Engstrom et al (2015) apply loss aversion to taxation. They undertake a study of 4.7 million Swedish 16-67 income reporting taxpayers. They present an interesting interpretation of the utility curve in prospect theory. They use a quasi-experimental method using a regression kink to assimilate loss aversion in the context of prospect theory. They suggest their findings to be consistent with loss aversion namely taxpayers with a preliminary tax deficit are more likely to claim deductions for "other expenses for earning employment income" than those with a preliminary surplus. They suggest an individual with a tax deficit (owing tax) will perceive a higher marginal value of extra income than an individual with a tax surplus (repayment due) of the same amount. Therefore, those with a tax deficit would be more inclined to take the chance of non-compliance. Also suggested are a number of additional factors which contribute to the explanation, including liquidity of cashflow. This is where a cashflow constrained taxpayer would take the decision to claim a deduction in the deficit domain in order to reduce the amount of taxes to be paid. Further suggested is the existence of transaction costs and administrations burden (including costs of collection, application and collection of fines and penalties). Of interest is the reference to psychological gain/loss that taxpayers attribute to ending up with a tax refund/expense, aligning very much with the work of Cullis et al (2012).

Consistent with the findings of this research, Engstrom et al (2015) refer to the matters of fairness and reciprocity whereby state building agencies are acting in a manner that is unjust or unfair. An interesting narrative is that which suggests those

individuals due a refund have effectively provided the government with access to their funds without cost (in the way of an interest charge) and those taxpayers with a deficit have effectively been given access to an interest free loan. An interesting suggestion from Engstrom et al (2014) is to over-withhold taxes. Their view is that this would increase tax revenues however, I would argue that such an approach over time would serve to move the reference point from zero to a certain positive amount, such that any increase in tax morale would be temporary. An example of this approach exist in Australia with the deduction of educational investment against taxable income. Anecdotally taxpayers look forward to receiving their refund, indirectly encouraging compliance and demonstrating a high level of tax morale, when perhaps a different perspective could be that the Australian government ought not to have had access to those funds in the first place.

Elffers and Hessing (1997) suggest that advance payments promote compliance, whilst also pointing out that withholding excessive amounts can lead to individuals feely wrongly treated and therefore less likely to comply. Linking this point to this thesis, countries which report high levels of distrust in the major statebuilders, as did China, Russia and South Africa for example may improve tax morale by ensuring biases contributing to loss aversion are not fostered (deliberately or not) through actions such as unnecessary or unfair retention of income or repayments such that individuals feel unjustly treated.

Boyce et al (2016) research loss aversion in the context of income changes and the impact on life satisfaction. Findings suggest that the impact and influence of loss aversion is dependent upon an individual's level of conscientiousness, specifically a

high level of conscientiousness can enhance the effect of an income loss on life

satisfaction and reduced for those with a low level of conscientiousness. Loss

aversion is identified as a bias with interventions being more successful in certain

sub-groups. Thaler and Sunstein (2009) suggest that such understanding continues

to contribute hugely to the economic decisions.  An understanding of how people

react on average and an understanding of when and whom a specific effect would

provoke a reaction requires further development and is a gap in the current

literature.  Boyce concludes by suggesting that through understanding individual

differences in reaction has the potential to instigate a "second wave" of behavioural

economics to predict individual specific reactions to economic circumstance.

Walasek and Stewart (2014) describe loss aversion as one of the most prolific

concepts in behavioural science. The authors undertake four experiments

demonstrating that loss aversion is a property of the experimental design.  By

manipulating the range of possible gains and losses they were able to demonstrate

loss aversion, loss neutrality and reverse loss aversion suggesting that loss aversion

is a property of an experiment rather than something which is reflected in human

memory. Of great interest is the reference to Tom et al (2007) that investigated the

responses to various stimuli examined under the magnetic resonance imaging.

Suggesting that loss aversion is a consequence of asymmetric representation of gains

and losses in memory, then the activation of various dopaminergic regions may

contribute to the improvement of individuals' tax morale. This builds on the aspect

of tax morale hitherto not discussed and which is perhaps outside the scope of this

research, that of neural behaviour and neuroscience, lead by such scholars as Sharot,

(2016) who's interests lie in the area of optimism bias and its effect on decision making.

## 5.3    Social Norms of Tax compliance

Onu and Oats (2015) suggest that in the diverse fields of psychology, economics, sociology, and law, tax researchers have turned their interest to how societal norms influence individuals to comply or not with tax laws.  Their research highlights the main trends in past research, provides clarification of conceptual models and provides a direction of future research.  This article is helpful in framing the contribution of social norms in understanding the empirical results in this thesis. Social norms may be defined as the way society defines right and wrong and influences individuals to 'do the right thing'.  Centuries of scholars have attempted to understand how to influence individuals to take what is perceived to be the correct course of action.

A number of eminent philosopher's viewed social norms in different ways.  For example, Durkheim, (1949) proposed that social norms ensured the functioning and cohesion of society, regulating individuals' place and role in society.  Becker (1968) rather obtusely contributes to the notion of doing the right thing in his seminal paper on the economics of crime.  Marx regarded social norms as mechanisms to reinforce social hierarchy, contributing to a 'false consciousness' that maintains the lower classes un an unfair subordinate position.

Cialdini and Trost (1998) define social norms as "rules and standards that are understood my members of a groups and that guide and/or constrain social behaviour". A wealth of studies has examined taxpaying culture across countries, with findings that in part are attributable to societal norms (Cummings et al, 2001;

Alm and Torgler, 2006; and Cummings et al, 2006).   It is proposed through this research that social norms have a considerable impact on tax morale. This section continues with an explanation of the types of norms and the factors attributable to tax morale.  Examples and comparisons will be drawn from empirical studies to further validate thesis findings.  Finally, the notion of social norms will be linked with the behavioural interpretation of empirical findings.

### Types of Social Norms

### Personal norms and Social norms

Bobek, et al (2007) compared the effects of personal and social norms finding that personal norms have a stronger effect on compliance intentions than social norms. Bobek et al (2013) went further to suggest that personal norms have a significant direct effect on compliance, while social (injunctive and descriptive) norms only had an indirect effect.  Personal norms are those based on one's own personal standards of "right" and "wrong" behaviour.  They develop as a product of socialisation. Wenzel (2004a, 2004b) argued that personal norms are internalized social norms. Wenzel demonstrated that the effect of social norms disappears when controlling for personal norms. Therefore, concluding that influencing individuals through enhancement of social norms to be non-effective. This report is interesting in the context of this thesis.  Firstly, to suggest that influencing social norms is non-effective contradicts the results emerging from this thesis.  Empirical evidence garnered from this research suggests that to focus on social norms is likely to contribute positively to tax morale.  Policy makers that focus on statebuilding contributors, building a trusting relationship between the state and the taxpayer,

institutional influences and perceived levels of corruption will improve the intrinsic motivation to pay tax (tax morale).

Of interest is the proposition that personal norms (those based on one's own standard of "right and "wrong") may significantly contribute to tax morale. This is an area of particular focus which has not been researched in this thesis but would be very interesting to study in future research.

## Subjective Norms

Subjective norms can be defined as "the norm held by the individual's referent others (friends, family, close co-workers)" Onu and Oats (2015). The importance of subjective norms is as posited by Ajzen and Fishbein, 1980 and Ajzen, 1991.

Most empirical studies looking at the effect of social norms neglect the potential impact of subjective norms but have rather looked upon norms as a broad societal influence, those views held by all taxpayers surveyed within a particular country or group of countries. Subjective norms can be considered as having two distinct categories of norms:

1) Injunctive norms: what the groups approve or disapprove of (societal view of tax evasion)

2) Descriptive norms: what group members actually do (failure to report income)

It should be noted that both can occur at the same time for example, if tax compliance is high (descriptive norm) the injunctive norm could be that society disapproves of tax evasion (injunctive norm). This area of distinction is very

infrequently addressed other than Bobek et al (2007) where she found that injunctive norms but not descriptive norms were associated with tax compliance. In her subsequent work Bobek (2013) suggests that both injunctive and descriptive norms have little effect on tax morale and that policy creators should focus more closely on influencing compliance through personal and subjective norms. Viewing social norms and their influence on tax morale in isolation might suggest that injunctive and descriptive norms are not of relevance to tax morale. Rather to focus on personal and subjective norms would yield greater benefits however, this thesis proposes viewing taxpayer actions and responses through the lens of behavioural models.  For example, the use of framing to change perceptions of other taxpayers would alter the injunctive an d descriptive norms of taxpayers.  To view social norms in isolation, as an individual (psychology) based discipline excludes the opportunity to enrich compliance strategies that could contribute to stronger tax morale.

## Communication

It is clear from the research presented hitherto that the use of social norms to influence tax morale has achieved mixed results.  Referring to the research in this thesis it seems sensible to adopt an approach based on social norms within the themes identified. For example, Onu & Oats (2015) discuss the efficacy of communication in social groups. Giving groups members the opportunity to clarify the social norms that apply to that groups.  Relating to this research such an approach could apply to individual countries or regions (accommodating regional differences) or alternatively targeting cross-sections of the themes for example where religiosity has a significant influence on tax morale.  Group members can receive assurance that other group members are following the norm.  This approach

is particularly effective when government bodies and policy makers are communicating with those who have the influence to uphold the norm, but that it is less so for those within the group unaccepting of the communication. Kettle et al (2016) used a randomised control trial in Guatemala that used reminders to promote tax compliance. By varying the communication in the letter the study found they were able to increase tax declaration and also tax payment (to a lesser degree). The researchers effectively used social norm messaging "join the 64.5% of taxpayers that have already paid tax". Suggesting they join the status quo. They further estimate that is sent to all recipients in the sample, the social norms letter would have generated additional tax revenues of approximately $760,000. The research further suggested that such intervention is effective and persistent and remain for up to 12 months.

## Social Identification

Empirical research findings in this thesis suggest that identification with national identity and citizenship promote tax morale. Wenzel (2004) identified higher tax compliance in Australia when the national social norm was to be strongly opposed to tax evasion. The dilemma here is this is only successful with individuals that do strongly identify with their nationality. Negative effects of failing to identify with one's nationality would have the opposite effect on tax morale. This is particularly relevant in countries with high levels of transient communities. Ashby, Haslam et al (2009) report that the notion of identity within a group should be further explored to gain an understanding of why some groups respond better than others. Onu and Oats (2015) suggest that further research is required into other types of groups for

example political groups in order to identify influences and subsequently targeting

norm based interventions.  This thesis has identified the specific groups of influence,

by country and theme such that norm based interventions can be targeted.  For

example, the relevance of government and political trust to South Africans is highly

significant therefore appropriate communications can be crafted to engage with this

group.

## Institutionalism

Yew, Milanov and McGee (2014) present an interesting account of pre-post tax

reform Russia.  The paper analyses individual tax morale in Russia from a tax morale

perspective. The Soviet Union is described as imploding, with some former Soviet

Union countries having difficulty in collecting tax revenues, notwithstanding this

Latvia, Lithuania and Estonia have developed a strong public finance system which is

attributed to their success.  The authors identify a weak and inefficient method of

tax collection and the general attitude of the population, whom believe the

government is corrupt and so feel the government has no moral claim on their

income.  The over arching theme of this research suggests that the perception of

widespread corruption is the determinant of the social norm that creates a low level

of tax compliance.  This sentiment is borne out in the empirical results in this thesis

and further corroborated by data presented by the Corruption Perception Index.

Appendix 2 shows the public sector's perception of corruption in Russia from 1999 to

2011 from the Transparency International Organisation (2014). The Corruption

Perception Index (CPI) score range from 1 to 10, with a low score indicating higher

level of corruption for the country. Compared to other countries, Russia CPI ranking

placed it in the second to the third lowest group of countries in the world during

these years.

Other reasons found in studies of non-Soviet republics and satellites for why tax evasion is justified is the perception that the government is wasteful in its spending habits, or that the tax system is perceived to be unfair.  This discussion is an example of how the findings of this thesis has identified specific institutional (in the case of Russia) perceptions; I have corroborated the findings in the literature whilst illustrating how through the use of social norms address and rebuild the weaknesses such that a higher level of tax morale is achieved.

## Conclusions

Identifying behavioural science models application to real-world examples in isolation is difficult as to do so one has to distinguish the individualistic traits of such biases when in reality there are a considerable number of inter related facets.  The discussion in this chapter has very much concentrated on the influences of behavioural models as have emerged from the literature.  In reality, those discussed are not truly causing isolated effects moreover are entangled and dependent upon each other, affecting the countries and variables in an interactive manner to greater or lesser extent.  What is clear from my work is that through the application of prospect theory and the subsequent consideration of framing and loss aversion I have identified clear themes for consideration by the countries in the sample which demonstrate how to improve tax morale.  I have recognized other behavioural influences for example, regret theory, decision fatigue and mental accounting as possible contributors to altering tax morale but have insufficient empirical evidence upon which to base any sensible theoretical contribution.

# Chapter 6 – Conclusion

## 6.1    Introduction

The key objective of this research has been to better understand the relationship between tax morale and tax compliance.  As part of the process of identifying factors that influence tax morale and tax behaviour,  the applicability of behavioural concepts has been considered.  A natural corollary of the research was to be able to include an explanation of the antecedents of current tax policy in order to gain a better understanding of and to influence the design and shape of future tax policy.

Tax morale can be defined as "the intrinsic motivation to pay taxes" (Alm and Torgler, 2006).  The approach taken in this thesis has been to examine the influence of values, social norms and attitudes across 12 countries to identify collective themes, institutional variations and cultural differences that may influence level of tax morale.  The empirical findings have been situated in a behavioural context and interpreted the outcomes through various appropriate behavioural lens'.

The thesis is philosophically positioned alongside the works of Becker (1968) where his works around crime and punishment offered a useful comparison to the perception and treatment of tax compliance and tax evasion.  Furthermore, Allingham and Sandmo's (1972) extension of Becker's work further helped to situate the research undertaken in this thesis.
Methodologically, this thesis offers a statistically informed quantitative study on the influence of tax morale on the economy and the resulting impact on tax revenue.

The topic of tax morale is a field of research neglected in the literature. Whilst there appears to be academic consensus regarding the importance of the effect of tax morale on tax compliance, little cross-jurisdictional longitudinal research has been undertaken to date. Furthermore, no research has systematically studied the relationship between perceived tax compliance and the relationship with the economy over time and jurisdiction. Similarly, little research has applied Behavioural Economics models, such as prospect theory, to areas of present day taxation policy formation. Through undertaking research in the topic of tax morale, this thesis adds to the current policy debate and provides lessons that are relevant to modern tax policy makers. The narrative is intended to provide insight into problems that have been identified in the development of taxation policy further enhancing knowledge by providing the additional dimension of behavioural models, fills a gap in the current body of knowledge. This thesis offers a deeper and more developed understanding of i) the variables that contribute to tax morale; ii) a thematic grouping of the variables into themes, recognizing that collectively interactions between the variables may have effects which would be individually unidentified; iii) situating the themes in the context of behavioural and social norm influences. Past research has failed to identify the importance of specific behavioural biases on tax morale. Previous research whilst articulating the meaning of social norms by definition, has failed to situate social norms in the context of taxpayers actions, behaviors, responses and attitudes. This research has added to the body of knowledge surrounding tax morale by linking behavioural interpretations with informed action for policy makers to regard when considering policy changes.

There is benefit to be gained from research that adopts a broader perspective, investigating social, political and economic variables across traditional national boundaries. The methodology utilised in the thesis enhances the understanding of tax policy development by providing a temporal aspect to a topic that is typically approached solely from a current perspective. This, in turn, provides insights into the predictability of the impact of particular policies. While the research does not claim predictive capability, the development of more appropriate theory for policy predictions may be assisted by behaviorally-inspired research.

## 6.2    Review of Chapter Contributions.

Theories around tax morale, social norms and behavioural biases were discussed in the literature review (Chapter 2). This formed part of the process of identifying gaps in the literature whereby current and past research had failed to address. It further identified areas of contribution that this thesis could make by furthering specific areas of research. Within this chapter the original contribution that the work undertaken in this thesis will make is demonstrated. These were identified as:

1) identifying factors influencing tax morale across 12 countries

2) examine the application of behavioural concepts to tax morale

3) apply econometric methods to WVS data such as to reveal deeper sentiments of behaviour

4) to better inform the development and implementation of tax policy

Chapter 3 discussed the dataset, taken from the WVS and developed the statistical hypotheses. The data set, which consisted of survey responses conducted over 57

countries was used to identify changing attitudes and norms in the tax behaviour of

individuals.  For practical purposes the number of countries included in this thesis

was reduced to 12 countries (namely, Australia, Brazil, China, India, Poland, Russia,

Singapore, South Africa, Spain, Sweden, USA and Zimbabwe). Presenting a range of

interesting demographic, political and cultural societies to examine.  Using a

standard ordered logit model a dataset was developed that resulted in ordered log

odds across numerous variables, indicating which variables would be of significance

to tax morale. The first iteration assumed that all variables would report statistically

significant results in a linear manner.  To take account of variables which did not

behave linearly the proportional odds assumption was relaxed thereby revealing

those variables that influenced tax morale but in a disproportionate manner.  This

contribution is novel and has not been developed in the literature thus far.  The

major contribution to governments worldwide is the ability to identify factors that

influence tax morale but with a deeper level of understanding the strength of feeling

across the categories of response (in this case four response categories).

The statistical hypotheses set can be summarised as:

- Statistical variables (influences) influenced the level of tax morale across the

   12 countries under examination

- That behavioural influences can affect levels of tax morale (and in turn tax

   compliance)

The specific variables are outlined as part of the hypothesis.  Chapters 4 and 5

detailed the econometric analysis undertaken in the thesis and provided a detailed

description and interpretation of the empirical results.  Chapter 5 presents

empirical results in the context of behavioural models and provides a useful

interpretation of relevant models including prospect theory, framing and loss aversion.  The results are further explored in the context of social norms, interpreting the results in the context of the subjective and personals norms offering insight into their applicability to the approach to tax formation.  The findings of the thesis have been discussed from a non-behavioural perspective and has included behavioural perspectives.   Finally conclusions are drawn in respect to the contribution of techniques which leverage social norm and behavioural influences on tax morale.

## 6.3 Review of Key Findings

In reviewing the findings, it was found that the coefficients reported suggest a strong correlation in the 12 countries examined between religiosity, gender, trust and power and tax morale.  Countries that reported high levels of religiosity and trust reported higher levels of tax morale (Brazil, Spain, Poland).  Countries reporting high levels of institutional democracy and trust reported high levels of tax morale (USA, Australia, Sweden).  Countries with low levels of trust, democracy and typically a high perception of corruption reported lower tax morale.

The countries which have either a long tradition and establishment of state building, and have the confidence of the population, either through governmental structures or religious ones, tend to report higher levels of tax morale.  Those with less well established legal, political or church structures (South Africa, Russia, Zimbabwe) tend to report lower levels of tax morale.

Examination of the coefficients, whilst indicative of the time span under scrutiny (2008-2012) are a snapshot of the structure and perception for the period.  Highly

integrated countries with a strong track record of fiscal control and stability have built up trust, over a number of years.

The empirical results are indications of sentiment. Noteworthy is their interpretation under the various behavioural models.  In Chapter 5 prospect theory, framing and loss aversion are used to interpret the empirical results and indicate areas of change for policy makers.

An interesting contribution in this thesis is the shift from influencing the tax legislation but moreover to present models (behavioural) that tax authorities (acting as agents for the government) can employ to garner greater tax morale thereby increasing tax revenues.

Interpreting the empirical results with prospect theory was illuminating and further research on this aspect alone is warranted.  The interpretation proposed demonstrates, through using ordered logit (and relaxing the proportional odds assumption) the ability to swivel the utility curve of a taxpayer by influencing their social and moral norms is possible.  This is a major contribution to the literature and to the research community surrounding tax morale.  The ability to move a taxpayer's reference point, whilst more challenging as it is usually associated with a fixed sum, can also be influenced.

Further interpretation of the empirical results using framing,  provides evidence to further support the benefits of framing tax payer perceptions positively. Loss aversion is referred to as a model to employ when influencing tax morale.  The latter being harder to demonstrate its contribution.

The empirical results were triangulated with data from the Corruption Perception Index (a ranking of countries based on a range of perceptions held by various

respected institutional contributors).  Of interest is the overall comparison provided of the response to the WVS survey question of tax morale when compared with the CPI ranking; both concluding the same outcome.

## 6.4 Review of Policy Implications

There is growing interest from policy makers, academics and practitioners of tax administration and tax policy in the effectiveness of social norms in promoting tax morale. Little research distinguishes from the effect of different norm types on tax compliance, and the implications of norm conflict.  The research in this thesis stresses the importance of considering a range of group identities and norms, rather than individual country norms and other categories of norms.  For conducting fiscal policy, results and conclusions obtained in tax morale research are of considerable importance.  Firstly, it can provide insight into a more efficient way of raising revenues since the interaction between the taxpayer and the tax authority is taken into account.  Secondly, this research contributes to a broader understanding of influences on tax morale where aspects of institutionalism, the political economy, state building, religiosity and socio economic considerations should be systematically evaluated.

The beneficiaries of the research in this thesis include the academic community, governmental policy makers and tax practitioners. Such organisations as World Bank, OECD, IMF and the United Nations are collectively reviewing novel contributions to taxpayer behaviour and actively support research of this kind.  Non-governmental organisations (NGO's) and 'think-tank's' such as Jericho Chambers, Oxfam play an

active role in lobbying governments and policymakers in the formation of tax policy. Finally, the research undertaken herewith will inform the development of the educational curriculum of the professional tax bodies so as to recognise the value and contribution of emerging research in professional practice.

## 6.5 Review of Novel Contribution

The work undertaken in this thesis provides a novel contribution to the tax compliance and evasion literature. The thesis has contributed value to the analysis of tax morale from a behavioural model perspective; an area that is increasingly developing as a means to influence tax payer motivations.

 It has shown how through the use of econometric techniques very specific variables and relative strength of those variables can contribute to the understanding of tax morale.

This work has contributed to the furtherance of the application of behavioural models to areas of tax and accounting hitherto not explored. The thesis has embarked on a comparative study of an interesting number of countries, some of which warrant further research.

The thesis has contributed to the literature in bringing together multi disciplinary techniques and demonstrated how they can serve alongside to gain a better understanding of the tax morale phenomenon.

## 6.5 Limitations of the Research

The research was performed on 12 countries, having narrowed them down from 57. This was based on quality of data and partly informed by the literature.  Further

studies could complement this by focusing on countries that would add value to the literature however,  because the data collected was not adequate could not be undertaken.  Missing countries which would have been interesting to study further would be those developing post devolution of governments for example, Kazakhstan, Kyrgyzstan, Turkmenistan, Tajikistan. Of particular interest is researching some of the African countries in greater depth, for example Botswana, as an example of developing strong tax morale amongst its citizens.

This is more of a personal research passion than a criticism of the work undertaken hitherto which provides a robust analyses of the factors affecting tax morale in the countries examined.

The research was somewhat impeded over a period of time due to the slow release of the WVS data.  Whilst one could say, the data is from 2008-2012 some of the country's datasets were only released late 2013 and into 2014.  The quality of the data was challenging but naturally to be expected given the size of the data sample.

## 6.6 Future areas of Research

A number of potential areas of research can be identified.

### 6.6.1 Prospect Theory

An extension of the research would be to test a smaller sample of countries using the prospect theory model.  Further contributions to the literature can be made by examining comparative countries, thereby providing the intimate details of effects pertaining to tax morale.

### 6.6.2 Social Norms

A considerable head of speed is being built in the area of social norms very much from a qualitative/psychological perspective.  A significant contribution to the literature would be to engage econometric methods with psychological/scientific/experimental researchers.  Some researchers are moving towards the more scientific measurement of effects of tax morale (Zak, Sharrot) and the implications of creating such an intersection.

### 6.6.3 Devolved Institutional structures

As mentioned in the previous section 'new' or less developed countries are of interest to those developing tax policy.  Further research in this area would contribute enormously to the understanding of what drives tax morale.

The End.

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# 2010 -2012 WORLD VALUES SURVEY

**V1. Survey wave number:** *the constant,* 6 (for Wave six).

**V2. Country code** (*write in 3-digit code from list below*):

———

| | |
|---|---|
| 8 | Albania |
| 12 | Algeria |
| 16 | American Samoa |
| 20 | Andorra |
| 24 | Angola |
| 28 | Antigua and Barbuda |
| 31 | Azerbaijan |
| 32 | Argentina |
| 36 | Australia |
| 40 | Austria |
| 50 | Bangladesh |
| 51 | Armenia |
| 52 | Barbados |
| 56 | Belgium |
| 60 | Bermuda |
| 64 | Bhutan |
| 68 | Bolivia |
| 70 | Bosnia |
| 72 | Botswana |
| 76 | Brazil |
| 84 | Belize |
| 100 | Bulgaria |
| 854 | Burkina Faso |
| 104 | Myanmar |

| | |
|---|---|
| 108 | Burundi |
| 112 | Belarus |
| 116 | Cambodia |
| 120 | Cameroon |
| 124 | Canada |
| 144 | Sri Lanka |
| 148 | Chad |
| 152 | Chile |
| 156 | China |
| 158 | Taiwan |
| 170 | Colombia |
| 180 | Dem. Rep. of Congo |
| 184 | Cook Islands |
| 188 | Costa Rica |
| 191 | Croatia |
| 192 | Cuba |
| 196 | Cyprus |
| 203 | Czech Republic |
| 208 | Denmark |
| 214 | Dominican Republic |
| 218 | Ecuador |
| 222 | El Salvador |
| 226 | Equatorial Guinea |
| 231 | Ethiopia |
| 232 | Eritrea |
| 233 | Estonia |
| 246 | Finland |
| 250 | France |
| 268 | Georgia |
| 270 | Gambia |
| 275 | Palestine |
| 276 | Germany |
| 288 | Ghana |
| 292 | Gibraltar |
| 300 | Greece |
| 320 | Guatemala |
| 324 | Guinea |
| 328 | Guyana |
| 332 | Haiti |
| 340 | Honduras |
| 344 | Hong Kong |

| | |
|---|---|
| 348 | Hungary |
| 352 | Iceland |
| 356 | India |
| 360 | Indonesia |
| 364 | Iran |
| 368 | Iraq |
| 372 | Ireland |
| 376 | Israel |
| 380 | Italy |
| 384 | Côte d´Ivoire |
| 388 | Jamaica |
| 392 | Japan |
| 398 | Kazakhstan |
| 400 | Jordan |
| 404 | Kenya |
| 408 | North Korea |
| 410 | South Korea |
| 414 | Kuwait |
| 417 | Kyrgyzstan |
| 418 | Laos |
| 422 | Lebanon |
| 426 | Lesotho |
| 428 | Latvia |
| 430 | Liberia |
| 434 | Libya |
| 438 | Liechtenstein |
| 440 | Lithuania |
| 442 | Luxembourg |
| 450 | Madagascar |
| 454 | Malawi |
| 458 | Malaysia |
| 466 | Mali |
| 470 | Malta |
| 474 | Martinique |
| 478 | Mauritania |
| 480 | Mauritius |
| 484 | Mexico |
| 492 | Monaco |
| 496 | Mongolia |
| 498 | Moldova |
| 504 | Morocco |

| | |
|---|---|
| 508 | Mozambique |
| 512 | Oman |
| 516 | Namibia |
| 524 | Nepal |
| 528 | Netherlands |
| 554 | New Zealand |
| 558 | Nicaragua |
| 562 | Niger |
| 566 | Nigeria |
| 578 | Norway |
| 586 | Pakistan |
| 591 | Panama |
| 598 | Papua New Guinea |
| 600 | Paraguay |
| 604 | Peru |
| 608 | Philippines |
| 616 | Poland |
| 620 | Portugal |
| 624 | Guinea-Bissau |
| 626 | Timor-Leste |
| 630 | Puerto Rico |
| 634 | Qatar |
| 642 | Romania |
| 643 | Russia |
| 646 | Rwanda |
| 682 | Saudi Arabia |
| 686 | Senegal |
| 690 | Seychelles |
| 694 | Sierra Leone |
| 702 | Singapore |
| 703 | Slovakia |
| 704 | Viet Nam |
| 705 | Slovenia |
| 706 | Somalia |
| 710 | South Africa |
| 716 | Zimbabwe |
| 724 | Spain |
| 736 | Sudan |
| 740 | Suriname |
| 752 | Sweden |
| 756 | Switzerland |

| | |
|---|---|
| 760 | Syria |
| 762 | Tajikistan |
| 764 | Thailand |
| 768 | Togo |
| 780 | Trinidad |
| 784 | United Arab Emirates |
| 788 | Tunisia |
| 792 | Turkey |
| 795 | Turkmenistan |
| 800 | Uganda |
| 804 | Ukraine |
| 807 | Macedonia |
| 818 | Egypt |
| 826 | Great Britain |
| 834 | Tanzania |
| 840 | United States |
| 850 | U.S. Virgin Islands |
| 854 | Burkina Faso |
| 858 | Uruguay |
| 860 | Uzbekistan |
| 862 | Venezuela |
| 887 | Yemen |
| 891 | Serbia and Montenegro |
| 894 | Zambia |
| 900 | West Germany |
| 901 | East Germany |
| 902 | Tambov |
| 903 | Moscow |
| 904 | Basque Country |
| 906 | Andalusia |
| 907 | Galicia |
| 909 | North Ireland |
| 910 | Valencia |
| 911 | Serbia |
| 912 | Montenegro |
| 913 | SrpSka Republic |

**V3. Interview number** (*write in 4-digit number identifying each respondent*): _____

1

(*Introduction by interviewer*):
Hello. I am from the _____ (*mention name of the interview organization*). We are carrying out a global study of what people value in life. This study will interview samples representing most of the world's people. Your name has been selected at random as part of a representative sample of the people in _____ (*mention country in which interview is conducted*). I'd like to ask your views on a number of different subjects. Your input will be treated strictly confidential but it will contribute to a better understanding of what people all over the world believe and want out of life.

(*Show Card A*)
For each of the following, indicate how important it is in your life. Would you say it is (*read out and code one answer for each*):

|  |  | Very important | Rather important | Not very important | Not at all important |
|---|---|---|---|---|---|
| V4. | Family | 1 | 2 | 3 | 4 |
| V5. | Friends | 1 | 2 | 3 | 4 |
| V6. | Leisure time | 1 | 2 | 3 | 4 |
| V7. | Politics | 1 | 2 | 3 | 4 |
| V8. | Work | 1 | 2 | 3 | 4 |
| V9. | Religion | 1 | 2 | 3 | 4 |

---

***NOTE: Code but do not read out-- here and throughout the interview:***   **-1  Don't know**
**-2  No answer**
**-3  Not applicable**

---

V10.   Taking all things together, would you say you are (*read out and code one answer*):
   1   Very happy
   2   Rather happy
   3   Not very happy
   4   Not at all happy

V11.   All in all, how would you describe your state of health these days? Would you say it is (*read out*):
   1   Very good
   2   Good
   3   Fair
   4   Poor

(*Show Card B*)
Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important? Please choose up to five! (*Code five mentions at the maximum*):

|  |  | Mentioned | Not mentioned |
|---|---|---|---|
| V12. | Independence | 1 | 2 |
| V13. | Hard work | 1 | 2 |
| V14. | Feeling of responsibility | 1 | 2 |
| V15. | Imagination | 1 | 2 |
| V16. | Tolerance and respect for other people | 1 | 2 |
| V17. | Thrift, saving money and things | 1 | 2 |
| V18. | Determination, perseverance | 1 | 2 |
| V19. | Religious faith | 1 | 2 |
| V20. | Unselfishness* | 1 | 2 |
| V21. | Obedience | 1 | 2 |
| V22. | Self-expression | 1 | 2 |

* In Spanish: "generosity"

(*Show Card C*)

V23.   All things considered, how satisfied are you with your life as a whole these days? Using this card on which 1 means you are "completely dissatisfied" and 10 means you are "completely satisfied" where would you put your satisfaction with your life as a whole? (*Code one number*):

Completely dissatisfied                                        Completely satisfied
1       2       3       4       5       6       7       8       9       10

V24.   Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? (*Code one answer*):

1   Most people can be trusted.
2   Need to be very careful.

Now I am going to read off a list of voluntary organizations. For each organization, could you tell me whether you are an active member, an inactive member or not a member of that type of organization? (*Read out and code one answer for each organization*):

|  | | Active member | Inactive member | Don't belong |
|---|---|---|---|---|
| V25. | Church or religious organization | 2 | 1 | 0 |
| V26. | Sport or recreational organization | 2 | 1 | 0 |
| V27. | Art, music or educational organization | 2 | 1 | 0 |
| V28. | Labor Union | 2 | 1 | 0 |
| V29. | Political party | 2 | 1 | 0 |
| V30. | Environmental organization | 2 | 1 | 0 |
| V31. | Professional association | 2 | 1 | 0 |
| V32. | Humanitarian or charitable organization | 2 | 1 | 0 |
| V33. | Consumer organization | 2 | 1 | 0 |
| V34. | Self-help group, mutual aid group | 2 | 1 | 0 |
| V35. | Other organization | 2 | 1 | 0 |

(*Show Card E*)

On this list are various groups of people. Could you please mention any that you would not like to have as neighbors? (*Code an answer for each group*):

|  | | Mentioned | Not mentioned |
|---|---|---|---|
| V36. | Drug addicts | 1 | 2 |
| V37. | People of a different race | 1 | 2 |
| V38. | People who have AIDS | 1 | 2 |
| V39. | Immigrants/foreign workers | 1 | 2 |
| V40. | Homosexuals | 1 | 2 |
| V41. | People of a different religion | 1 | 2 |
| V42. | Heavy drinkers | 1 | 2 |
| V43. | Unmarried couples living together | 1 | 2 |
| V44. | People who speak a different language | 1 | 2 |

Do you agree, disagree or neither agree nor disagree with the following statements? (*Read out and code one answer for each statement*):

|  | | Agree | Neither | Disagree |
|---|---|---|---|---|
| V45. | When jobs are scarce, men should have more right to a job than women. | 1 | 2 | 3 |
| V46. | When jobs are scarce, employers should give priority to people of this country over immigrants. | 1 | 2 | 3 |
| V47. | If a woman earns more money than her husband, it's almost certain to cause problems | 1 | 2 | 3 |
| V48 | Having a job is the best way for a woman to be an independent person. | 1 | 2 | 3 |

For each of the following statements I read out, can you tell me how strongly you agree or disagree with each. Do you strongly agree, agree, disagree, or strongly disagree? (*Read out and code one answer for each statement*):

|  |  | Strongly agree | Agree | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| V49. | One of my main goals in life has been to make my parents proud | 1 | 2 | 3 | 4 |
| V50. | When a mother works for pay, the children suffer. | 1 | 2 | 3 | 4 |
| V51. | On the whole, men make better political leaders than women do. | 1 | 2 | 3 | 4 |
| V52. | A university education is more important for a boy than for a girl. | 1 | 2 | 3 | 4 |
| V53. | On the whole, men make better business executives than women do. | 1 | 2 | 3 | 4 |
| V54 | Being a housewife is just as fulfilling as working for pay | 1 | 2 | 3 | 4 |

V55.   Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Please use this scale where 1 means "no choice at all" and 10 means "a great deal of choice" to indicate how much freedom of choice and control you feel you have over the way your life turns out (*code one number*):

No choice at all                                        A great deal of choice
1        2        3        4        5        6        7        8        9        10

(*Show Card F*)
V56.   Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair? Please show your response on this card, where 1 means that "people would try to take advantage of you," and 10 means that "people would try to be fair" (*code one number*):

People would try to                                People would
take advantage of you                              try to be fair
1        2        3        4        5        6        7        8        9        10

(*Show Card G*)
V57.   Are you currently (*read out and code one answer only*):

    1   Married
    2   Living together as married
    3   Divorced
    4   Separated
    5   Widowed
    6   Single

V58.   Have you had any children? (*Code 0 if no, and respective number if yes*):

    0   No children
    1   One child
    2   Two children
    3   Three children
    4   Four children
    5   Five children
    6   Six children
    7   Seven children
    8   Eight or more children

(*Show Card H*)

V59. How satisfied are you with the financial situation of your household? Please use this card again to help with your answer (*code one number*):

Completely dissatisfied                                                    Completely satisfied
1        2        3        4        5        6        7        8        9        10

(*Show Card I*)

V60. People sometimes talk about what the aims of this country should be for the next ten years. On this card are listed some of the goals which different people would give top priority. Would you please say which one of these you, yourself, consider the most important? (*Code one answer only under "first choice"*):

V61. And which would be the next most important? (*Code one answer only under "second choice"*)

|  | V60<br>First choice | V61<br>Second choice |
|---|---|---|
| A high level of economic growth | 1 | 1 |
| Making sure this country has strong defense forces | 2 | 2 |
| Seeing that people have more say about how things are done at their jobs and in their communities | 3 | 3 |
| Trying to make our cities and countryside more beautiful | 4 | 4 |

(*Show Card J*)

V62. If you had to choose, which one of the things on this card would you say is most important? (*Code one answer only under "first choice"*):

V63. And which would be the next most important? (*Code one answer only under "second choice"*):

|  | V62<br>First choice | V63<br>Second choice |
|---|---|---|
| Maintaining order in the nation | 1 | 1 |
| Giving people more say in important government decisions | 2 | 2 |
| Fighting rising prices | 3 | 3 |
| Protecting freedom of speech | 4 | 4 |

(*Show Card K*)

V64. Here is another list. In your opinion, which one of these is most important? (*Code one answer only under "first choice"*):

V65. And what would be the next most important? (*Code one answer only under "second choice"*):

|  | V64<br>First choice | V65<br>Second choice |
|---|---|---|
| A stable economy | 1 | 1 |
| Progress toward a less impersonal and more humane society | 2 | 2 |
| Progress toward a society in which Ideas count more than money | 3 | 3 |
| The fight against crime | 4 | 4 |

V66. Of course, we all hope that there will not be another war, but if it were to come to that, would you be willing to fight for your country? (*Code one answer*):

1 Yes
2 No

I'm going to read out a list of various changes in our way of life that might take place in the near future. Please tell me for each one, if it were to happen, whether you think it would be a good thing, a bad thing, or don't you mind? (*Code one answer for each*):

|  | Good | Don't mind | Bad |
|---|---|---|---|
| V67. Less importance placed on work in our lives | 1 | 2 | 3 |
| V68. More emphasis on the development of technology | 1 | 2 | 3 |
| V69. Greater respect for authority | 1 | 2 | 3 |

(*Show Card L*)
Now I will briefly describe some people. Using this card, would you please indicate for each description whether that person is very much like you, like you, somewhat like you, not like you, or not at all like you? (*Code one answer for each description*):

| | Very much like me | Like me | Some-what like me | A little like me | Not like me | Not at all like me |
|---|---|---|---|---|---|---|
| V70. It is important to this person to think up new ideas and be creative; to do things one's own way. | 1 | 2 | 3 | 4 | 5 | 6 |
| V71. It is important to this person to be rich; to have a lot of money and expensive things. | 1 | 2 | 3 | 4 | 5 | 6 |
| V72. Living in secure surroundings is important to this person; to avoid anything that might be dangerous. | 1 | 2 | 3 | 4 | 5 | 6 |
| V73. It is important to this person to have a good time; to "spoil" oneself. | 1 | 2 | 3 | 4 | 5 | 6 |
| V74. It is important to this person to do something for the good of society. | 1 | 2 | 3 | 4 | 5 | 6 |
| V74B. It is important for this people to help the people nearby; to care for their well-being | 1 | 2 | 3 | 4 | 5 | 6 |
| V75. Being very successful is important to this person; to have people recognize one's achievements. | 1 | 2 | 3 | 4 | 5 | 6 |
| V76. Adventure and taking risks are important to this person; to have an exciting life. | 1 | 2 | 3 | 4 | 5 | 6 |
| V77. It is important to this person to always behave properly; to avoid doing anything people would say is wrong. | 1 | 2 | 3 | 4 | 5 | 6 |
| V78. Looking after the environment is important to this person; to care for nature and save life resources. | 1 | 2 | 3 | 4 | 5 | 6 |
| V79. Tradition is important to this person; to follow the customs handed down by one's religion or family. | 1 | 2 | 3 | 4 | 5 | 6 |

V80. I'm going to read out some problems. Please indicate which of the following problems you consider the most serious one for the world as a whole?
(Interviewer: read out alternatives and mark only ONE)

| | |
|---|---|
| People living in poverty and need | 1 |
| Discrimination against girls and women | 2 |
| Poor sanitation and infectious diseases | 3 |
| Inadequate education | 4 |
| Environmental pollution | 5 |

V81.  Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view? (*Read out and code one answer*):

1  Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.
2  Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.
3  Other answer (*code if volunteered only!*).

During the past two years have you…
 V82.  Given money to an ecological organization?
    1.   Yes
    2.   No

V83. Participated in a demonstration for some environmental cause?
   1. Yes
   2. No

V84. How interested would you say you are in politics? Are you (*read out and code one answer*):

   1 Very interested
   2 Somewhat interested
   3 Not very interested
   4 Not at all interested

(*Show Card M*)
Now I'd like you to look at this card. I'm going to read out some forms of political action that people can take, and I'd like you to tell me, for each one, whether you have done any of these things, whether you might do it or would never under any circumstances do it (*read out and code one answer for each action*):

|  | Have done | Might do | Would never do |
|---|---|---|---|
| V85. Signing a petition | 1 | 2 | 3 |
| V86. Joining in boycotts | 1 | 2 | 3 |
| V87. Attending peaceful demonstrations | 1 | 2 | 3 |
| V88. Joining strikes | 1 | 2 | 3 |
| V89. Any other act of protest? | 1 | 2 | 3 |

**INTERVIEWER: ASK V90 – V94 ONLY TO THOSE WHO SAID THEY "HAVE DONE" THE GIVEN ACTIVITY**

Tell me for each of these activities how often you have done it in the last year! (*Read out and code one answer for each action*):

|  | Not at all | Once | Twice | Three times | More than three times |
|---|---|---|---|---|---|
| V90. Signing a petition | 1 | 2 | 3 | 4 | 5 |
| V91. Joining in boycotts | 1 | 2 | 3 | 4 | 5 |
| V92. Attending peaceful demonstrations | 1 | 2 | 3 | 4 | 5 |
| V93. Joining strikes | 1 | 2 | 3 | 4 | 5 |
| V94. Any other act of protest? | 1 | 2 | 3 | 4 | 5 |

(*Show Card P*)
V95. In political matters, people talk of "the left" and "the right." How would you place your views on this scale, generally speaking? (*Code one number*):

   Left                                  Right
   1    2    3    4    5    6    7    8    9    10

(*Show Card Q*)
Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between. (*Code one number for each issue*):

V96. Incomes should be                      We need larger income differences
    made more equal                     as incentives for individual effort
    1    2    3    4    5    6    7    8    9    10

V97. Private ownership of business and industry should be increased / Government ownership of business and industry should be increased

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

V98. Government should take more responsibility to ensure that everyone is provided for / People should take more responsibility to provide for themselves

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

V99. Competition is good. It stimulates people to work hard and develop new ideas / Competition is harmful. It brings out the worst in people

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

V100. In the long run, hard work usually brings a better life / Hard work doesn't generally bring success—it's more a matter of luck and connections

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

V101. People can only get rich at the expense of others / Wealth can grow so there's enough for everyone

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

I 'd like to ask you how much you trust people from various groups. Could you tell me for each whether you trust people from this group completely, somewhat, not very much or not at all? (*Read out and code one answer for each*):

| | Trust completely | Trust somewhat | Do not trust very much | Do not trust at all |
|---|---|---|---|---|
| V102. Your family | 1 | 2 | 3 | 4 |
| V103. Your neighborhood | 1 | 2 | 3 | 4 |
| V104. People you know personally | 1 | 2 | 3 | 4 |
| V105. People you meet for the first time | 1 | 2 | 3 | 4 |
| V106. People of another religion | 1 | 2 | 3 | 4 |
| V107. People of another nationality | 1 | 2 | 3 | 4 |

I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? (*Read out and code one answer for each*):

| | A great deal | Quite a lot | Not very much | None at all |
|---|---|---|---|---|
| V108. The churches | 1 | 2 | 3 | 4 |
| V109. The armed forces | 1 | 2 | 3 | 4 |
| V110. The press | 1 | 2 | 3 | 4 |
| V111. Television | 1 | 2 | 3 | 4 |
| V112. Labor unions | 1 | 2 | 3 | 4 |
| V113. The police | 1 | 2 | 3 | 4 |
| V114. The courts | 1 | 2 | 3 | 4 |
| V115. The government (in your nation's capital) | 1 | 2 | 3 | 4 |
| V116. Political parties | 1 | 2 | 3 | 4 |
| V117. Parliament | 1 | 2 | 3 | 4 |
| V118. The Civil service | 1 | 2 | 3 | 4 |
| V119. Universities | 1 | 2 | 3 | 4 |

| V120. | Major Companies | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| V121. | Banks | 1 | 2 | 3 | 4 |
| V122. | Environmental organizations | 1 | 2 | 3 | 4 |
| V123. | Women's organizations | 1 | 2 | 3 | 4 |
| V124. | Charitable or humanitarian organizations | 1 | 2 | 3 | 4 |
| V125. | The [European Union]** | 1 | 2 | 3 | 4 |
| V126. | The United Nations | 1 | 2 | 3 | 4 |

*    [*Substitute "religious organizations" in non-Christian countries; "the Church" in Catholic countries*]
**  [*Substitute appropriate regional organization outside Europe (e.g., in North America, NAFTA)*]

I'm going to describe various types of political systems and ask what you think about each as a way of governing this country. For each one, would you say it is a very good, fairly good, fairly bad or very bad way of governing this country? (*Read out and code one answer for each*):

| | | Very good | Fairly good | Fairly bad | Very bad |
|---|---|---|---|---|---|
| V127. | Having a strong leader who does not have to bother with parliament and elections | 1 | 2 | 3 | 4 |
| V128. | Having experts, not government, make decisions according to what they think is best for the country | 1 | 2 | 3 | 4 |
| V129. | Having the army rule | 1 | 2 | 3 | 4 |
| V130. | Having a democratic political system | 1 | 2 | 3 | 4 |

(*Show Card T*)
Many things are desirable, but not all of them are essential characteristics of democracy. Please tell me for each of the following things how essential you think it is as a characteristic of democracy. Use this scale where 1 means "not at all an essential characteristic of democracy" and 10 means it definitely is "an essential characteristic of democracy" (*read out and code one answer for each*):

| | | Not an essential characteristic of democracy | | | | | | | An essential characteristic of democracy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| V131. | Governments tax the rich and subsidize the poor. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V132. | Religious authorities ultimately interpret the laws. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V133. | People choose their leaders in free elections. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V134. | People receive state aid for unemployment. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V135. | The army takes over when government is incompetent. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V136. | Civil rights protect people from state oppression. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V137. | The state makes people's incomes equal. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V138. | People obey their rulers. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V139 | Women have the same rights as men. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

(*Show Card U*)
V140. How important is it for you to live in a country that is governed democratically?  On this scale where 1 means it is "not at all important" and 10 means "absolutely important" what position would you choose? (*Code one number*):

| Not at all important | | | | | | | | | Absolutely important |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

(*Show Card V*)
V141. And how democratically is this country being governed today? Again using a scale from 1 to 10, where 1 means that it is "not at all democratic" and 10 means that it is "completely democratic," what position would you choose? (*Code one number*):

Not at all                                                Completely

democratic                                                    democratic
1        2        3        4        5        6        7        8        9        10

V142. How much respect is there for individual human rights nowadays in this country? Do you feel there is (*read out and code one answer*):

    1   A great deal of respect for individual human rights
    2   Fairly much  respect
    3   Not much respect
    4   No respect at all

V143. Now let's turn to another topic. How often, if at all, do you think about the meaning and purpose of life? (*Read out and code one answer!*)

    1   Often
    2   Sometimes
    3   Rarely
    4   Never

V144. Do you belong to a religion or religious denomination? If yes, which one? (Code answer due to list below. Code 0, if respondent answers to have no denomination!)

    No:  do not belong to a denomination      0
    Yes: Roman Catholic                        1
         Protestant                            2
         Orthodox (Russian/Greek/etc.)         3
         Jew                                   4
         Muslim                                5
         Hindu                                 6
         Buddhist                              7
         Other (*write in*):_____     8

    (***NOTE: If your own society does not fit into this coding system, please devise an alternative, following this as closely as possible; for example, in Islamic countries, ask about Sunni, Shia, etc. Send a list of the categories used here along with your data.***)

(*Show Card X*)
V145. Apart from weddings and funerals, about how often do you attend religious services these days? (*Code one answer*):

    1   More than once a week
    2   Once a week
    3   Once a month
    4   Only on special holy days
    5   Once a year
    6   Less often
    7   Never, practically never

(*Show Card X2*)
V146. Apart from weddings and funerals, about how often do you pray? (*Code one answer*):

    1   Several times a day
    2   Once a day
    3   Several times each week
    4   Only when attending religious services
    5   Only on special holy days
    6   Once a year
    7   Less often
    8   Never, practically never

V147. Independently of whether you attend religious services or not, would you say you are
(*read out and code one answer*):

    1   A religious person
    2   Not a religious person
    3   An atheist

V148.  Do you believe in God?
    1   Yes
    2   No

V149.  Do you believe in hell?
    1   Yes
    2   No

V150.  With which one of the following statements do you agree most?
The basic meaning of religion is:
    1   To follow religious norms  and ceremonies
    2   To do good to other people

V151.  And with which of the following statements do you agree most?
The basic meaning of religion is:

    1  To make sense of life after death
    2  To make sense of life in this world

(*Show Card Y*)
V152. How important is God in your life? Please use this scale to indicate. 10 means "very important" and
       1 means "not at all important." (*Code one number*):

    Not at all important                                          Very important
    1     2     3     4     5     6     7     8     9     10

Please tell us if you strongly agree, agree, disagree, or strongly disagree with the following statements:

|      |                                                                              | Strongly agree | Agree | Disagree | Strongly disagree | DK |
|------|------------------------------------------------------------------------------|----------------|-------|----------|-------------------|----|
| V153 | Whenever science and religion conflict, *religion* is always right.          | 1              | 2     | 3        | 4                 | -1 |
| V154 | The only acceptable religion  is my religion.                                | 1              | 2     | 3        | 4                 | -1 |
| V155 | All religions should be taught in our public schools.                        | 1              | 2     | 3        | 4                 | -1 |
| V156 | People who belong to different religions are probably just as moral as those who belong to mine | 1 | 2 | 3 | 4 | -1 |

Now I'm going to ask you some questions about the position in society of people in different age groups.
*(Show Card AB)*
 I'm interested in how you think most people in this country view the position in society of people in their
20s, people in their 40s and people over 70.*  Using this card, please tell me where most people would
place the social position of …**READ OUT**

|      |                    | Extremely **low** position in society | | | | | | | Extremely **high** position in society | | | (Don't know) |
|------|--------------------|---|---|---|---|---|---|---|---|---|----|----|
| V157 | …people in their 20's? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | -1 |
| V158 | …people in their 40's? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | -1 |
| V159 | …people over 70?       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | -1 |

**NOTE : IN COUNTRIES WHERE THERE ARE VERY FEW PEOPLE OVER 70, THIS QUESTION CAN BE CHANGED TO READ « Over 60. » In fieldwork report, specify which form is used.**

*(Show Card AC)*
V160.  Please tell me how acceptable or unacceptable you think most people in [country] would find it if a suitably qualified 30 year old was appointed as their boss?
    Use this card where 1 means they would find it completely unacceptable and 10 means completely acceptable.

| Completely unacceptable | | | | | | | Completely acceptable | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

*(Show Card AD)*
 Now think about those aged over 70*. Using the same card please tell me how likely it is that most people in [country] view those over 70...**READ OUT…**

| | Not at all likely to be viewed that way | | | Very likely to be viewed that way | | (Don't know) |
|---|---|---|---|---|---|---|
| V161    …as friendly? | 0 | 1 | 2 | 3 | 4 | -1 |
| V162    …as competent? | 0 | 1 | 2 | 3 | 4 | -1 |
| V163    …with respect? | 0 | 1 | 2 | 3 | 4 | -1 |

**\* NOTE : IN COUNTRIES WHERE THERE ARE VERY FEW PEOPLE OVER 70, THIS QUESTION CAN BE CHANGED TO READ « Over 60. » In fieldwork report, specify which form is used.**

*(Show Card AE)*
V 164.  Please tell me how acceptable or unacceptable you think most people in [country] would find it if a suitably qualified 70* year old was appointed as their boss?
    Use this card where 1 means they would find it completely unacceptable and 10 means completely acceptable.

| Completely unacceptable | | | | | | | Completely acceptable | | | DK = -1 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |

**\* NOTE : IN COUNTRIES WHERE THERE ARE VERY FEW PEOPLE OVER 70, THIS QUESTION CAN BE CHANGED TO READ « Over 60. » In fieldwork report, specify which form is used.**

Now could you tell me whether you agree, agree strongly, disagree or disagree strongly with each of the following statements?

| | Strongly agree | Agree | Disagree | Strongly disagree |
|---|---|---|---|---|
| V165.  Older people are not respected much these days | 1 | 2 | 3 | 4 |
| V166. Older people get more than their fair share from the government | 1 | 2 | 3 | 4 |
| V167. Older people are a burden on society. | 1 | 2 | 3 | 4 |
| V168. Companies that employ young people perform better than those that employ people of different ages. | 1 | 2 | 3 | 4 |
| V169. Old people have too much political influence. | 1 | 2 | 3 | 4 |

| I see myself as someone who… | Disagree strongly | Disagree a little | Neither agree nor disagree | Agree a little | Agree Strongly | Don´t know |
|---|---|---|---|---|---|---|
| V160A …is reserved | 1 | 2 | 3 | 4 | 5 | 9 |
| V160B …is generally trusting | 1 | 2 | 3 | 4 | 5 | 9 |
| V160C …tends to be lazy | 1 | 2 | 3 | 4 | 5 | 9 |
| V160D …is relaxed, handles stress well | 1 | 2 | 3 | 4 | 5 | 9 |
| V160E …has few artistic interests | 1 | 2 | 3 | 4 | 5 | 9 |
| V160F …is outgoing, sociable | 1 | 2 | 3 | 4 | 5 | 9 |
| V160G …tends to find fault with others | 1 | 2 | 3 | 4 | 5 | 9 |
| V160H …does a thorough job | 1 | 2 | 3 | 4 | 5 | 9 |
| V160I …gets nervous easily | 1 | 2 | 3 | 4 | 5 | 9 |
| V160J …has an active imagination | 1 | 2 | 3 | 4 | 5 | 9 |

V170. Could you tell me how secure do you feel these days in your neighborhood ?

| Very secure | 1 |
|---|---|
| Quite secure | 2 |
| Not very secure | 3 |
| Not at all secure | 4 |
| DK/NA | -1 |

How frequently do the following things occur in your neighborhood?

|  | Very frequently | Quite frequently | Not frequently | Not at all frequently | DK/ NA |
|---|---|---|---|---|---|
| V171. Robberies | 1 | 2 | 3 | 4 | -1 |
| V172. Alcohol consumption in the streets | 1 | 2 | 3 | 4 | -1 |
| V173. Police or military interfere with people's private life | 1 | 2 | 3 | 4 | -1 |
| V174. Racist behavior | 1 | 2 | 3 | 4 | -1 |
| V175. Drug sale in streets | 1 | 2 | 3 | 4 | -1 |

Which of the following things have you done for reasons of security? **(MULTIPLE RESPONSE)**

|  | Yes | No |
|---|---|---|
| V176. Didn't carry much money | 1 | 2 |
| V177. Preferred not to go out at night | 1 | 2 |
| V178. Carried a knife, gun or other weapon | 1 | 2 |

V179. Have you been the victim of a crime during the past year?
V180. And what about your immediate family--has someone in your family been the victim of a crime during the last year ?

|  | V179. Respondent | V180. Family |
|---|---|---|
| Yes | 1 | 1 |
| No | 2 | 2 |
| DK/NA | -1 | -1 |

To what degree are you worried about the following situations?

| | Very much | A good deal | Not much | Not at all | DK/ NA |
|---|---|---|---|---|---|
| V181. Losing my job or not finding a job | 1 | 2 | 3 | 4 | -1 |
| V182. Not being able to give my children a good education | 1 | 2 | 3 | 4 | -1 |
| V183. A war involving my country | 1 | 2 | 3 | 4 | -1 |
| V184. A terrorist attack | 1 | 2 | 3 | 4 | -1 |
| V185. A civil war | 1 | 2 | 3 | 4 | -1 |
| V186. Government wire-tapping or reading my mail or email | 1 | 2 | 3 | 4 | -1 |

V187. Do you agree or disagree with the following statement:
"Under some conditions, war is necessary to obtain justice."
  1. Agree
  2. Disagree

In the last 12 month, how often have you or your family

| | Often | Sometimes | Rarely | Never | DK/NA |
|---|---|---|---|---|---|
| V188. Gone without enough food to eat | 1 | 2 | 3 | 4 | -1 |
| V189. Felt unsafe from crime in your home | 1 | 2 | 3 | 4 | -1 |
| V190. Gone without medicine or medical treatment that you needed | 1 | 2 | 3 | 4 | -1 |
| V191. Gone without a cash income | 1 | 2 | 3 | 4 | -1 |

Now, I would like to read some statements and ask how much you agree or disagree with each of these statements. For these questions, a 1 means that you "completely disagree" and a 10 means that you "completely agree." (*Code one number for each statement*):

V192. Science and technology are making our lives healthier, easier, and more comfortable.
Completely disagree                                    Completely agree
  1      2      3      4      5      6      7      8      9      10

V193. Because of science and technology, there will be more opportunities for the next generation.
Completely disagree                                    Completely agree
  1      2      3      4      5      6      7      8      9      10

V194. We depend too much on science and not   enough on faith.
Completely disagree                                    Completely agree
1      2      3      4      5      6      7      8      9      10

V195. One of the bad effects of science is that it breaks down people's ideas of right and wrong.
Completely disagree                                    Completely agree
1      2      3      4      5      6      7      8      9      10

V196.  It is not important for me to know about science in my daily life.
Completely disagree                                    Completely agree
1      2      3      4      5      6      7      8      9      10

V 197.  All things considered, would you say that the world is better off, or worse off, because of science and technology? Please tell me which comes closest to your view on this scale: 1 means that "the world is a lot worse off," and 10 means that "the world is a lot better off." (*Code one number*):

A lot worse off                                                    A lot better off
1        2        3        4        5        6        7        8        9        10

(*Show Card AA*)
Please tell me for each of the following actions whether you think it can always be justified, never be justified, or something in between, using this card. (*Read out and code one answer for each statement*):

|  |  | Never justifiable |  |  |  |  |  |  |  | Always justifiable |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V198. | Claiming government benefits to which you are not entitled | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V199. | Avoiding a fare on public transport | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V200. | Stealing property | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V201. | Cheating on taxes if you have a chance | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V202. | Someone accepting a bribe in the course of their duties | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V203. | Homosexuality | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V203A | Prostitution | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V204. | Abortion | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V205. | Divorce | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V206. | Sex before marriage | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V207. | Suicide | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V207A. | Euthanasia | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V208 | For a man to beat his wife | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V209 | Parents beating children | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| V210 | Violence against other people | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

V211. How proud are you to be [**French**]*? (*Read out and code one answer*):

     1   Very proud
     2   Quite proud
     3   Not very proud
     4   Not at all proud
     5   I am not [**French**]* (*do not read out! Code only if volunteered!*)

     * [*Substitute your own nationality for "French"*]

(*Show Card AF*)
People have different views about themselves and how they relate to the world. Using this card, would you tell me how strongly you agree or disagree with each of the following statements about how you see yourself? (*Read out and code one answer for each statement*):

|  | Strongly agree | Agree | Disagree | Strongly disagree |
|---|---|---|---|---|
| V212. I see myself as a world citizen. | 1 | 2 | 3 | 4 |
| V213. I see myself as part of my local community. | 1 | 2 | 3 | 4 |
| V214. I see myself as part of the [**French**]* nation. | 1 | 2 | 3 | 4 |
| V215. I see myself as part of the [**European Union**]** | 1 | 2 | 3 | 4 |
| V216. I see myself as an autonomous individual. | 1 | 2 | 3 | 4 |

     *   [*Substitute your country's nationality for "French"*]
     **  [*Substitute appropriate regional organization for "European Union"*]

People learn what is going on in this country and the world from various sources. For each of the following sources, please indicate whether you use it to obtain information daily, weekly, monthly, less than monthly or never (*read out and code one answer for each*):

|  | Daily | Weekly | Monthly | Less than monthly | Never |
|---|---|---|---|---|---|
| V217. Daily newspaper | 1 | 2 | 3 | 4 | 5 |
| V218. Printed magazines | 1 | 2 | 3 | 4 | 5 |
| V219. TV news | 1 | 2 | 3 | 4 | 5 |
| V220. Radio news | 1 | 2 | 3 | 4 | 5 |
| V221. Mobile phone | 1 | 2 | 3 | 4 | 5 |
| V222. Email | 1 | 2 | 3 | 4 | 5 |
| V223. Internet | 1 | 2 | 3 | 4 | 5 |
| V224. Talk with friends or colleagues | 1 | 2 | 3 | 4 | 5 |

V225. How often, if ever, do you use a personal computer? (*Read out and code one answer*):

    1  Never
    2  Occasionally
    3  Frequently
    4  Don't know what a computer is (*do not read out, code only if volunteered!*)

| When elections take place, do you vote always, usually or never? Please tell me separately for each of the following levels (*Read out and code one answer for each item*): | Always | Usually | Never |
|---|---|---|---|
| V226. Local level | 1 | 2 | 3 |
| V227. National level | 1 | 2 | 3 |

*(SHOW CARD AI)*
V228. If there were a national election tomorrow, for which party on this list would you vote? Just call out the number on this card. If DON'T KNOW: Which party appeals to you most?
    1. Party 1
    2. Party 2
    3. etc.
[use two-column code to cover all major parties in given society; use "01," "02," for first parties]

**In your view, how often do the following things occur in this country's elections?**

|  | Very often | Fairly often | Not often | Not at all often | DK/NA |
|---|---|---|---|---|---|
| V228A. Votes are counted fairly | 1 | 2 | 3 | 4 | -1 |
| V228B. Opposition candidates are prevented from running | 1 | 2 | 3 | 4 | -1 |
| V228C. TV news favors the governing party | 1 | 2 | 3 | 4 | -1 |
| V228D. Voters are bribed | 1 | 2 | 3 | 4 | -1 |
| V228E. Journalists provide fair coverage of elections | 1 | 2 | 3 | 4 | -1 |
| V228F. Election officials are fair | 1 | 2 | 3 | 4 | -1 |
| V228G. Rich people buy elections | 1 | 2 | 3 | 4 | -1 |
| V228H. Voters are threatened with violence at the polls | 1 | 2 | 3 | 4 | -1 |
| V228I. Voters are offered a genuine choice in the elections | 1 | 2 | 3 | 4 | -1 |

V228 J Some people think that having honest elections makes a lot of difference in their lives; other people think that it doesn't matter much.

Do you think that honest elections play an important role in deciding whether you and your family are able to make a good living? (IF NO code as 4)
IF YES: How important would you say this is—very important, fairly important, not very important or not at all important?

    1.Very important
    2.Rather important
    3.Not very important
    4.Not at all important

 V 228 K Do you think that honest elections are an important factor in whether or not this country develops economically?  (IF NO code as 4)
IF YES: How important would you say this is—very important, fairly important, not very important or not at all important?

    1. Very important
    2. Rather important
    3. Not very important
    4. Not at all important

V229. Are you employed now or not? If yes, about how many hours a week? If more than one job: only for the main job (*code one answer*):

    Yes, has paid employment:

| | |
|---|---|
| Full time employee (30 hours a week or more) | 1 |
| Part time employee (less than 30 hours a week) | 2 |
| Self employed | 3 |

    No, no paid employment:

| | |
|---|---|
| Retired/pensioned | 4 |
| Housewife not otherwise employed | 5 |
| Student | 6 |
| Unemployed | 7 |
| Other (*write in*):_____ | 8 |

V230. Are you working for the government or public institution, for private business or industry, or for a private non-profit organization? If you do not work currently, characterize your major work in the past! Do you or did you work for (*read out and code one answer*):

    1   Government or public institution
    2   Private business or industry
    3   Private non-profit organization

V231. Are the tasks you do at work mostly manual or mostly intellectual? If you do not work currently, characterize your major work in the past. Use this scale where 1 means "mostly manual tasks" and 10 means "mostly intellectual tasks" (*code one answer*):

Mostly manual tasks                                        Mostly intellectual tasks

|   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|----|

V232. Are the tasks you perform at work mostly routine tasks or mostly creative tasks? If you do not work currently, characterize your major work in the past. Use this scale where 1 means "mostly routine tasks" and 10 means "mostly creative tasks" (*code one answer*):

| Mostly routine tasks | | | | | | | | | Mostly creative tasks |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

V233. How much independence do you have in performing your tasks at work? If you do not work currently, characterize your major work in the past. Use this scale to indicate your degree of independence where 1 means "no independence at all" and 10 means "complete independence" (*code one answer*):

| No independence at all | | | | | | | | | Complete independence |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

V234. Do you or did you supervise other people at work? (*Code one answer*):

   1 Yes
   2 No

V235. Are you the chief wage earner in your household? (*Code one answer*):

   1 Yes
   2 No

V236. Is the chief wage earner of your household employed now or not? (*Code one answer*):

   1 Yes
   2 No

V237. During the past year, did your family (*read out and code one answer*):

   1    Save money
   2    Just get by
   3    Spent some savings
   4    Spent savings and borrowed money

V238. People sometimes describe themselves as belonging to the working class, the middle class, or the upper or lower class. Would you describe yourself as belonging to the (*read out and code one answer*):

   1    Upper class
   2    Upper middle class
   3    Lower middle class
   4    Working class
   5    Lower class

(*Show Card AE*)

V239. On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in. (*Code one number*):

| Lowest group | | | | | | | | Highest group | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

DEMOGRAPHICS

V240. (*Code respondent's sex by observation*):
  1    Male
  2    Female

V241. Can you tell me your year of birth, please? 19____ (*write in last two digits*)

V242. This means you are ____ years old (*write in age in two digits*).

Are your mother and father immigrants to this country or not? Please, indicate separately for each of them (*read out and code one answer for each*):

|            | Immigrant | Not an immigrant |
|------------|-----------|------------------|
| V243. Mother | 1       | 2                |
| V244. Father | 1       | 2                |

V245. Were you born in this country or are you an immigrant ?
  1    I am born in this country.
  2    I am an immigrant to this country.

V246. Are you a citizen of this country?
  1    Yes, I am a citizen of this country.
  2    Not, I am not a citizen of this country.

V247. What language do you normally speak at home? (*Code one answer!*)
  1    English
  2    Spanish
  3    French
  4    Chinese
  5    Japanese
  [*NOTE: modify the list of languages to fit your own society. Optional if only one language is spoken!*]

V248. What is the highest educational level that you have attained? [*NOTE: if respondent indicates to be a student, code highest level s/he expects to complete*]:
  1    No formal education
  2    Incomplete primary school
  3    Complete primary school
  4    Incomplete secondary school: technical/vocational type
  5    Complete secondary school: technical/vocational type
  6    Incomplete secondary: university-preparatory type
  7    Complete secondary: university-preparatory type
  8    Some university-level education, without degree
  9    University-level education, with degree

V249. At what age did you (or will you) complete your full time education, either at school or at an institution of higher education? Please exclude apprenticeships [*NOTE: if respondent indicates to be a student, code highest level s/he expects to complete*]:
  _____ (*write in age in two digits*)

V250. Do you live with your parents? (*Code one answer*):
  1    Yes

2    No

**OBSERVATIONS BY THE INTERVIEWER**

V251. Respondent's Interest (*Code how interested the respondent was during the interview*):
1    Respondent was very interested.
2    Respondent was somewhat interested.
3    Respondent was not interested.

V252. Interview Privacy (*Code whether the interview took place in privacy or not*):
1    There were no other people around who could follow the interview.
2    There were are other people around who could follow the interview.

V253. (*Code size of town*):
1    Under 2,000
2    2,000 - 5,000
3    5 - 10,000
4    10 - 20,000
5    20 - 50,000
6    50 - 100,000
7    100 - 500,000
8    500,000 and more

V254. (*Code ethnic group by observation, modify for your own society*):
1    Caucasian white
2    Negro Black
3    South Asian Indian, Pakistani, etc.
4    East Asian Chinese, Japanese, etc.
5    Arabic, Central Asian
6    Other (*write in*): _____

V 255.    Was the respondent literate or illiterate?
1    Literate
2    Illiterate

V256 (*Code region where the interview was conducted*):
1    New England
2    Middle Atlantic states
3    South Atlantic
4    East South Central
5    West South Central
6    East North Central
7    West North Central
8    Rocky Mountain states
9    Northwest
10    California
[*NOTE: use 2-digit regional code appropriate to your own society*]

V257. (*Code language in which interview was conducted*):
1    English
2    French
3    Spanish

[*NOTE: if relevant, use codes appropriate to your own society*]

V258. Weight variable (*Provide a 4-digit weight variable to correct your sample to reflect national distributions of key variables. If no weighting is necessary, simply code each case as "1." It is especially important to correct for education. For example, if your sample contains 10 percent more university-educated respondents as there are in the adult population, members of this group should be downweighted by 10 percent, giving them a weight of .90*).

# Appendix 2

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA | World Economic Forum EOS | Global Insight Country Risk Ratings | Bertelsmann Foundation Transformation Index | African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project | Economist Intelligence Unit Country Ratings | Freedom House Nations in Transit Ratings | PERC Asia Risk Guide |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| New Zealand | 90 | 1 | AP | NZL | | 90 | 83 | | | 95 | 99 | 79 | 93 | | 90 | | |
| Denmark | 90 | 1 | WE/EU | DNK | | 85 | 83 | | | 98 | 99 | 85 | 93 | | 90 | | |
| Finland | 89 | 3 | WE/EU | FIN | | 91 | 83 | | | 94 | 90 | 85 | 93 | | 90 | | |
| Sweden | 88 | 4 | WE/EU | SWE | | 86 | 83 | | | 86 | 90 | 85 | 93 | | 90 | | |
| Switzerland | 86 | 5 | WE/EU | CHE | | 80 | 83 | | | 88 | 90 | | 85 | | 90 | | |
| Norway | 85 | 6 | WE/EU | NOR | | 80 | 83 | | | 83 | 80 | 84 | 93 | | 90 | | |
| Singapore | 84 | 7 | AP | SGP | | 88 | 83 | 73 | | 91 | | 85 | 76 | | 90 | | 89 |
| Netherlands | 83 | 8 | WE/EU | NLD | | 82 | 83 | | | 89 | 71 | 82 | 85 | | 90 | | |
| Canada | 82 | 9 | AME | CAN | | 73 | 83 | | | 85 | 80 | 79 | 85 | | 90 | | |
| Germany | 81 | 10 | WE/EU | DEU | | 67 | 83 | | | 85 | 80 | 79 | 85 | | 90 | | |
| Luxembourg | 81 | 10 | WE/EU | LUX | | 85 | 83 | | | 81 | 80 | | 85 | | 72 | | |
| United Kingdom | 81 | 10 | WE/EU | GBR | | 80 | 71 | | | 80 | 80 | 80 | 85 | | 90 | | |
| Australia | 79 | 13 | AP | AUS | | 80 | 83 | | | 81 | 80 | 78 | 76 | | 72 | | 81 |
| Iceland | 78 | 14 | WE/EU | ISL | | 85 | 83 | | | 80 | 61 | | 85 | | 72 | | |
| Hong Kong | 77 | 15 | AP | HKG | | 82 | 83 | | | 87 | | 77 | 67 | | 72 | | 74 |
| Belgium | 77 | 15 | WE/EU | BEL | | 73 | 83 | | | 79 | 80 | 74 | 76 | | 72 | | |
| Austria | 75 | 17 | WE/EU | AUT | | 73 | 71 | | | 74 | 80 | 79 | 76 | | 72 | | |
| The United States of America | 74 | 18 | AME | USA | | 65 | 71 | | | 74 | 90 | 72 | 76 | 69 | 90 | | 64 |
| Ireland | 73 | 19 | WE/EU | IRL | | 83 | 71 | | | 83 | 71 | | 76 | | 54 | | |
| Japan | 72 | 20 | AP | JPN | | 78 | 71 | | | 74 | 52 | 75 | 76 | | 72 | | 78 |
| Uruguay | 71 | 21 | AME | URY | | 68 | 59 | 77 | | | | 72 | 76 | | 72 | | |
| Estonia | 70 | 22 | WE/EU | EST | | 76 | 71 | 73 | | 66 | 80 | 70 | 67 | 69 | 54 | 70 | |
| France | 69 | 23 | WE/EU | FRA | | 69 | 71 | | | 73 | 52 | 69 | 76 | | 72 | | |
| Bahamas | 66 | 24 | AME | BHS | | | 59 | | | | | 62 | 76 | | | | |
| Chile | 66 | 24 | AME | CHL | | 64 | 59 | 73 | | 54 | 61 | 65 | 76 | | 72 | | |
| United Arab Emirates | 66 | 24 | MENA | ARE | | 86 | 47 | 53 | | 81 | | 73 | 67 | | 54 | | |
| Bhutan | 65 | 27 | AP | BTN | 69 | 59 | 71 | 65 | | | | | | 64 | | | |
| Israel | 64 | 28 | MENA | ISR | | 69 | 59 | | | 64 | 61 | | 58 | | 72 | | |
| Poland | 62 | 29 | WE/EU | POL | | 56 | 59 | 69 | | 60 | 71 | 66 | 58 | 66 | 54 | 59 | |
| Portugal | 62 | 29 | WE/EU | PRT | | 59 | 59 | | | 51 | 71 | 68 | 67 | 67 | 54 | | |
| Barbados | 61 | 31 | AME | BRB | | 48 | 71 | | | | | 65 | | | | | |
| Taiwan | 61 | 31 | AP | TWN | | 68 | 71 | 77 | | 65 | | | 50 | 50 | 54 | | 51 |
| Qatar | 61 | 31 | MENA | QAT | | 82 | 47 | 40 | | 80 | | | 67 | 39 | 72 | | |
| Slovenia | 61 | 31 | WE/EU | SVN | | 58 | 71 | 65 | | 46 | 61 | 59 | 58 | 67 | 54 | 70 | |
| Saint Lucia | 60 | 35 | AME | LCA | 69 | | 47 | | | | | | 65 | | | | |
| Saint Vincent and The Grenadines | 60 | 35 | AME | VCT | 58 | | 59 | | | | | | 63 | | | | |
| Botswana | 60 | 35 | SSA | BWA | | 52 | 59 | 57 | | | | 55 | 67 | | 72 | | |
| Dominica | 59 | 38 | AME | DMA | 58 | | 59 | | | | | | 61 | | | | |
| Cape Verde | 59 | 38 | SSA | CPV | 69 | 49 | 59 | | | | | | | | | | |
| Lithuania | 59 | 38 | WE/EU | LTU | | 56 | 59 | 65 | | 53 | 61 | | 58 | 64 | 54 | 59 | |
| Costa Rica | 58 | 41 | AME | CRI | | 46 | 59 | 65 | | | | 61 | 50 | 69 | 54 | | |
| Brunei | 58 | 41 | AP | BRN | | 61 | 71 | | | | | | 41 | | | | |
| Spain | 58 | 41 | WE/EU | ESP | | 51 | 59 | | | 38 | 61 | 65 | 58 | | 72 | | |
| Georgia | 57 | 44 | ECA | GEO | | 68 | 47 | 53 | | | | 61 | | 65 | | 49 | |
| Latvia | 57 | 44 | WE/EU | LVA | | 48 | 59 | 57 | | 45 | 71 | | 50 | 67 | 54 | 65 | |
| Grenada | 56 | 46 | AME | GRD | 58 | | 47 | | | | | | 62 | | | | |
| Cyprus | 55 | 47 | WE/EU | CYP | | 49 | 47 | | | | 42 | | 67 | | 72 | | |
| Czech Republic | 55 | 47 | WE/EU | CZE | | 46 | 59 | 65 | | 47 | 52 | 62 | 50 | | 54 | 59 | |
| Malta | 55 | 47 | WE/EU | MLT | | 54 | 59 | | | | 52 | | 58 | | 54 | | |
| Mauritius | 54 | 50 | SSA | MUS | | 53 | 59 | 49 | | | | | | | 54 | | |
| Rwanda | 54 | 50 | SSA | RWA | 47 | 76 | 59 | 40 | 53 | | | | | 49 | | | |
| Korea (South) | 53 | 52 | AP | KOR | | 49 | 47 | 57 | | 47 | 52 | 69 | 50 | | 54 | | 50 |
| Namibia | 52 | 53 | SSA | NAM | | 49 | 59 | 49 | | | | | 50 | | 54 | | |
| Slovakia | 51 | 54 | WE/EU | SVK | | 34 | 59 | 61 | | 45 | 52 | | 50 | | 54 | 57 | |
| Malaysia | 49 | 55 | AP | MYS | | 56 | 59 | 49 | | 52 | | 41 | 41 | | 54 | | 44 |
| Croatia | 49 | 55 | WE/EU | HRV | | 39 | 47 | 61 | | 38 | 52 | 50 | 50 | | 54 | 52 | |
| Jordan | 48 | 57 | MENA | JOR | | 60 | 34 | 40 | | 53 | | 50 | 50 | 40 | 54 | | |
| Hungary | 48 | 57 | WE/EU | HUN | | 43 | 59 | 53 | | 37 | 33 | 49 | 50 | | 54 | 54 | |
| Romania | 48 | 57 | WE/EU | ROM | | 37 | 59 | 61 | | 37 | 52 | 49 | 41 | 52 | 37 | 57 | |
| Cuba | 47 | 60 | AME | CUB | | | 47 | 40 | | | | | 41 | 53 | 54 | | |
| Italy | 47 | 60 | WE/EU | ITA | | 47 | 59 | | | 39 | 52 | 57 | 41 | | 37 | | |
| Saudi Arabia | 46 | 62 | MENA | SAU | | 66 | 22 | 36 | | | | | 50 | | 54 | | |
| Sao Tome and Principe | 46 | 62 | SSA | STP | 47 | | 47 | | 44 | | | | | | | | |
| Suriname | 45 | 64 | AME | SUR | | | 34 | | | | | | 47 | 32 | 65 | | |
| Montenegro | 45 | 64 | ECA | MON | | 39 | 47 | 53 | | | | | | | | 44 | |
| Oman | 45 | 64 | MENA | OMN | | 67 | 47 | 24 | | | | | 50 | | 37 | | |
| Senegal | 45 | 64 | SSA | SEN | 47 | 36 | 47 | 53 | 44 | | | 43 | 32 | | 54 | | |
| South Africa | 45 | 64 | SSA | ZAF | | 49 | 47 | 45 | | 33 | | 47 | 41 | | 54 | | |
| Greece | 44 | 69 | WE/EU | GRC | | 42 | 47 | | | 37 | 52 | 53 | 41 | | 37 | | |
| Bahrain | 43 | 70 | MENA | BHR | | 66 | 34 | 36 | | | | | 41 | | 37 | | |
| Ghana | 43 | 70 | SSA | GHA | 47 | 30 | 34 | 45 | 53 | | | 35 | 50 | 42 | 54 | | |
| Solomon Islands | 42 | 72 | AP | SLB | 35 | | 47 | | | | | | | 44 | | | |
| Serbia | 42 | 72 | ECA | SCG | | 39 | 47 | 57 | | | | 32 | 32 | | 37 | 52 | |
| Burkina Faso | 42 | 72 | SSA | BFA | 47 | | 47 | 32 | 44 | | | 34 | 41 | 49 | | | |
| Turkey | 41 | 75 | ECA | TUR | | 49 | 47 | 45 | | 46 | 33 | 39 | 41 | 36 | 37 | | |
| Kuwait | 41 | 75 | MENA | KWT | | 43 | 34 | 40 | | | | | 50 | | 37 | | |
| Tunisia | 41 | 75 | MENA | TUN | | 37 | 47 | 28 | | | | 37 | 41 | 61 | 37 | | |
| Bulgaria | 41 | 75 | WE/EU | BGR | | 38 | 34 | 53 | | 37 | 42 | 38 | 42 | | 37 | 52 | |
| Brazil | 40 | 79 | AME | BRA | | 28 | 47 | 61 | | 25 | | 37 | 32 | 51 | 37 | | |
| China | 40 | 79 | AP | CHN | | 53 | 47 | 36 | | 42 | | 37 | 32 | | 37 | | 39 |
| India | 40 | 79 | AP | IND | | 54 | 34 | 45 | | 39 | | 34 | 41 | | 37 | | 34 |
| Belarus | 40 | 79 | ECA | BLR | | | 47 | 28 | | | | 56 | 32 | 46 | 37 | 30 | |
| Jamaica | 39 | 83 | AME | JAM | | 41 | 34 | 36 | | | | 47 | 41 | | 37 | | |
| Albania | 39 | 83 | ECA | ALB | | 41 | 47 | 36 | | | | 30 | 41 | | 37 | 41 | |
| Bosnia and Herzegovina | 39 | 83 | ECA | BIH | | 34 | 47 | 40 | | | | 37 | | 37 | 37 | 44 | |
| Lesotho | 39 | 83 | SSA | LSO | 35 | 20 | 59 | 40 | 38 | | | | | | | | |
| Panama | 38 | 87 | AME | PAN | | 43 | 47 | 36 | | | | 37 | 41 | | 37 | | |
| Mongolia | 38 | 87 | AP | MNG | 47 | 38 | 47 | 36 | | 35 | | 38 | 32 | 34 | 37 | | |
| Zambia | 38 | 87 | SSA | ZMB | 35 | 31 | 34 | 28 | 41 | | | 39 | 41 | 59 | 37 | | |
| Colombia | 37 | 90 | AME | COL | | 32 | 47 | 45 | | 28 | | 37 | 41 | 34 | 37 | | |
| Indonesia | 37 | 90 | AP | IDN | | 40 | 34 | 36 | | 39 | | 26 | 50 | | 37 | | 35 |
| The FYR of Macedonia | 37 | 90 | ECA | MKD | | 54 | 34 | 40 | | | | 42 | | 21 | 19 | 49 | |
| Morocco | 37 | 90 | MENA | MAR | | 42 | 34 | 28 | | | | 37 | 41 | 39 | 37 | | |
| Liberia | 37 | 90 | SSA | LBR | 35 | 45 | 34 | 45 | 41 | | | 19 | 41 | | | | |
| Argentina | 36 | 95 | AME | ARG | | 29 | 34 | 36 | | 37 | | 46 | 32 | 39 | 37 | | |
| El Salvador | 36 | 95 | AME | SLV | | 32 | 22 | 45 | | | | 34 | 41 | 40 | 37 | | |
| Maldives | 36 | 95 | AP | MDV | 35 | | 47 | | | | | | | 27 | | | |
| Sri Lanka | 36 | 95 | AP | LKA | 35 | 41 | 34 | 28 | | | | 38 | 41 | | 37 | | |
| Kosovo | 36 | 95 | ECA | LWI | 35 | | 47 | 36 | | | | | | 27 | | 33 | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benin | 36 | 95 | SSA | BEN | 47 | 20 | 34 | 32 | 44 | | | | | 36 | | | |
| Peru | 35 | 101 | AME | PER | | 39 | 34 | 45 | | 29 | | 30 | 34 | | 37 | | |
| Trinidad and Tobago | 35 | 101 | AME | TTO | | 29 | 34 | | | | | 43 | 32 | | 37 | | |
| Philippines | 35 | 101 | AP | PHL | | 29 | 34 | 36 | | 31 | | 31 | 41 | 36 | 37 | | 43 |
| Thailand | 35 | 101 | AP | THA | | 37 | 22 | 40 | | 44 | | 37 | 32 | 24 | 37 | | 38 |
| Timor-Leste | 35 | 101 | AP | TLS | 24 | | 34 | | | | | | | 45 | | | |
| Gabon | 35 | 101 | SSA | GAB | | 36 | 34 | | | | | | 32 | | 37 | | |
| Niger | 35 | 101 | SSA | NER | 35 | | 34 | 36 | 44 | | | | 24 | | | | |
| Guyana | 34 | 108 | AME | GUY | 35 | 25 | 34 | | | | | 40 | 25 | 47 | | | |
| Algeria | 34 | 108 | MENA | DZA | | 33 | 22 | 36 | | | | | 32 | 44 | 37 | | |
| Egypt | 34 | 108 | MENA | EGY | | 42 | 22 | 32 | | | | 37 | 32 | | 37 | | |
| Côte d'Ivoire | 34 | 108 | SSA | CIV | 35 | 32 | 47 | 28 | 32 | | | 30 | 32 | | 37 | | |
| Ethiopia | 34 | 108 | SSA | ETH | 35 | 37 | 34 | 24 | 38 | | | 33 | 32 | 32 | 37 | | |
| Bolivia | 33 | 113 | AME | BOL | 35 | 18 | 34 | 36 | | | | 25 | 32 | 44 | 37 | | |
| Vietnam | 33 | 113 | AP | VNM | 35 | 34 | 34 | 28 | | | | 40 | 41 | | 19 | | 35 |
| Armenia | 33 | 113 | ECA | ARM | | 45 | 34 | 28 | | | | | 32 | 17 | | 41 | |
| Pakistan | 32 | 116 | AP | PAK | 35 | 29 | 34 | 20 | | | | 32 | 32 | | 37 | | |
| Mali | 32 | 116 | SSA | MLI | 35 | 24 | 34 | 32 | 35 | | | | 32 | | | | |
| Tanzania | 32 | 116 | SSA | TZA | 35 | 27 | 22 | 32 | 38 | | | 27 | 32 | 38 | 37 | | |
| Togo | 32 | 116 | SSA | TGO | 24 | | 47 | 32 | 23 | | | | 32 | | | | |
| Dominican Republic | 31 | 120 | AME | DOM | | 24 | 34 | 32 | | | | 27 | 32 | | 37 | | |
| Ecuador | 31 | 120 | AME | ECU | | 33 | 22 | 32 | | | | 32 | 32 | | 37 | | |
| Malawi | 31 | 120 | SSA | MWI | 24 | 27 | 34 | 36 | 38 | | | 32 | 32 | 36 | 19 | | |
| Honduras | 30 | 123 | AME | HND | 35 | 26 | 22 | 36 | | | | 27 | 41 | | 19 | | |
| Mexico | 30 | 123 | AME | MEX | | 29 | 34 | 28 | | 32 | 33 | 26 | 24 | | 37 | | |
| Paraguay | 30 | 123 | AME | PRY | | 23 | 22 | 36 | | | | | 32 | 27 | 37 | | |
| Laos | 30 | 123 | AP | LAO | 24 | | 45 | 34 | 16 | | | | | | | | |
| Azerbaijan | 30 | 123 | ECA | AZE | | 46 | 47 | 24 | | | | | 24 | 9 | 37 | 25 | |
| Moldova | 30 | 123 | ECA | MDA | 24 | 23 | 34 | 40 | | | | 26 | 32 | 23 | 37 | 33 | |
| Djibouti | 30 | 123 | SSA | DJI | 24 | | 47 | | 20 | | | | | | | | |
| Sierra Leone | 30 | 123 | SSA | SLE | 35 | 19 | 34 | 40 | 35 | | | 23 | 32 | | 19 | | |
| Nepal | 29 | 131 | AP | NPL | 35 | 26 | 34 | 24 | | | | 31 | | 21 | | | |
| Kazakhstan | 29 | 131 | ECA | KAZ | | 45 | 34 | 20 | | 41 | | 32 | 24 | 16 | 19 | 28 | |
| Russia | 29 | 131 | ECA | RUS | | 38 | 34 | 28 | | 41 | | 32 | 24 | 18 | 19 | 25 | |
| Ukraine | 29 | 131 | ECA | UKR | | 27 | 34 | 36 | | 29 | | 32 | 24 | 23 | 19 | 33 | |
| Iran | 29 | 131 | MENA | IRN | | 34 | 34 | 24 | | | | 35 | 24 | 33 | 19 | | |
| Guatemala | 28 | 136 | AME | GTM | | 35 | 22 | 32 | | | | 27 | 32 | | 19 | | |
| Myanmar | 28 | 136 | AP | MMR | 35 | 23 | 22 | 20 | | | | 27 | 24 | 50 | 19 | | |
| Papua New Guinea | 28 | 136 | AP | PNG | 35 | | 22 | 28 | | | | | 32 | | 19 | | |
| Kyrgyzstan | 28 | 136 | ECA | KGZ | 35 | 23 | 22 | 32 | | | | 29 | | 21 | | 30 | |
| Lebanon | 28 | 136 | MENA | LBN | | 23 | 22 | 20 | | | | 30 | 32 | 34 | 37 | | |
| Nigeria | 28 | 136 | SSA | NGA | 35 | 20 | 22 | 28 | 32 | | | 26 | 24 | 24 | 37 | | |
| Guinea | 27 | 142 | SSA | GIN | 24 | | 22 | 36 | 26 | | | | 24 | | | | |
| Mauritania | 27 | 142 | SSA | MRT | 35 | 15 | 22 | 32 | 29 | | | | | | | | |
| Mozambique | 27 | 142 | SSA | MOZ | 24 | 25 | 22 | 28 | 14 | | | | 32 | 34 | 37 | | |
| Nicaragua | 26 | 145 | AME | NIC | 35 | 28 | 22 | 28 | | | | 26 | 24 | | 19 | | |
| Bangladesh | 26 | 145 | AP | BGD | 24 | 17 | 22 | 24 | | | | 25 | 50 | | 19 | | |
| Cameroon | 26 | 145 | SSA | CMR | 24 | 22 | 34 | 28 | 41 | | | 19 | 32 | 11 | 19 | | |
| Gambia | 26 | 145 | SSA | GMB | 13 | 44 | 34 | | 5 | | | | 32 | | | | |
| Kenya | 26 | 145 | SSA | KEN | 35 | 30 | 22 | 28 | 29 | | | 21 | 24 | 28 | 19 | | |
| Madagascar | 26 | 145 | SSA | MDG | 24 | 19 | 34 | 32 | 14 | | | 23 | 32 | | | | |
| Tajikistan | 25 | 151 | ECA | TJK | 24 | 48 | 22 | 16 | | | | | | 11 | | 28 | |
| Uganda | 25 | 151 | SSA | UGA | 13 | 27 | 22 | 32 | 26 | | | 21 | 24 | 26 | 37 | | |
| Comoros | 24 | 153 | SSA | COM | 24 | | 47 | | 2 | | | | | | | | |
| Turkmenistan | 22 | 154 | ECA | TKM | | | 22 | 20 | | | | | | | 19 | 25 | |
| Zimbabwe | 22 | 154 | SSA | ZWE | 13 | 30 | 22 | 16 | 17 | | | 24 | 15 | 24 | 37 | | |
| Cambodia | 21 | 156 | AP | KHM | 13 | 28 | 22 | 16 | | | | 15 | | 17 | 19 | | 37 |
| Uzbekistan | 21 | 156 | ECA | UZB | 13 | | 22 | 20 | | | | 32 | | 16 | 19 | 25 | |
| The Democratic Republic of Congo | 21 | 156 | SSA | COD | 13 | 20 | 22 | 20 | 32 | | | | 24 | | 19 | | |
| Haiti | 20 | 159 | AME | HTI | 24 | 20 | 22 | 16 | | | | | 15 | | | | |
| Burundi | 20 | 159 | SSA | BDI | 13 | 24 | 22 | 20 | 20 | | | | | 20 | | | |
| Central African Republic | 20 | 159 | SSA | CAF | 24 | | 10 | 28 | 17 | | | | | | | | |
| Chad | 20 | 159 | SSA | TCD | 24 | 10 | 22 | 20 | 23 | | | | | | | | |
| Republic of Congo | 20 | 159 | SSA | COG | 13 | | 22 | 20 | | | | | 24 | | 19 | | |
| Angola | 18 | 164 | SSA | AGO | | | 22 | 16 | | | | | 15 | | 19 | | |
| Eritrea | 18 | 164 | SSA | ERI | 13 | | 34 | 12 | 0 | | | | | 29 | | | |
| Venezuela | 17 | 166 | AME | VEN | | 13 | 22 | 16 | | 21 | | 14 | 15 | | 19 | | |
| Iraq | 17 | 166 | MENA | IRQ | | | 10 | 20 | | | | | 15 | 19 | 19 | | |
| Guinea-Bissau | 16 | 168 | SSA | GNB | 13 | | 22 | | 14 | | | | 15 | | | | |
| Afghanistan | 15 | 169 | AP | AFG | 13 | | 10 | 20 | | | | 13 | | 16 | | | |
| Libya | 14 | 170 | MENA | LBY | | | 10 | 12 | | | | | 15 | | 19 | | |
| Yemen | 14 | 170 | MENA | YEM | 2 | 12 | 10 | 28 | | | | | 15 | 14 | 19 | | |
| Sudan | 14 | 170 | SSA | SDN | 2 | | 22 | 16 | 11 | | | | 6 | 22 | 19 | | |
| Syria | 13 | 173 | MENA | SYR | | | 10 | 8 | | | | | 15 | 12 | 19 | | |
| Korea (North) | 12 | 174 | AP | PRK | | | 10 | 12 | | | | | 15 | | | | |
| South Sudan | 11 | 175 | SSA | SSD | 2 | | 10 | 16 | 5 | | | | | 19 | | | |
| Somalia | 10 | 176 | SSA | SOM | | | 10 | 8 | 0 | | | | 15 | 17 | | | |

| Country | WB Code | CPI2016 | CPI 2015 | CPI Score difference (2016-2015) | CPI 2016 Rank |
|---|---|---|---|---|---|
| Somalia | SOM | 10 | 8 | 2 | 176 |
| South Sudan | SSD | 11 | 15 | -4 | 175 |
| Korea (North) | PRK | 12 | 8 | 4 | 174 |
| Syria | SYR | 13 | 18 | -5 | 173 |
| Yemen | YEM | 14 | 18 | -4 | 170 |
| Libya | LBY | 14 | 16 | -2 | 170 |
| Sudan | SDN | 14 | 12 | 2 | 170 |
| Afghanistan | AFG | 15 | 11 | 4 | 169 |
| Guinea-Bissau | GNB | 16 | 17 | -1 | 168 |
| Venezuela | VEN | 17 | 17 | 0 | 166 |
| Iraq | IRQ | 17 | 16 | 1 | 166 |
| Eritrea | ERI | 18 | 18 | 0 | 164 |
| Angola | AGO | 18 | 15 | 3 | 164 |
| Central African Republic | CAF | 20 | 24 | -4 | 159 |
| Republic of Congo | COG | 20 | 23 | -3 | 159 |
| Chad | TCD | 20 | 22 | -2 | 159 |
| Burundi | BDI | 20 | 21 | -1 | 159 |
| Haiti | HTI | 20 | 17 | 3 | 159 |
| The Democratic Republic of Congo | COD | 21 | 22 | -1 | 156 |
| Cambodia | KHM | 21 | 21 | 0 | 156 |
| Uzbekistan | UZB | 21 | 19 | 2 | 156 |
| Zimbabwe | ZWE | 22 | 21 | 1 | 154 |
| Turkmenistan | TKM | 22 | 18 | 4 | 154 |
| Comoros | COM | 24 | 26 | -2 | 153 |
| Tajikistan | TJK | 25 | 26 | -1 | 151 |
| Uganda | UGA | 25 | 25 | 0 | 151 |
| Gambia | GMB | 26 | 28 | -2 | 145 |
| Madagascar | MDG | 26 | 28 | -2 | 145 |
| Nicaragua | NIC | 26 | 27 | -1 | 145 |
| Cameroon | CMR | 26 | 27 | -1 | 145 |
| Bangladesh | BGD | 26 | 25 | 1 | 145 |
| Kenya | KEN | 26 | 25 | 1 | 145 |
| Mauritania | MRT | 27 | 31 | -4 | 142 |
| Mozambique | MOZ | 27 | 31 | -4 | 142 |
| Guinea | GIN | 27 | 25 | 2 | 142 |
| Guatemala | GTM | 28 | 28 | 0 | 136 |
| Kyrgyzstan | KGZ | 28 | 28 | 0 | 136 |
| Lebanon | LBN | 28 | 28 | 0 | 136 |
| Nigeria | NGA | 28 | 26 | 2 | 136 |
| Papua New Guinea | PNG | 28 | 25 | 3 | 136 |
| Myanmar | MMR | 28 | 22 | 6 | 136 |
| Russia | RUS | 29 | 29 | 0 | 131 |
| Kazakhstan | KAZ | 29 | 28 | 1 | 131 |
| Nepal | NPL | 29 | 27 | 2 | 131 |

| | | | | | |
|---|---|---|---|---|---|
| Ukraine | UKR | 29 | 27 | 2 | 131 |
| Iran | IRN | 29 | 27 | 2 | 131 |
| Djibouti | DJI | 30 | 34 | -4 | 123 |
| Moldova | MDA | 30 | 33 | -3 | 123 |
| Honduras | HND | 30 | 31 | -1 | 123 |
| Mexico | MEX | 30 | 31 | -1 | 123 |
| Azerbaijan | AZE | 30 | 29 | 1 | 123 |
| Sierra Leone | SLE | 30 | 29 | 1 | 123 |
| Paraguay | PRY | 30 | 27 | 3 | 123 |
| Laos | LAO | 30 | 25 | 5 | 123 |
| Dominican Republic | DOM | 31 | 33 | -2 | 120 |
| Ecuador | ECU | 31 | 32 | -1 | 120 |
| Malawi | MWI | 31 | 31 | 0 | 120 |
| Mali | MLI | 32 | 35 | -3 | 116 |
| Togo | TGO | 32 | 32 | 0 | 116 |
| Pakistan | PAK | 32 | 30 | 2 | 116 |
| Tanzania | TZA | 32 | 30 | 2 | 116 |
| Armenia | ARM | 33 | 35 | -2 | 113 |
| Bolivia | BOL | 33 | 34 | -1 | 113 |
| Vietnam | VNM | 33 | 31 | 2 | 113 |
| Algeria | DZA | 34 | 36 | -2 | 108 |
| Egypt | EGY | 34 | 36 | -2 | 108 |
| Ethiopia | ETH | 34 | 33 | 1 | 108 |
| Côte d'Ivoire | CIV | 34 | 32 | 2 | 108 |
| Guyana | GUY | 34 | 29 | 5 | 108 |
| Trinidad and Tobago | TTO | 35 | 39 | -4 | 101 |
| Thailand | THA | 35 | 38 | -3 | 101 |
| Peru | PER | 35 | 36 | -1 | 101 |
| Philippines | PHL | 35 | 35 | 0 | 101 |
| Gabon | GAB | 35 | 34 | 1 | 101 |
| Niger | NER | 35 | 34 | 1 | 101 |
| Timor-Leste | TLS | 35 | 28 | 7 | 101 |
| El Salvador | SLV | 36 | 39 | -3 | 95 |
| Sri Lanka | LKA | 36 | 37 | -1 | 95 |
| Benin | BEN | 36 | 37 | -1 | 95 |
| Kosovo | LWI | 36 | 33 | 3 | 95 |
| Argentina | ARG | 36 | 32 | 4 | 95 |
| Maldives | MDV | 36 | #N/A | #N/A | 95 |
| The FYR of Macedonia | MKD | 37 | 42 | -5 | 90 |
| Colombia | COL | 37 | 37 | 0 | 90 |
| Liberia | LBR | 37 | 37 | 0 | 90 |
| Indonesia | IDN | 37 | 36 | 1 | 90 |
| Morocco | MAR | 37 | 36 | 1 | 90 |
| Panama | PAN | 38 | 39 | -1 | 87 |
| Mongolia | MNG | 38 | 39 | -1 | 87 |
| Zambia | ZMB | 38 | 38 | 0 | 87 |
| Lesotho | LSO | 39 | 44 | -5 | 83 |
| Jamaica | JAM | 39 | 41 | -2 | 83 |

| Country | Code | Col3 | Col4 | Col5 | Col6 |
|---|---|---|---|---|---|
| Bosnia and Herzegovina | BIH | 39 | 38 | 1 | 83 |
| Albania | ALB | 39 | 36 | 3 | 83 |
| Brazil | BRA | 40 | 38 | 2 | 79 |
| India | IND | 40 | 38 | 2 | 79 |
| China | CHN | 40 | 37 | 3 | 79 |
| Belarus | BLR | 40 | 32 | 8 | 79 |
| Kuwait | KWT | 41 | 49 | -8 | 75 |
| Turkey | TUR | 41 | 42 | -1 | 75 |
| Bulgaria | BGR | 41 | 41 | 0 | 75 |
| Tunisia | TUN | 41 | 38 | 3 | 75 |
| Serbia | SCG | 42 | 40 | 2 | 72 |
| Burkina Faso | BFA | 42 | 38 | 4 | 72 |
| Solomon Islands | SLB | 42 | #N/A | #N/A | 72 |
| Bahrain | BHR | 43 | 51 | -8 | 70 |
| Ghana | GHA | 43 | 47 | -4 | 70 |
| Greece | GRC | 44 | 46 | -2 | 69 |
| Oman | OMN | 45 | 45 | 0 | 64 |
| Montenegro | MON | 45 | 44 | 1 | 64 |
| Senegal | SEN | 45 | 44 | 1 | 64 |
| South Africa | ZAF | 45 | 44 | 1 | 64 |
| Suriname | SUR | 45 | 36 | 9 | 64 |
| Saudi Arabia | SAU | 46 | 52 | -6 | 62 |
| Sao Tome and Principe | STP | 46 | 42 | 4 | 62 |
| Cuba | CUB | 47 | 47 | 0 | 60 |
| Italy | ITA | 47 | 44 | 3 | 60 |
| Jordan | JOR | 48 | 53 | -5 | 57 |
| Hungary | HUN | 48 | 51 | -3 | 57 |
| Romania | ROM | 48 | 46 | 2 | 57 |
| Croatia | HRV | 49 | 51 | -2 | 55 |
| Malaysia | MYS | 49 | 50 | -1 | 55 |
| Slovakia | SVK | 51 | 51 | 0 | 54 |
| Namibia | NAM | 52 | 53 | -1 | 53 |
| Korea (South) | KOR | 53 | 54 | -1 | 52 |
| Rwanda | RWA | 54 | 54 | 0 | 50 |
| Mauritius | MUS | 54 | 53 | 1 | 50 |
| Cyprus | CYP | 55 | 61 | -6 | 47 |
| Malta | MLT | 55 | 60 | -5 | 47 |
| Czech Republic | CZE | 55 | 56 | -1 | 47 |
| Grenada | GRD | 56 | #N/A | #N/A | 46 |
| Latvia | LVA | 57 | 56 | 1 | 44 |
| Georgia | GEO | 57 | 52 | 5 | 44 |
| Spain | ESP | 58 | 58 | 0 | 41 |
| Costa Rica | CRI | 58 | 55 | 3 | 41 |
| Brunei | BRN | 58 | #N/A | #N/A | 41 |
| Lithuania | LTU | 59 | 59 | 0 | 38 |
| Cape Verde | CPV | 59 | 55 | 4 | 38 |
| Dominica | DMA | 59 | #N/A | #N/A | 38 |
| Botswana | BWA | 60 | 63 | -3 | 35 |

| Country | Code | | | | |
|---|---|---|---|---|---|
| Saint Lucia | LCA | 60 | #N/A | #N/A | 35 |
| Saint Vincent and The Grenadines | VCT | 60 | #N/A | #N/A | 35 |
| Qatar | QAT | 61 | 71 | -10 | 31 |
| Taiwan | TWN | 61 | 62 | -1 | 31 |
| Slovenia | SVN | 61 | 60 | 1 | 31 |
| Barbados | BRB | 61 | #N/A | #N/A | 31 |
| Portugal | PRT | 62 | 64 | -2 | 29 |
| Poland | POL | 62 | 63 | -1 | 29 |
| Israel | ISR | 64 | 61 | 3 | 28 |
| Bhutan | BTN | 65 | 65 | 0 | 27 |
| Chile | CHL | 66 | 70 | -4 | 24 |
| United Arab Emirates | ARE | 66 | 70 | -4 | 24 |
| Bahamas | BHS | 66 | #N/A | #N/A | 24 |
| France | FRA | 69 | 70 | -1 | 23 |
| Estonia | EST | 70 | 70 | 0 | 22 |
| Uruguay | URY | 71 | 74 | -3 | 21 |
| Japan | JPN | 72 | 75 | -3 | 20 |
| Ireland | IRL | 73 | 75 | -2 | 19 |
| The United States of America | USA | 74 | 76 | -2 | 18 |
| Austria | AUT | 75 | 76 | -1 | 17 |
| Belgium | BEL | 77 | 77 | 0 | 15 |
| Hong Kong | HKG | 77 | 75 | 2 | 15 |
| Iceland | ISL | 78 | 79 | -1 | 14 |
| Australia | AUS | 79 | 79 | 0 | 13 |
| Luxembourg | LUX | 81 | 85 | -4 | 10 |
| Germany | DEU | 81 | 81 | 0 | 10 |
| United Kingdom | GBR | 81 | 81 | 0 | 10 |
| Canada | CAN | 82 | 83 | -1 | 9 |
| Netherlands | NLD | 83 | 84 | -1 | 8 |
| Singapore | SGP | 84 | 85 | -1 | 7 |
| Norway | NOR | 85 | 88 | -3 | 6 |
| Switzerland | CHE | 86 | 86 | 0 | 5 |
| Sweden | SWE | 88 | 89 | -1 | 4 |
| Finland | FIN | 89 | 90 | -1 | 3 |
| New Zealand | NZL | 90 | 91 | -1 | 1 |
| Denmark | DNK | 90 | 91 | -1 | 1 |

| CPI 2015 Rank | Rank difference (2015-2016) |
|---|---|
| 167 | -9 |
| 163 | -12 |
| 167 | -7 |
| 154 | -19 |
| 154 | -16 |
| 161 | -9 |
| 165 | -5 |
| 166 | -3 |
| 158 | -10 |
| 158 | -8 |
| 161 | -5 |
| 154 | -10 |
| 163 | -1 |
| 145 | -14 |
| 146 | -13 |
| 147 | -12 |
| 150 | -9 |
| 158 | -1 |
| 147 | -9 |
| 150 | -6 |
| 153 | -3 |
| 150 | -4 |
| 154 | 0 |
| 136 | -17 |
| 136 | -15 |
| 139 | -12 |
| 123 | -22 |
| 123 | -22 |
| 130 | -15 |
| 130 | -15 |
| 139 | -6 |
| 139 | -6 |
| 111 | -31 |
| 111 | -31 |
| 139 | -3 |
| 123 | -13 |
| 123 | -13 |
| 123 | -13 |
| 136 | 0 |
| 139 | 3 |
| 147 | 11 |
| 119 | -12 |
| 123 | -8 |
| 130 | -1 |

| | |
|---|---|
| 130 | -1 |
| 130 | -1 |
| 98 | -25 |
| 102 | -21 |
| 111 | -12 |
| 111 | -12 |
| 119 | -4 |
| 119 | -4 |
| 130 | 7 |
| 139 | 16 |
| 102 | -18 |
| 106 | -14 |
| 111 | -9 |
| 95 | -21 |
| 106 | -10 |
| 117 | 1 |
| 117 | 1 |
| 95 | -18 |
| 98 | -15 |
| 111 | -2 |
| 88 | -20 |
| 88 | -20 |
| 102 | -6 |
| 106 | -2 |
| 119 | 11 |
| 72 | -29 |
| 76 | -25 |
| 88 | -13 |
| 95 | -6 |
| 98 | -3 |
| 98 | -3 |
| 123 | 22 |
| 72 | -23 |
| 83 | -12 |
| 83 | -12 |
| 102 | 7 |
| 106 | 11 |
| #N/A | #N/A |
| 66 | -24 |
| 83 | -7 |
| 83 | -7 |
| 88 | -2 |
| 88 | -2 |
| 72 | -15 |
| 72 | -15 |
| 76 | -11 |
| 61 | -22 |
| 69 | -14 |

| | |
|---|---|
| 76 | -7 |
| 88 | 5 |
| 76 | -3 |
| 76 | -3 |
| 83 | 4 |
| 106 | 27 |
| 55 | -20 |
| 66 | -9 |
| 69 | -6 |
| 76 | 1 |
| 71 | -1 |
| 76 | 4 |
| #N/A | #N/A |
| 50 | -20 |
| 56 | -14 |
| 58 | -11 |
| 60 | -4 |
| 61 | -3 |
| 61 | -3 |
| 61 | -3 |
| 88 | 24 |
| 48 | -14 |
| 66 | 4 |
| 56 | -4 |
| 61 | 1 |
| 45 | -12 |
| 50 | -7 |
| 58 | 1 |
| 50 | -5 |
| 54 | -1 |
| 50 | -4 |
| 45 | -8 |
| 43 | -9 |
| 43 | -7 |
| 45 | -5 |
| 32 | -15 |
| 34 | -13 |
| 38 | -9 |
| #N/A | #N/A |
| 38 | -6 |
| 48 | 4 |
| 37 | -4 |
| 40 | -1 |
| #N/A | #N/A |
| 36 | -2 |
| 40 | 2 |
| #N/A | #N/A |
| 29 | -6 |

| | |
|---:|---:|
| #N/A | #N/A |
| #N/A | #N/A |
| 22 | -9 |
| 31 | 0 |
| 34 | 3 |
| #N/A | #N/A |
| 28 | -1 |
| 29 | 0 |
| 32 | 4 |
| 27 | 0 |
| 23 | -1 |
| 23 | -1 |
| #N/A | #N/A |
| 23 | 0 |
| 23 | 1 |
| 21 | 0 |
| 18 | -2 |
| 18 | -1 |
| 16 | -2 |
| 16 | -1 |
| 15 | 0 |
| 18 | 3 |
| 13 | -1 |
| 13 | 0 |
| 7 | -3 |
| 11 | 1 |
| 11 | 1 |
| 10 | 1 |
| 9 | 1 |
| 7 | 0 |
| 5 | -1 |
| 6 | 1 |
| 4 | 0 |
| 3 | 0 |
| 1 | 0 |
| 1 | 0 |

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA |
|---|---|---|---|---|---|
| Canada | 82 | 9 | AME | CAN | |
| The United States of America | 74 | 18 | AME | USA | |
| Uruguay | 71 | 21 | AME | URY | |
| Bahamas | 66 | 24 | AME | BHS | |
| Chile | 66 | 24 | AME | CHL | |
| Barbados | 61 | 31 | AME | BRB | |
| Saint Lucia | 60 | 35 | AME | LCA | 69 |
| Saint Vincent and The Grenadines | 60 | 35 | AME | VCT | 58 |
| Dominica | 59 | 38 | AME | DMA | 58 |
| Costa Rica | 58 | 41 | AME | CRI | |
| Grenada | 56 | 46 | AME | GRD | 58 |
| Cuba | 47 | 60 | AME | CUB | |
| Suriname | 45 | 64 | AME | SUR | |
| Brazil | 40 | 79 | AME | BRA | |
| Jamaica | 39 | 83 | AME | JAM | |
| Panama | 38 | 87 | AME | PAN | |
| Colombia | 37 | 90 | AME | COL | |
| Argentina | 36 | 95 | AME | ARG | |
| El Salvador | 36 | 95 | AME | SLV | |
| Peru | 35 | 101 | AME | PER | |
| Trinidad and Tobago | 35 | 101 | AME | TTO | |
| Guyana | 34 | 108 | AME | GUY | 35 |
| Bolivia | 33 | 113 | AME | BOL | 35 |
| Dominican Republic | 31 | 120 | AME | DOM | |
| Ecuador | 31 | 120 | AME | ECU | |
| Honduras | 30 | 123 | AME | HND | 35 |
| Mexico | 30 | 123 | AME | MEX | |
| Paraguay | 30 | 123 | AME | PRY | |
| Guatemala | 28 | 136 | AME | GTM | |
| Nicaragua | 26 | 145 | AME | NIC | 35 |
| Haiti | 20 | 159 | AME | HTI | 24 |
| Venezuela | 17 | 166 | AME | VEN | |

| World Economic Forum EOS | Global Insight Country Risk Ratings | Bertelsmann Foundation Transformation Index | African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project |
|---|---|---|---|---|---|---|---|---|
| 73 | 83 |  |  | 85 | 80 | 79 | 85 |  |
| 65 | 71 |  |  | 74 | 90 | 72 | 76 | 69 |
| 68 | 59 | 77 |  |  |  | 72 | 76 |  |
|  | 59 |  |  |  |  | 62 | 76 |  |
| 64 | 59 | 73 |  | 54 | 61 | 65 | 76 |  |
| 48 | 71 |  |  |  |  | 65 |  |  |
|  | 47 |  |  |  |  | 65 |  |  |
|  | 59 |  |  |  |  | 63 |  |  |
|  | 59 |  |  |  |  | 61 |  |  |
| 46 | 59 | 65 |  |  |  | 61 | 50 | 69 |
|  | 47 |  |  |  |  | 62 |  |  |
|  | 47 | 40 |  |  |  |  | 41 | 53 |
|  | 34 |  |  |  |  | 47 | 32 | 65 |
| 28 | 47 | 61 |  | 25 |  | 37 | 32 | 51 |
| 41 | 34 | 36 |  |  |  | 47 | 41 |  |
| 43 | 47 | 36 |  |  |  | 33 | 32 |  |
| 32 | 47 | 45 |  | 28 |  | 37 | 41 | 34 |
| 29 | 34 | 36 |  | 37 |  | 46 | 32 | 39 |
| 32 | 22 | 45 |  |  |  | 34 | 41 | 40 |
| 39 | 34 | 45 |  | 29 |  | 30 | 34 |  |
| 29 | 34 |  |  |  |  | 43 | 32 |  |
| 25 | 34 |  |  |  |  | 40 | 25 | 47 |
| 18 | 34 | 36 |  |  |  | 25 | 32 | 44 |
| 24 | 34 | 32 |  |  |  | 27 | 32 |  |
| 33 | 22 | 32 |  |  |  | 32 | 32 |  |
| 26 | 22 | 36 |  |  |  | 27 | 41 |  |
| 29 | 34 | 28 |  | 32 | 33 | 26 | 24 |  |
| 23 | 22 | 36 |  |  |  |  | 32 | 27 |
| 35 | 22 | 32 |  |  |  | 27 | 32 |  |
| 28 | 22 | 28 |  |  |  | 26 | 24 |  |
| 20 | 22 | 16 |  |  |  |  | 15 |  |
| 13 | 22 | 16 |  | 21 |  | 14 | 15 |  |

| Economist Intelligence Unit Country Ratings | Freedom House Nations in Transit Ratings | PERC Asia Risk Guide | Country (2) | CPI2016 (2) | Rank (2) | Number of Sources | Std Error 2016 | Lower CI |
|---|---|---|---|---|---|---|---|---|
| 90 | | | Canada | 82 | 9 | 7 | 2.03 | 79 |
| 90 | | 64 | The United | 74 | 18 | 9 | 3.15 | 69 |
| 72 | | | Uruguay | 71 | 21 | 6 | 2.68 | 66 |
| | | | Bahamas | 66 | 24 | 3 | 5.2 | 57 |
| 72 | | | Chile | 66 | 24 | 8 | 2.65 | 61 |
| | | | Barbados | 61 | 31 | 3 | 6.91 | 50 |
| | | | Saint Lucia | 60 | 35 | 3 | 6.8 | 49 |
| | | | Saint Vince | 60 | 35 | 3 | 1.66 | 57 |
| | | | Dominica | 59 | 38 | 3 | 0.85 | 58 |
| 54 | | | Costa Rica | 58 | 41 | 7 | 3.17 | 53 |
| | | | Grenada | 56 | 46 | 3 | 4.63 | 48 |
| 54 | | | Cuba | 47 | 60 | 5 | 2.9 | 42 |
| | | | Suriname | 45 | 64 | 4 | 7.53 | 32 |
| 37 | | | Brazil | 40 | 79 | 8 | 4.34 | 33 |
| 37 | | | Jamaica | 39 | 83 | 6 | 1.84 | 36 |
| 37 | | | Panama | 38 | 87 | 6 | 2.29 | 34 |
| 37 | | | Colombia | 37 | 90 | 8 | 2.27 | 34 |
| 37 | | | Argentina | 36 | 95 | 8 | 1.76 | 33 |
| 37 | | | El Salvador | 36 | 95 | 7 | 2.76 | 31 |
| 37 | | | Peru | 35 | 101 | 7 | 2.04 | 32 |
| 37 | | | Trinidad an | 35 | 101 | 5 | 2.48 | 31 |
| | | | Guyana | 34 | 108 | 6 | 3.57 | 29 |
| 37 | | | Bolivia | 33 | 113 | 8 | 2.85 | 28 |
| 37 | | | Dominican | 31 | 120 | 6 | 1.89 | 28 |
| 37 | | | Ecuador | 31 | 120 | 6 | 1.96 | 28 |
| 19 | | | Honduras | 30 | 123 | 7 | 3.05 | 25 |
| 37 | | | Mexico | 30 | 123 | 8 | 1.56 | 28 |
| 37 | | | Paraguay | 30 | 123 | 6 | 2.68 | 25 |
| 19 | | | Guatemala | 28 | 136 | 6 | 2.58 | 24 |
| 19 | | | Nicaragua | 26 | 145 | 7 | 1.98 | 23 |
| | | | Haiti | 20 | 159 | 5 | 1.81 | 17 |
| 19 | | | Venezuela | 17 | 166 | 7 | 1.41 | 15 |

| Upper CI | Min | Max |
|---|---|---|
| 85 | 73 | 90 |
| 80 | 64 | 90 |
| 75 | 59 | 77 |
| 74 | 59 | 76 |
| 70 | 54 | 76 |
| 73 | 48 | 71 |
| 71 | 47 | 69 |
| 63 | 58 | 63 |
| 60 | 58 | 61 |
| 63 | 46 | 69 |
| 63 | 47 | 62 |
| 52 | 40 | 54 |
| 57 | 32 | 65 |
| 47 | 25 | 61 |
| 42 | 34 | 47 |
| 42 | 32 | 47 |
| 41 | 28 | 47 |
| 39 | 29 | 46 |
| 40 | 22 | 45 |
| 39 | 29 | 45 |
| 39 | 29 | 43 |
| 40 | 25 | 47 |
| 37 | 18 | 44 |
| 34 | 24 | 37 |
| 35 | 22 | 37 |
| 35 | 19 | 41 |
| 33 | 24 | 37 |
| 34 | 22 | 37 |
| 32 | 19 | 35 |
| 29 | 19 | 35 |
| 23 | 15 | 24 |
| 20 | 13 | 22 |

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA | World Economic Forum EOS | Global Insight Country Risk Ratings |
|---|---|---|---|---|---|---|---|
| New Zealand | 90 | 1 | AP | NZL | | 90 | 83 |
| Singapore | 84 | 7 | AP | SGP | | 88 | 83 |
| Australia | 79 | 13 | AP | AUS | | 80 | 83 |
| Hong Kong | 77 | 15 | AP | HKG | | 82 | 83 |
| Japan | 72 | 20 | AP | JPN | | 78 | 71 |
| Bhutan | 65 | 27 | AP | BTN | 69 | 59 | 71 |
| Taiwan | 61 | 31 | AP | TWN | | 68 | 71 |
| Brunei | 58 | 41 | AP | BRN | | 61 | 71 |
| Korea (South) | 53 | 52 | AP | KOR | | 49 | 47 |
| Malaysia | 49 | 55 | AP | MYS | | 56 | 59 |
| Solomon Islands | 42 | 72 | AP | SLB | 35 | | 47 |
| China | 40 | 79 | AP | CHN | | 53 | 47 |
| India | 40 | 79 | AP | IND | | 54 | 34 |
| Mongolia | 38 | 87 | AP | MNG | 47 | 38 | 47 |
| Indonesia | 37 | 90 | AP | IDN | | 40 | 34 |
| Maldives | 36 | 95 | AP | MDV | 35 | | 47 |
| Sri Lanka | 36 | 95 | AP | LKA | 35 | 41 | 34 |
| Philippines | 35 | 101 | AP | PHL | | 29 | 34 |
| Thailand | 35 | 101 | AP | THA | | 37 | 22 |
| Timor-Leste | 35 | 101 | AP | TLS | 24 | | 34 |
| Vietnam | 33 | 113 | AP | VNM | 35 | 34 | 34 |
| Pakistan | 32 | 116 | AP | PAK | 35 | 29 | 34 |
| Laos | 30 | 123 | AP | LAO | 24 | 45 | 34 |
| Nepal | 29 | 131 | AP | NPL | 35 | 26 | 34 |
| Myanmar | 28 | 136 | AP | MMR | 35 | 23 | 22 |
| Papua New Guinea | 28 | 136 | AP | PNG | 35 | | 22 |
| Bangladesh | 26 | 145 | AP | BGD | 24 | 17 | 22 |
| Cambodia | 21 | 156 | AP | KHM | 13 | 28 | 22 |
| Afghanistan | 15 | 169 | AP | AFG | 13 | | 10 |
| Korea (North) | 12 | 174 | AP | PRK | | | 10 |

| Bertelsmann Foundation Transformation Index | African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project | Economist Intelligence Unit Country Ratings | Freedom House Nations in Transit Ratings |
|---|---|---|---|---|---|---|---|---|
|  |  | 95 | 99 | 79 | 93 |  | 90 |  |
| 73 |  | 91 |  | 85 | 76 |  | 90 |  |
|  |  | 81 | 80 | 78 | 76 |  | 72 |  |
|  |  | 87 |  | 77 | 67 |  | 72 |  |
|  |  | 74 | 52 | 75 | 76 |  | 72 |  |
| 65 |  |  |  |  |  | 64 |  |  |
| 77 |  | 65 |  |  | 50 | 50 | 54 |  |
|  |  |  |  |  | 41 |  |  |  |
| 57 |  | 47 | 52 | 69 | 50 |  | 54 |  |
| 49 |  | 52 |  | 41 | 41 |  | 54 |  |
|  |  |  |  |  |  | 44 |  |  |
| 36 |  | 42 |  | 37 | 32 |  | 37 |  |
| 45 |  | 39 |  | 34 | 41 |  | 37 |  |
| 36 |  | 35 |  | 38 | 32 | 34 | 37 |  |
| 36 |  | 39 |  | 26 | 50 |  | 37 |  |
|  |  |  |  |  |  | 27 |  |  |
| 28 |  |  |  | 38 | 41 |  | 37 |  |
| 36 |  | 31 |  | 31 | 41 | 36 | 37 |  |
| 40 |  | 44 |  | 37 | 32 | 24 | 37 |  |
|  |  |  |  |  |  | 45 |  |  |
| 28 |  |  |  | 40 | 41 |  | 19 |  |
| 20 |  |  |  | 32 | 32 |  | 37 |  |
| 16 |  |  |  |  |  |  |  |  |
| 24 |  |  |  | 31 |  | 21 |  |  |
| 20 |  |  |  | 27 | 24 | 50 | 19 |  |
| 28 |  |  |  |  | 32 |  | 19 |  |
| 24 |  |  |  | 25 | 50 |  | 19 |  |
| 16 |  |  |  | 15 |  | 17 | 19 |  |
| 20 |  |  |  | 13 |  | 16 |  |  |
| 12 |  |  |  |  | 15 |  |  |  |

| PERC Asia Risk Guide | Country (2) | CPI2016 (2) | Rank (2) | Number of Sources | Std Error 2016 | Lower CI | Upper CI | Min |
|---|---|---|---|---|---|---|---|---|
| | New Zealar | 90 | 1 | 7 | 2.56 | 86 | 94 | 79 |
| 89 | Singapore | 84 | 7 | 8 | 2.35 | 81 | 88 | 73 |
| 81 | Australia | 79 | 13 | 8 | 1.27 | 77 | 81 | 72 |
| 74 | Hong Kong | 77 | 15 | 7 | 2.62 | 73 | 82 | 67 |
| 78 | Japan | 72 | 20 | 8 | 3.02 | 67 | 77 | 52 |
| | Bhutan | 65 | 27 | 5 | 2.12 | 62 | 69 | 59 |
| 51 | Taiwan | 61 | 31 | 8 | 3.79 | 55 | 67 | 50 |
| | Brunei | 58 | 41 | 3 | 8.85 | 43 | 72 | 41 |
| 50 | Korea (Sou | 53 | 52 | 9 | 2.33 | 49 | 57 | 47 |
| 44 | Malaysia | 49 | 55 | 8 | 2.46 | 45 | 53 | 41 |
| | Solomon Is | 42 | 72 | 3 | 3.34 | 36 | 47 | 35 |
| 39 | China | 40 | 79 | 8 | 2.39 | 37 | 44 | 32 |
| 34 | India | 40 | 79 | 8 | 2.47 | 36 | 44 | 34 |
| | Mongolia | 38 | 87 | 9 | 1.7 | 35 | 41 | 32 |
| 35 | Indonesia | 37 | 90 | 8 | 2.39 | 33 | 41 | 26 |
| | Maldives | 36 | 95 | 3 | 5.66 | 27 | 46 | 27 |
| | Sri Lanka | 36 | 95 | 7 | 1.64 | 34 | 39 | 28 |
| 43 | Philippines | 35 | 101 | 9 | 1.58 | 33 | 38 | 29 |
| 38 | Thailand | 35 | 101 | 9 | 2.44 | 31 | 39 | 22 |
| | Timor-Leste | 35 | 101 | 3 | 5.97 | 25 | 44 | 24 |
| 35 | Vietnam | 33 | 113 | 8 | 2.46 | 29 | 38 | 19 |
| | Pakistan | 32 | 116 | 7 | 2.12 | 28 | 35 | 20 |
| | Laos | 30 | 123 | 4 | 6.19 | 20 | 40 | 16 |
| | Nepal | 29 | 131 | 6 | 2.33 | 25 | 33 | 21 |
| | Myanmar | 28 | 136 | 8 | 3.69 | 22 | 34 | 19 |
| | Papua New | 28 | 136 | 5 | 3.01 | 23 | 32 | 19 |
| | Bangladesh | 26 | 145 | 7 | 4.13 | 19 | 33 | 17 |
| 37 | Cambodia | 21 | 156 | 8 | 2.82 | 16 | 26 | 13 |
| | Afghanistar | 15 | 169 | 5 | 1.74 | 12 | 17 | 10 |
| | Korea (Nor | 12 | 174 | 3 | 1.39 | 10 | 15 | 10 |

| Max |
|-----|
| 99 |
| 91 |
| 83 |
| 87 |
| 78 |
| 71 |
| 77 |
| 71 |
| 69 |
| 59 |
| 47 |
| 53 |
| 54 |
| 47 |
| 50 |
| 47 |
| 41 |
| 43 |
| 44 |
| 45 |
| 41 |
| 37 |
| 45 |
| 35 |
| 50 |
| 35 |
| 50 |
| 37 |
| 20 |
| 15 |

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA | World Economic Forum EOS | Global Insight Country Risk Ratings |
|---|---|---|---|---|---|---|---|
| United Arab Emirates | 66 | 24 | MENA | ARE | | 86 | 47 |
| Israel | 64 | 28 | MENA | ISR | | 69 | 59 |
| Qatar | 61 | 31 | MENA | QAT | | 82 | 47 |
| Jordan | 48 | 57 | MENA | JOR | | 60 | 34 |
| Saudi Arabia | 46 | 62 | MENA | SAU | | 66 | 22 |
| Oman | 45 | 64 | MENA | OMN | | 67 | 47 |
| Bahrain | 43 | 70 | MENA | BHR | | 66 | 34 |
| Kuwait | 41 | 75 | MENA | KWT | | 43 | 34 |
| Tunisia | 41 | 75 | MENA | TUN | | 37 | 47 |
| Morocco | 37 | 90 | MENA | MAR | | 42 | 34 |
| Algeria | 34 | 108 | MENA | DZA | | 33 | 22 |
| Egypt | 34 | 108 | MENA | EGY | | 42 | 22 |
| Iran | 29 | 131 | MENA | IRN | | 34 | 34 |
| Lebanon | 28 | 136 | MENA | LBN | | 23 | 22 |
| Iraq | 17 | 166 | MENA | IRQ | | | 10 |
| Libya | 14 | 170 | MENA | LBY | | | 10 |
| Yemen | 14 | 170 | MENA | YEM | 2 | 12 | 10 |
| Syria | 13 | 173 | MENA | SYR | | | 10 |

| Bertelsmann Foundation Transformation Index | African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project | Economist Intelligence Unit Country Ratings | Freedom House Nations in Transit Ratings |
|---|---|---|---|---|---|---|---|---|
| 53 | | 81 | | 73 | 67 | | 54 | |
| | | 64 | 61 | | 58 | | 72 | |
| 40 | | 80 | | | 67 | 39 | 72 | |
| 40 | | 53 | | 50 | 50 | 40 | 54 | |
| 36 | | | | | 50 | | 54 | |
| 24 | | | | | 50 | | 37 | |
| 36 | | | | | 41 | | 37 | |
| 40 | | | | | 50 | | 37 | |
| 28 | | | | 37 | 41 | 61 | 37 | |
| 28 | | | | 37 | 41 | 39 | 37 | |
| 36 | | | | | 32 | 44 | 37 | |
| 32 | | | | 37 | 32 | | 37 | |
| 24 | | | | 35 | 24 | 33 | 19 | |
| 20 | | | | 30 | 32 | 34 | 37 | |
| 20 | | | | | 15 | 19 | 19 | |
| 12 | | | | | 15 | | 19 | |
| 28 | | | | | 15 | 14 | 19 | |
| 8 | | | | | 15 | 12 | 19 | |

| PERC Asia Risk Guide | Country (2) | CPI2016 (2) | Rank (2) | Number of Sources | Std Error 2016 | Lower CI | Upper CI | Min |
|---|---|---|---|---|---|---|---|---|
| | United Arab | 66 | 24 | 7 | 5.7 | 56 | 75 | 47 |
| | Israel | 64 | 28 | 6 | 2.27 | 60 | 68 | 58 |
| | Qatar | 61 | 31 | 7 | 7.02 | 49 | 72 | 39 |
| | Jordan | 48 | 57 | 8 | 3.03 | 43 | 53 | 34 |
| | Saudi Arab | 46 | 62 | 5 | 7.54 | 33 | 58 | 22 |
| | Oman | 45 | 64 | 5 | 7.07 | 33 | 56 | 24 |
| | Bahrain | 43 | 70 | 5 | 5.96 | 33 | 53 | 34 |
| | Kuwait | 41 | 75 | 5 | 2.67 | 37 | 45 | 34 |
| | Tunisia | 41 | 75 | 7 | 3.9 | 35 | 47 | 28 |
| | Morocco | 37 | 90 | 7 | 1.74 | 34 | 40 | 28 |
| | Algeria | 34 | 108 | 6 | 2.94 | 29 | 39 | 22 |
| | Egypt | 34 | 108 | 6 | 2.72 | 29 | 38 | 22 |
| | Iran | 29 | 131 | 7 | 2.47 | 25 | 33 | 19 |
| | Lebanon | 28 | 136 | 7 | 2.5 | 24 | 32 | 20 |
| | Iraq | 17 | 166 | 5 | 1.87 | 14 | 20 | 10 |
| | Libya | 14 | 170 | 4 | 2 | 11 | 17 | 10 |
| | Yemen | 14 | 170 | 7 | 3.05 | 9 | 19 | 2 |
| | Syria | 13 | 173 | 5 | 1.97 | 10 | 16 | 8 |

| Max |
| --- |
| 86 |
| 72 |
| 82 |
| 60 |
| 66 |
| 67 |
| 66 |
| 50 |
| 61 |
| 42 |
| 44 |
| 42 |
| 35 |
| 37 |
| 20 |
| 19 |
| 28 |
| 19 |

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA |
|---|---|---|---|---|---|
| Botswana | 60 | 35 | SSA | BWA | |
| Cape Verde | 59 | 38 | SSA | CPV | 69 |
| Mauritius | 54 | 50 | SSA | MUS | |
| Rwanda | 54 | 50 | SSA | RWA | 47 |
| Namibia | 52 | 53 | SSA | NAM | |
| Sao Tome and Principe | 46 | 62 | SSA | STP | 47 |
| Senegal | 45 | 64 | SSA | SEN | 47 |
| South Africa | 45 | 64 | SSA | ZAF | |
| Ghana | 43 | 70 | SSA | GHA | 47 |
| Burkina Faso | 42 | 72 | SSA | BFA | 47 |
| Lesotho | 39 | 83 | SSA | LSO | 35 |
| Zambia | 38 | 87 | SSA | ZMB | 35 |
| Liberia | 37 | 90 | SSA | LBR | 35 |
| Benin | 36 | 95 | SSA | BEN | 47 |
| Gabon | 35 | 101 | SSA | GAB | |
| Niger | 35 | 101 | SSA | NER | 35 |
| Côte d'Ivoire | 34 | 108 | SSA | CIV | 35 |
| Ethiopia | 34 | 108 | SSA | ETH | 35 |
| Mali | 32 | 116 | SSA | MLI | 35 |
| Tanzania | 32 | 116 | SSA | TZA | 35 |
| Togo | 32 | 116 | SSA | TGO | 24 |
| Malawi | 31 | 120 | SSA | MWI | 24 |
| Djibouti | 30 | 123 | SSA | DJI | 24 |
| Sierra Leone | 30 | 123 | SSA | SLE | 35 |
| Nigeria | 28 | 136 | SSA | NGA | 35 |
| Guinea | 27 | 142 | SSA | GIN | 24 |
| Mauritania | 27 | 142 | SSA | MRT | 35 |
| Mozambique | 27 | 142 | SSA | MOZ | 24 |
| Cameroon | 26 | 145 | SSA | CMR | 24 |
| Gambia | 26 | 145 | SSA | GMB | 13 |
| Kenya | 26 | 145 | SSA | KEN | 35 |
| Madagascar | 26 | 145 | SSA | MDG | 24 |
| Uganda | 25 | 151 | SSA | UGA | 13 |
| Comoros | 24 | 153 | SSA | COM | 24 |
| Zimbabwe | 22 | 154 | SSA | ZWE | 13 |
| The Democratic Republic of Congo | 21 | 156 | SSA | COD | 13 |
| Burundi | 20 | 159 | SSA | BDI | 13 |
| Central African Republic | 20 | 159 | SSA | CAF | 24 |
| Chad | 20 | 159 | SSA | TCD | 24 |
| Republic of Congo | 20 | 159 | SSA | COG | 13 |

| | | | | | |
|---|---|---|---|---|---|
| Angola | 18 | 164 | SSA | AGO | |
| Eritrea | 18 | 164 | SSA | ERI | 13 |
| Guinea-Bissau | 16 | 168 | SSA | GNB | 13 |
| Sudan | 14 | 170 | SSA | SDN | 2 |
| South Sudan | 11 | 175 | SSA | SSD | 2 |
| Somalia | 10 | 176 | SSA | SOM | |

| World Economic Forum EOS | Global Insight Country Risk Ratings | Bertelsmann Foundation Transformation Index | African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project |
|---|---|---|---|---|---|---|---|---|
| 52 | 59 | 57 | | | | 55 | 67 | |
| 49 | 59 | | | | | | | |
| 53 | 59 | 49 | | | | | | |
| 76 | 59 | 40 | 53 | | | | | 49 |
| 49 | 59 | 49 | | | | | 50 | |
| | 47 | | 44 | | | | | |
| 36 | 47 | 53 | 44 | | | 43 | 32 | |
| 49 | 47 | 45 | | 33 | | 47 | 41 | |
| 30 | 34 | 45 | 53 | | | 35 | 50 | 42 |
| | 47 | 32 | 44 | | | 34 | 41 | 49 |
| 20 | 59 | 40 | 38 | | | | | |
| 31 | 34 | 28 | 41 | | | 39 | 41 | 59 |
| 45 | 34 | 45 | 41 | | | 19 | 41 | |
| 20 | 34 | 32 | 44 | | | | | 36 |
| 36 | 34 | | | | | | 32 | |
| | 34 | 36 | 44 | | | | 24 | |
| 32 | 47 | 28 | 32 | | | 30 | 32 | |
| 37 | 34 | 24 | 38 | | | 33 | 32 | 32 |
| 24 | 34 | 32 | 35 | | | | 32 | |
| 27 | 22 | 32 | 38 | | | 27 | 32 | 38 |
| | 47 | 32 | 23 | | | | 32 | |
| 27 | 34 | 36 | 38 | | | 32 | 32 | 36 |
| | 47 | | 20 | | | | | |
| 19 | 34 | 40 | 35 | | | 23 | 32 | |
| 20 | 22 | 28 | 32 | | | 26 | 24 | 24 |
| | 22 | 36 | 26 | | | | 24 | |
| 15 | 22 | 32 | 29 | | | | | |
| 25 | 22 | 28 | 14 | | | | 32 | 34 |
| 22 | 34 | 28 | 41 | | | 19 | 32 | 11 |
| 44 | 34 | | 5 | | | | 32 | |
| 30 | 22 | 28 | 29 | | | 21 | 24 | 28 |
| 19 | 34 | 32 | 14 | | | 23 | 32 | |
| 27 | 22 | 32 | 26 | | | 21 | 24 | 26 |
| | 47 | | 2 | | | | | |
| 30 | 22 | 16 | 17 | | | 24 | 15 | 24 |
| 20 | 22 | 20 | 32 | | | | 24 | |
| 24 | 22 | 20 | 20 | | | | | 20 |
| | 10 | 28 | 17 | | | | | |
| 10 | 22 | 20 | 23 | | | | | |
| | 22 | 20 | | | | | 24 | |

| | | 22 | 16 | | | | | 15 | |
| | | 34 | 12 | 0 | | | | | 29 |
| | | 22 | | 14 | | | | 15 | |
| | | 22 | 16 | 11 | | | | 6 | 22 |
| | | 10 | 16 | 5 | | | | | 19 |
| | | 10 | 8 | 0 | | | | 15 | 17 |

| Economist Intelligence Unit Country Ratings | Freedom House Nations in Transit Ratings | PERC Asia Risk Guide | Country (2) | CPI2016 (2) | Rank (2) | Number of Sources | Std Error 2016 |
|---|---|---|---|---|---|---|---|
| 72 | | | Botswana | 60 | 35 | 6 | 3.1 |
| | | | Cape Verde | 59 | 38 | 3 | 5.72 |
| 54 | | | Mauritius | 54 | 50 | 4 | 2.14 |
| | | | Rwanda | 54 | 50 | 6 | 5.07 |
| 54 | | | Namibia | 52 | 53 | 5 | 2.03 |
| | | | Sao Tome and Pr | 46 | 62 | 3 | 0.93 |
| 54 | | | Senegal | 45 | 64 | 8 | 2.63 |
| 54 | | | South Africa | 45 | 64 | 7 | 2.55 |
| 54 | | | Ghana | 43 | 70 | 9 | 2.89 |
| | | | Burkina Faso | 42 | 72 | 7 | 2.47 |
| | | | Lesotho | 39 | 83 | 5 | 6.15 |
| 37 | | | Zambia | 38 | 87 | 9 | 2.91 |
| | | | Liberia | 37 | 90 | 7 | 3.43 |
| | | | Benin | 36 | 95 | 6 | 3.8 |
| 37 | | | Gabon | 35 | 101 | 4 | 0.97 |
| | | | Niger | 35 | 101 | 5 | 3.25 |
| 37 | | | Côte d'Ivoire | 34 | 108 | 8 | 2.03 |
| 37 | | | Ethiopia | 34 | 108 | 9 | 1.37 |
| | | | Mali | 32 | 116 | 6 | 1.75 |
| 37 | | | Tanzania | 32 | 116 | 9 | 1.84 |
| | | | Togo | 32 | 116 | 5 | 4.21 |
| 19 | | | Malawi | 31 | 120 | 9 | 2.11 |
| | | | Djibouti | 30 | 123 | 3 | 8.23 |
| 19 | | | Sierra Leone | 30 | 123 | 8 | 2.94 |
| 37 | | | Nigeria | 28 | 136 | 9 | 1.98 |
| | | | Guinea | 27 | 142 | 5 | 2.54 |
| | | | Mauritania | 27 | 142 | 5 | 3.62 |
| 37 | | | Mozambique | 27 | 142 | 8 | 2.57 |
| 19 | | | Cameroon | 26 | 145 | 9 | 3.04 |
| | | | Gambia | 26 | 145 | 5 | 7.2 |
| 19 | | | Kenya | 26 | 145 | 9 | 1.72 |
| | | | Madagascar | 26 | 145 | 7 | 2.88 |
| 37 | | | Uganda | 25 | 151 | 9 | 2.24 |
| | | | Comoros | 24 | 153 | 3 | 12.81 |
| 37 | | | Zimbabwe | 22 | 154 | 9 | 2.59 |
| 19 | | | The Democratic R | 21 | 156 | 7 | 2.13 |
| | | | Burundi | 20 | 159 | 6 | 1.53 |
| | | | Central African Re | 20 | 159 | 4 | 4.04 |
| | | | Chad | 20 | 159 | 5 | 2.67 |
| 19 | | | Republic of Congo | 20 | 159 | 5 | 1.78 |

| 19 | | | Angola | 18 | 164 | 4 | 1.68 |
|----|--|--|--------|----|-----|---|------|
| | | | Eritrea | 18 | 164 | 5 | 6.24 |
| | | | Guinea-Bissau | 16 | 168 | 4 | 2.09 |
| 19 | | | Sudan | 14 | 170 | 7 | 2.99 |
| | | | South Sudan | 11 | 175 | 5 | 3.21 |
| | | | Somalia | 10 | 176 | 5 | 2.98 |

| Lower CI | Upper CI | Min | Max |
|---|---|---|---|
| 55 | 66 | 52 | 72 |
| 50 | 68 | 49 | 69 |
| 50 | 57 | 49 | 59 |
| 46 | 62 | 40 | 76 |
| 49 | 55 | 49 | 59 |
| 44 | 47 | 44 | 47 |
| 40 | 49 | 32 | 54 |
| 41 | 49 | 33 | 54 |
| 39 | 48 | 30 | 54 |
| 38 | 46 | 32 | 49 |
| 29 | 49 | 20 | 59 |
| 34 | 43 | 28 | 59 |
| 31 | 43 | 19 | 45 |
| 29 | 42 | 20 | 47 |
| 33 | 36 | 32 | 37 |
| 29 | 40 | 24 | 44 |
| 31 | 38 | 28 | 47 |
| 31 | 36 | 24 | 38 |
| 29 | 35 | 24 | 35 |
| 29 | 35 | 22 | 38 |
| 25 | 39 | 23 | 47 |
| 28 | 35 | 19 | 38 |
| 17 | 44 | 20 | 47 |
| 25 | 35 | 19 | 40 |
| 24 | 31 | 20 | 37 |
| 22 | 31 | 22 | 36 |
| 21 | 33 | 15 | 35 |
| 23 | 31 | 14 | 37 |
| 21 | 31 | 11 | 41 |
| 14 | 38 | 5 | 44 |
| 24 | 29 | 19 | 35 |
| 21 | 30 | 14 | 34 |
| 22 | 29 | 13 | 37 |
| 3 | 45 | 2 | 47 |
| 18 | 26 | 13 | 37 |
| 18 | 25 | 13 | 32 |
| 18 | 23 | 13 | 24 |
| 13 | 27 | 10 | 28 |
| 16 | 24 | 10 | 24 |
| 17 | 23 | 13 | 24 |

| | | | |
|---:|---:|---:|---:|
| 15 | 21 | 15 | 22 |
| 8 | 28 | 0 | 34 |
| 13 | 20 | 13 | 22 |
| 9 | 19 | 2 | 22 |
| 5 | 16 | 2 | 19 |
| 5 | 15 | 0 | 17 |

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA | World Economic Forum EOS | Global Insight Country Risk Ratings |
|---|---|---|---|---|---|---|---|
| Denmark | 90 | 1 | WE/EU | DNK | | 85 | 83 |
| Finland | 89 | 3 | WE/EU | FIN | | 91 | 83 |
| Sweden | 88 | 4 | WE/EU | SWE | | 86 | 83 |
| Switzerland | 86 | 5 | WE/EU | CHE | | 80 | 83 |
| Norway | 85 | 6 | WE/EU | NOR | | 80 | 83 |
| Netherlands | 83 | 8 | WE/EU | NLD | | 82 | 83 |
| Germany | 81 | 10 | WE/EU | DEU | | 67 | 83 |
| Luxembourg | 81 | 10 | WE/EU | LUX | | 85 | 83 |
| United Kingdom | 81 | 10 | WE/EU | GBR | | 80 | 71 |
| Iceland | 78 | 14 | WE/EU | ISL | | 85 | 83 |
| Belgium | 77 | 15 | WE/EU | BEL | | 73 | 83 |
| Austria | 75 | 17 | WE/EU | AUT | | 73 | 71 |
| Ireland | 73 | 19 | WE/EU | IRL | | 83 | 71 |
| Estonia | 70 | 22 | WE/EU | EST | | 76 | 71 |
| France | 69 | 23 | WE/EU | FRA | | 69 | 71 |
| Poland | 62 | 29 | WE/EU | POL | | 56 | 59 |
| Portugal | 62 | 29 | WE/EU | PRT | | 59 | 59 |
| Slovenia | 61 | 31 | WE/EU | SVN | | 58 | 71 |
| Lithuania | 59 | 38 | WE/EU | LTU | | 56 | 59 |
| Spain | 58 | 41 | WE/EU | ESP | | 51 | 59 |
| Latvia | 57 | 44 | WE/EU | LVA | | 48 | 59 |
| Cyprus | 55 | 47 | WE/EU | CYP | | 49 | 47 |
| Czech Republic | 55 | 47 | WE/EU | CZE | | 46 | 59 |
| Malta | 55 | 47 | WE/EU | MLT | | 54 | 59 |
| Slovakia | 51 | 54 | WE/EU | SVK | | 34 | 59 |
| Croatia | 49 | 55 | WE/EU | HRV | | 39 | 47 |
| Hungary | 48 | 57 | WE/EU | HUN | | 43 | 59 |
| Romania | 48 | 57 | WE/EU | ROM | | 37 | 59 |
| Italy | 47 | 60 | WE/EU | ITA | | 47 | 59 |
| Greece | 44 | 69 | WE/EU | GRC | | 42 | 47 |
| Bulgaria | 41 | 75 | WE/EU | BGR | | 38 | 34 |

| Bertelsmann Foundation Transformation Index | African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project | Economist Intelligence Unit Country Ratings | Freedom House Nations in Transit Ratings |
|---|---|---|---|---|---|---|---|---|
|  |  | 98 | 99 | 85 | 93 |  | 90 |  |
|  |  | 94 | 90 | 85 | 93 |  | 90 |  |
|  |  | 86 | 90 | 85 | 93 |  | 90 |  |
|  |  | 88 | 90 |  | 85 |  | 90 |  |
|  |  | 83 | 80 | 84 | 93 |  | 90 |  |
|  |  | 89 | 71 | 82 | 85 |  | 90 |  |
|  |  | 85 | 80 | 79 | 85 |  | 90 |  |
|  |  | 81 | 80 |  | 85 |  | 72 |  |
|  |  | 80 | 80 | 80 | 85 |  | 90 |  |
|  |  | 80 | 61 |  | 85 |  | 72 |  |
|  |  | 79 | 80 | 74 | 76 |  | 72 |  |
|  |  | 74 | 80 | 79 | 76 |  | 72 |  |
|  |  | 83 | 71 |  | 76 |  | 54 |  |
| 73 |  | 66 | 80 | 70 | 67 | 69 | 54 | 70 |
|  |  | 73 | 52 | 69 | 76 |  | 72 |  |
| 69 |  | 60 | 71 | 66 | 58 | 66 | 54 | 59 |
|  |  | 51 | 71 | 68 | 67 | 67 | 54 |  |
| 65 |  | 46 | 61 | 59 | 58 | 67 | 54 | 70 |
| 65 |  | 53 | 61 |  | 58 | 64 | 54 | 59 |
|  |  | 38 | 61 | 65 | 58 |  | 72 |  |
| 57 |  | 45 | 71 |  | 50 | 67 | 54 | 65 |
|  |  |  | 42 |  | 67 |  | 72 |  |
| 65 |  | 47 | 52 | 62 | 50 |  | 54 | 59 |
|  |  |  | 52 |  | 58 |  | 54 |  |
| 61 |  | 45 | 52 |  | 50 |  | 54 | 57 |
| 61 |  | 38 | 52 | 50 | 50 |  | 54 | 52 |
| 53 |  | 37 | 33 | 49 | 50 |  | 54 | 54 |
| 61 |  | 37 | 52 | 49 | 41 | 52 | 37 | 57 |
|  |  | 39 | 52 | 57 | 41 |  | 37 |  |
|  |  | 37 | 52 | 53 | 41 |  | 37 |  |
| 53 |  | 37 | 42 | 38 | 42 |  | 37 | 52 |

| PERC Asia Risk Guide | Country (2) | CPI2016 (2) | Rank (2) | Number of Sources | Std Error 2016 | Lower CI | Upper CI | Min |
|---|---|---|---|---|---|---|---|---|
| | Denmark | 90 | 1 | 7 | 2.46 | 86 | 94 | 83 |
| | Finland | 89 | 3 | 7 | 1.46 | 87 | 92 | 83 |
| | Sweden | 88 | 4 | 7 | 1.33 | 85 | 90 | 83 |
| | Switzerland | 86 | 5 | 6 | 1.57 | 83 | 89 | 80 |
| | Norway | 85 | 6 | 7 | 1.85 | 82 | 88 | 80 |
| | Netherlands | 83 | 8 | 7 | 2.32 | 79 | 87 | 71 |
| | Germany | 81 | 10 | 7 | 2.73 | 77 | 86 | 67 |
| | Luxembour | 81 | 10 | 6 | 1.96 | 78 | 84 | 72 |
| | United King | 81 | 10 | 7 | 2.12 | 77 | 84 | 71 |
| | Iceland | 78 | 14 | 6 | 3.81 | 71 | 84 | 61 |
| | Belgium | 77 | 15 | 7 | 1.55 | 74 | 79 | 72 |
| | Austria | 75 | 17 | 7 | 1.36 | 73 | 77 | 71 |
| | Ireland | 73 | 19 | 6 | 4.31 | 66 | 80 | 54 |
| | Estonia | 70 | 22 | 10 | 2.16 | 66 | 73 | 54 |
| | France | 69 | 23 | 7 | 2.97 | 64 | 74 | 52 |
| | Poland | 62 | 29 | 10 | 1.77 | 59 | 65 | 54 |
| | Portugal | 62 | 29 | 8 | 2.58 | 58 | 66 | 51 |
| | Slovenia | 61 | 31 | 10 | 2.44 | 57 | 65 | 46 |
| | Lithuania | 59 | 38 | 9 | 1.36 | 57 | 61 | 53 |
| | Spain | 58 | 41 | 7 | 4.09 | 51 | 65 | 38 |
| | Latvia | 57 | 44 | 9 | 2.96 | 52 | 62 | 45 |
| | Cyprus | 55 | 47 | 5 | 5.94 | 46 | 65 | 42 |
| | Czech Rep | 55 | 47 | 9 | 2.24 | 51 | 59 | 46 |
| | Malta | 55 | 47 | 5 | 1.39 | 53 | 58 | 52 |
| | Slovakia | 51 | 54 | 8 | 3.09 | 46 | 57 | 34 |
| | Croatia | 49 | 55 | 9 | 2.39 | 45 | 53 | 38 |
| | Hungary | 48 | 57 | 9 | 2.89 | 43 | 53 | 33 |
| | Romania | 48 | 57 | 10 | 3 | 43 | 53 | 37 |
| | Italy | 47 | 60 | 7 | 3.34 | 42 | 53 | 37 |
| | Greece | 44 | 69 | 7 | 2.5 | 40 | 48 | 37 |
| | Bulgaria | 41 | 75 | 9 | 2.2 | 38 | 45 | 34 |

| Max |
|---|
| 99 |
| 94 |
| 93 |
| 90 |
| 93 |
| 90 |
| 90 |
| 85 |
| 90 |
| 85 |
| 83 |
| 80 |
| 83 |
| 80 |
| 76 |
| 71 |
| 71 |
| 71 |
| 65 |
| 72 |
| 71 |
| 72 |
| 65 |
| 59 |
| 61 |
| 61 |
| 59 |
| 61 |
| 59 |
| 53 |
| 53 |

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA | World Economic Forum EOS |
|---|---|---|---|---|---|---|
| Georgia | 57 | 44 | ECA | GEO | | 68 |
| Montenegro | 45 | 64 | ECA | MON | | 39 |
| Serbia | 42 | 72 | ECA | SCG | | 39 |
| Turkey | 41 | 75 | ECA | TUR | | 49 |
| Belarus | 40 | 79 | ECA | BLR | | |
| Albania | 39 | 83 | ECA | ALB | | 41 |
| Bosnia and Herzegovina | 39 | 83 | ECA | BIH | | 34 |
| The FYR of Macedonia | 37 | 90 | ECA | MKD | | 54 |
| Kosovo | 36 | 95 | ECA | LWI | 35 | |
| Armenia | 33 | 113 | ECA | ARM | | 45 |
| Azerbaijan | 30 | 123 | ECA | AZE | | 46 |
| Moldova | 30 | 123 | ECA | MDA | 24 | 23 |
| Kazakhstan | 29 | 131 | ECA | KAZ | | 45 |
| Russia | 29 | 131 | ECA | RUS | | 38 |
| Ukraine | 29 | 131 | ECA | UKR | | 27 |
| Kyrgyzstan | 28 | 136 | ECA | KGZ | 35 | 23 |
| Tajikistan | 25 | 151 | ECA | TJK | 24 | 48 |
| Turkmenistan | 22 | 154 | ECA | TKM | | |
| Uzbekistan | 21 | 156 | ECA | UZB | 13 | |

| Global Insight Country Risk Ratings | Bertelsmann Foundation Transformation Index | African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project | Economist Intelligence Unit Country Ratings |
|---|---|---|---|---|---|---|---|---|
| 47 | 53 | | | | 61 | | 65 | |
| 47 | 53 | | | | | | | |
| 47 | 57 | | | | 32 | 32 | | 37 |
| 47 | 45 | | 46 | 33 | 39 | 41 | 36 | 37 |
| 47 | 28 | | | | 56 | 32 | 46 | 37 |
| 47 | 36 | | | | 30 | 41 | | 37 |
| 47 | 40 | | | | 37 | | 37 | 37 |
| 34 | 40 | | | | 42 | | 21 | 19 |
| 47 | 36 | | | | | | 27 | |
| 34 | 28 | | | | | 32 | 17 | |
| 47 | 24 | | | | | 24 | 9 | 37 |
| 34 | 40 | | | | 26 | 32 | 23 | 37 |
| 34 | 20 | | 41 | | 32 | 24 | 16 | 19 |
| 34 | 28 | | 41 | | 32 | 24 | 18 | 19 |
| 34 | 36 | | 29 | | 32 | 24 | 23 | 19 |
| 22 | 32 | | | | 29 | | 21 | |
| 22 | 16 | | | | | | 11 | |
| 22 | 20 | | | | | | | 19 |
| 22 | 20 | | | | 32 | | 16 | 19 |

| Freedom House Nations in Transit Ratings | PERC Asia Risk Guide | Country (2) | CPI2016 (2) | Rank (2) | Number of Sources | Std Error 2016 | Lower CI | Upper CI |
|---|---|---|---|---|---|---|---|---|
| 49 | | Georgia | 57 | 44 | 6 | 3.61 | 51 | 63 |
| 44 | | Montenegro | 45 | 64 | 4 | 2.89 | 41 | 50 |
| 52 | | Serbia | 42 | 72 | 7 | 3.69 | 36 | 48 |
| | | Turkey | 41 | 75 | 9 | 1.8 | 38 | 44 |
| 30 | | Belarus | 40 | 79 | 7 | 3.93 | 33 | 46 |
| 41 | | Albania | 39 | 83 | 7 | 1.99 | 36 | 42 |
| 44 | | Bosnia and | 39 | 83 | 7 | 1.7 | 37 | 42 |
| 49 | | The FYR of | 37 | 90 | 7 | 4.97 | 29 | 45 |
| 33 | | Kosovo | 36 | 95 | 5 | 3.17 | 31 | 41 |
| 41 | | Armenia | 33 | 113 | 6 | 4.01 | 26 | 40 |
| 25 | | Azerbaijan | 30 | 123 | 7 | 5.13 | 22 | 39 |
| 33 | | Moldova | 30 | 123 | 9 | 2.18 | 27 | 34 |
| 28 | | Kazakhstan | 29 | 131 | 9 | 3.35 | 23 | 34 |
| 25 | | Russia | 29 | 131 | 9 | 2.73 | 24 | 33 |
| 33 | | Ukraine | 29 | 131 | 9 | 1.97 | 25 | 32 |
| 30 | | Kyrgyzstan | 28 | 136 | 7 | 2.08 | 24 | 31 |
| 28 | | Tajikistan | 25 | 151 | 6 | 5.26 | 16 | 34 |
| 25 | | Turkmenist | 22 | 154 | 4 | 1.32 | 20 | 24 |
| 25 | | Uzbekistan | 21 | 156 | 7 | 2.35 | 17 | 25 |

| Min | Max |
|---|---|
| 47 | 68 |
| 39 | 53 |
| 32 | 57 |
| 33 | 49 |
| 28 | 56 |
| 30 | 47 |
| 34 | 47 |
| 19 | 54 |
| 27 | 47 |
| 17 | 45 |
| 9 | 47 |
| 23 | 40 |
| 16 | 45 |
| 18 | 41 |
| 19 | 36 |
| 21 | 35 |
| 11 | 48 |
| 19 | 25 |
| 13 | 32 |

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA | World Economic Forum EOS |
|---|---|---|---|---|---|---|
| Denmark | 90 | 1 | WE/EU | DNK | | 85 |
| New Zealand | 90 | 1 | AP | NZL | | 90 |
| Finland | 89 | 3 | WE/EU | FIN | | 91 |
| Sweden | 88 | 4 | WE/EU | SWE | | 86 |
| Switzerland | 86 | 5 | WE/EU | CHE | | 80 |
| Norway | 85 | 6 | WE/EU | NOR | | 80 |
| Netherlands | 83 | 8 | WE/EU | NLD | | 82 |
| Canada | 82 | 9 | AME | CAN | | 73 |
| Germany | 81 | 10 | WE/EU | DEU | | 67 |
| Luxembourg | 81 | 10 | WE/EU | LUX | | 85 |
| United Kingdom | 81 | 10 | WE/EU | GBR | | 80 |
| Australia | 79 | 13 | AP | AUS | | 80 |
| Iceland | 78 | 14 | WE/EU | ISL | | 85 |
| Belgium | 77 | 15 | WE/EU | BEL | | 73 |
| Austria | 75 | 17 | WE/EU | AUT | | 73 |
| The United States of America | 74 | 18 | AME | USA | | 65 |
| Ireland | 73 | 19 | WE/EU | IRL | | 83 |
| Japan | 72 | 20 | AP | JPN | | 78 |
| Estonia | 70 | 22 | WE/EU | EST | | 76 |
| France | 69 | 23 | WE/EU | FRA | | 69 |
| Chile | 66 | 24 | AME | CHL | | 64 |
| Israel | 64 | 28 | MENA | ISR | | 69 |
| Poland | 62 | 29 | WE/EU | POL | | 56 |
| Portugal | 62 | 29 | WE/EU | PRT | | 59 |
| Slovenia | 61 | 31 | WE/EU | SVN | | 58 |
| Spain | 58 | 41 | WE/EU | ESP | | 51 |
| Latvia | 57 | 44 | WE/EU | LVA | | 48 |
| Czech Republic | 55 | 47 | WE/EU | CZE | | 46 |
| Korea (South) | 53 | 52 | AP | KOR | | 49 |
| Slovakia | 51 | 54 | WE/EU | SVK | | 34 |
| Hungary | 48 | 57 | WE/EU | HUN | | 43 |
| Italy | 47 | 60 | WE/EU | ITA | | 47 |
| Greece | 44 | 69 | WE/EU | GRC | | 42 |
| Turkey | 41 | 75 | ECA | TUR | | 49 |
| Mexico | 30 | 123 | AME | MEX | | 29 |

| Global Insight Country Risk Ratings | Bertelsmann Foundation Transformation Index | African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project | Economist Intelligence Unit Country Ratings |
|---|---|---|---|---|---|---|---|---|
| 83 | | | 98 | 99 | 85 | 93 | | 90 |
| 83 | | | 95 | 99 | 79 | 93 | | 90 |
| 83 | | | 94 | 90 | 85 | 93 | | 90 |
| 83 | | | 86 | 90 | 85 | 93 | | 90 |
| 83 | | | 88 | 90 | | 85 | | 90 |
| 83 | | | 83 | 80 | 84 | 93 | | 90 |
| 83 | | | 89 | 71 | 82 | 85 | | 90 |
| 83 | | | 85 | 80 | 79 | 85 | | 90 |
| 83 | | | 85 | 80 | 79 | 85 | | 90 |
| 83 | | | 81 | 80 | | 85 | | 72 |
| 71 | | | 80 | 80 | 80 | 85 | | 90 |
| 83 | | | 81 | 80 | 78 | 76 | | 72 |
| 83 | | | 80 | 61 | | 85 | | 72 |
| 83 | | | 79 | 80 | 74 | 76 | | 72 |
| 71 | | | 74 | 80 | 79 | 76 | | 72 |
| 71 | | | 74 | 90 | 72 | 76 | 69 | 90 |
| 71 | | | 83 | 71 | | 76 | | 54 |
| 71 | | | 74 | 52 | 75 | 76 | | 72 |
| 71 | 73 | | 66 | 80 | 70 | 67 | 69 | 54 |
| 71 | | | 73 | 52 | 69 | 76 | | 72 |
| 59 | 73 | | 54 | 61 | 65 | 76 | | 72 |
| 59 | | | 64 | 61 | | 58 | | 72 |
| 59 | 69 | | 60 | 71 | 66 | 58 | 66 | 54 |
| 59 | | | 51 | 71 | 68 | 67 | 67 | 54 |
| 71 | 65 | | 46 | 61 | 59 | 58 | 67 | 54 |
| 59 | | | 38 | 61 | 65 | 58 | | 72 |
| 59 | 57 | | 45 | 71 | | 50 | 67 | 54 |
| 59 | 65 | | 47 | 52 | 62 | 50 | | 54 |
| 47 | 57 | | 47 | 52 | 69 | 50 | | 54 |
| 59 | 61 | | 45 | 52 | | 50 | | 54 |
| 59 | 53 | | 37 | 33 | 49 | 50 | | 54 |
| 59 | | | 39 | 52 | 57 | 41 | | 37 |
| 47 | | | 37 | 52 | 53 | 41 | | 37 |
| 47 | 45 | | 46 | 33 | 39 | 41 | 36 | 37 |
| 34 | 28 | | 32 | 33 | 26 | 24 | | 37 |

| Freedom House Nations in Transit Ratings | PERC Asia Risk Guide | Country (2) | CPI2016 (2) | Rank (2) | Number of Sources | Std Error 2016 | Lower CI | Upper CI |
|---|---|---|---|---|---|---|---|---|
| | | Denmark | 90 | 1 | 7 | 2.46 | 86 | 94 |
| | | New Zealar | 90 | 1 | 7 | 2.56 | 86 | 94 |
| | | Finland | 89 | 3 | 7 | 1.46 | 87 | 92 |
| | | Sweden | 88 | 4 | 7 | 1.33 | 85 | 90 |
| | | Switzerland | 86 | 5 | 6 | 1.57 | 83 | 89 |
| | | Norway | 85 | 6 | 7 | 1.85 | 82 | 88 |
| | | Netherlands | 83 | 8 | 7 | 2.32 | 79 | 87 |
| | | Canada | 82 | 9 | 7 | 2.03 | 79 | 85 |
| | | Germany | 81 | 10 | 7 | 2.73 | 77 | 86 |
| | | Luxembour | 81 | 10 | 6 | 1.96 | 78 | 84 |
| | | United King | 81 | 10 | 7 | 2.12 | 77 | 84 |
| | 81 | Australia | 79 | 13 | 8 | 1.27 | 77 | 81 |
| | | Iceland | 78 | 14 | 6 | 3.81 | 71 | 84 |
| | | Belgium | 77 | 15 | 7 | 1.55 | 74 | 79 |
| | | Austria | 75 | 17 | 7 | 1.36 | 73 | 77 |
| | 64 | The United | 74 | 18 | 9 | 3.15 | 69 | 80 |
| | | Ireland | 73 | 19 | 6 | 4.31 | 66 | 80 |
| | 78 | Japan | 72 | 20 | 8 | 3.02 | 67 | 77 |
| 70 | | Estonia | 70 | 22 | 10 | 2.16 | 66 | 73 |
| | | France | 69 | 23 | 7 | 2.97 | 64 | 74 |
| | | Chile | 66 | 24 | 8 | 2.65 | 61 | 70 |
| | | Israel | 64 | 28 | 6 | 2.27 | 60 | 68 |
| 59 | | Poland | 62 | 29 | 10 | 1.77 | 59 | 65 |
| | | Portugal | 62 | 29 | 8 | 2.58 | 58 | 66 |
| 70 | | Slovenia | 61 | 31 | 10 | 2.44 | 57 | 65 |
| | | Spain | 58 | 41 | 7 | 4.09 | 51 | 65 |
| 65 | | Latvia | 57 | 44 | 9 | 2.96 | 52 | 62 |
| 59 | | Czech Rep | 55 | 47 | 9 | 2.24 | 51 | 59 |
| | 50 | Korea (Sou | 53 | 52 | 9 | 2.33 | 49 | 57 |
| 57 | | Slovakia | 51 | 54 | 8 | 3.09 | 46 | 57 |
| 54 | | Hungary | 48 | 57 | 9 | 2.89 | 43 | 53 |
| | | Italy | 47 | 60 | 7 | 3.34 | 42 | 53 |
| | | Greece | 44 | 69 | 7 | 2.5 | 40 | 48 |
| | | Turkey | 41 | 75 | 9 | 1.8 | 38 | 44 |
| | | Mexico | 30 | 123 | 8 | 1.56 | 28 | 33 |

| Min | Max |
|---|---|
| 83 | 99 |
| 79 | 99 |
| 83 | 94 |
| 83 | 93 |
| 80 | 90 |
| 80 | 93 |
| 71 | 90 |
| 73 | 90 |
| 67 | 90 |
| 72 | 85 |
| 71 | 90 |
| 72 | 83 |
| 61 | 85 |
| 72 | 83 |
| 71 | 80 |
| 64 | 90 |
| 54 | 83 |
| 52 | 78 |
| 54 | 80 |
| 52 | 76 |
| 54 | 76 |
| 58 | 72 |
| 54 | 71 |
| 51 | 71 |
| 46 | 71 |
| 38 | 72 |
| 45 | 71 |
| 46 | 65 |
| 47 | 69 |
| 34 | 61 |
| 33 | 59 |
| 37 | 59 |
| 37 | 53 |
| 33 | 49 |
| 24 | 37 |

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA | World Economic Forum EOS |
|---|---|---|---|---|---|---|
| Canada | 82 | 9 | AME | CAN | | 73 |
| Germany | 81 | 10 | WE/EU | DEU | | 67 |
| United Kingdom | 81 | 10 | WE/EU | GBR | | 80 |
| Australia | 79 | 13 | AP | AUS | | 80 |
| The United States of America | 74 | 18 | AME | USA | | 65 |
| Japan | 72 | 20 | AP | JPN | | 78 |
| France | 69 | 23 | WE/EU | FRA | | 69 |
| Korea (South) | 53 | 52 | AP | KOR | | 49 |
| Italy | 47 | 60 | WE/EU | ITA | | 47 |
| Saudi Arabia | 46 | 62 | MENA | SAU | | 66 |
| South Africa | 45 | 64 | SSA | ZAF | | 49 |
| Turkey | 41 | 75 | ECA | TUR | | 49 |
| Brazil | 40 | 79 | AME | BRA | | 28 |
| China | 40 | 79 | AP | CHN | | 53 |
| India | 40 | 79 | AP | IND | | 54 |
| Indonesia | 37 | 90 | AP | IDN | | 40 |
| Argentina | 36 | 95 | AME | ARG | | 29 |
| Mexico | 30 | 123 | AME | MEX | | 29 |
| Russia | 29 | 131 | ECA | RUS | | 38 |

| Global Insight Country Risk Ratings | Bertelsmann Foundation Transformation Index | African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project | Economist Intelligence Unit Country Ratings |
|---|---|---|---|---|---|---|---|---|
| 83 | | | 85 | 80 | 79 | 85 | | 90 |
| 83 | | | 85 | 80 | 79 | 85 | | 90 |
| 71 | | | 80 | 80 | 80 | 85 | | 90 |
| 83 | | | 81 | 80 | 78 | 76 | | 72 |
| 71 | | | 74 | 90 | 72 | 76 | 69 | 90 |
| 71 | | | 74 | 52 | 75 | 76 | | 72 |
| 71 | | | 73 | 52 | 69 | 76 | | 72 |
| 47 | 57 | | 47 | 52 | 69 | 50 | | 54 |
| 59 | | | 39 | 52 | 57 | 41 | | 37 |
| 22 | 36 | | | | | 50 | | 54 |
| 47 | 45 | | 33 | | 47 | 41 | | 54 |
| 47 | 45 | | 46 | 33 | 39 | 41 | 36 | 37 |
| 47 | 61 | | 25 | | 37 | 32 | 51 | 37 |
| 47 | 36 | | 42 | | 37 | 32 | | 37 |
| 34 | 45 | | 39 | | 34 | 41 | | 37 |
| 34 | 36 | | 39 | | 26 | 50 | | 37 |
| 34 | 36 | | 37 | | 46 | 32 | 39 | 37 |
| 34 | 28 | | 32 | 33 | 26 | 24 | | 37 |
| 34 | 28 | | 41 | | 32 | 24 | 18 | 19 |

| Freedom House Nations in Transit Ratings | PERC Asia Risk Guide | Country (2) | CPI2016 (2) | Rank (2) | Number of Sources | Std Error 2016 | Lower CI | Upper CI |
|---|---|---|---|---|---|---|---|---|
| | | Canada | 82 | 9 | 7 | 2.03 | 79 | 85 |
| | | Germany | 81 | 10 | 7 | 2.73 | 77 | 86 |
| | | United King | 81 | 10 | 7 | 2.12 | 77 | 84 |
| | 81 | Australia | 79 | 13 | 8 | 1.27 | 77 | 81 |
| | 64 | The United | 74 | 18 | 9 | 3.15 | 69 | 80 |
| | 78 | Japan | 72 | 20 | 8 | 3.02 | 67 | 77 |
| | | France | 69 | 23 | 7 | 2.97 | 64 | 74 |
| | 50 | Korea (Sou | 53 | 52 | 9 | 2.33 | 49 | 57 |
| | | Italy | 47 | 60 | 7 | 3.34 | 42 | 53 |
| | | Saudi Arab | 46 | 62 | 5 | 7.54 | 33 | 58 |
| | | South Afric | 45 | 64 | 7 | 2.55 | 41 | 49 |
| | | Turkey | 41 | 75 | 9 | 1.8 | 38 | 44 |
| | | Brazil | 40 | 79 | 8 | 4.34 | 33 | 47 |
| | 39 | China | 40 | 79 | 8 | 2.39 | 37 | 44 |
| | 34 | India | 40 | 79 | 8 | 2.47 | 36 | 44 |
| | 35 | Indonesia | 37 | 90 | 8 | 2.39 | 33 | 41 |
| | | Argentina | 36 | 95 | 8 | 1.76 | 33 | 39 |
| | | Mexico | 30 | 123 | 8 | 1.56 | 28 | 33 |
| 25 | | Russia | 29 | 131 | 9 | 2.73 | 24 | 33 |

| Min | Max |
|----:|----:|
| 73 | 90 |
| 67 | 90 |
| 71 | 90 |
| 72 | 83 |
| 64 | 90 |
| 52 | 78 |
| 52 | 76 |
| 47 | 69 |
| 37 | 59 |
| 22 | 66 |
| 33 | 54 |
| 33 | 49 |
| 25 | 61 |
| 32 | 53 |
| 34 | 54 |
| 26 | 50 |
| 29 | 46 |
| 24 | 37 |
| 18 | 41 |

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA | World Economic Forum EOS | Global Insight Country Risk Ratings | Bertelsmann Foundation Transformation Index |
|---|---|---|---|---|---|---|---|---|
| South Africa | 45 | 64 | SSA | ZAF | | 49 | 47 | 45 |
| Brazil | 40 | 79 | AME | BRA | | 28 | 47 | 61 |
| China | 40 | 79 | AP | CHN | | 53 | 47 | 36 |
| India | 40 | 79 | AP | IND | | 54 | 34 | 45 |
| Russia | 29 | 131 | ECA | RUS | | 38 | 34 | 28 |

| African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project | Economist Intelligence Unit Country Ratings | Freedom House Nations in Transit Ratings | PERC Asia Risk Guide |
|---|---|---|---|---|---|---|---|---|
|  | 33 |  | 47 | 41 |  | 54 |  |  |
|  | 25 |  | 37 | 32 | 51 | 37 |  |  |
|  | 42 |  | 37 | 32 |  | 37 |  | 39 |
|  | 39 |  | 34 | 41 |  | 37 |  | 34 |
|  | 41 |  | 32 | 24 | 18 | 19 | 25 |  |

| Country (2) | CPI2016 (2) | Rank (2) | Number of Sources | Std Error 2016 | Lower CI | Upper CI | Min | Max |
|---|---|---|---|---|---|---|---|---|
| South Africa | 45 | 64 | 7 | 2.55 | 41 | 49 | 33 | 54 |
| Brazil | 40 | 79 | 8 | 4.34 | 33 | 47 | 25 | 61 |
| China | 40 | 79 | 8 | 2.39 | 37 | 44 | 32 | 53 |
| India | 40 | 79 | 8 | 2.47 | 36 | 44 | 34 | 54 |
| Russia | 29 | 131 | 9 | 2.73 | 24 | 33 | 18 | 41 |

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA | World Economic Forum EOS | Global Insight Country Risk Ratings |
|---|---|---|---|---|---|---|---|
| Denmark | 90 | 1 | WE/EU | DNK | | 85 | 83 |
| Finland | 89 | 3 | WE/EU | FIN | | 91 | 83 |
| Sweden | 88 | 4 | WE/EU | SWE | | 86 | 83 |
| Netherlands | 83 | 8 | WE/EU | NLD | | 82 | 83 |
| Germany | 81 | 10 | WE/EU | DEU | | 67 | 83 |
| Luxembourg | 81 | 10 | WE/EU | LUX | | 85 | 83 |
| United Kingdom | 81 | 10 | WE/EU | GBR | | 80 | 71 |
| Belgium | 77 | 15 | WE/EU | BEL | | 73 | 83 |
| Austria | 75 | 17 | WE/EU | AUT | | 73 | 71 |
| Ireland | 73 | 19 | WE/EU | IRL | | 83 | 71 |
| Estonia | 70 | 22 | WE/EU | EST | | 76 | 71 |
| France | 69 | 23 | WE/EU | FRA | | 69 | 71 |
| Poland | 62 | 29 | WE/EU | POL | | 56 | 59 |
| Portugal | 62 | 29 | WE/EU | PRT | | 59 | 59 |
| Slovenia | 61 | 31 | WE/EU | SVN | | 58 | 71 |
| Lithuania | 59 | 38 | WE/EU | LTU | | 56 | 59 |
| Spain | 58 | 41 | WE/EU | ESP | | 51 | 59 |
| Latvia | 57 | 44 | WE/EU | LVA | | 48 | 59 |
| Cyprus | 55 | 47 | WE/EU | CYP | | 49 | 47 |
| Czech Republic | 55 | 47 | WE/EU | CZE | | 46 | 59 |
| Malta | 55 | 47 | WE/EU | MLT | | 54 | 59 |
| Slovakia | 51 | 54 | WE/EU | SVK | | 34 | 59 |
| Croatia | 49 | 55 | WE/EU | HRV | | 39 | 47 |
| Hungary | 48 | 57 | WE/EU | HUN | | 43 | 59 |
| Romania | 48 | 57 | WE/EU | ROM | | 37 | 59 |
| Italy | 47 | 60 | WE/EU | ITA | | 47 | 59 |
| Greece | 44 | 69 | WE/EU | GRC | | 42 | 47 |
| Bulgaria | 41 | 75 | WE/EU | BGR | | 38 | 34 |

| Bertelsmann Foundation Transformation Index | African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project | Economist Intelligence Unit Country Ratings | Freedom House Nations in Transit Ratings |
|---|---|---|---|---|---|---|---|---|
|  |  | 98 | 99 | 85 | 93 |  | 90 |  |
|  |  | 94 | 90 | 85 | 93 |  | 90 |  |
|  |  | 86 | 90 | 85 | 93 |  | 90 |  |
|  |  | 89 | 71 | 82 | 85 |  | 90 |  |
|  |  | 85 | 80 | 79 | 85 |  | 90 |  |
|  |  | 81 | 80 |  | 85 |  | 72 |  |
|  |  | 80 | 80 | 80 | 85 |  | 90 |  |
|  |  | 79 | 80 | 74 | 76 |  | 72 |  |
|  |  | 74 | 80 | 79 | 76 |  | 72 |  |
|  |  | 83 | 71 |  | 76 |  | 54 |  |
| 73 |  | 66 | 80 | 70 | 67 | 69 | 54 | 70 |
|  |  | 73 | 52 | 69 | 76 |  | 72 |  |
| 69 |  | 60 | 71 | 66 | 58 | 66 | 54 | 59 |
|  |  | 51 | 71 | 68 | 67 | 67 | 54 |  |
| 65 |  | 46 | 61 | 59 | 58 | 67 | 54 | 70 |
| 65 |  | 53 | 61 |  | 58 | 64 | 54 | 59 |
|  |  | 38 | 61 | 65 | 58 |  | 72 |  |
| 57 |  | 45 | 71 |  | 50 | 67 | 54 | 65 |
|  |  |  | 42 |  | 67 |  | 72 |  |
| 65 |  | 47 | 52 | 62 | 50 |  | 54 | 59 |
|  |  |  | 52 |  | 58 |  | 54 |  |
| 61 |  | 45 | 52 |  | 50 |  | 54 | 57 |
| 61 |  | 38 | 52 | 50 | 50 |  | 54 | 52 |
| 53 |  | 37 | 33 | 49 | 50 |  | 54 | 54 |
| 61 |  | 37 | 52 | 49 | 41 | 52 | 37 | 57 |
|  |  | 39 | 52 | 57 | 41 |  | 37 |  |
|  |  | 37 | 52 | 53 | 41 |  | 37 |  |
| 53 |  | 37 | 42 | 38 | 42 |  | 37 | 52 |

| PERC Asia Risk Guide | Country (2) | CPI2016 (2) | Rank (2) | Number of Sources | Std Error 2016 | Lower CI | Upper CI | Min |
|---|---|---|---|---|---|---|---|---|
| | Denmark | 90 | 1 | 7 | 2.46 | 86 | 94 | 83 |
| | Finland | 89 | 3 | 7 | 1.46 | 87 | 92 | 83 |
| | Sweden | 88 | 4 | 7 | 1.33 | 85 | 90 | 83 |
| | Netherlands | 83 | 8 | 7 | 2.32 | 79 | 87 | 71 |
| | Germany | 81 | 10 | 7 | 2.73 | 77 | 86 | 67 |
| | Luxembour | 81 | 10 | 6 | 1.96 | 78 | 84 | 72 |
| | United King | 81 | 10 | 7 | 2.12 | 77 | 84 | 71 |
| | Belgium | 77 | 15 | 7 | 1.55 | 74 | 79 | 72 |
| | Austria | 75 | 17 | 7 | 1.36 | 73 | 77 | 71 |
| | Ireland | 73 | 19 | 6 | 4.31 | 66 | 80 | 54 |
| | Estonia | 70 | 22 | 10 | 2.16 | 66 | 73 | 54 |
| | France | 69 | 23 | 7 | 2.97 | 64 | 74 | 52 |
| | Poland | 62 | 29 | 10 | 1.77 | 59 | 65 | 54 |
| | Portugal | 62 | 29 | 8 | 2.58 | 58 | 66 | 51 |
| | Slovenia | 61 | 31 | 10 | 2.44 | 57 | 65 | 46 |
| | Lithuania | 59 | 38 | 9 | 1.36 | 57 | 61 | 53 |
| | Spain | 58 | 41 | 7 | 4.09 | 51 | 65 | 38 |
| | Latvia | 57 | 44 | 9 | 2.96 | 52 | 62 | 45 |
| | Cyprus | 55 | 47 | 5 | 5.94 | 46 | 65 | 42 |
| | Czech Rep | 55 | 47 | 9 | 2.24 | 51 | 59 | 46 |
| | Malta | 55 | 47 | 5 | 1.39 | 53 | 58 | 52 |
| | Slovakia | 51 | 54 | 8 | 3.09 | 46 | 57 | 34 |
| | Croatia | 49 | 55 | 9 | 2.39 | 45 | 53 | 38 |
| | Hungary | 48 | 57 | 9 | 2.89 | 43 | 53 | 33 |
| | Romania | 48 | 57 | 10 | 3 | 43 | 53 | 37 |
| | Italy | 47 | 60 | 7 | 3.34 | 42 | 53 | 37 |
| | Greece | 44 | 69 | 7 | 2.5 | 40 | 48 | 37 |
| | Bulgaria | 41 | 75 | 9 | 2.2 | 38 | 45 | 34 |

| Max |
|-----|
| 99 |
| 94 |
| 93 |
| 90 |
| 90 |
| 85 |
| 90 |
| 83 |
| 80 |
| 83 |
| 80 |
| 76 |
| 71 |
| 71 |
| 71 |
| 65 |
| 72 |
| 71 |
| 72 |
| 65 |
| 59 |
| 61 |
| 61 |
| 59 |
| 61 |
| 59 |
| 53 |
| 53 |

| Country | CPI2016 | Rank | Region | WB Code | World Bank CPIA | World Economic Forum EOS | Global Insight Country Risk Ratings |
|---|---|---|---|---|---|---|---|
| United Arab Emirates | 66 | 24 | MENA | ARE | | 86 | 47 |
| Qatar | 61 | 31 | MENA | QAT | | 82 | 47 |
| Jordan | 48 | 57 | MENA | JOR | | 60 | 34 |
| Saudi Arabia | 46 | 62 | MENA | SAU | | 66 | 22 |
| Oman | 45 | 64 | MENA | OMN | | 67 | 47 |
| Bahrain | 43 | 70 | MENA | BHR | | 66 | 34 |
| Kuwait | 41 | 75 | MENA | KWT | | 43 | 34 |
| Tunisia | 41 | 75 | MENA | TUN | | 37 | 47 |
| Morocco | 37 | 90 | MENA | MAR | | 42 | 34 |
| Algeria | 34 | 108 | MENA | DZA | | 33 | 22 |
| Egypt | 34 | 108 | MENA | EGY | | 42 | 22 |
| Djibouti | 30 | 123 | SSA | DJI | 24 | | 47 |
| Lebanon | 28 | 136 | MENA | LBN | | 23 | 22 |
| Mauritania | 27 | 142 | SSA | MRT | 35 | 15 | 22 |
| Comoros | 24 | 153 | SSA | COM | 24 | | 47 |
| Iraq | 17 | 166 | MENA | IRQ | | | 10 |
| Libya | 14 | 170 | MENA | LBY | | | 10 |
| Sudan | 14 | 170 | SSA | SDN | 2 | | 22 |
| Yemen | 14 | 170 | MENA | YEM | 2 | 12 | 10 |
| Syria | 13 | 173 | MENA | SYR | | | 10 |
| Somalia | 10 | 176 | SSA | SOM | | | 10 |

| Bertelsmann Foundation Transformation Index | African Development Bank CPIA | IMD World Competitiveness Yearbook | Bertelsmann Foundation Sustainable Governance Index | World Justice Project Rule of Law Index | PRS International Country Risk Guide | Varities of Democracy Project | Economist Intelligence Unit Country Ratings | Freedom House Nations in Transit Ratings |
|---|---|---|---|---|---|---|---|---|
| 53 | | 81 | | 73 | 67 | | 54 | |
| 40 | | 80 | | | 67 | 39 | 72 | |
| 40 | | 53 | | 50 | 50 | 40 | 54 | |
| 36 | | | | | 50 | | 54 | |
| 24 | | | | | 50 | | 37 | |
| 36 | | | | | 41 | | 37 | |
| 40 | | | | | 50 | | 37 | |
| 28 | | | | 37 | 41 | 61 | 37 | |
| 28 | | | | 37 | 41 | 39 | 37 | |
| 36 | | | | | 32 | 44 | 37 | |
| 32 | | | | 37 | 32 | | 37 | |
| | 20 | | | | | | | |
| 20 | | | | 30 | 32 | 34 | 37 | |
| 32 | 29 | | | | | | | |
| | 2 | | | | | | | |
| 20 | | | | | 15 | 19 | 19 | |
| 12 | | | | | 15 | | 19 | |
| 16 | 11 | | | | 6 | 22 | 19 | |
| 28 | | | | | 15 | 14 | 19 | |
| 8 | | | | | 15 | 12 | 19 | |
| 8 | 0 | | | | 15 | 17 | | |

| PERC Asia Risk Guide | Country (2) | CPI2016 (2) | Rank (2) | Number of Sources | Std Error 2016 | Lower CI | Upper CI | Min |
|---|---|---|---|---|---|---|---|---|
| | United Arab | 66 | 24 | 7 | 5.7 | 56 | 75 | 47 |
| | Qatar | 61 | 31 | 7 | 7.02 | 49 | 72 | 39 |
| | Jordan | 48 | 57 | 8 | 3.03 | 43 | 53 | 34 |
| | Saudi Arab | 46 | 62 | 5 | 7.54 | 33 | 58 | 22 |
| | Oman | 45 | 64 | 5 | 7.07 | 33 | 56 | 24 |
| | Bahrain | 43 | 70 | 5 | 5.96 | 33 | 53 | 34 |
| | Kuwait | 41 | 75 | 5 | 2.67 | 37 | 45 | 34 |
| | Tunisia | 41 | 75 | 7 | 3.9 | 35 | 47 | 28 |
| | Morocco | 37 | 90 | 7 | 1.74 | 34 | 40 | 28 |
| | Algeria | 34 | 108 | 6 | 2.94 | 29 | 39 | 22 |
| | Egypt | 34 | 108 | 6 | 2.72 | 29 | 38 | 22 |
| | Djibouti | 30 | 123 | 3 | 8.23 | 17 | 44 | 20 |
| | Lebanon | 28 | 136 | 7 | 2.5 | 24 | 32 | 20 |
| | Mauritania | 27 | 142 | 5 | 3.62 | 21 | 33 | 15 |
| | Comoros | 24 | 153 | 3 | 12.81 | 3 | 45 | 2 |
| | Iraq | 17 | 166 | 5 | 1.87 | 14 | 20 | 10 |
| | Libya | 14 | 170 | 4 | 2 | 11 | 17 | 10 |
| | Sudan | 14 | 170 | 7 | 2.99 | 9 | 19 | 2 |
| | Yemen | 14 | 170 | 7 | 3.05 | 9 | 19 | 2 |
| | Syria | 13 | 173 | 5 | 1.97 | 10 | 16 | 8 |
| | Somalia | 10 | 176 | 5 | 2.98 | 5 | 15 | 0 |

| Max |
|-----|
| 86 |
| 82 |
| 60 |
| 66 |
| 67 |
| 66 |
| 50 |
| 61 |
| 42 |
| 44 |
| 42 |
| 47 |
| 37 |
| 35 |
| 47 |
| 20 |
| 19 |
| 22 |
| 28 |
| 19 |
| 17 |

**APPENDIX 3**

| Comparison of Models | Australia | Brazil | China | India |
|---|---|---|---|---|
| AIC | 2271.8 | 2784.9 | 3223.2 | 3281.8 |
| McFadden R2 | 0.03956 | 0.03673 | 0.02849 | 0.03917 |
| Adj McFadden R2 | 0.03359 | 0.00671 | 0.01377 | 0.03267 |
| Correct Classifications | 70.61281 | 66.39061 | 56.58648 | 47.98147 |
| | | | | |
| AIC | 2259.4 | 2781 | 3208.3 | 3192.8 |
| McFadden | 0.014948 | 0.0320685 | 0.024533 | 0.031921 |
| McFadden Adj | 0.008757 | 0.000415515 | 0.009584 | 0.025158 |
| Correct Predictions | 70.54318 | 66.39061 | 56.18557 | 46.85639 |
| | | | | |
| | LR        df | LR        df | LR        df | LR        df |
| LR Test Standard vs Nominal | 24.342      6 *** | 3.9223      0 | 36.927      11 *** | 105.06      8 *** |

AIC (Akaike Information Criteria) is given for these models to allow comparison with the standard model (lower AIC is better). The McFadden R squared (1974) is reported. The adjusted version takes into account the number of regressors.

Correct Classifications give the percentage of correctly predicted calssifications based on the ordered logit model.

The LR test of equivalence between the two models is reported. Note that USA is not siginificant at 10% but is significant at 10.5%.

The Spanish results are for a scale model as the nominal model did not converge and this was caused by the variables having an impact on the dispersal of the residuals. This is dealt with using the scale model reported here.

**APPENDIX 3**

| Comparison of Models | Poland | | Russia | | Singapore | | South Afirca | |
|---|---|---|---|---|---|---|---|---|
| AIC | 1668.0 | | 4616.8 | | 3673.4 | | 7942.0 | |
| McFadden R2 | 0.01614 | | 0.04598 | | 0.04172 | | 0.06555 | |
| Adj McFadden R2 | 0.01138 | | 0.02999 | | 0.03435 | | 0.05939 | |
| Correct Classifications | 56.43564 | | 50.59037 | | 54.19847 | | 45.58909 | |
| | | | | | | | | |
| AIC | 1668.8 | | 4610.6 | | 3647.3 | | 7817.9 | |
| McFadden | 0.00939 | | 0.03232453 | | 0.019931 | | 0.044482 | |
| McFadden Adj | 0.004589 | | 0.01599823 | | 0.012294 | | 0.038059 | |
| Correct Predictions | 55.9956 | | 50.45413 | | 54.0458 | | 47.93964 | |
| | | | | | | | | |
| | LR | df | LR | df | LR | df | LR | df |
| LR Test Standard vs Nominal | 3.2857 | 2 | 30.164 | 12 ** | 46.096 | 10 *** | 148.14 | 12 *** |

AIC (Akaike Information Criteria) is given for these models to allow comparison with the standard model (lower AIC is better). The McFadden R squared (1974) is reported. The adjusted version takes into account the number of regressors.

Correct Classifications give the percentage of correctly predicted calssifications based on the ordered logit model.

The LR test of equivalence between the two models is reported. Note that USA is not siginificant at 10% but is significant at 10.5%.

The Spanish results are for a scale model as the nominal model did not converge and this was caused by the variables having an impact on the dispersal of the residuals. This is dealt with using the scale model reported here.

**APPENDIX 3**

| Comparison of Models | Sweden | Spain | USA | Zimbabwe |
|---|---|---|---|---|
| AIC | 2057.9 | 1562.0 | 3238.5 | 2834.2 |
| McFadden R2 | 0.04803 | 0.03271 | 0.05897 | 0.03354 |
| Adj McFadden R2 | 0.01440 | 0.01248 | 0.04659 | 0.03217 |
| Correct Classifications | 61.32159 | 68.46767 | 71.42191 | 57.46667 |
| | | | | |
| AIC | 1562 | 2037.7 | 3238.8 | 2829.7 |
| McFadden | 0.02243 | 0.04157921 | 0.052554 | 0.023645 |
| McFadden Adj | 0.001958 | 0.007028058 | 0.040051 | 0.022258 |
| Correct Predictions | 68.55624 | 62.46696 | 71.28205 | 57.26667 |
| | | | | |
| | LR        df | LR        df | LR        df | LR        df |
| LR Test Standard vs Nominal | 1.8399        2 | 40.109        10 *** | 7.768        4 | 8.4951        2 * |

AIC (Akaike Information Criteria) is given for these models to allow comparison with the standard model (lower AIC is better). The McFadden R squared (1974) is reported. The adjusted version takes into account the number of regressors.

Correct Classifications give the percentage of correctly predicted calssifications based on the ordered logit model.

The LR test of equivalence between the two models is reported. Note that USA is not siginificant at 10% but is significant at 10.5%.

The Spanish results are for a scale model as the nominal model did not converge and this was caused by the variables having an impact on the dispersal of the residuals. This is dealt with using the scale model reported here.

# Tests for Parallel Shifts in the Ordered Logit Models By Variable

|  |  | Df | logLik | AIC | LRT | Pr(>Chi) |
|---|---|---|---|---|---|---|
| Australia | <none> |  | -1125.9 | 2271.8 |  |  |
|  | V137 | 4 | -1123 | 2274.1 | 5.6887 | 0.22363 |
|  | V148 | 4 | -1123 | 2274 | 5.7434 | 0.21915 |
|  | V240 | 2 | -1120.9 | 2265.9 | 9.8926 | 0.00711 ** |
|  | V248 | 4 | -1119.4 | 2266.7 | 13.0458 | 0.01105 * |
| Brazil | <none> |  | -1347.5 | 2784.9 |  |  |
|  | V23 | 2 | -1344.6 | 2783.2 | 5.7476 | 0.0564837 . |
|  | V28 | 6 | -1343.3 | 2788.6 | 8.3154 | 0.2158967 |
|  | V29 | 4 | -1343.2 | 2784.5 | 8.4196 | 0.0773635 . |
|  | V57 | 4 | -1344.9 | 2787.8 | 5.1231 | 0.2748979 |
|  | V59 | 2 | -1344 | 2782 | 6.875 | 0.0321449 * |
|  | V108 | 4 | -1345.2 | 2788.5 | 4.4333 | 0.3505295 |
|  | V115 | 4 | -1346.4 | 2790.8 | 2.1139 | 0.7148175 |
|  | V120 | 4 | -1345.8 | 2789.5 | 3.4227 | 0.4897258 |
|  | V130 | 4 | -1343.5 | 2785 | 7.9421 | 0.0937218 . |
|  | V133 | 4 | -1342.8 | 2783.7 | 9.2259 | 0.0556945 . |
|  | V137 | 4 | -1345.3 | 2788.6 | 4.3015 | 0.3667364 |
|  | V138 | 4 | -1341.3 | 2780.6 | 12.3564 | 0.0148884 * |
|  | V140 | 4 | -1339.2 | 2776.3 | 16.5703 | 0.002342 ** |
|  | V141 | 4 | -1340.9 | 2779.8 | 13.1252 | 0.0106799 * |
|  | V147 | 6 | -1334.7 | 2771.4 | 25.5601 | 0.0002688 *** |
|  | V148 | 4 | -1343.3 | 2784.5 | 8.405 | 0.0778206 . |
|  | V149 | 4 | -1343.9 | 2785.9 | 7.0261 | 0.1345132 |
|  | V211 | 6 | -1340.8 | 2783.5 | 13.3721 | 0.0374934 * |
|  | V227 | 4 | -1343.8 | 2785.7 | 7.2259 | 0.1244211 |
|  | V240 | 2 | -1347 | 2788.1 | 0.8618 | 0.6499204 |
| China | <none> |  | -1584.6 | 3223.2 |  |  |
|  | V23 | 2 | -1583.2 | 3224.4 | 2.7765 | 0.249508 |
|  | V59 | 2 | -1584.4 | 3226.8 | 0.4677 | 0.79147 |
|  | V117 | 4 | -1583.3 | 3228.6 | 2.6256 | 0.622303 |
|  | V120 | 4 | -1581.1 | 3224.2 | 7.062 | 0.132649 |
|  | V121 | 4 | -1580.2 | 3222.5 | 8.7608 | 0.067363 . |
|  | V130 | 4 | -1582.9 | 3227.9 | 3.3681 | 0.498212 |
|  | V131 | 4 | -1584.3 | 3230.6 | 0.6543 | 0.956842 |
|  | V140 | 4 | -1582 | 3225.9 | 5.2976 | 0.258099 |
|  | V147 | 6 | -1577.3 | 3220.6 | 14.6537 | 0.023128 * |
|  | V148 | 4 | -1580.8 | 3223.7 | 7.5295 | 0.110417 |
|  | V149 | 4 | -1576.2 | 3214.3 | 16.891 | 0.00203 ** |
|  | V227 | 4 | -1575.5 | 3213 | 18.2295 | 0.001113 ** |
|  | V240 | 2 | -1584.2 | 3226.4 | 0.8198 | 0.663722 |

| Country | Variable | | LogLik | AIC | LRT | p-value | |
|---|---|---|---|---|---|---|---|
| India | <none> | | -1626.9 | 3281.8 | | | |
| | V24 | 2 | -1609.5 | 3251 | 34.815 | 2.76E-08 | *** |
| | V95 | 2 | -1600.2 | 3232.3 | 53.482 | 2.44E-12 | *** |
| | V130 | | | | | | |
| | V137 | 2 | -1626.8 | 3285.5 | 0.298 | 0.861409 | |
| | V148 | | | | | | |
| | V238 | 4 | -1621.2 | 3278.4 | 11.418 | 0.02225 | * |
| | V248 | 4 | -1616.7 | 3269.3 | 20.499 | 0.000398 | *** |
| Poland | <none> | | -827.02 | 1668 | | | |
| | V24 | 2 | -825.38 | 1668.8 | 3.2857 | 0.1934 | |
| | V137 | 4 | -824.84 | 1671.7 | 4.3581 | 0.3597 | |
| | V240 | 2 | -826.27 | 1670.5 | 1.4985 | 0.4727 | |
| Russia | <none> | | -2267.4 | 4616.8 | | | |
| | V10 | 4 | -2265.6 | 4621.3 | 3.4928 | 0.478978 | |
| | V23 | 2 | -2267.2 | 4620.3 | 0.4634 | 0.793181 | |
| | V24 | 2 | -2266.3 | 4618.6 | 2.1198 | 0.346497 | |
| | V29 | 4 | -2263.8 | 4617.6 | 7.1989 | 0.125743 | |
| | V57 | 4 | -2265.2 | 4620.5 | 4.2806 | 0.36936 | |
| | V95 | 4 | -2264.8 | 4619.6 | 5.1465 | 0.272591 | |
| | V108 | 4 | -2264.5 | 4618.9 | 5.8119 | 0.213646 | |
| | V115 | 4 | -2258.9 | 4607.7 | 17.0236 | 0.001913 | |
| | V131 | 4 | -2266.4 | 4622.7 | 2.0301 | 0.730225 | |
| | V137 | 4 | -2264.5 | 4619.1 | 5.6976 | 0.222895 | |
| | V138 | 4 | -2266.3 | 4622.6 | 2.1506 | 0.708081 | |
| | V141 | 4 | -2264.8 | 4619.6 | 5.1319 | 0.274026 | |
| | V148 | 4 | -2265.8 | 4621.5 | 3.2283 | 0.520369 | |
| | V211 | 6 | -2263.4 | 4620.9 | 7.8646 | 0.248191 | |
| | V226 | 4 | -2262 | 4613.9 | 10.8097 | 0.028788 | |
| | V227 | 4 | -2261.4 | 4612.9 | 11.9057 | 0.018066 | |
| | V238 | 4 | -2262.7 | 4615.4 | 9.3062 | 0.053886 | |
| | V240 | 2 | -2266.9 | 4619.8 | 1.0049 | 0.60506 | |
| | V248 | 4 | -2265.9 | 4621.7 | 3.0393 | 0.551276 | |
| Singapore | <none> | | -1819.7 | 3673.4 | | | |
| | V23 | 2 | -1819.7 | 3677.4 | 0.033 | 0.9836165 | |
| | V28 | 4 | -1810 | 3662.1 | 19.3565 | 0.0006688 | *** |
| | V57 | 2 | -1819.2 | 3676.4 | 0.9972 | 0.6073744 | |
| | V59 | 2 | -1818 | 3674 | 3.4345 | 0.1795623 | |
| | V115 | 2 | -1813.4 | 3664.7 | 12.7044 | 0.0017429 | ** |
| | V131 | 2 | -1814.7 | 3667.5 | 9.9646 | 0.0068584 | ** |
| | V133 | 2 | -1816.7 | 3671.3 | 6.0836 | 0.0477498 | * |
| | V137 | 2 | -1814.8 | 3667.5 | 9.9197 | 0.0070139 | ** |
| | V138 | 2 | -1816.7 | 3671.4 | 6.0203 | 0.0492844 | * |
| | V147 | 4 | -1818.8 | 3679.5 | 1.8866 | 0.7566024 | |
| South Africa | <none> | | -3942 | 7942 | | | |
| | V28 | 4 | -3937.4 | 7940.9 | 9.191 | 0.056505 | . |
| | V59 | 2 | -3941.9 | 7945.8 | 0.217 | 0.897161 | |
| | V95 | 4 | -3932.7 | 7931.3 | 18.698 | 0.000901 | *** |
| | V108 | 4 | -3929.1 | 7924.1 | 25.894 | 3.32E-05 | *** |
| | V115 | 4 | -3934.1 | 7934.3 | 15.745 | 0.003382 | ** |

|  | Variable | df | logLik | AIC | LRT | Pr(>Chi) | |
|---|---|---|---|---|---|---|---|
|  | V116 | 4 | -3936.5 | 7939.1 | 10.972 | 0.026877 | * |
|  | V120 | 4 | -3934 | 7934 | 16.041 | 0.002965 | ** |
|  | V121 | 4 | -3929.3 | 7924.6 | 25.428 | 4.13E-05 | *** |
|  | V133 | 4 | -3891.8 | 7849.6 | 100.393 | < 2.2e-16 | *** |
|  | V138 | 4 | -3893 | 7852 | 98.057 | < 2.2e-16 | *** |
|  | V140 | 4 | -3934.3 | 7934.5 | 15.501 | 0.003767 | ** |
|  | V211 | 6 | -3926.6 | 7923.1 | 30.909 | 2.64E-05 | *** |
|  | V238 | 4 | -3929.8 | 7925.7 | 24.38 | 6.70E-05 | *** |
| Sweden | <none> |  | -990.93 | 2057.8 |  |  | |
|  | V24 | 2 | -981.58 | 2043.2 | 18.6848 | 8.76E-05 | *** |
|  | V29 | 4 | -985.18 | 2054.3 | 11.4977 | 0.0215 | * |
|  | V108 | 4 | -985.41 | 2054.8 | 11.0241 | 0.02629 | * |
|  | V115 | 4 | -986.6 | 2057.2 | 8.6582 | 0.07024 | . |
|  | V116 | 4 | -986.16 | 2056.3 | 9.5279 | 0.04918 | * |
|  | V120 | 4 | -987.78 | 2059.6 | 6.2924 | 0.17835 | |
|  | V130 | 4 | -987.91 | 2059.8 | 6.0385 | 0.19629 | |
|  | V133 | 4 | -987.61 | 2059.2 | 6.6361 | 0.15641 | |
|  | V138 | 4 | -987.31 | 2058.6 | 7.2257 | 0.12443 | |
|  | V148 | 4 | -985.03 | 2054.1 | 11.7913 | 0.01897 | * |
|  | V149 | 4 | -984.88 | 2053.8 | 12.1009 | 0.01662 | * |
|  | V211 | 6 | -988.64 | 2065.3 | 4.5625 | 0.60101 | |
|  | V238 | 4 | -987.12 | 2058.2 | 7.6219 | 0.10645 | |
|  | V240 | 2 | -989.98 | 2060 | 1.8844 | 0.38978 | |
|  | V246 | 4 | -989.9 | 2063.8 | 2.0562 | 0.72543 | |
|  | V248 | 4 | -988.62 | 2061.2 | 4.611 | 0.32959 | |
| Spain | <none> |  | -764.94 | 1567.9 |  |  | |
|  | V24 | 2 | -762.41 | 1566.8 | 5.0723 | 0.07917 | . |
|  | V137 | 4 | -762.54 | 1571.1 | 4.8132 | 0.30701 | |
|  | V147 | 6 | -763.67 | 1577.3 | 2.5344 | 0.8646 | |
|  | V148 | 4 | -761.87 | 1569.8 | 6.1383 | 0.18906 | |
|  | V149 | 4 | -762.35 | 1570.7 | 5.1827 | 0.26906 | |
| Spain (Scale Effect) | <none> |  | -764.94 | 1567.9 |  |  | |
|  | V24 | 1 | -761.14 | 1562.3 | 7.6119 | 0.005798 | ** |
|  | V108 | 2 | -764.26 | 1570.5 | 1.3588 | 0.506931 | |
|  | V137 | 2 | -764.07 | 1570.1 | 1.7474 | 0.417406 | |
|  | V141 | 2 | -758.54 | 1559.1 | 12.8004 | 0.001661 | ** |
|  | V147 | 3 | -764.66 | 1573.3 | 0.5623 | 0.904999 | |
|  | V148 | 2 | -763.44 | 1568.9 | 3.0002 | 0.223103 | |
|  | V149 | 2 | -763.57 | 1569.1 | 2.7388 | 0.254265 | |
| USA | <none> |  | -1595.3 | 3238.5 |  |  | |
|  | V23 | 2 | -1593.9 | 3239.8 | 2.7467 | 0.25326 | |
|  | V24 | 2 | -1593.2 | 3238.3 | 4.2393 | 0.12007 | |
|  | V57 | 2 | -1595.1 | 3242.2 | 0.3787 | 0.82749 | |
|  | V59 | 2 | -1592.9 | 3237.7 | 4.7936 | 0.09101 | . |
|  | V131 | 4 | -1592.8 | 3241.6 | 4.9354 | 0.29399 | |
|  | V133 | 4 | -1592.6 | 3241.2 | 5.3153 | 0.25645 | |
|  | V240 | 2 | -1594.6 | 3241.2 | 1.3017 | 0.5216 | |
|  | V246 | 4 | -1592.1 | 3240.3 | 6.2709 | 0.17981 | |
| Zimbabwe | <none> |  | -1412.1 | 2834.2 |  |  | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | V138 | 2 | -1410.4 | 2834.9 | 3.2868 | 0.1933 |
| | V141 | 2 | -1407.8 | 2829.7 | 8.4951 | 0.0143 * |

Estimates For Ordered Logit With Nominal Effects Included

| Australia | | Ordered Logit Estimates (Full Model) | | | Ordered Logit Estimates (Nominal Model) | | |
|---|---|---|---|---|---|---|---|
| | | Estimate | *SE* | | Estimate | *SE* | |
| v10 - Happiness | V10NoAnswer | | | | | | |
| | V10Not_happy | | | | | | |
| v23 - Life Satisfaction | V23Satisfied | | | | | | |
| | V24Needtobeverycareful | | | | | | |
| v28 - Labor Union Member | V28Inactivemember | | | | | | |
| | V28Notamember | | | | | | |
| | V29NoAnswer | | | | | | |
| v29 - Political party member | V29Inactivemember | | | | | | |
| | V57NoAnswer | | | | | | |
| v57 - Marital Status | V57Together | | | | | | |
| v59 - Financial satisfaction | V59Satisfied | | | | | | |
| v95 - political views | V95Right | | | | | | |
| | V95NoAnswer | | | | | | |
| v108 - Confidence in churches | V108NoAnswer | | | | | | |
| | V108NotConfident | | | | | | |
| v115 - Confidence in government | V115NoAnswer | | | | | | |
| | V115NotConfident | | | | | | |
| v116 - confidence in Political parties | V116NoAnswer | | | | | | |
| | V116NotConfident | | | | | | |
| v117 - Confidence in Parliament | V117NoAnswer | | | | | | |
| | V117NotConfident | | | | | | |
| v120 - Confidence in major companies | V120NoAnswer | | | | | | |
| | V120NotConfident | | | | | | |
| v121 - Confidence in Banks | V121NoAnswer | | | | | | |
| | V121NotConfident | | | | | | |
| v130 - Governance/Democracy | V130Bad | | | | | | |
| | V130Good | | | | | | |
| v131 - equalisation of taxation | V131Essential | | | | | | |
| | V131NoAnswer | | | | | | |
| v133 - choice of leadership | V133Essential | | | | | | |
| | V133NoAnswer | | | | | | |
| v137 - equalisation of income | V137Essential | -0.62209 | 0.13965 | *** | -0.62048 | 0.1399 | *** |
| | V137NoAnswer | -0.36504 | 0.45211 | | -0.35777 | 0.4527 | |
| v138 - obedience to rulers | V138Essential | | | | | | |
| | V138NoAnswer | | | | | | |
| v140 - importance of democratic governance | V140Important | | | | | | |
| | V140NoAnswer | | | | | | |
| v141 - scale of democratice governance | V141Democratic | | | | | | |
| | V141NoAnswer | | | | | | |
| v147 - level of religiosity | V147NoAnswer | | | | | | |
| | V147NotReligious | | | | | | |
| | V147Religious | | | | | | |
| v148 - Belief in God | V148No | 0.08335 | 0.43590 | | 0.09414 | 0.4361 | |
| | V148Yes | -0.34428 | 0.43260 | | -0.33683 | 0.4327 | |
| v149 - Belief in Hell | V149No | | | | | | |
| | V149Yes | | | | | | |
| v211 - National Pride | V211NA | | | | | | |
| | V211Notproud | | | | | | |
| | V211Proud | | | | | | |
| v226 - Voter Participation (Local) | V226NoAnswer | | | | | | |
| | V226Never | | | | | | |
| v227 - Voter participation (National) | V227NoAnswer | | | | | | |
| | V227Never | | | | | | |
| v238 - Class | V238NoAnswer | | | | | | |
| | V238Upper | | | | | | |
| v240 - Gender | V240Male | 0.56571 | 0.11609 | *** | | | |
| v246 - Citizenship | V246No | | | | | | |
| | V246Yes | | | | | | |
| v248 - Level of Education | V248Incomplete_some_level | -0.37092 | 0.13673 | ** | | | |
| | V248NoAnswer | -0.77192 | 0.14253 | *** | | | |
| | Never_justifiable\|Sometimes (Intercept) | 0.3543 | 0.4400 | | 0.3248 | 0.4404 | |

| Threshold | Model 1 | | Model 2 | | |
|---|---|---|---|---|---|
| Sometimes\|Often  (Intercept) | 2.6231 | 0.4521 | 3.0529 | 0.4961 | |
| Often\|Always_justifiable  (Intercept) | 3.9626 | 0.4888 | 5.7354 | 0.9438 | |
| Never_justifiable\|Sometimes V240Male | | | -0.5551 | 0.1179 | |
| Sometimes\|Often V240Male | | | -0.7365 | 0.2532 | |
| Often\|Always_justifiable V240Male | | | -2.622 | 0.8537 | |
| Never_justifiable\|Sometimes V248Incomplete_some_level | | | 0.4404 | 0.1387 | |
| Sometimes\|Often V248Incomplete_some_level | | | -0.2866 | 0.271 | *** |
| Often\|Always_justifiable V248Incomplete_some_level | | | -0.2471 | 0.4366 | |
| Never_justifiable\|Sometimes V248NoAnswer | | | 0.8151 | 0.1444 | |
| Sometimes\|Often V248NoAnswer | | | 0.2765 | 0.3073 | |
| Often\|Always_justifiable V248NoAnswer | | | 1.7325 | 0.8522 | |

| | | | | |
|---|---|---|---|---|
| AIC | 2271.8 | | 2259.4 | |
| McFadden | 0.03956 | | 0.01494789 | |
| McFadden Adj | 0.03359 | | 0.00875654 | |
| Correct Predictions | 70.61281 | | 70.54318 | |
| | | | | |
| | | | LR | df |
| LR Test Standard vs Nominal | | | 24.342 | 6 *** |

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

# Brazil

| | | Ordered Logit Estimates (Full Model) | | | Ordered Logit Estimates (Nominal Model) | | |
|---|---|---|---|---|---|---|---|
| | | Estimate | SE | | Estimate | SE | |
| | V10NoAnswer | | | | | | |
| v10 - Happiness | V10Not_happy | | | | | | |
| | V23Satisfied | -0.24999 | 0.14861 | . | -0.269936 | 0.147337 | ** |
| v23 - Life Satisfaction | V24Needtobeverycareful | | | | | | |
| | V28NoAnswer | 0.49397 | 0.57551 | | 0.607933 | 0.573759 | |
| v28 - Labor Union Member | V28Inactivemember | 0.35255 | 0.30467 | | 0.339249 | 0.304287 | |
| | V28Notamember | -0.14485 | 0.21689 | | -0.14034 | 0.215959 | |
| | V29NoAnswer | 0.15977 | 0.38722 | | 0.141683 | 0.388432 | |
| v29 - Political party member | V29Inactivemember | 0.68441 | 0.4692 | | 0.72108 | 0.470017 | |
| | V57NoAnswer | -0.20778 | 0.72629 | | -0.180341 | 0.725892 | |
| v57 - Marital Status | V57Together | -0.21941 | 0.11543 | . | -0.226645 | 0.115105 | * |
| v59 - Financial satisfaction | V59Satisfied | -0.13598 | 0.11914 | | -0.146734 | 0.118889 | |
| v95 - political views | V95Right | | | | | | |
| | V95NoAnswer | | | | | | |
| v108 - Confidence in churches | V108NoAnswer | -0.08545 | 0.61977 | | 0.035757 | 0.619872 | |
| | V108NotConfident | 0.12753 | 0.1283 | | 0.139367 | 0.127825 | |
| v115 - Confidence in government | V115NoAnswer | -0.40309 | 0.64974 | | -0.394988 | 0.647391 | |
| | V115NotConfident | 0.19016 | 0.12443 | | 0.209569 | 0.12376 | . |
| v116 - confidence in Political parties | V116NoAnswer | | | | | | |
| | V116NotConfident | | | | | | |
| v117 - Confidence in Parliament | V117NoAnswer | | | | | | |
| | V117NotConfident | | | | | | |
| v120 - Confidence in major companies | V120NoAnswer | 0.34765 | 0.3853 | | 0.288731 | 0.382469 | |
| | V120NotConfident | 0.06206 | 0.12137 | | 0.046698 | 0.120632 | |
| v121 - Confidence in Banks | V121NoAnswer | | | | | | |
| | V121NotConfident | | | | | | |
| v130 - Governance/Democracy | V130Bad | 0.28929 | 0.31251 | | 0.344822 | 0.310172 | |
| | V130Good | 0.01829 | 0.28279 | | 0.022693 | 0.279315 | |
| v131 - equalisation of taxation | V131Essential | | | | | | |
| | V131NoAnswer | | | | | | |
| v133 - choice of leadership | V133Essential | -0.32282 | 0.15624 | * | -0.394376 | 0.152953 | ** |
| | V133NoAnswer | 0.07067 | 0.36958 | | 0.005289 | 0.355267 | |
| v137 - equalisation of income | V137Essential | 0.41801 | 0.12470 | *** | 0.396613 | 0.120686 | |
| | V137NoAnswer | 0.07108 | 0.40942 | | -0.291019 | 0.350307 | |
| v138 - obedience to rulers | V138Essential | -0.11215 | 0.12199 | . | | | |
| | V138NoAnswer | -0.86426 | 0.45408 | . | | | |
| v140 - importance of democratic governance | V140Important | -0.27807 | 0.14892 | | | | |
| | V140NoAnswer | 0.40140 | 0.49643 | | | | |
| v141 - scale of democratice governance | V141Democratic | -0.12226 | 0.11968 | | | | |
| | V141NoAnswer | -0.18671 | 0.45487 | | | | |
| v147 - level of religiosity | V147NoAnswer | 0.97257 | 0.80052 | | 1.067536 | 0.80052 | |
| | V147NotReligious | 0.43941 | 0.70472 | | 0.454893 | 0.704626 | |
| | V147Religious | 0.14900 | 0.70645 | | 0.161287 | 0.706242 | |
| v148 - Belief in God | V148No | 0.09514 | 1.08910 | | 0.118136 | 1.095642 | |
| | V148Yes | -0.45138 | 0.93159 | | -0.399794 | 0.936077 | |
| v149 - Belief in Hell | V149No | -0.01195 | 0.33089 | | 0.001967 | 0.329817 | |
| | V149Yes | 0.25293 | 0.32160 | | 0.261247 | 0.320614 | . |
| v211 - National Pride | V211NA | -1.38471 | 1.15019 | | -1.215158 | 1.164151 | |
| | V211Notproud | -1.39231 | 0.83347 | . | -1.339209 | 0.843964 | |
| | V211Proud | -1.40537 | 0.83072 | . | -1.333193 | 0.841598 | |
| v226 - Voter Participation (Local) | V226NoAnswer | | | | -0.262069 | 0.40703 | |
| | V226Never | | | | 0.215429 | 0.218648 | |
| v227 - Voter participation (National) | V227NoAnswer | -0.37933 | 0.41313 | | | | |
| | V227Never | 0.18840 | 0.22072 | | | | |
| v238 - Class | V238NoAnswer | | | | -0.149929 | 0.116597 | |
| | V238Upper | | | | 0.821549 | 1.419879 | |
| v240 - Gender | V240Male | -0.12846 | 0.11697 | | -0.21637 | 1.162779 | |
| v246 - Citizenship | V246No | 0.56844 | 1.42227 | | | | |
| | V246Yes | -0.18784 | 1.16787 | | | | |
| v248 - Level of Education | V248Incomplete_some_level | | | | | | |
| | V248NoAnswer | | | | | | |

| | Never_justifiable\|Sometimes (Intercept) | | | | | |
|---|---|---|---|---|---|---|
| | | -1.499 | 1.8542 | | -1.26923 | 1.85348 |
| | Sometimes\|Often (Intercept) | | | | | |
| | | -0.3246 | 1.8532 | | 0.13199 | 1.855 |
| | Often\|Always_justifiable (Intercept) | | | | | |
| | | 0.6298 | 1.8537 | | 1.22974 | 1.86072 |

| | Threshold | | | |
|---|---|---|---|---|
| Never_justifiable\|SometimesV141 Democratic | | | | |
| | | | 0.23072 | 0.12212 |
| Sometimes\|OftenV141 Democratic | | | -0.15971 | 0.16443 |
| Often\|Always_justifiableV141 Democratic | | | | |
| | | | -0.41137 | 0.24122 |
| Never_justifiable\|SometimesV141 NoAnswer | | | | |
| | | | 0.07382 | 0.38823 |
| Sometimes\|OftenV141 NoAnswer | | | | |
| | | | 0.01161 | 0.51039 |
| Often\|Always_justifiableV141 NoAnswer | | | | |
| | | | 1.02917 | 1.14649 |

| | | | | |
|---|---|---|---|---|
| AIC | 2784.9 | | 2781 | |
| McFadden | 0.03673 | | 0.0320685 | |
| McFadden Adj | 0.00671 | | 0.00041552 | |
| Correct Predictions | 66.39061 | | 66.39061 | |
| | | | | |
| | | | LR | df |
| LR Test Standard vs Nominal | | | 3.9223 | 0 |

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

# China

| | | Ordered Logit Estimates (Full Model) | | | Ordered Logit Estimates (Nominal Model) | | |
|---|---|---|---|---|---|---|---|
| | | Estimate | SE | | Estimate | SE | |
| v10 - Happiness | V10NoAnswer | | | | -0.06713 | 0.67291 | |
| | V10Not_happy | | | | 0.14084 | 0.15227 | |
| v23 - Life Satisfaction | V23Satisfied | -0.13762 | 0.13196 | | -0.11175 | 0.13745 | |
| | V23 Not satisfied | | | | | | |
| v28 - Labor Union Member | V28NoAnswer | | | | | | |
| | V28Inactivemember | | | | | | |
| | V28Notamember | | | | | | |
| v29 - Political party member | V29NoAnswer | | | | | | |
| | V29Inactivemember | | | | | | |
| v57 - Marital Status | V57NoAnswer | | | | | | |
| | V57Together | | | | | | |
| v59 - Financial satisfaction | V59Satisfied | -0.16757 | 0.11937 | | -0.15562 | 0.12098 | |
| v95 - political views | V95Right | | | | | | |
| | V95NoAnswer | | | | | | |
| v108 - Confidence in churches | V108NoAnswer | | | | | | |
| | V108NotConfident | | | | | | |
| v115 - Confidence in government | V115NoAnswer | | | | | | |
| | V115NotConfident | | | | | | |
| v116 - confidence in Political parties | V116NoAnswer | | | | | | |
| | V116NotConfident | | | | | | |
| v117 - Confidence in Parliament | V117NoAnswer | 0.17672 | 0.2507 | | 0.19758 | 0.25244 | |
| | V117NotConfident | 0.12505 | 0.1553 | | 0.10886 | 0.15744 | |
| v120 - Confidence in major companies | V120NoAnswer | 0.40339 | 0.18789 | * | 0.40775 | 0.18899 | * |
| | V120NotConfident | 0.21021 | 0.11785 | . | 0.19755 | 0.11868 | . |
| v121 - Confidence in Banks | V121NoAnswer | -0.08442 | 0.24692 | | -0.09335 | 0.24834 | |
| | V121NotConfident | 0.13531 | 0.16894 | | 0.13541 | 0.16964 | |
| v130 - Governance/Democracy | V130Bad | 0.04424 | 0.2134 | | 0.03721 | 0.21497 | |
| | V130Good | -0.10578 | 0.14103 | | -0.11565 | 0.14189 | |
| v131 - equalisation of taxation | V131Essential | -0.27546 | 0.11752 | * | -0.27423 | 0.11801 | |
| | V131NoAnswer | -0.66144 | 0.22841 | ** | -0.6583 | 0.22951 | * |
| v133 - choice of leadership | V133Essential | | | | | | ** |
| | V133NoAnswer | | | | | | |
| v137 - equalisation of income | V137Essential | | | | | | |
| | V137NoAnswer | | | | | | |
| v138 - obedience to rulers | V138Essential | | | | | | |
| | V138NoAnswer | | | | | | |
| v140 - importance of democratic governance | V140Important | -0.93350 | 0.21589 | *** | -0.9391 | 0.21816 | *** |
| | V140NoAnswer | -0.61015 | 0.35729 | . | -0.59067 | 0.36093 | |
| v141 - scale of democratice governance | V141Democratic | | | | | | |
| | V141NoAnswer | | | | | | |
| v147 - level of religiosity | V147NoAnswer | 0.21191 | 0.42386 | *** | 0.18681 | 0.42385 | |
| | V147NotReligious | 0.38346 | 0.11063 | | 0.38231 | 0.11133 | |
| | V147Religious | 0.21858 | 0.22221 | | 0.22559 | 0.22121 | *** |
| v148 - Belief in God | V148No | -0.08768 | 0.22208 | | | | |
| | V148Yes | 0.03521 | 0.27521 | | -0.08613 | 0.22164 | |
| v149 - Belief in Hell | V149No | -0.12714 | 0.19872 | . | 0.02749 | 0.27282 | |
| | V149Yes | -0.45504 | 0.24239 | | | | |
| v211 - National Pride | V211NA | | | | | | |
| | V211Notproud | | | | | | |
| | V211Proud | | | | | | |
| v226 - Voter Participation (Local) | V226NoAnswer | | | | | | |
| | V226Never | | | | | | |
| v227 - Voter participation (National) | V227NoAnswer | 0.48272 | 0.22320 | * | | | |
| | V227Never | 0.40855 | 0.14715 | ** | | | |
| v238 - Class | V238NoAnswer | | | | | | |
| | V238Upper | | | | 0.17253 | 0.097 | |
| v240 - Gender | V240Male | 0.18796 | 0.09604 | . | | | . |
| v246 - Citizenship | V246No | | | | -0.29265 | 0.22246 | |
| | V246Yes | | | | | | |
| v248 - Level of Education | V248Incomplete_some_level | | | | | | |
| | V248NoAnswer | | | | | | |
| Never_justifiable\|Sometimes (Intercept) | | -0.6941 | 0.3524 | | -0.524087 | 0.356479 | |
| Sometimes\|Often (Intercept) | | 1.8423 | 0.3554 | | 0.856557 | 0.421345 | |
| Often\|Always_justifiable (Intercept) | | 4.2462 | 0.4419 | | 3.276766 | 1.123621 | |

| Threshold | | | | |
|---|---|---|---|---|
| Never_justifiable\|Sometimes V149 No | | | | |
| | | | 0.036647 | 0.203076 |
| Sometimes\|OftenV149 No | | | 0.599457 | 0.278912 |
| Often\|Always_justifiableV149 No | | | | |
| | | | 1.882498 | 0.718334 |
| Never_justifiable\|SometimesV149 Yes | | | | |
| | | | 0.426956 | 0.246034 |
| Sometimes\|OftenV149 Yes | | | | |
| | | | 0.422733 | 0.348168 |
| Often\|Always_justifiableV149 Yes | | | | |
| | | | 0.007818 | 0.769581 |
| Never_justifiable\|SometimesV227 NoAnswer | | | | |
| | | | -0.57946 | 0.229441 |
| Sometimes\|OftenV227 NoAnswer | | | | |
| | | | 0.353156 | 0.394819 |
| Often\|Always_justifiableV227 NoAnswer | | | | |
| | | | -1.410544 | 1.142338 |
| Never_justifiable\|SometimesV227 Never | | | -0.519382 | 0.14858 |
| Sometimes\|OftenV227 Never | | | 0.362015 | 0.244953 |
| Often\|Always_justifiableV227 Never | | | 0.097897 | 0.98742 |

| | | | |
|---|---|---|---|
| AIC | 3223.2 | 3208.3 | |
| McFadden | 0.02849 | 0.0245325 | |
| McFadden Adj | 0.01377 | 0.0095842 | |
| Correct Predictions | 56.58648 | 56.18557 | |
| | | | |
| | | LR | df |
| LR Test Standard vs Nominal | | 36.927 | 11 *** |

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

# India

| | | Ordered Logit Estimates (Full Model) | | | Ordered Logit Estimates (Nominal Model) | | |
|---|---|---|---|---|---|---|---|
| | | Estimate | *SE* | | Estimate | *SE* | |
| v10 - Happiness | V10NoAnswer | | | | | | |
| | V10Not_happy | | | | | | |
| v23 - Life Satisfaction | V23Satisfied | | | | | | |
| | V23 Not satisfied | | | | | | |
| V24 - Trust in people | V24Needtobeverycareful | 0.3685 | 0.1117 | *** | | | |
| v28 - Labor Union Member | V28NoAnswer | | | | | | |
| | V28Inactivemember | | | | | | |
| | V28Notamember | | | | | | |
| v29 - Political party member | V29NoAnswer | | | | | | |
| | V29Inactivemember | | | | | | |
| v57 - Marital Status | V57NoAnswer | | | | | | |
| | V57Together | | | | | | |
| v59 - Financial satisfaction | V59Satisfied | | | | | | |
| v95 - political views | V95Right | 0.2615 | 0.1036 | * | | | |
| | V95NoAnswer | | | | | | |
| v108 - Confidence in churches | V108NoAnswer | | | | | | |
| | V108NotConfident | | | | | | |
| v115 - Confidence in government | V115NoAnswer | | | | | | |
| | V115NotConfident | | | | | | |
| v116 - confidence in Political parties | V116NoAnswer | | | | | | |
| | V116NotConfident | | | | | | |
| v117 - Confidence in Parliament | V117NoAnswer | | | | | | |
| | V117NotConfident | | | | | | |
| v120 - Confidence in major companies | V120NoAnswer | | | | | | |
| | V120NotConfident | | | | | | |
| v121 - Confidence in Banks | V121NoAnswer | | | | | | |
| | V121NotConfident | | | | | | |
| v130 - Governance/Democracy | V130Bad | 0.7798 | 0.5336 | | 0.821 | 0.5275 | |
| | V130Good | 0.1975 | 0.5295 | | 0.2282 | 0.5231 | |
| v131 - equalisation of taxation | V131Essential | | | | | | |
| | V131NoAnswer | | | | | | |
| v133 - choice of leadership | V133Essential | | | | | | |
| | V133NoAnswer | | | | | | |
| v137 - equalisation of income | V137Essential | -0.53930 | 0.10480 | *** | -0.567 | 0.1062 | *** |
| | V137NoAnswer | | | | | | |
| v138 - obedience to rulers | V138Essential | | | | | | |
| | V138NoAnswer | | | | | | |
| v140 - importance of democratic governance | V140Important | | | | | | |
| | V140NoAnswer | | | | | | |
| v141 - scale of democratice governance | V141Democratic | | | | | | |
| | V141NoAnswer | | | | | | |
| v147 - level of religiosity | V147NoAnswer | | | | | | |
| | V147NotReligious | | | | | | |
| | V147Religious | | | | | | |
| v148 - Belief in God | V148No | 0.31980 | 0.36360 | | 0.4331 | 0.3688 | |
| | V148Yes | -0.29090 | 0.35120 | | -0.1823 | 0.3565 | |
| v149 - Belief in Hell | V149No | | | | | | |
| | V149Yes | | | | | | |
| v211 - National Pride | V211NA | | | | | | |
| | V211Notproud | | | | | | |
| | V211Proud | | | | | | |
| v226 - Voter Participation (Local) | V226NoAnswer | | | | | | |
| | V226Never | | | | | | |
| v227 - Voter participation (National) | V227NoAnswer | | | | | | |
| | V227Never | | | | | | |
| v238 - Class | V238NoAnswer | 1.32610 | 0.65930 | * | 1.2544 | 0.6474 | . |
| | V238Upper | 0.30530 | 0.10470 | ** | 0.3235 | 0.1064 | ** |
| v240 - Gender | V240Male | | | | | | |
| v246 - Citizenship | V246No | | | | | | |
| | V246Yes | | | | | | |
| v248 - Level of Education | V248Incomplete_some_level | 0.27730 | 0.10300 | ** | | | |
| | V248NoAnswer | 0.85260 | 0.33550 | * | | | |
| Never_justifiable\|Sometimes (Intercept) | | -0.5932 | 0.6392 | | 0.02914 | 0.64267 | |
| Sometimes\|Often (Intercept) | | 1.6813 | 0.6407 | | 1.28971 | 0.64196 | |

| Threshold | | Model 1 | | Model 2 | |
|---|---|---|---|---|---|
| | Often\|Always_justifiable (Intercept) | 4.3151 | 0.6596 | 4.35028 | 0.77858 |
| | Never_justifiable\|Sometimes V24Needtobeverycareful | | | -0.81151 | 0.13264 |
| | Sometimes\|Often V24Needtobeverycareful | | | 0.07127 | 0.13105 |
| | Often\|Always_justifiable V24Needtobeverycareful | | | 0.02955 | 0.3522 |
| | Never_justifiable\|Sometimes V95Right | | | -0.85486 | 0.14428 |
| | Sometimes\|Often V95Right | | | 0.10107 | 0.1263 |
| | Often\|Always_justifiable V95Right | | | 1.30298 | 0.45903 |
| | Never_justifiable\|Sometimes V248Incomplete_some_level | | | -0.3416 | 0.12979 |
| | Sometimes\|Often V248Incomplete_some_level | | | -0.17861 | 0.12523 |
| | Often\|Always_justifiable V248Incomplete_some_level | | | -1.03582 | 0.41522 |
| | Never_justifiable\|Sometimes V248NoAnswer | | | -2.43705 | 1.07485 |
| | Sometimes\|Often V248NoAnswer | | | -0.46204 | 0.39262 |
| | Often\|Always_justifiable V248NoAnswer | | | -2.30719 | 0.64481 |

| | | |
|---|---|---|
| AIC | 3281.8 | 3192.8 |
| McFadden | 0.03917 | 0.03192149 |
| McFadden Adj | 0.03267 | 0.02515764 |
| Correct Predictions | 47.98147 | 46.85639 |
| | | |
| | | LR        df |
| LR Test Standard vs Nominal | | 105.06        8 *** |

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

# Poland

| | | Ordered Logit Estimates (Full Model) | | | Ordered Logit Estimates (Nominal Model) | | |
|---|---|---|---|---|---|---|---|
| | | Estimate | SE | | Estimate | SE | |
| v10 - Happiness | V10NoAnswer | | | | | | |
| | V10Not_happy | | | | | | |
| v23 - Life Satisfaction | V23Satisfied | -0.5074 | 0.1526 *** | | | | |
| V24 - Trust in people | V24Needtobeverycareful | | | | | | |
| | V28NoAnswer | | | | | | |
| | V28Inactivemember | | | | | | |
| | V28Notamember | | | | | | |
| v29 - Political party member | V29NoAnswer | | | | | | |
| | V29Inactivemember | | | | | | |
| v57 - Marital Status | V57NoAnswer | | | | | | |
| | V57Together | | | | | | |
| v59 - Financial satisfaction | V59Satisfied | | | | | | |
| v95 - political views | V95Right | | | | | | |
| | V95NoAnswer | | | | | | |
| v108 - Confidence in churches | V108NoAnswer | | | | | | |
| | V108NotConfident | | | | | | |
| v115 - Confidence in government | V115NoAnswer | | | | | | |
| | V115NotConfident | | | | | | |
| v116 - confidence in Political parties | V116NoAnswer | | | | | | |
| | V116NotConfident | | | | | | |
| v117 - Confidence in Parliament | V117NoAnswer | | | | | | |
| | V117NotConfident | | | | | | |
| v120 - Confidence in major companies | V120NoAnswer | | | | | | |
| | V120NotConfident | | | | | | |
| v121 - Confidence in Banks | V121NoAnswer | | | | | | |
| | V121NotConfident | | | | | | |
| v130 - Governance/Democracy | V130Bad | | | | | | |
| | V130Good | | | | | | |
| v131 - equalisation of taxation | V131Essential | | | | | | |
| | V131NoAnswer | | | | | | |
| v133 - choice of leadership | V133Essential | | | | | | |
| | V133NoAnswer | | | | | | |
| v137 - equalisation of income | V137Essential | -0.38210 | 0.13860 ** | | -0.3831 | 0.139 ** | |
| | V137NoAnswer | -0.34530 | 0.25420 | | -0.3436 | 0.2543 | |
| v138 - obedience to rulers | V138Essential | | | | | | |
| | V138NoAnswer | | | | | | |
| v140 - importance of democratic governan | V140Important | | | | | | |
| | V140NoAnswer | | | | | | |
| v141 - scale of democratice governance | V141Democratic | | | | | | |
| | V141NoAnswer | | | | | | |
| v147 - level of religiosity | V147NoAnswer | | | | | | |
| | V147NotReligious | | | | | | |
| | V147Religious | | | | | | |
| v148 - Belief in God | V148No | | | | | | |
| | V148Yes | | | | | | |
| v149 - Belief in Hell | V149No | | | | | | |
| | V149Yes | | | | | | |
| v211 - National Pride | V211NA | | | | | | |
| | V211Notproud | | | | | | |
| | V211Proud | | | | | | |
| v226 - Voter Participation (Local) | V226NoAnswer | | | | | | |
| | V226Never | | | | | | |
| v227 - Voter participation (National) | V227NoAnswer | | | | | | |
| | V227Never | | | | | | |
| v238 - Class | V238NoAnswer | | | | | | |
| | V238Upper | | | | | | |
| v240 - Gender | V240Male | 0.35060 | 0.13320 ** | | 0.353 | 0.1336 ** | |
| v246 - Citizenship | V246No | | | | | | |
| | V246Yes | | | | | | |
| v248 - Level of Education | V248Incomplete_some_level | | | | | | |
| | V248NoAnswer | | | | | | |
| | Never_justifiable\|Sometimes (Intercept) | -0.1747 | 0.1601 | | -0.2345 | 0.1659 | |

| Threshold | Estimate | Std. Error | Estimate | Std. Error |
|---|---|---|---|---|
| Sometimes\|Often (Intercept) | 2.1172 | 0.1862 | 2.3782 | 0.2633 |
| Often\|Always_justifiable (Intercept) | 3.8191 | 0.3054 | 4.4656 | 0.6533 |
| Never_justifiable\|Sometimes V24Needtobeverycareful | | | 0.5825 | 0.161 |
| Sometimes\|Often V24Needtobeverycareful | | | 0.1386 | 0.2866 |
| Often\|Always_justifiable V24Needtobeverycareful | | | -0.3541 | 0.7136 |

| | | | | |
|---|---|---|---|---|
| AIC | 1668.0 | | 1668.8 | |
| McFadden | 0.01614 | | 0.00938991 | |
| McFadden Adj | 0.01138 | | 0.00458914 | |
| Correct Predictions | 56.43564 | | 55.9956 | |
| | | | | |
| | | | LR | df |
| LR Test Standard vs Nominal | | | 3.2857 | 2 |

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

| Russia | | Ordered Logit Estimates (Full Model) | | | Ordered Logit Estimates (Nominal Model) | | |
|---|---|---|---|---|---|---|---|
| | | Estimate | *SE* | | Estimate | *SE* | |
| | V10NoAnswer | -0.12521 | 0.23293 | | -0.1192 | 0.23285 | |
| v10 - Happiness | V10Not_happy | -0.21381 | 0.11139 | . | -0.21978 | 0.11117 | * |
| | V23Satisfied | 0.24327 | 0.09287 | ** | 0.24059 | 0.09276 | ** |
| v23 - Life Satisfaction | V23 Not satisfied | | | | | | |
| V24 - Trust in people | V24Needtobeverycareful | -0.12852 | 0.09165 | | -0.13328 | 0.09171 | |
| | V28NoAnswer | | | | | | |
| v28 - Labor Union Member | V28Inactivemember | | | | | | |
| | V28Notamember | | | | | | |
| | V29NoAnswer | 0.17983 | 0.65881 | | 0.15777 | 0.65715 | |
| v29 - Political party member | V29Inactivemember | 0.53866 | 0.71229 | | 0.52656 | 0.71089 | |
| | V57NoAnswer | -0.28264 | 0.59044 | | -0.24171 | 0.59299 | |
| v57 - Marital Status | V57Together | -0.24055 | 0.0867 | ** | -0.24475 | 0.08667 | ** |
| v59 - Financial satisfaction | V59Satisfied | | | | | | |
| v95 - political views | V95Right | 0.5295 | 0.10798 | *** | 0.51538 | 0.10783 | *** |
| | V95NoAnswer | 0.24704 | 0.1012 | * | 0.24585 | 0.10109 | * |
| v108 - Confidence in churches | V108NoAnswer | 0.26472 | 0.19819 | | 0.26015 | 0.19856 | |
| | V108NotConfident | 0.26514 | 0.09922 | ** | 0.25132 | 0.09908 | * |
| v115 - Confidence in government | V115NoAnswer | 0.65217 | 0.20858 | ** | | | |
| | V115NotConfident | 0.26202 | 0.08904 | ** | | | |
| v116 - confidence in Political parties | V116NoAnswer | | | | | | |
| | V116NotConfident | | | | | | |
| v117 - Confidence in Parliament | V117NoAnswer | | | | | | |
| | V117NotConfident | | | | | | |
| v120 - Confidence in major companies | V120NoAnswer | | | | | | |
| | V120NotConfident | | | | | | |
| v121 - Confidence in Banks | V121NoAnswer | | | | | | |
| | V121NotConfident | | | | | | |
| v130 - Governance/Democracy | V130Bad | | | | | | |
| | V130Good | | | | | | |
| v131 - equalisation of taxation | V131Essential | -0.26978 | 0.10207 | ** | -0.26004 | 0.10204 | * |
| | V131NoAnswer | 0.01988 | 0.2245 | | 0.03147 | 0.22468 | |
| v133 - choice of leadership | V133Essential | | | | | | |
| | V133NoAnswer | | | | | | |
| v137 - equalisation of income | V137Essential | -0.02552 | 0.10505 | | -0.03056 | 0.10498 | |
| | V137NoAnswer | -0.04958 | 0.23526 | | -0.07015 | 0.23467 | |
| v138 - obedience to rulers | V138Essential | -0.17638 | 0.09433 | . | -0.17718 | 0.09421 | . |
| | V138NoAnswer | -0.12955 | 0.19255 | | -0.12112 | 0.1921 | |
| v140 - importance of democratic governanc | V140Important | | | | | | |
| | V140NoAnswer | | | | | | |
| v141 - scale of democratic governance | V141Democratic | -0.07828 | 0.08879 | | -0.0723 | 0.08877 | |
| | V141NoAnswer | -0.26301 | 0.16110 | | -0.26939 | 0.16091 | . |
| v147 - level of religiosity | V147NoAnswer | | | | | | |
| | V147NotReligious | | | | | | |
| | V147Religious | | | | | | |
| v148 - Belief in God | V148No | -0.34190 | 0.17105 | * | -0.33886 | 0.1705 | * |
| | V148Yes | 0.16705 | 0.14317 | | 0.16586 | 0.14301 | |
| v149 - Belief in Hell | V149No | | | | | | |
| | V149Yes | | | | | | |
| v211 - National Pride | V211NA | 0.05588 | 0.72432 | | 0.12088 | 0.72 | |
| | V211Notproud | -0.32168 | 0.23705 | | -0.31788 | 0.23657 | |
| | V211Proud | -0.77291 | 0.22198 | *** | -0.76685 | 0.2217 | *** |
| v226 - Voter Participation (Local) | V226NoAnswer | 0.74763 | 0.45035 | . | | | |
| | V226Never | 0.25815 | 0.21798 | | | | |
| v227 - Voter participation (National) | V227NoAnswer | -0.54360 | 0.47606 | | | | |
| | V227Never | 0.34636 | 0.22887 | | | | |
| v238 - Class | V238NoAnswer | 0.21703 | 0.16977 | | 0.2104 | 0.16984 | |
| | V238Upper | 0.31015 | 0.12838 | * | 0.30357 | 0.1284 | * |
| v240 - Gender | V240Male | 0.34001 | 0.08741 | *** | 0.33484 | 0.08746 | *** |
| v246 - Citizenship | V246No | -0.47179 | 0.89776 | | -0.48917 | 0.89558 | |
| | V246Yes | -1.06602 | 0.70675 | | -1.06885 | 0.70988 | |
| v248 - Level of Education | V248Incomplete_some_level | -0.34803 | 0.11024 | ** | -0.34448 | 0.11009 | ** |
| | V248NoAnswer | 0.52054 | 0.65594 | | 0.44249 | 0.64139 | |
| | Never_justifiable\|Sometimes (Intercept) | -1.509 | 1.012 | | -1.59877 | 1.01474 | |

| Threshold | Std Estimate | Std SE | Nom Estimate | Nom SE |
|---|---|---|---|---|
| Sometimes\|Often (Intercept) | 0.601 | 1.012 | 0.73712 | 1.01527 |
| Often\|Always_justifiable (Intercept) | 2.761 | 1.02 | 3.68448 | 1.06849 |
| Never_justifiable\|Sometimes V115NoAnswer | | | -0.47932 | 0.23658 |
| Sometimes\|Often V115NoAnswer | | | -1.04085 | 0.25887 |
| Often\|Always_justifiable V115NoAnswer | | | -0.85577 | 0.76045 |
| Never_justifiable\|Sometimes V115NotConfident | | | -0.15585 | 0.09551 |
| Sometimes\|Often V115NotConfident | | | -0.54022 | 0.13307 |
| Often\|Always_justifiable V115NotConfident | | | -1.19358 | 0.36409 |
| Never_justifiable\|Sometimes V226NoAnswer | | | -1.01385 | 0.53408 |
| Sometimes\|Often V226NoAnswer | | | -0.33783 | 0.58704 |
| Often\|Always_justifiable V226NoAnswer | | | -0.95862 | 1.59201 |
| Never_justifiable\|Sometimes V226Never | | | -0.334 | 0.24929 |
| Sometimes\|Often V226Never | | | -0.10913 | 0.28902 |
| Often\|Always_justifiable V226Never | | | -0.62343 | 0.61731 |
| Never_justifiable\|Sometimes V227NoAnswer | | | 0.89905 | 0.54676 |
| Sometimes\|Often V227NoAnswer | | | -0.04187 | 0.60546 |
| Often\|Always_justifiable V227NoAnswer | | | 0.28439 | 1.5858 |
| Never_justifiable\|Sometimes V227Never | | | -0.25404 | 0.26245 |
| Sometimes\|Often V227Never | | | -0.42426 | 0.29763 |
| Often\|Always_justifiable V227Never | | | -0.86881 | 0.61974 |

| | | | | |
|---|---|---|---|---|
| AIC | 4616.8 | | 4610.6 | |
| McFadden | 0.04598 | | 0.03232453 | |
| McFadden Adj | 0.02999 | | 0.01599823 | |
| Correct Predictions | 50.59037 | | 50.45413 | |
| | | | LR | df |
| LR Test Standard vs Nominal | | | 30.164 | 12 ** |

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

# Singapore

| | | Ordered Logit Estimates (Full Model) | | | Ordered Logit Estimates (Nominal Model) | | |
|---|---|---|---|---|---|---|---|
| | | Estimate | SE | | Estimate | SE | |
| v10 - Happiness | V10NoAnswer | | | | | | |
| | V10Not_happy | | | | | | |
| v23 - Life Satisfaction | V23Satisfied | -0.16812 | 0.12611 | | -0.16996 | 0.12734 | |
| | V24Needtobeverycareful | | | | | | |
| v28 - Labor Union Member | V28NoAnswer | | | | | | |
| | V28Inactivemember | -0.1397 | 0.2841 | | | | |
| | V28Notamember | -0.63528 | 0.25544 | * | | | |
| v29 - Political party member | V29NoAnswer | | | | | | |
| | V29Inactivemember | | | | | | |
| v57 - Marital Status | V57NoAnswer | | | | | | |
| | V57Together | -0.22524 | 0.09419 | * | -0.22956 | 0.09467 | * |
| v59 - Financial satisfaction | V59Satisfied | -0.24461 | 0.10444 | * | -0.23959 | 0.10531 | * |
| v95 - political views | V95Right | | | | | | |
| | V95NoAnswer | | | | | | |
| v108 - Confidence in churches | V108NoAnswer | | | | | | |
| | V108NotConfident | | | | | | |
| v115 - Confidence in government | V115NoAnswer | 0.34622 | 0.11159 | ** | | | |
| | V115NotConfident | | | | | | |
| v116 - confidence in Political parties | V116NoAnswer | | | | | | |
| | V116NotConfident | | | | | | |
| v117 - Confidence in Parliament | V117NoAnswer | | | | | | |
| | V117NotConfident | | | | | | |
| v120 - Confidence in major companies | V120NoAnswer | | | | | | |
| | V120NotConfident | | | | | | |
| v121 - Confidence in Banks | V121NoAnswer | | | | | | |
| | V121NotConfident | | | | | | |
| v130 - Governance/Democracy | V130Bad | | | | | | |
| | V130Good | | | | | | |
| v131 - equalisation of taxation | V131Essential | -0.32649 | 0.10301 | ** | | | |
| | V131NoAnswer | | | | | | |
| v133 - choice of leadership | V133Essential | -0.37669 | 0.11387 | *** | -0.39411 | 0.11456 | *** |
| | V133NoAnswer | | | | | | |
| v137 - equalisation of income | V137Essential | 0.47359 | 0.10235 | *** | | | |
| | V137NoAnswer | | | | | | |
| v138 - obedience to rulers | V138Essential | 0.28018 | 0.09979 | ** | 0.27548 | 0.10033 | ** |
| | V138NoAnswer | | | | | | |
| v140  - importance of democratic governance | V140Important | -0.28241 | 0.14886 | . | -0.3122 | 0.15259 | * |
| | V140NoAnswer | 3.60999 | 1.20992 | ** | 3.66584 | 1.22082 | ** |
| v141 - scale of democratice governance | V141Democratic | | | | | | |
| | V141NoAnswer | | | | | | |
| v147 - level of religiosity | V147NoAnswer | | | | | | |
| | V147NotReligious | -0.02902 | 0.14754 | | -0.02302 | 0.14873 | |
| | V147Religious | -0.34289 | 0.14290 | * | -0.33661 | 0.14403 | * |
| v148 - Belief in God | V148No | | | | | | |
| | V148Yes | | | | | | |
| v149 - Belief in Hell | V149No | | | | | | |
| | V149Yes | | | | | | |
| v211 - National Pride | V211NA | | | | | | |
| | V211Notproud | | | | | | |
| | V211Proud | | | | | | |
| v226 - Voter Participation (Local) | V226NoAnswer | | | | | | |
| | V226Never | | | | | | |
| v227 - Voter participation (National) | V227NoAnswer | | | | | | |
| | V227Never | | | | | | |
| v238 - Class | V238NoAnswer | | | | | | |
| | V238Upper | | | | | | |
| v240 - Gender | V240Male | | | | | | |
| v246 - Citizenship | V246No | | | | | | |
| | V246Yes | | | | | | |
| v248 - Level of Education | V248Incomplete_some_level | | | | | | |
| | V248NoAnswer | | | | | | |
| | Never_justifiable\|Sometimes (Intercept) | -1.5053 | 0.2989 | | -1.8345 | 0.3534 | |
| | Sometimes\|Often (Intercept) | 0.8586 | 0.2983 | | 1.5237 | 0.4475 | |

| Threshold | | | | |
|---|---|---|---|---|
| Often\|Always_justifiable (Intercept) | 2.9689 | 0.3516 | 4.2163 | 1.4921 |
| Never_justifiable\|Sometimes V28Inactive member | | | 0.143 | 0.3482 |
| Sometimes\|Often V28Inactive member | | | 0.447 | 0.493 |
| Often\|Always_justifiable V28Inactive member | | | -1.3288 | 1.511 |
| Never_justifiable\|Sometimes V28Not a member | | | 0.8726 | 0.3122 |
| Sometimes\|Often V28Not a member | | | 0.2379 | 0.4292 |
| Often\|Always_justifiable V28Not a member | | | -0.5648 | 1.4606 |
| Never_justifiable\|Sometimes V115NotConfident | | | -0.2515 | 0.1181 |
| Sometimes\|Often V115NotConfident | | | -0.7404 | 0.174 |
| Often\|Always_justifiable V115NotConfident | | | 0.9035 | 0.66 |
| Never_justifiable\|Sometimes V131Essential | | | 0.3738 | 0.1074 |
| Sometimes\|Often V131Essential | | | 0.1086 | 0.1835 |
| Often\|Always_justifiable V131Essential | | | 0.2944 | 0.4223 |
| Never_justifiable\|Sometimes V137Essential | | | -0.4056 | 0.106 |
| Sometimes\|Often V137Essential | | | -0.7929 | 0.1775 |
| Often\|Always_justifiable V137Essential | | | -0.9884 | 0.4103 |

| | | | |
|---|---|---|---|
| AIC | 3673.4 | 3647.3 | |
| McFadden | 0.04172 | 0.01993134 | |
| McFadden Adj | 0.03435 | 0.01229444 | |
| Correct Predictions | 54.19847 | 54.0458 | |
| | | | |
| | | LR | df |
| LR Test Standard vs Nominal | | 46.096 | 10 *** |

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

| Spain | | Ordered Logit Estimates (Full Model) | | Ordered Logit Estimates (Nominal Model) | |
|---|---|---|---|---|---|
| | | Estimate | SE | Estimate | SE |
| v10 - Happiness | V10NoAnswer | | | | |
| | V10Not_happy | | | | |
| v23 - Life Satisfaction | V23Satisfied | | | | |
| | V23 Not satisfied | | | | |
| V24 - Trust in people | V24Needtobeverycareful | -0.38729 | 0.16079 * | -0.24843 | 0.11449 * |
| v28 - Labor Union Member | V28NoAnswer | | | | |
| | V28Inactivemember | | | | |
| | V28Notamember | | | | |
| v29 - Political party member | V29NoAnswer | | | | |
| | V29Inactivemember | | | | |
| v57 - Marital Status | V57NoAnswer | | | | |
| | V57Together | | | | |
| v59 - Financial satisfaction | V59Satisfied | | | | |
| v95 - political views | V95Right | | | | |
| | V95NoAnswer | | | | |
| v108 - Confidence in churches | V108NoAnswer | -1.27908 | 0.8122 | -0.83532 | 0.61989 |
| | V108NotConfident | 0.25459 | 0.17735 | 0.24642 | 0.12461 * |
| v115 - Confidence in government | V115NoAnswer | | | | |
| | V115NotConfident | | | | |
| v116 - confidence in Political parties | V116NoAnswer | | | | |
| | V116NotConfident | | | | |
| v117 - Confidence in Parliament | V117NoAnswer | | | | |
| | V117NotConfident | | | | |
| v120 - Confidence in major companies | V120NoAnswer | | | | |
| | V120NotConfident | | | | |
| v121 - Confidence in Banks | V121NoAnswer | | | | |
| | V121NotConfident | | | | |
| v130 - Governance/Democracy | V130Bad | | | | |
| | V130Good | | | | |
| v131 - equalisation of taxation | V131Essential | | | | |
| | V131NoAnswer | | | | |
| v133 - choice of leadership | V133Essential | | | | |
| | V133NoAnswer | | | | |
| v137 - equalisation of income | V137Essential | -0.43577 | 0.15065 * | -0.34338 | 0.10997 ** |
| | V137NoAnswer | -0.26558 | 0.30437 | -0.20137 | 0.21611 |
| v138 - obedience to rulers | V138Essential | | | | |
| | V138NoAnswer | | | | |
| v140 - importance of democratic governance | V140Important | | | | |
| | V140NoAnswer | | | | |
| v141 - scale of democratice governance | V141Democratic | -0.47563 | 0.14100 *** | | |
| | V141NoAnswer | 0.06305 | 0.41861 | | |
| v147 - level of religiosity | V147NoAnswer | -0.50285 | 0.50681 | -0.06899 | 0.33723 |
| | V147NotReligious | -0.52854 | 0.26172 * | -0.21697 | 0.17567 |
| | V147Religious | -0.74147 | 0.30164 * | -0.32768 | 0.19911 . |
| v148 - Belief in God | V148No | -0.65515 | 0.30806 * | | |
| | V148Yes | -0.52104 | 0.28503 . | | |
| v149 - Belief in Hell | V149No | 0.07179 | 0.24904 | -0.11937 | 0.16139 |
| | V149Yes | 0.20366 | 0.26253 | -0.01975 | 0.16974 |
| v211 - National Pride | V211NA | | | | |
| | V211Notproud | | | | |
| | V211Proud | | | | |
| v226 - Voter Participation (Local) | V226NoAnswer | | | | |
| | V226Never | | | | |
| v227 - Voter participation (National) | V227NoAnswer | | | | |
| | V227Never | | | | |
| v238 - Class | V238NoAnswer | 0.14937 | 0.60331 | -0.18505 | 0.51217 |
| | V238Upper | 0.64545 | 0.34655 . | 0.5057 | 0.25514 * |
| v240 - Gender | V240Male | | | | |
| v246 - Citizenship | V246No | | | | |
| | V246Yes | | | | |
| v248 - Level of Education | V248Incomplete_some_level | | | | |
| | V248NoAnswer | | | | |
| Never_justifiable\|Sometimes (Intercept) | | -0.925 | 0.4691 | 0.0005107 | 0.279067 |
| Sometimes\|Often (Intercept) | | 2.2727 | 0.5037 | 2.5210551 | 0.345579 |
| Often\|Always_justifiable (Intercept) | | 4.7992 | 0.869 | 4.8458531 | 0.76699 |
| Never_justifiable\|Sometimes V28Inactive member | | | | | |

Threshold

Sometimes|Often V28Inactive member

Often|Always_justifiable V28Inactive member

Never_justifiable|Sometimes V28Not a member

Sometimes|Often V28Not a member

Often|Always_justifiable V28Not a member

Never_justifiable|Sometimes V115NotConfident

Sometimes|Often V115NotConfident

Often|Always_justifiable V115NotConfident

Never_justifiable|Sometimes V131Essential

Sometimes|Often V131Essential

Often|Always_justifiable V131Essential

Never_justifiable|Sometimes V137Essential

Sometimes|Often V137Essential

Often|Always_justifiable V137Essential

| | | | | |
|---|---|---|---|---|
| AIC | 1562.0 | | 1562 | |
| McFadden | 0.03271 | | 0.02243004 | |
| McFadden Adj | 0.01248 | | 0.00195796 | |
| Correct Predictions | 68.46767 | | 68.55624 | |
| | | | | |
| | | | LR | df |
| LR Test Standard vs Nominal | | | 1.8399 | 2 |

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

| South Africa | | Ordered Logit Estimates (Full Model) | | | Ordered Logit Estimates (Nominal Model) | | |
|---|---|---|---|---|---|---|---|
| | | Estimate | SE | | Estimate | SE | |
| v10 - Happiness | V10NoAnswer | | | | | | |
| | V10Not_happy | | | | | | |
| v23 - Life Satisfaction | V23Satisfied | | | | | | |
| | V23 Not satisfied | | | | | | |
| V24 Trust in people | V24Needtobeverycareful | | | | | | |
| | V28NoAnswer | | | | -0.45207 | 0.12456 | *** |
| v28 - Labor Union Member | V28Inactivemember | -0.48427 | 0.12433 | *** | -0.86004 | 0.11726 | *** |
| | V28Notamember | -0.90464 | 0.11706 | *** | | | |
| | V29NoAnswer | | | | | | |
| v29 - Political party member | V29Inactivemember | | | | | | |
| | V57NoAnswer | | | | | | |
| v57 - Marital Status | V57Together | | | | | | |
| v59 - Financial satisfaction | V59Satisfied | 0.55016 | 0.07148 | *** | 0.53471 | 0.07188 | *** |
| v95 - political views | V95Right | 0.35093 | 0.07473 | *** | | | |
| | V95NoAnswer | -0.51273 | 0.12146 | *** | | | |
| v108 - Confidence in churches | V108NoAnswer | -0.25487 | 0.4045 | | -0.25244 | 0.40578 | |
| | V108NotConfident | 0.46805 | 0.08067 | *** | 0.47996 | 0.0814 | *** |
| v115 - Confidence in government | V115NoAnswer | -0.36561 | 0.309 | | -0.35506 | 0.31277 | |
| | V115NotConfident | -0.42793 | 0.08188 | *** | -0.42959 | 0.0827 | *** |
| v116 - confidence in Political parties | V116NoAnswer | -0.19257 | 0.26809 | | -0.18059 | 0.273 | |
| | V116NotConfident | -0.3947 | 0.08166 | *** | -0.40492 | 0.08228 | *** |
| v117 - Confidence in Parliament | V117NoAnswer | | | | | | |
| | V117NotConfident | | | | | | |
| v120 - Confidence in major companies | V120NoAnswer | -0.50236 | 0.23827 | * | -0.47903 | 0.24045 | * |
| | V120NotConfident | 0.17663 | 0.07993 | * | 0.20306 | 0.08057 | * |
| v121 - Confidence in Banks | V121NoAnswer | 0.08056 | 0.2485 | | 0.09455 | 0.25003 | |
| | V121NotConfident | 0.31655 | 0.07947 | *** | 0.31507 | 0.08009 | *** |
| v130 - Governance/Democracy | V130Bad | | | | | | |
| | V130Good | | | | | | |
| v131 - equalisation of taxation | V131Essential | | | | | | |
| | V131NoAnswer | | | | | | |
| v133 - choice of leadership | V133Essential | -0.02640 | 0.07973 | | | | |
| | V133NoAnswer | 0.33536 | 0.34094 | | | | |
| v137 - equalisation of income | V137Essential | | | | | | |
| | V137NoAnswer | | | | | | |
| v138 - obedience to rulers | V138Essential | -0.07836 | 0.08007 | | -0.29685 | 0.09154 | ** |
| | V138NoAnswer | 0.17566 | 0.32901 | | -0.86336 | 0.29318 | ** |
| v140 - importance of democratic governar | V140Important | -0.28531 | 0.09026 | ** | | | |
| | V140NoAnswer | -0.86379 | 0.29010 | ** | | | |
| v141 - scale of democratice governance | V141Democratic | | | | | | |
| | V141NoAnswer | | | | | | |
| v147 - level of religiosity | V147NoAnswer | | | | | | |
| | V147NotReligious | | | | | | |
| | V147Religious | | | | | | |
| v148 - Belief in God | V148No | | | | | | |
| | V148Yes | | | | | | |
| v149 - Belief in Hell | V149No | | | | 0.83423 | 0.52772 | |
| | V149Yes | | | | 0.88662 | 0.46573 | . |
| v211 - National Pride | V211NA | 0.79204 | 0.52370 | | 0.15567 | 0.45413 | |
| | V211Notproud | 0.90289 | 0.46047 | * | | | |
| | V211Proud | 0.17596 | 0.44907 | | | | |
| v226 - Voter Participation (Local) | V226NoAnswer | | | | | | |
| | V226Never | | | | | | |
| v227 - Voter participation (National) | V227NoAnswer | | | | 0.76558 | 0.178 | *** |
| | V227Never | | | | 0.09426 | 0.09914 | |
| v238 - Class | V238NoAnswer | 0.80001 | 0.17794 | *** | | | |
| | V238Upper | 0.10295 | 0.09760 | | | | |
| v240 - Gender | V240Male | | | | | | |
| v246 - Citizenship | V246No | | | | | | |
| | V246Yes | | | | | | |
| v248 - Level of Education | V248Incomplete_some_level | | | | | | |
| | V248NoAnswer | | | | | | |

| Threshold | Model 1 coef | Model 1 SE | Model 2 coef | Model 2 SE |
|---|---|---|---|---|
| Never_justifiable\|Sometimes  (Intercept) | -1.1058 | 0.4772 | -1.54746 | 0.48537 |
| Sometimes\|Often  (Intercept) | 0.3031 | 0.4769 | 0.63451 | 0.4853 |
| Often\|Always_justifiable  (Intercept) | 2.9362 | 0.4831 | 3.97118 | 0.55666 |
| Never_justifiable\|Sometimes V133Essential | | | 0.34718 | 0.10089 |
| Sometimes\|Often V133Essential | | | -0.22603 | 0.09515 |
| Often\|Always_justifiable V133Essential | | | -0.61249 | 0.24812 |
| Never_justifiable\|Sometimes V133NoAnswer | | | -0.04133 | 0.38692 |
| Sometimes\|Often V133NoAnswer | | | -0.36137 | 0.41231 |
| Often\|Always_justifiable V133NoAnswer | | | -1.13035 | 0.63772 |
| Never_justifiable\|Sometimes V138Essential | | | 0.35056 | 0.10045 |
| Sometimes\|Often V138Essential | | | -0.14558 | 0.09486 |
| Often\|Always_justifiable V138Essential | | | -0.43711 | 0.23886 |
| Never_justifiable\|Sometimes V138NoAnswer | | | 0.17882 | 0.36369 |
| Sometimes\|Often V138NoAnswer | | | -0.06893 | 0.38912 |
| Often\|Always_justifiable V138NoAnswer | | | -1.65185 | 0.55616 |
| Never_justifiable\|Sometimes V95Right | | | -0.35903 | 0.08654 |
| Sometimes\|Often V95Right | | | -0.33979 | 0.08699 |
| Often\|Always_justifiable V95Right | | | -0.40846 | 0.21465 |
| Never_justifiable\|Sometimes V95NoAnswer | | | 0.56735 | 0.1284 |
| Sometimes\|Often V95NoAnswer | | | 0.37295 | 0.15031 |
| Often\|Always_justifiable V95NoAnswer | | | -0.46207 | 0.31353 |

| | | |
|---|---|---|
| AIC | 7942.0 | 7817.9 |
| McFadden | 0.06555 | 0.04448212 |
| McFadden Adj | 0.05939 | 0.03805922 |
| Correct Predictions | 45.58909 | 47.93964 |
| | | LR        df |
| LR Test Standard vs Nominal | | 148.14        12 *** |

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

# Sweden

| | | Ordered Logit Estimates (Full Model) | | | Ordered Logit Estimates (Nominal Model) | | |
|---|---|---|---|---|---|---|---|
| | | Estimate | SE | | Estimate | SE | |
| v10 - Happiness | V10NoAnswer | | | | | | |
| | V10Not_happy | | | | | | |
| v23 - Life Satisfaction | V23Satisfied | | | | | | |
| | V23 Not satisfied | -0.12034 | 0.13661 | | | | |
| V24 Trust in people | V24Needtobeverycareful | -0.12034 | 0.13661 | | | | |
| v28 - Labor Union Member | V28NoAnswer | | | | | | |
| | V28Inactivemember | | | | | | |
| | V28Notamember | | | | | | |
| v29 - Political party member | V29NoAnswer | 0.027 | 0.37588 | | | | |
| | V29Inactivemember | -0.45136 | 0.43809 | | | | |
| v57 - Marital Status | V57NoAnswer | | | | | | |
| | V57Together | | | | | | |
| v59 - Financial satisfaction | V59Satisfied | | | | | | |
| v95 - political views | V95Right | | | | | | |
| | V95NoAnswer | | | | | | |
| v108 - Confidence in churches | V108NoAnswer | 0.16174 | 0.44266 | | 0.15166 | 0.448 | |
| | V108NotConfident | 0.339 | 0.13848 | * | 0.35224 | 0.13905 | * |
| v115 - Confidence in government | V115NoAnswer | -0.40237 | 0.62081 | | -0.47227 | 0.62299 | |
| | V115NotConfident | 0.28124 | 0.15422 | . | 0.29591 | 0.15492 | . |
| v116 - confidence in Political parties | V116NoAnswer | -0.05507 | 0.47979 | | -0.04739 | 0.48607 | |
| | V116NotConfident | 0.29986 | 0.15006 | * | 0.29813 | 0.15063 | * |
| v117 - Confidence in Parliament | V117NoAnswer | | | | | | |
| | V117NotConfident | | | | | | |
| v120 - Confidence in major companies | V120NoAnswer | -0.06111 | 0.36497 | | -0.02643 | 0.36953 | |
| | V120NotConfident | -0.09811 | 0.14732 | | -0.10205 | 0.14795 | |
| v121 - Confidence in Banks | V121NoAnswer | -1.58483 | 1.10311 | | -1.61334 | 1.1137 | |
| | V121NotConfident | -0.23023 | 0.1412 | | -0.2383 | 0.14197 | . |
| v130 - Governance/Democracy | V130Bad | 0.16205 | 0.53679 | | 0.02321 | 0.54349 | |
| | V130Good | -0.89977 | 0.45117 | * | -0.96369 | 0.46219 | * |
| v131 - equalisation of taxation | V131Essential | | | | | | |
| | V131NoAnswer | | | | | | |
| v133 - choice of leadership | V133Essential | -0.07434 | 0.27175 | | -0.0818 | 0.27168 | |
| | V133NoAnswer | -1.26919 | 1.02861 | | -1.2289 | 1.03409 | |
| v137 - equalisation of income | V137Essential | | | | | | |
| | V137NoAnswer | | | | | | |
| v138 - obedience to rulers | V138Essential | -0.26121 | 0.15689 | . | -0.25871 | 0.15721 | . |
| | V138NoAnswer | -0.04933 | 0.46650 | | -0.05818 | 0.46605 | |
| v140  - importance of democratic governance | V140Important | | | | | | |
| | V140NoAnswer | | | | | | |
| v141 - scale of democratice governance | V141Democratic | | | | | | |
| | V141NoAnswer | | | | | | |
| v147 - level of religiosity | V147NoAnswer | | | | | | |
| | V147NotReligious | | | | | | |
| | V147Religious | | | | | | |
| v148 - Belief in God | V148No | -0.56820 | 0.24487 | * | | | |
| | V148Yes | -0.43561 | 0.24910 | . | | | |
| v149 - Belief in Hell | V149No | -0.22754 | 0.33527 | | -0.23465 | 0.33995 | |
| | V149Yes | -0.45539 | 0.38314 | | -0.43632 | 0.38715 | |
| v211 - National Pride | V211NA | 0.78238 | 0.51256 | | 0.76729 | 0.52019 | |
| | V211Notproud | -0.17839 | 0.46584 | | -0.23628 | 0.47255 | |
| | V211Proud | 0.10585 | 0.43680 | | 0.0637 | 0.44383 | |
| v226 - Voter Participation (Local) | V226NoAnswer | | | | | | |
| | V226Never | | | | | | |
| v227 - Voter participation (National) | V227NoAnswer | 0.70041 | 0.49509 | | 0.68389 | 0.49634 | |
| | V227Never | 0.36232 | 0.28498 | | 0.3825 | 0.28461 | |
| v238 - Class | V238NoAnswer | 0.40272 | 0.27559 | | 0.40732 | 0.27854 | |
| | V238Upper | 0.28264 | 0.13775 | * | 0.28249 | 0.13838 | * |
| v240 - Gender | V240Male | 0.40932 | 0.13185 | ** | 0.41762 | 0.13275 | ** |
| v246 - Citizenship | V246No | -0.54478 | 1.13234 | | -0.5765 | 1.14178 | |
| | V246Yes | -0.41072 | 1.05069 | | -0.4102 | 1.06112 | |
| v248 - Level of Education | V248Incomplete_some_level | 0.18680 | 0.12862 | | 0.17722 | 0.12925 | |
| | V248NoAnswer | 0.52239 | 0.55973 | | 0.46794 | 0.55144 | |
| | Never_justifiable\|Sometimes  (Intercept) | -0.8832 | 1.3086 | | | | |

| Threshold | | | | |
|---|---|---|---|---|
| Sometimes\|Often  (Intercept) | 1.1906 | 1.3091 | | |
| Often\|Always_justifiable  (Intercept) | 2.6723 | 1.3204 | | |
| Never_justifiable\|Sometimes V24Need to be v | | | 0.23375 | 0.14032 |
| Sometimes\|Often V24Need to be very careful | | | -0.46711 | 0.22384 |
| Often\|Always_justifiable V24Need to be very | | | -1.47033 | 0.48802 |
| Never_justifiable\|Sometimes V148No | | | 0.62315 | 0.25827 |
| Sometimes\|Often V148No | | | 0.52132 | 0.39045 |
| Often\|Always_justifiable V148No | | | -0.60301 | 0.83635 |
| Never_justifiable\|Sometimes V148Yes | | | 0.5302 | 0.26221 |
| Sometimes\|Often V148Yes | | | 0.03241 | 0.39237 |
| Often\|Always_justifiable V148Yes | | | -0.19541 | 0.91395 |
| Never_justifiable\|Sometimes V29NoAnswer | | | -0.1639 | 0.38166 |
| Sometimes\|Often V29NoAnswer | | | 0.59252 | 0.57963 |
| Often\|Always_justifiable V29NoAnswer | | | 0.36067 | 0.92673 |
| Never_justifiable\|Sometimes V29Inactive mem | | | 0.42287 | 0.44253 |
| Sometimes\|Often V29Inactive member | | | 0.17361 | 0.65132 |
| Often\|Always_justifiable V29Inactive member | | | 0.07877 | 1.06498 |

| | | | | |
|---|---|---|---|---|
| AIC | 2057.9 | | 2037.7 | |
| McFadden | 0.04803 | | 0.04157921 | |
| McFadden Adj | 0.01440 | | 0.00702806 | |
| Correct Predictions | 61.32159 | | 62.46696 | |
| | | | | |
| | | | LR | df |
| LR Test Standard vs Nominal | | | 40.109 | 10 *** |

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

| USA | | Ordered Logit Estimates (Full Model) | | | Ordered Logit Estimates (Nominal Model) | | |
|---|---|---|---|---|---|---|---|
| | | Estimate | *SE* | | Estimate | *SE* | |
| | V10NoAnswer | | | | | | |
| v10 - Happiness | V10Not_happy | -0.223024 | 0.137077 | | | | |
| | V23Satisfied | 0.159726 | 0.107545 | | -0.23026 | 0.1375 | . |
| v23 - Life Satisfaction | V23 - Not satisfied | | | | | | |
| V24 - Trust in people | V24Needtobeverycareful | | | | | | |
| | V28NoAnswer | -0.004981 | 0.54384 | | -0.01766 | 0.5422 | |
| v28 - Labor Union Member | V28Inactivemember | -0.195965 | 0.227673 | | -0.19052 | 0.22775 | |
| | V28Notamember | -0.518687 | 0.178919 | ** | -0.51632 | 0.17878 | ** |
| | V29NoAnswer | | | | | | |
| v29 - Political party member | V29Inactivemember | | | | | | |
| | V57NoAnswer | -0.204879 | 0.102085 | * | | | |
| v57 - Marital Status | V57Together | -0.111353 | 0.10946 | | -0.20714 | 0.10224 | * |
| v59 - Financial satisfaction | V59Satisfied | | | | | | |
| v95 - political views | V95Right | | | | | | |
| | V95NoAnswer | 0.197668 | 0.624522 | | 0.20584 | 0.62411 | |
| v108 - Confidence in churches | V108NoAnswer | 0.33539 | 0.107404 | ** | 0.33587 | 0.10762 | ** |
| | V108NotConfident | | | | | | |
| v115 - Confidence in government | V115NoAnswer | | | | | | |
| | V115NotConfident | | | | | | |
| v116 - confidence in Political parties | V116NoAnswer | | | | | | |
| | V116NotConfident | | | | | | |
| v117 - Confidence in Parliament | V117NoAnswer | | | | | | |
| | V117NotConfident | | | | | | |
| v120 - Confidence in major companies | V120NoAnswer | | | | | | |
| | V120NotConfident | | | | | | |
| v121 - Confidence in Banks | V121NoAnswer | | | | | | |
| | V121NotConfident | | | | | | |
| v130 - Governance/Democracy | V130Bad | | | | | | |
| | V130Good | | | | | | |
| v131 - equalisation of taxation | V131Essential | 0.249595 | 0.103036 | * | 0.24779 | 0.10315 | * |
| | V131NoAnswer | 0.468368 | 0.537734 | | 0.45627 | 0.54022 | |
| v133 - choice of leadership | V133Essential | -0.75151 | 0.13135 | *** | -0.75473 | 0.13166 | *** |
| | V133NoAnswer | -0.11136 | 0.52305 | | -0.097 | 0.52587 | |
| v137 - equalisation of income | V137Essential | | | | | | |
| | V137NoAnswer | | | | | | |
| v138 - obedience to rulers | V138Essential | | | | | | |
| | V138NoAnswer | | | | | | |
| v140 - importance of democratic governance | V140Important | -0.50189 | 0.14355 | *** | -0.51085 | 0.14418 | *** |
| | V140NoAnswer | -1.19756 | 0.61360 | . | -1.19617 | 0.61486 | . |
| v141 - scale of democratice governance | V141Democratic | | | | | | |
| | V141NoAnswer | | | | | | |
| v147 - level of religiosity | V147NoAnswer | -2.60241 | 1.38803 | . | -2.60927 | 1.38817 | . |
| | V147NotReligious | -0.35252 | 0.22753 | | -0.35883 | 0.22793 | |
| | V147Religious | -0.69489 | 0.22829 | ** | -0.70108 | 0.22874 | ** |
| v148 - Belief in God | V148No | | | | | | |
| | V148Yes | | | | | | |
| v149 - Belief in Hell | V149No | | | | | | |
| | V149Yes | | | | | | |
| v211 - National Pride | V211NA | | | | | | |
| | V211Notproud | | | | | | |
| | V211Proud | | | | | | |
| v226 - Voter Participation (Local) | V226NoAnswer | | | | | | |
| | V226Never | | | | | | |
| v227 - Voter participation (National) | V227NoAnswer | | | | | | |
| | V227Never | | | | | | |
| v238 - Class | V238NoAnswer | | | | | | |
| | V238Upper | | | | | | |
| v240 - Gender | V240Male | 0.37747 | 0.09789 | *** | 0.37818 | 0.09804 | *** |
| v246 - Citizenship | V246No | -1.65419 | 0.50037 | *** | -1.68942 | 0.5045 | *** |
| | V246Yes | -1.78645 | 0.47195 | *** | -1.81762 | 0.47617 | *** |
| v248 - Level of Education | V248Incomplete_some_level | | | | | | |
| | V248NoAnswer | | | | | | |
| | Never_justifiable\|Sometimes (Intercept) | -2.7884 | 0.5852 | | -2.8389 | 0.59 | |
| | Sometimes\|Often (Intercept) | -0.6399 | 0.5806 | | -0.7753 | 0.6078 | |

Threshold

| | Model 1 | | Model 2 | |
|---|---|---|---|---|
| | Estimate | Std. Error | Estimate | Std. Error |
| Often|Always_justifiable (Intercept) | 0.9426 | 0.6023 | 0.9908 | 0.7282 |
| Never_justifiable|Sometimes V24Need to be very careful | | | -0.1836 | 0.1088 |
| Sometimes|Often V24Need to be very careful | | | 0.1022 | 0.2089 |
| Often|Always_justifiable V24Need to be very careful | | | 0.4309 | 0.402 |
| Never_justifiable|Sometimes V59Satisfied | | | 0.1309 | 0.1111 |
| Sometimes|Often V59Satisfied | | | -0.0661 | 0.2049 |
| Often|Always_justifiable V59Satisfied | | | -0.6588 | 0.45 |

| | | |
|---|---|---|
| AIC | 3238.5 | 3238.8 |
| McFadden | 0.05897 | 0.05255354 |
| McFadden Adj | 0.04659 | 0.04005099 |
| Correct Predictions | 71.42191 | 71.28205 |
| | | |
| | | LR          df |
| LR Test Standard vs Nominal | | 7.768          4 |

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

# Zimbabwe

| | | Ordered Logit Estimates (Full Model) | | Ordered Logit Estimates (Nominal Model) | |
|---|---|---|---|---|---|
| | | Estimate | SE | Estimate | SE |
| v10 - Happiness | V10NoAnswer | | | | |
| | V10Not_happy | | | | |
| v23 - Life Satisfaction | V23Satisfied | | | | |
| V24 - Trust in people | V23Not satisfied | | | | |
| | V24Needtobeverycareful | | | | |
| v28 - Labor Union Member | V28NoAnswer | | | | |
| | V28Inactivemember | | | | |
| | V28Notamember | | | | |
| v29 - Political party member | V29NoAnswer | | | | |
| | V29Inactivemember | | | | |
| v57 - Marital Status | V57NoAnswer | | | | |
| v59 - Financial satisfaction | V57Together | | | | |
| v95 - political views | V59Satisfied | | | | |
| | V95Right | | | | |
| v108 - Confidence in churches | V95NoAnswer | | | | |
| | V108NoAnswer | | | | |
| v115 - Confidence in government | V108NotConfident | | | | |
| | V115NoAnswer | | | | |
| v116 - confidence in Political parties | V115NotConfident | | | | |
| | V116NoAnswer | | | | |
| v117 - Confidence in Parliament | V116NotConfident | | | | |
| | V117NoAnswer | | | | |
| v120 - Confidence in major companies | V117NotConfident | | | | |
| | V120NoAnswer | | | | |
| v121 - Confidence in Banks | V120NotConfident | | | | |
| | V121NoAnswer | | | | |
| v130 - Governance/Democracy | V121NotConfident | | | | |
| | V130Bad | | | | |
| v131 - equalisation of taxation | V130Good | | | | |
| | V131Essential | | | | |
| v133 - choice of leadership | V131NoAnswer | | | | |
| | V133Essential | | | | |
| v137 - equalisation of income | V133NoAnswer | | | | |
| | V137Essential | | | | |
| v138 - obedience to rulers | V137NoAnswer | | | | |
| | V138Essential | -0.89720 | 0.10970 *** | -0.9045 | 0.11 *** |
| v140 - importance of democratic governance | V138NoAnswer | | | | |
| | V140Important | | | | |
| v141 - scale of democratice governance | V140NoAnswer | | | | |
| | V141Democratic | -0.39990 | 0.10400 *** | | |
| v147 - level of religiosity | V141NoAnswer | | | | |
| | V147NoAnswer | | | | |
| | V147NotReligious | | | | |
| v148 - Belief in God | V147Religious | | | | |
| | V148No | | | | |
| v149 - Belief in Hell | V148Yes | | | | |
| | V149No | | | | |
| v211 - National Pride | V149Yes | | | | |
| | V211NA | | | | |
| | V211Notproud | | | | |
| v226 - Voter Participation (Local) | V211Proud | | | | |
| | V226NoAnswer | | | | |
| v227 - Voter participation (National) | V226Never | | | | |
| | V227NoAnswer | | | | |
| v238 - Class | V227Never | | | | |
| | V238NoAnswer | | | | |
| v240 - Gender | V238Upper | | | | |
| v246 - Citizenship | V240Male | | | | |
| | V246No | | | | |
| v248 - Level of Education | V246Yes | | | | |
| | V248Incomplete_some_level | | | | |
| | V248NoAnswer | | | | |

| | Estimate | SE | Estimate | SE |
|---|---|---|---|---|
| Never_justifiable\|Sometimes (Intercept) | -0.7264 | 0.1013 | -0.7797 | 0.1052 |
| Sometimes\|Often (Intercept) | 1.2918 | 0.1087 | 1.421 | 0.1282 |
| Often\|Always_justifiable (Intercept) | 4.5779 | 0.3732 | 5.7533 | 0.8798 |
| Never_justifiable\|Sometimes V141Democratic | | | 0.475 | 0.1092 |

| | | | |
|---|---|---|---|
| Sometimes\|Often V141Democratic | | 0.1219 | 0.1648 |
| Often\|Always_justifiable V141Democratic | | -1.4187 | 0.9672 |

Threshold

| | | | | |
|---|---|---|---|---|
| AIC | 2834.2 | | 2829.7 | |
| McFadden | 0.03354 | | 0.02364532 | |
| McFadden Adj | 0.03217 | | 0.0222583 | |
| Correct Predictions | 57.46667 | | 57.26667 | |
| | | | | |
| | | | LR | df |
| LR Test Standard vs Nominal | | | 8.4951 | 2 * |

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

# Number of Correct Predictions Between Models

## Australia

| Fitted (O.Logit) | Actuals Never_justifiable | Sometimes | Often | Always_justifiable |
|---|---|---|---|---|
| Never_justifiable | 970 | 319 | 41 | 12 |
| Sometimes | 40 | 44 | 6 | 4 |
| Often | 0 | 0 | 0 | 0 |
| Always_justifiable | 0 | 0 | 0 | 0 |
| **Fitted (Nominal Effects)** | **Actuals Never_justifiable** | **Sometimes** | **Often** | **Always_justifiable** |
| Never_justifiable | 969 | 319 | 41 | 12 |
| Sometimes | 41 | 44 | 6 | 4 |
| Often | 0 | 0 | 0 | 0 |
| Always_justifiable | 0 | 0 | 0 | 0 |

## Brazil

| Fitted (O.Logit) | Actuals Never_justifiable | Sometimes | Often | Always_justifiable |
|---|---|---|---|---|
| Never_justifiable | 962 | 272 | 110 | 91 |
| Sometimes | 0 | 4 | 3 | 0 |
| Often | 0 | 0 | 0 | 0 |
| Always_justifiable | 0 | 3 | 4 | 0 |
| **Fitted (Nominal Effects)** | **Actuals Never_justifiable** | **Sometimes** | **Often** | **Always_justifiable** |
| Never_justifiable | 962 | 272 | 110 | 91 |
| Sometimes | 0 | 4 | 3 | 0 |
| Often | 0 | 0 | 0 | 0 |
| Always_justifiable | 0 | 3 | 4 | 0 |

## China

| Fitted (O.Logit) | Actuals Never_justifiable | Sometimes | Often | Always_justifiable |
|---|---|---|---|---|
| Never_justifiable | 767 | 479 | 79 | 12 |
| Sometimes | 142 | 221 | 45 | 1 |
| Often | 0 | 0 | 0 | 0 |
| Always_justifiable | 0 | 0 | 0 | 0 |
| **Fitted (Nominal Effects)** | **Actuals Never_justifiable** | **Sometimes** | **Often** | **Always_justifiable** |
| Never_justifiable | 744 | 463 | 74 | 12 |
| Sometimes | 164 | 237 | 50 | 1 |
| Often | 1 | 0 | 0 | 0 |
| Always_justifiable | 0 | 0 | 0 | 0 |

## India

| Fitted (O.Logit) | Actuals Never_justifiable | Sometimes | Often | Always_justifiable |
|---|---|---|---|---|
| Never_justifiable | 23 | 11 | 8 | 0 |
| Sometimes | 310 | 668 | 363 | 38 |
| Often | 9 | 42 | 34 | 5 |
| Always_justifiable | 0 | 0 | 0 | 0 |
| **Fitted (Nominal Effects)** | **Actuals Never_justifiable** | **Sometimes** | **Often** | **Always_justifiable** |
| Never_justifiable | 77 | 93 | 55 | 10 |
| Sometimes | 247 | 595 | 314 | 28 |
| Often | 18 | 33 | 36 | 5 |
| Always_justifiable | 0 | 0 | 0 | 0 |

## Poland

| Fitted (O.Logit) | Actuals Never_justifiable | Sometimes | Often | Always_justifiable |
|---|---|---|---|---|
| Never_justifiable | 486 | 302 | 57 | 13 |
| Sometimes | 20 | 27 | 3 | 1 |

| Fitted | Never_justifiable | Sometimes | Often | Always_justifiable |
|---|---|---|---|---|
| Often | 0 | 0 | 0 | 0 |
| Always_justifiable | 0 | 0 | 0 | 0 |

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (Nominal Effects) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 439 | 259 | 47 | 13 |
| Sometimes | | 67 | 70 | 13 | 1 |
| Often | | 0 | 0 | 0 | 0 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

## Russia

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (O.Logit) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 650 | 433 | 97 | 6 |
| Sometimes | | 322 | 457 | 188 | 33 |
| Often | | 4 | 3 | 7 | 2 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (Nominal Effects) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 655 | 439 | 105 | 7 |
| Sometimes | | 319 | 450 | 181 | 33 |
| Often | | 2 | 4 | 6 | 1 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

## Singapore

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (O.Logit) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 770 | 503 | 84 | 15 |
| Sometimes | | 204 | 294 | 81 | 13 |
| Often | | 0 | 0 | 1 | 0 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (Nominal Effects) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 777 | 513 | 91 | 17 |
| Sometimes | | 197 | 284 | 74 | 11 |
| Often | | 0 | 0 | 1 | 0 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

## South Africa

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (O.Logit) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 794 | 465 | 313 | 63 |
| Sometimes | | 131 | 160 | 125 | 13 |
| Often | | 252 | 427 | 617 | 86 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (Nominal Effects) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 734 | 382 | 262 | 56 |
| Sometimes | | 206 | 352 | 228 | 22 |
| Often | | 237 | 316 | 563 | 81 |
| Always_justifiable | | 0 | 2 | 2 | 3 |

## Spain

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (O.Logit) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 755 | 314 | 17 | 1 |
| Sometimes | | 20 | 18 | 3 | 1 |
| Often | | 0 | 0 | 0 | 0 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (Nominal Effects) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 768 | 326 | 18 | 2 |
| Sometimes | | 7 | 6 | 2 | 0 |
| Often | | 0 | 0 | 0 | 0 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

## Sweden

| | Actuals |
|---|---|

| Fitted (O.Logit) | Never_justifiable | Sometimes | Often | Always_justifiable |
|---|---|---|---|---|
| Never_justifiable | | 650 | 303 | 52 | 10 |
| Sometimes | | 50 | 46 | 14 | 10 |
| Often | | 0 | 0 | 0 | 0 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (Nominal Effects) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 647 | 287 | 51 | 10 |
| Sometimes | | 52 | 62 | 15 | 10 |
| Often | | 1 | 0 | 0 | 0 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

## USA

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (O.Logit) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 1485 | 471 | 71 | 23 |
| Sometimes | | 35 | 47 | 11 | 2 |
| Often | | 0 | 0 | 0 | 0 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (Nominal Effects) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 1481 | 470 | 70 | 23 |
| Sometimes | | 39 | 48 | 12 | 2 |
| Often | | 0 | 0 | 0 | 0 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

## Zimbabwe

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (O.Logit) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 632 | 306 | 76 | 8 |
| Sometimes | | 179 | 230 | 64 | 5 |
| Often | | 0 | 0 | 0 | 0 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

| | Actuals | | | |
|---|---|---|---|---|
| Fitted (Nominal Effects) | Never_justifiable | Sometimes | Often | Always_justifiable |
| Never_justifiable | | 722 | 399 | 101 | 13 |
| Sometimes | | 89 | 137 | 39 | 0 |
| Often | | 0 | 0 | 0 | 0 |
| Always_justifiable | | 0 | 0 | 0 | 0 |

## Proportions of Answers To Question 201 By Country

| | Australia | Brazil | China | India | Poland | Russia | Singapore | South Africa | Spain | Sweden | United States | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Never_justifiable | 0.66918 | 0.66288 | 0.52929 | 0.23451 | 0.55179 | 0.43009 | 0.51391 | 0.35250 | 0.68485 | 0.61624 | 0.69445 | 0.52871 |
| 2 | 0.13221 | 0.05591 | 0.18203 | 0.14436 | 0.13714 | 0.11894 | 0.14708 | 0.09144 | 0.12225 | 0.13679 | 0.10838 | 0.13483 |
| 3 | 0.08141 | 0.04418 | 0.12539 | 0.12340 | 0.09040 | 0.10280 | 0.10049 | 0.07411 | 0.07501 | 0.07848 | 0.04973 | 0.08377 |
| 4 | 0.02411 | 0.02785 | 0.05020 | 0.11045 | 0.05935 | 0.08030 | 0.05985 | 0.05779 | 0.04438 | 0.03618 | 0.02598 | 0.08313 |
| 5 | 0.03900 | 0.06343 | 0.03793 | 0.09699 | 0.08293 | 0.10592 | 0.08555 | 0.07532 | 0.05381 | 0.04933 | 0.06488 | 0.05391 |
| 6 | 0.02218 | 0.03129 | 0.02858 | 0.08022 | 0.02483 | 0.05470 | 0.03042 | 0.09169 | 0.01122 | 0.02725 | 0.02085 | 0.05464 |
| 7 | 0.01122 | 0.01750 | 0.01826 | 0.05553 | 0.02127 | 0.03469 | 0.02112 | 0.08557 | 0.00510 | 0.01815 | 0.01592 | 0.03714 |
| 8 | 0.00583 | 0.02497 | 0.01449 | 0.08933 | 0.01414 | 0.03056 | 0.01828 | 0.06730 | 0.00182 | 0.01178 | 0.00497 | 0.01013 |
| 9 | 0.00057 | 0.01090 | 0.00669 | 0.03761 | 0.00268 | 0.01675 | 0.01057 | 0.05893 | 0.00000 | 0.00463 | 0.00213 | 0.00876 |
| Always_justifiable | 0.01429 | 0.06110 | 0.00712 | 0.02759 | 0.01545 | 0.02525 | 0.01273 | 0.04534 | 0.00156 | 0.02117 | 0.01270 | 0.00499 |
| se.Never_justifiable | 0.01538 | 0.01261 | 0.01252 | 0.01626 | 0.01714 | 0.01078 | 0.01214 | 0.00963 | 0.01362 | 0.01622 | 0.01181 | 0.01695 |
| se.2 | 0.01131 | 0.00602 | 0.00975 | 0.01452 | 0.01189 | 0.00712 | 0.00848 | 0.00562 | 0.00960 | 0.01126 | 0.00786 | 0.01188 |
| se.3 | 0.00913 | 0.00547 | 0.00831 | 0.01262 | 0.00983 | 0.00659 | 0.00728 | 0.00524 | 0.00774 | 0.00899 | 0.00551 | 0.00901 |
| se.4 | 0.00514 | 0.00443 | 0.00543 | 0.01215 | 0.00815 | 0.00584 | 0.00580 | 0.00454 | 0.00605 | 0.00598 | 0.00427 | 0.00926 |
| se.5 | 0.00621 | 0.00654 | 0.00487 | 0.01149 | 0.00990 | 0.00668 | 0.00672 | 0.00536 | 0.00668 | 0.00766 | 0.00648 | 0.00768 |
| se.6 | 0.00513 | 0.00469 | 0.00396 | 0.00948 | 0.00514 | 0.00500 | 0.00425 | 0.00586 | 0.00312 | 0.00589 | 0.00376 | 0.00791 |
| se.7 | 0.00364 | 0.00347 | 0.00338 | 0.00909 | 0.00498 | 0.00376 | 0.00325 | 0.00563 | 0.00209 | 0.00400 | 0.00349 | 0.00692 |
| se.8 | 0.00212 | 0.00420 | 0.00289 | 0.01092 | 0.00384 | 0.00350 | 0.00319 | 0.00498 | 0.00130 | 0.00383 | 0.00168 | 0.00321 |
| se.9 | 0.00057 | 0.00277 | 0.00199 | 0.00588 | 0.00158 | 0.00286 | 0.00225 | 0.00443 | 0.00000 | 0.00210 | 0.00111 | 0.00343 |
| se.Always_justifiable | 0.00424 | 0.00634 | 0.00203 | 0.00599 | 0.00416 | 0.00372 | 0.00258 | 0.00396 | 0.00110 | 0.00493 | 0.00273 | 0.00182 |

## Proportions of Answers To Question 10 By Country

| | Australia | Brazil | China | India | Poland | Russia | Singapore | South Africa | Spain | Sweden | United States | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V10NoAnswer | 0.00625 | 0.00086 | 0.00814 | 0.00161 | 0.01138 | 0.03837 | 0.00000 | 0.00258 | 0.00262 | 0.00159 | 0.00270 | 0.00000 |
| V10Not_happy | 0.06782 | 0.07886 | 0.14232 | 0.18363 | 0.05731 | 0.22334 | 0.07003 | 0.23313 | 0.13346 | 0.05338 | 0.09686 | 0.21171 |
| V10Happy | 0.92593 | 0.92028 | 0.84954 | 0.81476 | 0.93131 | 0.73828 | 0.92997 | 0.76429 | 0.86392 | 0.94503 | 0.90043 | 0.78829 |
| se.V10NoAnswer | 0.00213 | 0.00086 | 0.00241 | 0.00074 | 0.00351 | 0.00410 | 0.00000 | 0.00100 | 0.00153 | 0.00113 | 0.00142 | 0.00000 |
| se.V10Not_happy | 0.00863 | 0.00709 | 0.00870 | 0.01489 | 0.00789 | 0.00912 | 0.00615 | 0.00847 | 0.00988 | 0.00774 | 0.00767 | 0.01430 |
| se.V10Happy | 0.00885 | 0.00714 | 0.00894 | 0.01490 | 0.00856 | 0.00959 | 0.00615 | 0.00850 | 0.00997 | 0.00781 | 0.00777 | 0.01430 |

## Proportions of Answers To Question 115 By Country

| | Australia | Brazil | China | India | Poland | Russia | Singapore | South Africa | Spain | Sweden | United States | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Confident | 0.29956 | 0.41059 | 0.86960 | 0.54975 | 0.15881 | 0.47606 | 0.79823 | 0.46079 | 0.20580 | 0.60459 | 0.33191 | 0.50738 |
| NoAnswer | 0.01454 | 0.00888 | 0.05886 | 0.00041 | 0.03862 | 0.04880 | 0.00000 | 0.03424 | 0.01327 | 0.01471 | 0.00926 | 0.00000 |
| NotConfident | 0.68590 | 0.58053 | 0.07155 | 0.44984 | 0.80258 | 0.47514 | 0.20177 | 0.50497 | 0.78093 | 0.38070 | 0.65884 | 0.49262 |
| se.Confident | 0.01458 | 0.01313 | 0.00825 | 0.01914 | 0.01226 | 0.01087 | 0.00963 | 0.00995 | 0.01185 | 0.01640 | 0.01206 | 0.01695 |
| se.NoAnswer | 0.00334 | 0.00241 | 0.00576 | 0.00041 | 0.00679 | 0.00457 | 0.00000 | 0.00380 | 0.00331 | 0.00383 | 0.00241 | 0.00000 |
| se.NotConfident | 0.01472 | 0.01317 | 0.00629 | 0.01914 | 0.01349 | 0.01087 | 0.00963 | 0.00999 | 0.01212 | 0.01632 | 0.01213 | 0.01695 |

## Proportions of Answers To Question 147 By Country

| | Australia | Brazil | China | India | Poland | Russia | Singapore | South Africa | Spain | Sweden | United States | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Religious | 0.41247 | 0.79628 | 0.11535 | 0.78245 | 0.85801 | 0.53454 | 0.53229 | 0.80095 | 0.39905 | 0.31413 | 0.67388 | 0.90683 |
| Atheist | 0.16386 | 0.00979 | 0.29293 | 0.04029 | 0.04788 | 0.07048 | 0.00000 | 0.01781 | 0.07743 | 0.16986 | 0.04264 | 0.01332 |
| NoAnswer | 0.00817 | 0.01808 | 0.02106 | 0.00077 | 0.02555 | 0.12752 | 0.11971 | 0.00000 | 0.02219 | 0.03123 | 0.00564 | 0.00000 |
| NotReligious | 0.41550 | 0.17584 | 0.57066 | 0.17649 | 0.06856 | 0.26746 | 0.34800 | 0.18124 | 0.50133 | 0.48479 | 0.27784 | 0.07984 |
| se.Religious | 0.01549 | 0.01100 | 0.00796 | 0.01473 | 0.01187 | 0.01086 | 0.01210 | 0.00779 | 0.01436 | 0.01551 | 0.01186 | 0.01047 |
| se.Atheist | 0.01214 | 0.00284 | 0.01133 | 0.00705 | 0.00724 | 0.00557 | 0.00000 | 0.00293 | 0.00785 | 0.01216 | 0.00481 | 0.00431 |
| se.NoAnswer | 0.00237 | 0.00359 | 0.00341 | 0.00061 | 0.00560 | 0.00729 | 0.00788 | 0.00000 | 0.00424 | 0.00633 | 0.00165 | 0.00000 |
| se.NotReligious | 0.01573 | 0.01040 | 0.01237 | 0.01345 | 0.00844 | 0.00964 | 0.01142 | 0.00742 | 0.01466 | 0.01664 | 0.01140 | 0.00972 |

## Proportions of Answers To Question 229 By Country

| | Australia | Brazil | China | India | Poland | Russia | Singapore | South Africa | Spain | Sweden | United States | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NoAnswer | 0.00694 | 0.00000 | 0.00000 | 0.05948 | 0.00483 | 0.01385 | 0.00000 | 0.00419 | 0.00079 | 0.00345 | 0.00760 | 0.00000 |
| Full time | 0.40495 | 0.34222 | 0.51742 | 0.10911 | 0.41301 | 0.51973 | 0.40913 | 0.26576 | 0.31793 | 0.45968 | 0.42238 | 0.17299 |
| Housewife | 0.04784 | 0.13601 | 0.07277 | 0.23611 | 0.03342 | 0.04926 | 0.15705 | 0.07263 | 0.13263 | 0.23070 | 0.06887 | 0.12216 |
| Other | 0.01453 | 0.00573 | 0.02454 | 0.03905 | 0.00660 | 0.00943 | 0.00507 | 0.00000 | 0.00715 | 0.01398 | 0.00462 | 0.00000 |
| Part time | 0.17449 | 0.07288 | 0.19765 | 0.12814 | 0.04135 | 0.05951 | 0.09012 | 0.05826 | 0.04134 | 0.14963 | 0.08861 | 0.07018 |
| Retired | 0.19364 | 0.16823 | 0.10113 | 0.03460 | 0.31025 | 0.22166 | 0.15722 | 0.10938 | 0.18608 | 0.00308 | 0.17419 | 0.03612 |
| Self employed | 0.08681 | 0.11228 | 0.02560 | 0.18623 | 0.06874 | 0.04613 | 0.04453 | 0.03498 | 0.06207 | 0.02299 | 0.05171 | 0.18323 |
| Students | 0.04415 | 0.03584 | 0.03341 | 0.09037 | 0.06077 | 0.04430 | 0.09053 | 0.11132 | 0.06545 | 0.08528 | 0.04708 | 0.04390 |
| Unemployed | 0.02665 | 0.12681 | 0.02747 | 0.11690 | 0.06105 | 0.03613 | 0.04635 | 0.34349 | 0.18656 | 0.03121 | 0.09495 | 0.37143 |
| se.NoAnswer | 0.00205 | 0.00000 | 0.00000 | 0.00788 | 0.00246 | 0.00265 | 0.00000 | 0.00108 | 0.00079 | 0.00171 | 0.00223 | 0.00000 |
| se.Full time | 0.01591 | 0.01286 | 0.01252 | 0.01129 | 0.01696 | 0.01087 | 0.01173 | 0.00842 | 0.01357 | 0.01667 | 0.01258 | 0.01186 |
| se.Housewife | 0.00648 | 0.00837 | 0.00658 | 0.01642 | 0.00634 | 0.00513 | 0.00941 | 0.00565 | 0.00995 | 0.01389 | 0.00640 | 0.01135 |
| se.Other | 0.00358 | 0.00194 | 0.00360 | 0.00662 | 0.00261 | 0.00213 | 0.00143 | 0.00000 | 0.00254 | 0.00362 | 0.00563 | 0.00000 |
| se.Part time | 0.01234 | 0.00693 | 0.01012 | 0.01231 | 0.00719 | 0.00515 | 0.00705 | 0.00431 | 0.00588 | 0.01170 | 0.00715 | 0.00845 |
| se.Retired | 0.01007 | 0.01007 | 0.00729 | 0.00595 | 0.01607 | 0.00859 | 0.00971 | 0.00719 | 0.01146 | 0.00162 | 0.00901 | 0.00665 |
| se.Self employed | 0.00904 | 0.00855 | 0.00396 | 0.01523 | 0.00892 | 0.00474 | 0.00487 | 0.00379 | 0.00693 | 0.00478 | 0.00575 | 0.01329 |
| se.Students | 0.00821 | 0.00489 | 0.00371 | 0.01283 | 0.00815 | 0.00488 | 0.00624 | 0.00655 | 0.00776 | 0.00841 | 0.00567 | 0.00628 |
| se.Unemployed | 0.00585 | 0.00886 | 0.00417 | 0.01295 | 0.00696 | 0.00404 | 0.00537 | 0.00936 | 0.01136 | 0.00605 | 0.00795 | 0.01664 |

## Proportions of Answers To Question 238 By Country

| | Australia | Brazil | China | India | Poland | Russia | Singapore | South Africa | Spain | Sweden | United States | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NoAnswer | 0.01354 | 0.01089 | 0.03068 | 0.00565 | 0.06603 | 0.07704 | 0.00241 | 0.04010 | 0.01129 | 0.05602 | 0.00968 | 0.00000 |
| LMC | 0.71494 | 0.95637 | 0.93054 | 0.60096 | 0.75328 | 0.80033 | 0.75475 | 0.83607 | 0.95238 | 0.59479 | 0.69609 | 0.84775 |
| Upper | 0.27152 | 0.03274 | 0.03877 | 0.39339 | 0.18069 | 0.12263 | 0.24284 | 0.12382 | 0.03633 | 0.34920 | 0.29423 | 0.15225 |
| se.NoAnswer | 0.00285 | 0.00268 | 0.00411 | 0.00310 | 0.00818 | 0.00580 | 0.00130 | 0.00361 | 0.00313 | 0.00722 | 0.00247 | 0.00000 |
| se.LMC | 0.01397 | 0.00549 | 0.00609 | 0.01881 | 0.01448 | 0.00866 | 0.01012 | 0.00729 | 0.00630 | 0.01620 | 0.01138 | 0.01147 |
| se.Upper | 0.01382 | 0.00484 | 0.00462 | 0.01876 | 0.01291 | 0.00708 | 0.01007 | 0.00659 | 0.00554 | 0.01570 | 0.01125 | 0.01147 |

## Proportions of Answers To Question 239 By Country

| | Australia | Brazil | China | India | Poland | Russia | Singapore | South Africa | Spain | Sweden | United States | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lower step | 0.06840 | 0.12100 | 0.05226 | 0.12217 | 0.10182 | 0.07577 | 0.01154 | 0.08972 | 0.04214 | 0.03075 | 0.05153 | 0.07428 |
| Second step | 0.06198 | 0.09753 | 0.10293 | 0.16881 | 0.05985 | 0.07411 | 0.03013 | 0.04838 | 0.06319 | 0.05102 | 0.05717 | 0.09295 |
| Third step | 0.13404 | 0.08982 | 0.15281 | 0.11553 | 0.12426 | 0.17956 | 0.05554 | 0.09164 | 0.14006 | 0.09280 | 0.11684 | 0.16084 |
| Fourth step | 0.12066 | 0.13059 | 0.15737 | 0.13544 | 0.17418 | 0.17152 | 0.09993 | 0.10782 | 0.15790 | 0.12748 | 0.14349 | 0.18188 |
| Fifth step | 0.17934 | 0.25515 | 0.18649 | 0.15208 | 0.25094 | 0.25150 | 0.23375 | 0.17402 | 0.28037 | 0.22990 | 0.21182 | 0.21298 |
| Sixth step | 0.16056 | 0.13663 | 0.13616 | 0.07672 | 0.13278 | 0.12572 | 0.27153 | 0.16697 | 0.12336 | 0.17964 | 0.17748 | 0.11028 |
| Seventh step | 0.15681 | 0.10018 | 0.07258 | 0.08254 | 0.08935 | 0.06384 | 0.20274 | 0.12566 | 0.06629 | 0.17296 | 0.14578 | 0.09886 |
| Eigth step | 0.07106 | 0.03412 | 0.03582 | 0.07354 | 0.02793 | 0.02902 | 0.08320 | 0.12303 | 0.01831 | 0.07383 | 0.06021 | 0.04948 |
| Nineth step | 0.01224 | 0.01547 | 0.00225 | 0.04520 | 0.00606 | 0.00273 | 0.00588 | 0.02968 | 0.00330 | 0.01177 | 0.01298 | 0.01186 |
| Tenth step | 0.00418 | 0.00431 | 0.00454 | 0.01958 | 0.00484 | 0.00128 | 0.00429 | 0.01927 | 0.00000 | 0.00644 | 0.00885 | 0.00658 |
| NoAnswer | 0.03074 | 0.01520 | 0.09677 | 0.00840 | 0.02800 | 0.02495 | 0.00146 | 0.02381 | 0.10507 | 0.02340 | 0.01383 | 0.00000 |
| se.Lower step | 0.00696 | 0.00858 | 0.00561 | 0.01226 | 0.01050 | 0.00558 | 0.00289 | 0.00599 | 0.00586 | 0.00588 | 0.00578 | 0.00957 |
| se.Second step | 0.00746 | 0.00786 | 0.00769 | 0.01530 | 0.00828 | 0.00547 | 0.00451 | 0.00418 | 0.00709 | 0.00827 | 0.00647 | 0.01054 |
| se.Third step | 0.01159 | 0.00765 | 0.00907 | 0.01258 | 0.01155 | 0.00834 | 0.00590 | 0.00580 | 0.01014 | 0.00987 | 0.00828 | 0.01306 |
| se.Fourth step | 0.01055 | 0.00904 | 0.00924 | 0.01273 | 0.01315 | 0.00809 | 0.00733 | 0.00612 | 0.01066 | 0.01128 | 0.00907 | 0.01351 |
| se.Fifth step | 0.01175 | 0.01168 | 0.00987 | 0.01311 | 0.01494 | 0.00963 | 0.01035 | 0.00743 | 0.01319 | 0.01408 | 0.01041 | 0.01350 |
| se.Sixth step | 0.01191 | 0.00923 | 0.00861 | 0.01002 | 0.01144 | 0.00718 | 0.01078 | 0.00748 | 0.00965 | 0.01255 | 0.00963 | 0.00964 |
| se.Seventh step | 0.01181 | 0.00808 | 0.00610 | 0.01061 | 0.00976 | 0.00546 | 0.00959 | 0.00647 | 0.00734 | 0.01246 | 0.00889 | 0.00932 |
| se.Eigth step | 0.00808 | 0.00475 | 0.00460 | 0.00915 | 0.00545 | 0.00356 | 0.00650 | 0.00696 | 0.00389 | 0.00810 | 0.00543 | 0.00703 |
| se.Nineth step | 0.00290 | 0.00320 | 0.00093 | 0.00898 | 0.00231 | 0.00137 | 0.00170 | 0.00332 | 0.00166 | 0.00332 | 0.00263 | 0.00329 |
| se.Tenth step | 0.00158 | 0.00179 | 0.00180 | 0.00555 | 0.00204 | 0.00110 | 0.00144 | 0.00252 | 0.00000 | 0.00253 | 0.00225 | 0.00273 |
| se.NoAnswer | 0.00533 | 0.00321 | 0.00729 | 0.00435 | 0.00581 | 0.00338 | 0.00089 | 0.00278 | 0.00908 | 0.00468 | 0.00279 | 0.00000 |

## Proportions of Answers To Question 240 By Country

| | Australia | Brazil | China | India | Poland | Russia | Singapore | South Africa | Spain | Sweden | United States | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Female | 0.48806 | 0.51826 | 0.48356 | 0.47135 | 0.52468 | 0.54489 | 0.56949 | 0.51821 | 0.51355 | 0.49905 | 0.51665 | 0.54444 |
| Male | 0.51194 | 0.48174 | 0.51644 | 0.52865 | 0.47532 | 0.45511 | 0.43051 | 0.48179 | 0.48645 | 0.50095 | 0.48335 | 0.45556 |
| se.Female | 0.01583 | 0.01344 | 0.01252 | 0.01940 | 0.01723 | 0.01084 | 0.01198 | 0.00997 | 0.01466 | 0.01664 | 0.01271 | 0.01689 |
| se.Male | 0.01583 | 0.01344 | 0.01252 | 0.01940 | 0.01723 | 0.01084 | 0.01198 | 0.00997 | 0.01466 | 0.01664 | 0.01271 | 0.01689 |

## Proportions of Answers To Question 248 By Country

| | Australia | Brazil | China | India | Poland | Russia | Singapore | South Africa | Spain | Sweden | United States | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NoAnswer | 0.29224 | 0.00516 | 0.00000 | 0.02496 | 0.00213 | 0.00440 | 0.00858 | 0.00815 | 0.00420 | 0.01530 | 0.00000 | 0.00000 |
| Complete primary school | 0.01167 | 0.12137 | 0.18955 | 0.19051 | 0.15710 | 0.00933 | 0.07635 | 0.06022 | 0.44457 | 0.08677 | 0.01404 | 0.06739 |
| Complete secondary school: technical/ v | 0.14679 | 0.02239 | 0.47700 | 0.12839 | 0.20750 | 0.39806 | 0.20182 | 0.07719 | 0.13083 | 0.12422 | 0.00000 | 0.50631 |
| Complete secondary school: university-p | 0.06988 | 0.26103 | 0.17004 | 0.06441 | 0.09449 | 0.14557 | 0.09206 | 0.36806 | 0.06887 | 0.19883 | 0.31014 | 0.05714 |
| Incomplete primary school | 0.01337 | 0.31596 | 0.00000 | 0.09263 | 0.00989 | 0.00238 | 0.10034 | 0.04386 | 0.05965 | 0.01058 | 0.00474 | 0.08812 |
| Incomplete secondary school: technical/ | 0.17221 | 0.00775 | 0.00000 | 0.13266 | 0.26425 | 0.04660 | 0.10513 | 0.07163 | 0.00000 | 0.01875 | 0.00000 | 0.17553 |
| Incomplete secondary school: university | 0.03834 | 0.09067 | 0.00000 | 0.08390 | 0.03395 | 0.07260 | 0.11110 | 0.25773 | 0.12550 | 0.22598 | 0.11227 | 0.03263 |
| No formal education | 0.00486 | 0.00573 | 0.05193 | 0.22097 | 0.00062 | 0.00062 | 0.07143 | 0.02344 | 0.00988 | 0.00294 | 0.00455 | 0.00724 |
| Some university-level education, withou | 0.05690 | 0.06601 | 0.00000 | 0.03246 | 0.04642 | 0.05920 | 0.03372 | 0.04846 | 0.08430 | 0.12694 | 0.19718 | 0.02805 |
| University - level education, with degree | 0.19375 | 0.10392 | 0.11148 | 0.02911 | 0.18364 | 0.26123 | 0.19947 | 0.04124 | 0.07221 | 0.18967 | 0.35709 | 0.03758 |
| se.NoAnswer | 0.01433 | 0.00185 | 0.00000 | 0.00646 | 0.00154 | 0.00143 | 0.00236 | 0.00161 | 0.00189 | 0.00363 | 0.00000 | 0.00000 |
| se.Complete primary school | 0.00242 | 0.00871 | 0.00908 | 0.01546 | 0.01290 | 0.00192 | 0.00711 | 0.00501 | 0.01457 | 0.00890 | 0.00324 | 0.00888 |
| se.Complete secondary school: technical | 0.01299 | 0.00400 | 0.01270 | 0.01248 | 0.01341 | 0.01065 | 0.00893 | 0.00525 | 0.00983 | 0.01422 | 0.00000 | 0.01697 |
| se.Complete secondary school: universit | 0.00828 | 0.01167 | 0.00809 | 0.00987 | 0.00953 | 0.00760 | 0.00485 | 0.00960 | 0.00752 | 0.01313 | 0.01173 | 0.00741 |
| se.Incomplete primary school | 0.00275 | 0.01243 | 0.00000 | 0.01056 | 0.00361 | 0.00109 | 0.00861 | 0.00441 | 0.00702 | 0.00313 | 0.00164 | 0.01057 |
| se.Incomplete secondary school: technic | 0.01249 | 0.00238 | 0.00000 | 0.01243 | 0.01580 | 0.00452 | 0.00923 | 0.00481 | 0.00000 | 0.00596 | 0.00000 | 0.01347 |
| se.Incomplete secondary school: univers | 0.00572 | 0.00766 | 0.00000 | 0.01067 | 0.00681 | 0.00578 | 0.00773 | 0.00878 | 0.00983 | 0.01398 | 0.00856 | 0.00603 |
| se.No formal education | 0.00156 | 0.00194 | 0.00498 | 0.01693 | 0.00062 | 0.00044 | 0.00742 | 0.00334 | 0.00297 | 0.00209 | 0.00181 | 0.00308 |
| se.Some university-level education, with | 0.00783 | 0.00665 | 0.00000 | 0.00526 | 0.00689 | 0.00536 | 0.00357 | 0.00435 | 0.00815 | 0.01151 | 0.00993 | 0.00476 |
| se.University - level education, with degr | 0.01090 | 0.00822 | 0.00632 | 0.00469 | 0.01289 | 0.00954 | 0.00873 | 0.00383 | 0.00746 | 0.00982 | 0.01214 | 0.00505 |