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The Law and Econom(etr)ics of Corruption

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A Thesis Submitted in Fullfillment

of the degree of

Doctor of Philosophy

Faculty of Law

University of Sydney

2015

Acknowledgements

The preparation of any substantial piece of work – especially a doctoral thesis – is necessarily the primary responsibility of the author/candidate. However, it is not the outcome of work-in-isolation.

My journey of doctoral candidacy and scholarship has benefited from the advice, encouragement and support of two important groups of people:

. firstly, my supervisors, Prof Mark Findlay and Prof Jennifer Hill of the Faculty of Law, University of Sydney, whose advice and constructive criticisms have acted as a valuable source of guidance at important junctures and milestones; and,

. secondly, and by no means least, my family especially Cheryl (wife) and Alexandra (daughter) whose encouragement and support made the long and sometimes lonely hours of reading and writing that much easier.

Finally, it has shown me that a kid from a working-class background – Loftus Primary, Engadine High, in southern Sydney – can take on an ideal, a personal challenge to reach the heights of the scholarly achievement in Australia, a Doctor of Philosophy (in Law) from the University of Sydney.

“The servants of the nation are to render their services

*without any taking of presents ...”*¹

¹ Plato, The Laws, 349.

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Chapter 1: Introduction and Overview

“... corruption is not a new phenomenon.

It is as old as government itself.”²

Introduction

Corruption has become a deep-rooted feature of many economies and societies around the world³. Amongst the main drivers of this spread, and deepening, of corruption are shortcomings in economic and political governance, in market institutions, in public administration, and in commercial and economic policy settings, as well as the globalisation of commerce, investment and production⁴. Corruption is, generally, not a costless or victimless crime: the economic, legal and social costs can be, and often are, substantial⁵. Nor is corruption, once firmly established, easy to eradicate⁶. Taken as a whole, corruption has few redeeming features: insofar as there may be any ‘benefits’ arising from corruption, such as

² Ali and Isse (2003) at 449.

³ So much so, a number of cultures and nations have their own terminologies for it: ‘modida’ in Mexico, ‘arreglo’ in The Philippines, ‘baksheesh’ in Egypt, dishan’ in India, ‘dash’ in Kenya, and ‘pot-de-vin’ in France, to name just a few.

⁴ Endogenous and exogenous are used in the economic sense of meaning ‘within or internal to’ and ‘outside or external to’, respectively. The globalisation of trade and commerce has the potential to act as a conduit for the spread of corruption from ‘infected’ to ‘clean’ countries.

⁵ (Wei (1999) at 10), for example, in terms of lost per capita economic growth and higher-than-otherwise taxation burdens.

⁶ Ehlich and Lui (1999) at 272; Barreto (2000) at 35; Wolf and Gurgun (2000) at 15

defeating inefficient regulations, these are likely to be more than offset by the costs of corruption. Indeed, corruption is valence issue: one on which (almost) everyone agrees is an economic, legal and social ‘bad’, with little dissensus⁷ on the preferred outcome (preferably eradication or failing that minimisation).

The law, whether international or municipal⁸, has made numerous and various efforts to tackle, if not eliminate, corruption, with differing degrees of commitment and success⁹. A number of important international legal instruments specifically targeting corruption have been negotiated and entered into force over the past two decades. Amongst the most prominent of these legal instruments are those from international organisations such as the Organisation for Economic Co-operation and Development (OECD) and the United Nations (UN), as well as regional integration bodies such as the Council of Europe (CE) and the African Union (AU)¹⁰.

⁷ That is, in the context of being the antonym of consensus.

⁸ Some of these municipal endeavours have been driven by endogenous (within-the-nation) factors, whilst others have been motivated by exogenous (outside-the-nation) factors, such as pressure from multilateral lending institutions and from trade/investment partners, and conformity obligations under international legal instruments. Consideration of these different motivations, and the effectiveness of the municipal laws they generate, is outside the scope of this study.

⁹ One of the most prominent municipal laws designed to tackle corruption is the United States Foreign Corrupt Practices Act (FCPA; 15 U.S.C. §§ 78dd-1). Shortcomings in the effectiveness of the FCPA appear to have played a seminal role in the development of a number of the international instruments considered in this study. See, for example: Martin (1997/98) at 420-428; Corr and Lawler (1999) at 1255-1296; Posadas (1999/2000) at 348-365; Salbu (2001) at 445-453; Landmeier (2002) at 594-605; Krever (2007/08) at 87-96.

¹⁰ The key features of which will be considered in the section “Tackling Corruption Under International Law”, in Chapter 3 of this thesis.

There is no single cause of corruption¹¹. Amongst the main drivers of corruption are deficiencies in: economic and political governance (evident, for example, in a lack of transparency and accountability in public administration)¹², and in market institutions (in the absence of a strong competitive marketplace)¹³; public sector taxation and spending policies and practices (where there is broad discretion for taxation collectors or for extra-budgetary public spending)¹⁴; public sector employment practices (where appointments and promotions can be bought and sold)¹⁵; and, in the nature of government commercial and economic policy settings (such as activist industry policies which involve preferential treatment for some firms/industries over others)¹⁶.

¹¹ Similarly, the individual causes of corruption are not mutually exclusive of one another, and indeed can be interactive – that is, influencing each other – and differentially so across time and space. These spatio-temporal differences are a research focus of the empirical legal analyses undertaken in this study.

¹² For example: Wolf and Gurgun (2000) at 3; Aidt, Dutta and Sena (2008) at 196; Peisakhin and Pinto (2010) at 278; Clausen, Kraay and Nyiri (2011) at 212.

¹³ Abed and Davoodi (2000) at 39; Boardman and Recanatini (2000) at 1; Cuervo-Cazurra (2008) at 21; Goel and Nelson (2010) at 444.

¹⁴ Kaufmann (1997) at 128; Tanzi (1998) at 11 - 13; Chand and Moene (1999) at 1138; Hindriks et al (1999) at 396 – 397.

¹⁵ Hillman and Katz (1987) at 129; Alam (1989) at 444; World Bank (1998) at 3; Murphy et al (1991) at 521; Wei (1999) at 18; Wamey (1999) at 1; Robertson-Snape (1999) at 595.

¹⁶ Ades and Di Tella (1997) at 1023; Mauro (1998a) at 11; Khan (1996) at 685; Moran (1999) at 575; Cheung et al (2011) at 5.

The broader economic, political and social consequences of corruption are generally contextual¹⁷, reflecting factors such as the incidence of corruption, cultural and social attitudes, the nature and rigor of institutional structures, and the state of economic and social development and growth, with impacts ranging from marginal (where corruption is petty and isolated) to potentially quite substantial (contributing to ‘State failure’ where it is pervasive and sizeable)¹⁸.

From an economic perspective, corruption, *inter alia*, deters foreign direct investment¹⁹, results in inefficient patterns of domestic private and public sector investment²⁰, distorts foreign aid flows²¹, adds to inflation and economic uncertainty²², and through these channels impairs economic growth and development. The legal costs of corruption include its capacity

¹⁷ As will be seen in Chapter 2 which discusses “The Corruption Problem”. As this study will show, there is ‘no magic, single bullet’ for tackling corruption in all places at all times.

¹⁸ According to one study (Wei (1999) at 10), if corruption in Bangladesh had been reduced to that of (relatively ‘clean’) Singapore in the 25 years to 1985 then Bangladesh’s average annual per capita economic growth rate would have been almost 2 percentage points higher than otherwise.

¹⁹ Abed and Davoodi (2000) at 31 – 32; Habib and Zurawicki (2001) at 695; Smarzynska and Wei (2000) at 12; Habib and Zurawicki (2001) at 687; Wei and Wu (2001) at 19; Wei (2001) at 12; Besancenot and Vranceanu (2002) at 231; Lambsdorf (2003) at 240; Vinod (2003) at 886; Cuervo-Cazurra (2008) at 12; Habib and Zurawicki (2001) at 687.

²⁰ Tanzi and Davoodi (1997) at 1; Tanzi (1998) at 12; World Bank (1997) at 103; Goudie and Stasavage (1998) at 134; Tanzi and Davoodi (2000) at 11; Thede and Gustafsen (2012) at 662.

²¹ Wolf and Gurgun (2000) at 8; Alesina and Weder (2002) at 1126.

²² Mauro (1995), Knack and Keefer (1995), Kaufman and Wei (1999), Gupta et al, 1998) at 26; Ehlich and Lui (1999); Abed and Davoodi (2000) at 22; Braun and Di Tella (2001); Paldam (2002) at 215; Al-Marhubi (2002) at 202; Paldam (2002) at 215; Aidt, Dutta and Sena (2008) at 196.

to undermine the rule of law, whilst social costs involve greater income inequality and poverty (especially in developing countries)²³. However, some claim corruption can have beneficial effects in certain situations, such as being efficiency-enhancing where regulatory interventions by governments are excessive and/or inefficient, although such voices are very much in the minority²⁴.

Controlling Corruption

Against these backgrounds, a number of options have emerged for tackling corruption, whether just constraining its rate of growth and spread, or winding it back. Such approaches include: 'leadership by example' from political, bureaucratic corporate and civil society elites²⁵; more effective legal processes and stiffer penalties for those engaged in corruption, such as disqualification from public office for bribe-takers²⁶, and/or from government tendering for bribe-payers²⁷; the introduction and/or expansion of liberal institutional arrangements, such as more competitive domestic markets²⁸, as well as meaningful freedom of the press²⁹ and freedom of

²³ Gupta et al (1998) at 1; Li et al (2000) at 155; Mauro (1998) at 263; Wei (1999) at 2; Olofsgaard and Zahran (2008) at 166; Hodge et al (2011) at 482.

²⁴ Leys (1965) at 220, Khan (1996) at 683, Colombatto (2003) at 375, Mendex and Sepulveda (2006) at 96, where there is government failure; Leff (1964) at 11, Leys (1965) at 223, Huntington (1968) at 386, Barreto (2000) at 37, Dutt and Traca (2010) at 857, Jong and Bogmans (2010) at 385, in situations of excessive or inefficient regulation; and, Braguinsky (1996) at 14, Cheung (1996) at 1, where corruption can help to accelerate the demise of totalitarian States. For a more expansive discussion of the 'beneficial grease' debate, see Chapter 2 of this thesis.

²⁵ Gray and Kaufman (1998) at 9; Goudie and Stasavage (1998) at 133; Chand and Moene (1999) at 1130; Robertson-Snape (1999) at 590 – 592; Kingston (2008) at 90.

²⁶ World Bank (1997) at 107; Rose-Ackerman (1996) at 1.

²⁷ For a good discussion, see Seiler and Madir (2012).

²⁸ Wolf and Gurgun (2000) at 3; Aidt, Dutta and Sena (2008) at 196; Clausen, Kraay and Nyiri (2011) at 212.

information laws³⁰; wider use of externally imposed measures, in the form of conditional foreign aid³¹ and membership of international organisations³²; and, substantive commitment to international anti-corruption, legal instruments. The nature, the extent, the causes, and the consequences of corruption are examined in Chapter Two of this study.

Despite its wide geographic dispersion, the footprint of international law in corruption matters has, until fairly recently, been modest, at best³³. Traditionally, international law has been a bounded system of rights and obligations for States³⁴, dealing with issues such as definition of territory, relations between States and processes for dealing with disputes³⁵. In this framework, key issues in international law have largely revolved around procedural elements such as sources of international law (most notably the role of custom and practice, and of treaties), the subjects of international law (States and non-State persons) and the relationships between international and municipal law³⁶.

²⁹ Lederman et al (2001) at 2; Treisman (2000) at 404; Gray and Kaufman (1998) at 10; Naim (1995) at 247; Frelie et al (2007) at 838; Bhattacharyya and Hodler (2012) at 3.

³⁰ World Bank (1997) at 108; Peisakhin and Pinto (2010) at 278.

³¹ Wolf and Gurgun (2000) at 8; Tavares (2003) at 104.

³² Sandholtz and Gray (2003) at 767.

³³ For a short history of co-ordinated international legal efforts to combat corruption over the past century see Anechiarica (1999) at 380 – 387.

³⁴ Shearer (1994) at 4; Dixon and McCorquodale (2003) at 1.

³⁵ Blay (2003) at 2.

³⁶ Which are reviewed in Chapter 3, “International Law and Corruption”, of this thesis.

However, since the mid-twentieth century, and reflecting a shift toward positivist legal approaches by States at the international level and the spread of globalisation, the subjects of international law have expanded to include the creation of international institutions with legal personality (such as the United Nations), while the topics have broadened to include the natural environment, space exploration, intellectual property and, more recently, corruption. Indeed, over the past two decades, the global community of nations has adopted a broad suite of international legal instruments aimed at tackling corruption, at both the multilateral and plurilateral (regional) level³⁷. Prominent amongst the multilateral instruments are the United Nations' Convention Against Corruption³⁸, and the OECD's Convention on Combating Bribery of Foreign Public Officials in International Business Transactions³⁹, and their related Commentaries, while regional initiatives have included the Criminal Law Convention on Corruption of the Council of Europe⁴⁰, the Inter-American Convention Against Corruption⁴¹, and the African Union Convention on Preventing and Combating Corruption⁴².

³⁷ While the quantity of international legal instruments targeting corruption surged during the decade following the mid-1990s, the quality of these mechanisms varied considerably, for example in their foci, their reach and their rigor. Scholars of corruption have pointed to a plethora of gaps in these instruments: see, for example: Gantz (1998); Nichols (1999); George et al (2000); Webb (2005).

³⁸ 43 ILM 37 (2004).

³⁹ 37 ILM 4 (1998).

⁴⁰ 38 ILM 505 (1999).

⁴¹ 35 ILM 724 (1996).

⁴² 43 ILM 5 (2004).

Assessing the coverage, the rigour, the impact and the effectiveness of such international legal instruments involves a number of challenges, not least of which are identifying the various forms of corruption⁴³, and assessing its differing causes and consequences in developing, transitional and developed economies and societies⁴⁴. While corruption essentially involves the (mis)use of public office for private gain, there is no single practical form of corruption. Rather, corruption can take a number of forms, including: petty versus grand, the difference being the magnitude of the benefit conferred (usually measured in money amounts); demand versus supply driven, often referred to as extortion and bribery respectively; centralised versus decentralised, the former imposing a structured framework, the latter involving more atomistic and opportunistic arrangements; and, greasing compared to blocking corruption, where illicit payments are made to ensure or prevent an action or outcome occurs, respectively.

The scope and depth of these instruments, although varying, address elements such as definitions of key concepts (for example, ‘public official’ and ‘corruption’), jurisdiction (whether nationality or territorial), treatment of the private and the public sectors, the establishment of criminal liability for a range of offences, and enforcement and sanctions. While legal scholars have generally commented positively on the content and direction of these

⁴³ For example, only two of the main international legal instruments examined in this study (AUCPCC, 2003, and the OECD – FPO, 1997) contain explicit definitions of corruption.

⁴⁴ A number of scholars regard the mere existence of such international legal instruments as making a substantial contribution to tackling corruption, regardless of its causes and/or consequences: see for, example, Sutton (1996/97) at 1470; Gantz (1998) at 481; Perrios and Hudson (1998) at 86; and Low (1998) at 154; Zagaris and Ohri (1999) at 76; Unzicker (1999/2000) at 655; George et al (2000); Wehrle (2000) at 31; Webb (2005) at 210; Udonbana (2003) at 447.

various instruments⁴⁵ (in particular, regarding provisions covering peer-based monitoring and review programs, and mutual legal assistance measures⁴⁶), they are not without shortcomings (notably in the treatment of bribe-takers⁴⁷, and of political parties and party officials⁴⁸). Chapter 3 of this study reviews the main theories of international law, and the main international legal instruments dealing with corruption.

Law and Economics

These international economic law instruments, and indeed the prevalence of corruption, reflect the interface of law and economics: economics because corruption involves a serious distortion to the allocation of resources⁴⁹, usually from better to lesser advantageous uses; and, the law because corruption is generally illegal in mature legal systems.

⁴⁵ Inter alia, Corr and Lawler (1999) at 1309; Gantz (1998) at 483; Zagaris and Ohri (1999) at 75; Tronnes (2000) at 130; Wallace-Bruce (2000) at 367; Henning (2001) at 822; Shams (2001) at 107; Udonbana (2003) at 459; Webb (2005) at 192.

⁴⁶ Tronnes (2000) at 121; Gantz (1998) at 489.

⁴⁷ George et al (2000) at 518; Miller (2000) at 160; Loren (2001) at 328; Harms (2000) at 161; Pierros and Hudson (1998) at 99; Nesbit (1998) at 1305.

⁴⁸ Shams (2001) at 100; George et al (2000) at 516; Pierros and Hudson (1998) at 97; Corr and Lawler (1999) at 1305; Posadas (1999/2000) at 381; Webb (2005) at 196; Nesbit (1998) at 1305; Brademas and Heimann (1998) at 19.

⁴⁹ Murphy et al (1993) at 409; Kindra and Stapenhurst (1998) at 10–11; Brunetti et al (1997b) at 23; Barreto (2000) at 47; Lambsdorff (2002a) at 121; Ahlin and Bose (2007) at 465; Salinas-Jiminez et al (2007) at 913.

The economic dimension of the law and economics discourse focuses largely on micro-economics: that is, the economics of the individual, the household and/or the firm⁵⁰, with a pivotal role being given to the price mechanism as a signal of both past and future decision-making by those economic actors⁵¹. Such price signals can be explicit (the ticket price for a good such as a motor car or a service such as that provided by an accountant) or implicit (where an economic actor has to make a choice between alternatives, such as whether or not to engage in illegal activities⁵²).

The legal dimension of law and economics recognises the law contains both explicit and implicit prices. In this framework, explicit prices can take the form of pecuniary penalties for the breach of the law (say, a speeding fine), while implicit prices arise from the economic consequences of a legal decision or rule borne by those impacted (say, changes to consumer preferences in response to a new law or regulation)⁵³. The interface of such explicit and implicit prices, whether from the economic or the legal perspective, and how economic and legal actors responded to them is the foundation of law and economics.

⁵⁰ There is scant scholarship on the interaction of law and economics from the macro-economic perspective. The seemingly (single) exception is Hume (2003).

⁵¹ In particular, in the law and economics context, in the imposition of pseudo-prices (for example, pecuniary penalties) on non-market (for example, illegal) activities: Posner (1985) at 192; Posner (1987) at 5; Ulen (1992) at 114 – 118; Parisi (2004) at 5.

⁵² Several studies have sought to estimate ‘implicit prices’ for different forms of corrupt activity: World Bank (1998) at 3; Alam (1989) at 444; Robertson-Snape (1999) at 590; Carrilla (2000) at 258–259.

⁵³ The pervasive role ascribed to implicit prices in law and economics (see, for example, the various works of Richard Posner) could also be its Archilles Heel, in the sense implicit prices are difficult to expressly observe and measure, and so may lack tangibility for black letter judges and lawyers. Developments in econo-/lexi-metrics, such as state space and structural equation modelling, which focus on measuring such latent (also known as unobserved) variables, may help bridge this gap.

While a law and economics movement has emerged within economics and legal scholarship (although tending to reside within the legal academy), there is no single 'school of law and economics'. Rather, there are a number of schools of thinking on the interface of law and economics.

The dominant school, at least by volume of scholarship, is the Chicago School of law and economics, which sees a maximal role for markets and competition, and a minimal role for government and regulation, a maximal role for efficiency⁵⁴ with distributional issues being of second-order status⁵⁵, and a superior role for the common over the statute law⁵⁶. The New Haven School takes a more moderate view, favouring individual choice and market forces where they work properly, with a role for government intervention to remedy demonstrable instances of market failure⁵⁷, and to address issues of justice and fairness⁵⁸. To the New Haveners, law and economics should focus on the maximisation of net national benefit (as distinct from that of the individual)⁵⁹. The Virginia (or Public Choice) School makes its contribution to law and economic analysis by providing insights into the

⁵⁴ Posner (1985) at 192; Posner (1987) at 5; Landes and Posner (1987); Posner (1992).

⁵⁵ Kaplow and Shavell (1994) at 675.

⁵⁶ Coase (1960) at 19; Director (1964); Coase (1974); Rubin (1977) at 55; Priest (1977) at 65; Posner (1987a) at 5.

⁵⁷ Rose-Ackerman (1992) at 6-9; Rose-Ackerman (1994) at 59.

⁵⁸ Rose-Ackerman (1994) at 54; Cooter (2005) at 222; see also Kaplow and Shavell (1994) at 667.

⁵⁹ Rose-Ackerman (1994) at 60.

creation and implementation of statute law through the political system⁶⁰. Key elements of the Virginia School include the balance-of-outcomes resulting from interaction of the self-interest of politicians and bureaucrats with the rational decision-making (or otherwise) of the electorate/voter⁶¹.

Economic and legal institutions are central to the thinking of the Institutional and Neo-Institutional Schools of law and economics. To the Institutionalists, institutions (such as legislatures and the courts) are mechanisms of collective action used to frame individual action⁶². In essence, legal institutions exist to set boundaries for persons, legal or natural, to engage in economic exchange⁶³, with the relationship between law and economics being bi-directional (that is, each influencing the other)⁶⁴. The Neo-Institutionalists share the emphasis on institutions with their eponymous antecedents, but see them (institutions) as being formed and evolving to better discern and allocate property rights⁶⁵, and to facilitate the exchange of those rights⁶⁶.

The Rational Choice School of law and economics is based on the processes of human decision-making, and in particular cost-benefit/risk-reward analysis⁶⁷. In short, a person will engage in a criminal act, like corruption, where the costs/risks are less than the benefits/rewards. An important

⁶⁰ Most notably the seminal work of Buchanan (1975); also, Parisi and Klick (2004) at 437.

⁶¹ McLean (1987) at 81-102; McNutt (1996) at 99-137.

⁶² Starting with the seminal work of Commons (1934).

⁶³ Hale (1952).

⁶⁴ Samuels (1975) and (1989).

⁶⁵ North (1990); Barzel (1989); Libecap (1989 a and b).

⁶⁶ North (1990) at 34; Eggertsson (1990) at 317; North (1993) at 245.

⁶⁷ Veljanovski (1980) at 177; Hoffman and O'Shea (2002) at 342.

challenge for Rational Choice theorists, however, has been defining the key concept of rationality, and whether it is stable across contexts and time even for the same individual⁶⁸. The stability of rationality is also a key pillar of the Behaviouralist School, who regard individuals as essentially rational but imperfectly so⁶⁹. To the Behaviouralists, the responses of individuals to changes in the law cannot be predicted with absolute precision⁷⁰, with such reactions bounded, for example, by the cognitive abilities of the persons concerned (that is, potential offenders)⁷¹.

Game theory, whilst not offering a discrete theoretical framework of law and economics, has resonance for its capacity to offer rigorous methods of quantitative analysis of the law⁷², and the criminal law in particular⁷³. In essence, game theory uses conditional probability, taken from econometrics and statistics, to build models (systems of equations) of the behaviour of decision-makers whose choices impact on each other in a sequential manner^{74, 75}.

⁶⁸ Nozick (1993); Ulen (2000) at 792–794.

⁶⁹ Mitchell (2002) at 67; Rachlinksi (2011) at 1676.

⁷⁰ Korobkin and Ulen (2000) at 1055–1056.

⁷¹ Jolls et al 1998 at 1476; Korobkin and Ulen (2000) at 1075 – 1102; Jones (2001) at 1150–1156; Epstein (2006) at 113; Jolls (2007) at 10–15.

⁷² Kattan and Vigdor (1996) at 441–442.

⁷³ Grossman and Katz (1983), Reinganum (1988) and (1993); Kobayashi and Lott (1996); Baker and Mezzetti (2001); Khalil et al (2010);

⁷⁴ Ayres (1989) at 1297; Katz (1990a) at 233–238.

⁷⁵ In a manner, game theory has been a victim of its own intellectual rigor and success, moving to the ‘outer edges’ of complex conditional probability, challenging even better econometricians and likely bewildering to many lawyers who may otherwise be interested in its potential, practical application to legal, and law and economics, cases and situations. However, the emergence of software, such as GLLAMM and GAMET, an add-in for the popular STATA program, should facilitate the wider access to game theory tools in the law, and in law and economics.

Unfortunately, none of the different schools of law and economics explicitly theorise how corruption would fit within their respective frameworks. However, it is possible to speculate the Chicago school would see corruption as indicative of government failure, the Austrians would consider it as just another feature of the marketplace the entrepreneur may have to confront, while the Public Choice (Virginia) school would likely see corruption as reflecting the triumph of the self-interest of politicians and bureaucrats over the broader voter-public.

The Institutionalists would likely concede corruption as a metric of institutional failure, while advocates of the Critical Legal Studies view would see corruption as reflecting the inherent freer market, libertarian approach to law, economics, politics and society. The Rational Choice and the Behaviourialists would see corruption as the outcomes of cost-benefit/risk-reward assessments by participants, although differing in the underlying decision-making processes. Game Theorists and the Empirical Legal Studies stream would likely be normatively indifferent to corruption, regarding it as just another situation to be modelled/ quantitatively analysed, while exponents of International Law and Economics would like view corruption in positivist terms, as a threat to the effectiveness of international law. Chapter 4 reviews the main theories of law and economics.

While scholars have put forward a number of theories of law and economics, their application to crime and criminal behaviour (of which corruption is one form) is challenged by the absence of a single, homogeneous form of 'the criminal'⁷⁶. Sources of heterogeneity extend beyond the usual socio-demographic indicators such as age, income, gender and social status, to include factors such as intensity of criminal behaviour (professional and tactical versus occasional and opportunistic), attitudes to risk (risk-takers versus risk-mitigators)⁷⁷, and elements of the criminal law chain such as enforcement, punishment and deterrence⁷⁸.

Rational Choice theory has tended to dominate scholarly thinking on and analyses of the law and economics approach to crime and criminal behaviour at the level of the individual. In this framework, individuals will engage in criminal activity when the benefits/rewards exceed the costs/risks, with such metrics (costs/benefits; risks/rewards) being the price signals of crime and criminal behaviour. For an individual, criminal activity will take place up to the point where the marginal cost of such behaviour equates to the marginal benefit (when the marginal cost exceeds the marginal benefit, the criminal will desist)⁷⁹.

⁷⁶ Indeed, it is moot whether some of the direct participants in corrupt relationship (that is, one facilitating corruption) even consider themselves as being criminals, regarding corruption either as an ostensibly victimless crime, at least in the sense of there being no crime of violence, or as a necessary or even virtuous activity. In the latter regard, see the 'beneficial grease' view of corruption, which is reviewed in Chapter 2.

⁷⁷ Ehrlich (1973) at 528 and (1977) at 742.

⁷⁸ Becker (1968) at 177; Stigler (1970) at 530; Viscusi (1986) at 330; Rose-Ackerman (2010) at 234.

⁷⁹ Becker (1968) at 176; Stigler (1970) at 529; Ehrlich (1972) at 262; Ehrlich (1973) at 522; Bar-Ilan and Sacerdote (2004) at 15.

Rational Choice theory has also had a dominant role in scholarship on the law and economics of crime at the level of society-as-a-whole, in particular the allocation of scarce public resources to different elements of the criminal law chain, most notably between enforcement and punishment. An increase in the relative resourcing of enforcement (in the form of lifting the probability of conviction) is likely to have a greater impact on criminal behaviour than committing the marginal resources to punishment (making the penalty regime more severe). This has prompted further thinking on the relative merits of maximal versus optimal enforcement⁸⁰ – the former being enforcement to the point of point of exhaustion, the latter to the point of greatest efficiency. Scholarship on punishment has followed similar lines, looking initially at the relative effectiveness of pecuniary versus custodial penalties, and within them maximal versus optimal punishment⁸¹.

The Rational Choice approach to the law and economics of crime regards the underlying objective of deterrence as modifying the ‘price of crime’ for actual and potential offenders – that is, intervening in the marginal cost/benefit (or risk/reward) equation⁸². Such issues are themselves embedded in the enforcement-punishment debate, and at the individual level are likely to be conditional on factors such as perceived certainty of

⁸⁰ Stigler (1970) at 527; Easterbrook (1983) at 295; Polinsky and Shavell (2000) at 49.

⁸¹ Becker (1968) at 207; Ehrlich (1982) at 5; Baik and Kim (2001).

⁸² Ehrlich (1981) at 312; Easterbrook (1983) at 309; Bar-Gill and Gazal (2004) at 2.

apprehension, prosecution and conviction⁸³, the social status and wealth of the offender (higher social status/wealth individuals tend to be less/more concerned with pecuniary/custodial penalties⁸⁴), attitudes to stigma from conviction and penalty (again more acute for higher social status/wealth individuals⁸⁵).

Taken together, this has led some scholars to consider whether there is a 'market model of crime', involving a supply of actual and potential offenders, the demand for offences (the purchase or on-selling of 'ill-gotten gains' such as stolen goods), and explicit and implicit prices of crime (in the form of the penalty regime)⁸⁶. In this framework, the 'market for crime' will be in equilibrium when criminals, considering the net expected return from crime, and society, represented by law enforcement looking at net social welfare, do not feel any need to change their own behaviours and thus the prevailing price of crime. Theories of law and economics of crime are examined in Chapter Five.

⁸³ Block and Lind (1975a) at 484; Harel and Segal (1999) at 277; Polinsky and Shavell (2000) at 68.

⁸⁴ Polinsky and Shavell (1991) at 618; Bar-Ilan and Sacerdote (2004) at 2.

⁸⁵ Block and Lind (1975a) at 488; Witte (1980) at 80; Posner (1980) at 414.

⁸⁶ Ehrlich (1996) at 44.

Empirical Legal Analysis

While the entry into force of international legal instruments, the enactment of statutes and the creation of jurisprudence may well create new law, such events may not be sufficient of themselves to alter the behaviour of targeted persons. In short, the mere existence of a law does not necessarily mean it has an impact, let alone that the law is effective⁸⁷.

This study was motivated by the intersection and potential integration of a number of threads in the author's mind: an interest in the effects of corruption on business and economic performance; a deep intellectual interest in the interaction of the law and economics⁸⁸, and in 'quantitative law' (also becoming known as Empirical Legal Analysis/Studies⁸⁹); and, a questioning of the implicit assumption that the law – in particular municipal statute and international economic law – is necessarily effective in changing the behaviour of the targeted parties.

⁸⁷ The usual, ipso facto, assumption of many 'black letter' lawyers. That is, the law exists, therefore it is effective. A key value-add of this thesis is challenging this assumption, and showing how it can be tested and that it does not necessarily hold in all situations.

⁸⁸ In particular, the more market-oriented schools of law and economics, such as the Chicago (reflected in the works of inter alia Coase, Gary Becker and Richard Posner), the Austrian (Crespi, Kirzner and Sechrest) and the Rational Choice (Gary Becker, Polinsky and Shavell, and Veljanovski) approaches, and subsequently with the development of this thesis the Behaviouralist (in particular, Sunstein and Jolls) perspectives.

⁸⁹ Some of the early exponents of which include Eisenberg and Heise, and a sub-field of law, and of law and economics with substantial growth potential, not least of which because of the large areas of currently unoccupied, but still fertile, space. The merging of Empirical Legal Studies with Game Theory, to form, say, a hybrid Empirical Game Theory stream would likely make a major, practical contribution to the evolution of 'quantitative law'.

Chapter Six examines the effectiveness of the law in dealing with corruption through the use of leximetrics⁹⁰ to assess the impact of a key international legal instrument – the OECD’s Convention on the Bribery of Foreign Public Officials in International Business Transactions – on the incidence of corruption in a sample of developed countries over a period of time.

The leximetric testing of the effectiveness of the OECD Convention is undertaken in two stages. The first stage involves applying a suite of quantitative analytical tools to, and developing and evaluating an aggregate model of, the broad pattern of corruption in a sample of 22 developed (largely OECD member) countries. The leximetric procedures used involve tests of equality and analysis of variance (ANOVA), with modelling-based methods using structural break analysis and breakpoint tests, testing for parameter stability and regime-shift specification. The second stage involves more intensive application of dynamic (time series) leximetric methods to three particular countries (Denmark, Italy and the United States), extending the procedures used in the first, broad and general stage of the analysis, to include techniques such as autocorrelation, dummy variable methods, and general-to-specific modelling. In both stages, research interest was focused on both practical (whether there was a step-movement in the incidence of corruption) and statistical (whether any such movement was ‘real’ or could otherwise be attributable to chance alone) significance – the former measuring the impact of the law, the latter the effectiveness of the law⁹¹.

⁹⁰ The application of econometric techniques to the law.

⁹¹ There is potentially a vast toolkit from econ-/lexi-metrics which could be applied to the empirical legal analysis undertaken in this thesis – for example, in the estimation of breakpoints and discontinuities in time series data, in model estimation (for example,

The leximetric analyses and modelling undertaken for, and reported in, this study indicate a key anti-corruption legal instrument - the OECD Convention - has had only a very small practical effect on corruption, seemingly only raising awareness of, and concern about, the incidence of corruption rather than resulting in a step-shift reduction in corruption in the panel of countries studied. In short, the OECD Convention does not appear to have been the extensive remedy for corruption which some had hoped. This message was echoed in a more intensive examination of a sample of three case study-nations.

The main conclusion of this leximetric analysis and modelling is broad-scale international legal instruments are not per se effective in tackling corruption in applicable countries. However, this does not necessarily mean international law has no role to play in the fight against corruption, rather it should be considered as part of a broader suite of anti-corruption initiatives.

Ultimately, this study seeks to make a substantial contribution to research and scholarly knowledge of the effectiveness of laws by using leximetric techniques to undertake innovative and rigorous statistical analysis and modelling to assess the impact of a key international legal instrument on

levels versus logarithms, and in different combinations) and model specification (for example, systems or vector designs). An exhaustive presentation of all possible approaches would be beyond the scope (even the admissible length) of this thesis, repetitive (often using nuanced different methods to make much-the-same findings), and likely add more 'noise than signal' to the core analysis. It would also likely test the patience of the most saintly supervisor and examiner.

corruption. Hopefully, with time, this study will encourage greater cross-disciplinary scholarship to broaden and deepen the nascent sub-discipline of leximetrics ('quantitative law') and to expand our knowledge of the characteristics and determinants of the effectiveness of laws.

Critical Readers

This thesis has benefitted substantially over its development from the constructive feedback from a number of critical readers – people from a diverse range of perspectives whose observations have challenged, and caused me to re-focus, my thinking on a number of the key themes and issues explored in this study. These critical readers have brought perspectives from the 'reasonable person' (does this make sense to the 'average reader'), from practitioners (who are interested in the causes of, and the effectiveness of alternate approaches to tackling, corruption) and from scholars from the law, economics, and law and economics (who are interested in deepening and expanding the boundaries of knowledge), amongst others; all have added value to this work.

The nature of these commentaries has generally fallen into two main camps. The first of those commentaries reflected on the overall 'balance of the thesis', usefully pointing out, in earlier drafts, an imbalance between the narrative materials contained in Chapters 2 and 3 (dealing, respectively, with "The Corruption Problem", "International Law and Corruption") with Chapter 6 ("Modelling Corruption"). A vigorous use of the 'red pen'

pared back Chapters 2 and 3 leading to a much more tightly presented review of the literature and argument, while additional context and explanations of leximetric modelling in Chapter 6 should assist the non-quantitative reader work his/her way through the data analytics. Suggestions to extend the reviews and the analyses contained in Chapters 4 and 5 (“Theories of Law and Economics”, and “The Law and Economics of Crime”, respectively) for example considering how scholars from the different streams of law and economics might theorise corruption, were taken on board.

Critical readers have also variously proposed a number of potentially interesting lines of leximetric modelling. These include: modelling the effectiveness of municipal implementation by States Parties of their international law obligations under the OECD Convention; developing multi-stage and/or systems equations leximetric models to examine more deeply the causes of corruption, and the linkages between them; and, examining whether municipal implementation of obligations in one State Party had spillover effects on other States Parties⁹². Other interesting ideas involved: investigating the underlying issue of the direction of causality, most notably whether corruption is simply the outcome of other causes, or is itself the driver of other indicators⁹³; examining if corruption is a homogenous concept, or whether alternative metrics of corruption

⁹² For example, amongst the geographically contiguous, and closely economically and politically integrated, States Parties of the European Union.

⁹³ For example, does ‘excessive regulation’ cause corruption, or does corruption cause ‘excessive regulation’?

(eg ‘petty’ vs ‘grand’) produce meaningful differences in modelling outcomes; and, whether another and/or larger data set, which would allow the introduction of additional variables, potentially causal of corruption, could be included in a revised leximetric model⁹⁴. All of these ideas would likely add-value to our understanding of the drivers of, and the effectiveness of instruments for dealing with, corruption, as well as sustaining a substantial program of post-doctoral research for a number of years.

Analytical Purpose of the Thesis

The development and the progress of this thesis has, understandably, been an intellectual journey; a marathon. In its initial conceptualisation, this thesis was intended to sit within the corporate law domain, looking at the impact of corruption on the processes of corporate governance in multinational firms operating in markets/nations where corruption was particularly problematic. The original thesis plan was to apply leximetric modelling techniques, using micro-economic (firm and industry level) data, to quantify the impact of corruption on firm-level decision making.

A cathartic moment – resulting from my interest in the interaction of law and economics, my doctoral research/ readings, and consultations with my supervisors – resulted in a partial re-orientation of my thesis. (Fortunately this occurred relatively early in the thesis process, and with the express encouragement of supervisors.) The changes saw the thesis move: from the

⁹⁴ Addressing what is sometimes called ‘the omitted variables’ problem

corporate law to the law and economics domain; from a concentration on municipal statute to international economic law; from an emphasis on the micro-economics of the firm and the industry, to the macro-economics of the Nation State; although my interest in corruption, in examining the effectiveness of laws (as a means of driving changes in behaviour) and in the application of econo-/lexi-metrics to legal problems remained.

This thesis seeks to weave together an analysis/argument/narrative of the adverse economic, social and legal effects of corruption, rigorously evaluating using the toolkit of econo-/lexi-metrics the effectiveness of international law viewed through the prism of law and economics. The thesis will be developed by examining the substantive elements of key international legal instrument(s), the analytical perspectives of law and economics, and empirical legal analysis to show situations of the (in)effectiveness of law.

Chapter 2 of the thesis examines the nature, extent and impact of the corruption problem, and will review, inter alia, the different types, and some of the main causes and the consequences of corruption; Chapter 3 reviews the footprint of international law on corruption, in particular the key features, both in the strengths and the weaknesses, of some of the main international legal instruments existant designed to tackle corruption; Chapter 4 reviews the main general theories of law and economics; Chapter

5 looks at the interface of law and economic theory, and crime, such as the Chicago, the Austrian, the Public Choice, the Rational Choice and the Behaviouralist approaches to law and economics; Chapter 6 sets out the econo-/lexi-metric modelling of the impact of international law on corruption, carefully examining the practical and the statistical significance of the impact of an important international legal instrument on corruption in member nations; and, Chapter 7 summarises the thesis and reports its main conclusions, most notably that the mere existence of a law does not mean it is necessarily effective.

Chapter 2: The Corruption Problem

*“The problem of corruption in the public sphere
is almost a natural consequence of
the nature of government interventions.”⁹⁵*

Introduction

Corruption, like death and taxes, is (almost) one of life’s certainties. That corruption is a problem in business, in government, in politics, in public policy, and in society is more or less accepted with little real challenge. However, there are legitimate grounds for debating the causes, consequences and potential policy tools to address the problem. While corruption has been around for centuries, some may say even millennia, it is only comparatively recently – since the late 1970s – that substantial scholarly and public policy attention has been directed toward the corruption problem⁹⁶.

⁹⁵ Lederman et al (2001) at 6.

⁹⁶ The veritable eruption in analytical work since the early to mid 1980’s in particular, from a range of disciplinary perspectives - business administration, economics, econometrics, international relations, law, political science, public administration and public policy, to name just a few - has helped to build a broader and deeper picture of the corruption problem.

This chapter is an empirical review of the corruption problem: dealing with the definitions and categorisations of corruption; identifying a number of vulnerable sectors; studying several of the key causes of corruption; examining some of the main consequences of corruption; reviewing some of the ongoing debates in the corruption literature; looking at certain potential policy tools to address corruption; before reaching some general conclusions.

This study shares the view that corruption is a measure of the nature and incidence of “*government failure*”⁹⁷ given “*bureaucratic corruption can be viewed as an indicator of government performance.*”⁹⁸. That is, corruption is a reliable metric of the failure of government to perform its proper economic, legal, political and social functions. Recognising corruption is an inevitable consequence of government intervention in an economy⁹⁹ and completely eliminating corruption - where it has taken root and its self-perpetuating nature¹⁰⁰ - is probably an unrealistic ideal¹⁰¹, a more pragmatic approach combining prevention and continuous remedial action against corruption is likely to prove more productive, holding out the potential for, at least, the minimisation of corruption¹⁰².

⁹⁷ Acemoglu and Verdier (2000) at 194; Hellman et al (2000a) at 1 Bentzen (2012) at 167.

⁹⁸ Wei (2000a) at 17; see also Hellman and Kaufmann (2002) at 5 for similar view.

⁹⁹ Liu (1996) at 26; Johnson et al (1997) at 159; Tanzi (1998) at 3; Ehrlich and Lui (1999) at 272; Van Rijckeghem and Weder (1997) at 25; Wei (1999) at 16; Barreto (2000) at 35; Treisman (2000) at 436; Lederman et al (2001) at 6; Blackburn et al (2006) at 2464; Graycar and Villa (2011) at 420..

¹⁰⁰ Andvig and Moene (1990) at 63.

¹⁰¹ Inter alia, Alam (1989) at 446; Naim (1995) at 247; Liu (1996) at 28; Williams (2000) at xiv; Barreto (2000) at 47; Kindra and Staphenurst (1998) at 8; Sandholtz and Koetzle (2000) at 51; Blackburn et al (2006) at 2447; given, as Vinod (1999) at 592 observes: “*A fight against corruption involves fighting human nature.*”

¹⁰² Or, as one scholar (Di Vito (2007) at 15), argues, finding the right balance between government failure and market failure.

Categorisation of Corruption

Numerous efforts have been made to define and/or categorise corruption, usually on some graduated scale based on impact or seriousness. While there is general agreement about the broad definition of corruption, there are a broad range of categorisations of corruption, ranging across: petty/grand; demand-/supply-driven; centralised/decentralised; corruption with/without theft; market/parochial; corruption according to/against the rule; and, greasing/blocking corruption.

The most widely accepted definition of corruption refers “... *to the use of public office for private gains, where an official (the agent) entrusted with carrying out a task by the public (the principal) engages in some sort of malfeasance for private enrichment which is difficult to monitor for the principal.*”¹⁰³. In short, corruption is the abuse of public office for private gain¹⁰⁴. Others have extended the scope of this definition to include those in positions of authority and leadership within private enterprise and the non-profit sector (for example, trade unions, or aid and development agencies)¹⁰⁵. The standard form definition has drawn criticism for a number of reasons, most notably for being unreasonably narrow, restricting corruption to the public sector alone, and not recognising comparable incidences of corruption in the private sector¹⁰⁶.

¹⁰³ Bardhan (1997) at 1321.

¹⁰⁴ Shliefer and Vihny (1993) at p 599; World Bank (1997) at 102; Tanzi (1998) at 8; Wei (1999) at 4.

¹⁰⁵ Ehlich and Lui (2000) at 4.

¹⁰⁶ Habib and Zurawicki (2001) at 689. Braguinsky (1996) at 14, for example, points out insider trading is a particularly insidious form of corruption practiced within the private sector which does not attract the same degree of moral opprobrium as corruption within the governmental sector.

One prominent categorisation of corruption is into ‘petty’ and ‘grand’ corruption. ‘Petty corruption’ has been defined as that *“practiced by underpaid civil servants who come to depend on small ‘contributions’ from the public to meet basic needs or to help pay a perverse form of tithe to their superiors for the right to hold a public sector job and profit from the many opportunities for extortion that it offers.”*¹⁰⁷. By comparison, ‘grand corruption’ is regarded as conduct *“practised by high officials who, in the process of making decisions of significant economic value, routinely demand bribes, kickbacks, percentages or other ‘gifts’ from those seeking government tenders and sales.”*¹⁰⁸. Regardless of the definition used, whether petty or grand, corruption has a number of common characteristics: the involvement of a public official; the capacity to exercise a discretionary power; misuse of that power; and, the provision of a benefit, usually money or in kind.

An allied categorisation is ‘state capture’¹⁰⁹, which occurs when (usually larger) enterprises make ‘grand corruption’ scale payments to politicians and public officials to effect the design and implementation of laws and regulations. ‘State capture’ is intended to generate a self-reinforcing dynamic under which those holding ‘capture power’ use it to subvert political and economic institutions for their own benefit or that of their

¹⁰⁷ Kindra and Stapenhurst (1998) at 8.

¹⁰⁸ Id. See Tanzi and Davoodi (1997) for an extensive discussion of ‘grand corruption’ in public investment, especially infrastructure projects; Rose-Ackerman (2002) where it involves multinational enterprises.

¹⁰⁹ Hellman et al (2000b) at 2; Lambsdorff (2002b) at 104; for a good general discussion of the ‘state capture’ approach to corruption, see Kaufman and Vicente (2011).

allies (often known as “*crony bias*”¹¹⁰). Such ‘state capture’ through ‘grand corruption’ contrasts with ‘state influence/petty corruption’ (generally practiced by smaller firms) which seeks to exert some influence over the administrative implementation of existing laws and regulations. In essence, ‘state capture’ corruption seeks to ‘buy’ the entitlement to design the rules of the game, while ‘state influence’ seeks to ‘rent’ the implementation of rules already made¹¹¹.

Another categorisation is ‘demand-/supply-driven’ corruption¹¹². Demand-driven corruption reflects the demand by the public for corrupt acts involving, for example, reduction or elimination of tax liabilities, favourable spending decisions by government and/or access to publicly provided goods and services at lower-than-otherwise prices. By comparison, supply-driven corruption reflects the willingness and capacity of public officials to initiate corrupt behaviour, which can be reflected in the nature and extent of institutional controls and punishment regime, the level of public sector wages and the conduct of higher political and bureaucratic leadership¹¹³. During the authoritarian Soeharto years in Indonesia, for example, “*the*

¹¹⁰ Hellman and Kaufman (2002) at 1.

¹¹¹ An important consequence for impacted, smaller firms is those outside the ‘state capture’ group generally experience weaker property rights, and diminished commercial sales and investment performances: Hellman et al (2000b) at 4; Gaviria (2002) at 245.

¹¹² Tanzi (1998) at 3.

¹¹³ Chand and Moene (1999) at 1130; Robertson-Snape (1999) at 590 – 592.

entire regime was built upon maximising corruption."¹¹⁴. In the kleptocratic State¹¹⁵, the strong, corrupt leader at the centre allows 'bounded corruption', under which corrupt behaviour (and pricing) is regulated to ensure greedy or unreliable lesser officials do not endanger the overall (corrupt) system¹¹⁶.

An allied categorisation is centralised/decentralised corruption¹¹⁷. In the centralisation case, the participants engage in 'lump-sum corruption' (one large payment) at a given central point in the political machinery, thus mitigating the potential for inconsistent, discretionary decisions at the margin. By contrast, decentralisation involves numerous, smaller corrupt transactions at decision-making points well-removed from, or out at the periphery of, the central administration. The Soeharto years in Indonesia are, again, a relevant case-in-point¹¹⁸.

¹¹⁴ MacIntyre (2003) at 11, and Robertson-Snape (1999) more generally for interesting discussions of the corrupt State during the Soeharto years in Indonesia.

¹¹⁵ Coolidge and Rose-Ackerman (1997) at 6, and more generally for an expansive conceptual discussion of corruption in a 'kleptocratic State' and a review of relevant experiences in a number of African countries since the 1960s. For an overview of peak level corruption in South Korea during the 1990s see Khan (1996) at 684 – 685; Charap and Harm (1999) for a general discussion of corruption in what they call 'predatory hierarchies' and in dictatorial States.

¹¹⁶ Beyond Soeharto's Indonesia, regulated corruption was practiced in South Korea during the Park Chung Hee years (1961 – 1979) per Moran (1999) at 571; Khan (1996) at 683 reports former President Roh Tae Woo admitted in 1995 he had accumulated a personal fortune amounting to some \$US 650 million during just five years in office!

¹¹⁷ Bradhan (1997) at 1325.

¹¹⁸ Ironically, Soeharto came to power promising to tackle the corruption of the Sukarno years: Robertson-Snape (1999) at 589. Indeed, the problem of decentralisation of corruption in Indonesia appears to have persisted beyond the Soeharto years: Olken and Barron (2008) at 338. As former President Mobutu, of Kenya, was reported (cited in Van Rijckeghem and Weder (1997) at 6) to have said: *"If you want to steal, steal a little cleverly, in a nice way. Only if you steal so much as to become rich overnight, you will be caught."*

Another categorisation is ‘corruption without theft’ and ‘corruption with theft’¹¹⁹. In the ‘corruption without theft’ case, the corrupt official turns over the full price of the good or service to the government, so the government incurs no direct loss of income from the corrupt act (with the corrupt official charging a ‘price plus corrupt mark-up’, the latter of which he/she keeps for themselves). By comparison, in the ‘corruption with theft’ case the corrupt official charges a price of their own determination (often lower than that formally mandated) for the products or services, conceals the transaction and retains the entire amount as a benefit for him/herself¹²⁰.

Corruption can also take the form of ‘market’ versus ‘parochial’ corruption¹²¹. Market corruption takes place in a competitive market environment and with a high degree of transparency. For the parties to such corrupt engagements, the identity of the other party is largely irrelevant and driven primarily by short-termism and opportunity¹²². By contrast, ‘parochial corruption’ occurs in situations with few potential corrupt parties and thus an environment of limited or restricted competition. There is also limited entry and exit of players, and the confidentiality, identity and trust of the parties on both sides of the illicit transaction is a matter of importance.

¹¹⁹ Shleifer and Vishny (1993) at 601–602.

¹²⁰ A common example of the latter in developing countries involves corrupt customs officials allowing goods to pass across border check-points without being recorded in return for corrupt payments (usually at a bribe price below the official tax payable). Given both parties (the bribe-payer and the corrupt official) benefit, the probability of disclosure or detection is small.

¹²¹ Lambsdorff (2002a) at 222.

¹²² ‘Petty corruption’ often falls in to this category.

Beyond size, corruption can be tested against its implications for the laws and regulations impacted. ‘Grease payments’, which are made to expedite a procedure which should normally have been carried out by the relevant official, can be regarded as ‘corruption according to the rule’ (that is, the official being paid additionally to do what they are supposed to do). By comparison, ‘bribes’ which are payments to obtain services which the official is generally prohibited from providing can be regarded as ‘corruption against the rule’. Broadening the framework slightly, extortion can be considered as something of an ‘harassment tax’ – a charge which the impacted firm or person must pay to avoid harassment by the relevant government official(s)¹²³.

Another categorisation distinguishes between ‘greasing’ and ‘blocking’ corruption¹²⁴. ‘Greasing corruption’ has characteristics of being predictable and acting like a transaction cost of doing business, while ‘blocking corruption’ tends to be unpredictable, causing large uncertainties for business, with the former being less damaging than the latter in economic terms¹²⁵. Research by the World Bank undertaken in the mid 1990s found the overwhelming majority of corruption in Asia, eastern Europe, and the Middle East and North Africa took the form of ‘grease corruption’, with the corrupt officials honouring their side of the illicit bargain and thus reducing uncertainty for the business party¹²⁶.

¹²³ World Bank (1997) at 103; Cuervo-Cazurra (2008) at 12; see Marjit et al (2002) at 92 and more generally on the powers of tax inspectors in developing countries to extort ‘harassment tax’ payments from business and individual taxpayers to ensure ‘favourable’ tax assessments and/or obviate potential intrusive tax audits.

¹²⁴ Brunetti et al (1997a) at 31.

¹²⁵ World Bank (1997) at 103.

¹²⁶ Brunetti et al (1997a) at 31; see also Campos et al (1999) for comparable research.

The predictability of corruption can have important implications for the commercial, economic and social impacts of corruption, with more predictable corruption being less damaging than less predictable corruption in its impact on business investment and economic performance¹²⁷. In this framework: countries with high levels and low predictability of corruption tend to be most disadvantaged by corruption; those with high levels and greater predictability are less worse-off than the preceding group; while the least worse-off are those countries with low levels but high predictability of corruption¹²⁸. In some countries corruption is so predictable the implicit prices attached to certain corrupt activities are almost common knowledge¹²⁹.

¹²⁷ World Bank (1997) at 103; Goudie and Stasavage (1998) at 134; Tanzi and Davoodi (2000) at 11; Thede and Gustafsen (2012) at 662. Campos et al (1999) at 1061, define predictability to mean the degree to which the bribe-paying party is confident the recipient will honour their side of the illicit bargain, generally in the form of a petty corrupt act such as the granting of a licence or the like. For those interested in the ‘honour amongst thieves’ view of corruption, see Lambsdorff (2002a and 2008). For example, Lambsdorff (2002a) at 223: *“Preference for honesty can have a rather ambiguous effect on corruption. It may restrict the inclination to become involved in corruption, but it can also help to enforce corrupt contracts.”*

¹²⁸ Campos et al (1999) at 1061. In so far as any policy lessons can be drawn, where a trade-off is necessary between the level and the predictability of corruption, the least-worse scenario is to tolerate more predictable ahead of a greater incidence of corruption.

¹²⁹ For example, the bribe required in Zimbabwe to obtain a drivers licence was known to be around \$US 12, as were the bribe price of the telephone repair in Beijing (Carrilla (2000) at 258–259), while the bribe-price for public sector positions with higher potential for extorting corrupt payments was well known in the former Soviet satellite States of Albania, Georgia, and Latvia (World Bank (1998) at 3; Alam (1989) at 444). Other well-known examples include bribe-prices for driving licences, marriage licences and birth certification in Indonesia (Robertson-Snape (1999) at 590).

Indeed, corruption can become so institutionalised as to have its own functional culture and regulated framework¹³⁰: in effect, the ‘laws and practices of corruption’. According to one account¹³¹, grand corruption became so institutionalised in the former Soviet Union all bribes were channelled through the local office of the Communist Party, and any deviation from the agreed-upon-pattern and pricing of corruption would be penalised by the higher echelons of the Party bureaucracy. India, by contrast, reportedly practices ‘competitive corruption’ where behaviour and prices are set independently by the direct parties in a revenue-optimisation manner (revenue relative to risk), and where new players enter the corruption process from the government side by creating new laws and regulations that are in turn used for extortion-motivated harassment¹³².

Table 2.1 provides a summary of the main typologies of corruption. As discussed earlier, they are not necessarily mutually exclusive, with particular instances of corruption potentially having features of several of the typologies. For example, a small payment made by a local businessman to a regional official to get a licence issued with the official keeping the money would have elements of petty, demand-driven, decentralised and with-theft corruption.

¹³⁰ Charap and Harm (1999) at 3.

¹³¹ Shleifer and Vihny (1993) at 605, who also have similar stories about The Philippines during the Marcos years, and parts of Italy under the domination of organised crime. See also Charap and Harm (1999) for similar stories from Africa nations with strong dictators.

¹³² Shleifer and Vihny (1993) at 605; Wu (2005) at 154. For a good discussion of the nature and incidence of corruption in India see Earle and Cava (2008/09) at 78–81.

Table 2.1: Typologies of Corruption

<p>Petty Corruption: <i>small payments to low level civil servants for minor functions</i></p>	<p>Grand Corruption: <i>large payments to high level civil servants for decisions of significant economic or political value</i></p>
<p>Demand Driven Corruption: <i>the corrupt activity or opportunity is initiated by a member of the public</i></p>	<p>Supply Driven Corruption: <i>the corrupt activity or opportunity is initiated by a public official</i></p>
<p>Centralised Corruption: <i>corruption is organised or paid at a central point in the civil service or political machinery</i></p>	<p>Decentralised Corruption: <i>corruption takes place well-removed from, or at the periphery of, the central administration</i></p>
<p>Corruption With Theft: <i>the government incurs a loss of revenue from the corrupt activity – the corrupt official retains some of the revenue for themselves’</i></p>	<p>Corruption Without Theft: <i>the government incurs no loss of revenue from the corrupt activity – the corrupt official retains a ‘mark-up’ on the formal price</i></p>

<p>Market Corruption: <i>there is a competitive and transparent market for corruption eg regarding the price for different corrupt activities</i></p>	<p>Parochial Corruption: <i>there is a restricted market place for corruption, with limited entry and exit, and opacity regarding the identities and prices of the corrupt players</i></p>
<p>Corruption According to the Rule: <i>made to expedite an official performing their proper duties (eg issuing a licence)</i></p>	<p>Corruption Against the Rule: <i>made to produce a different outcome from a decision-making process, which absent corruption, would not otherwise have occurred</i></p>
<p>Greasing Corruption: <i>minor and predictable corruption, usually regarded as a cost of doing business (see also Petty Corruption, and Corruption According to the Rule)</i></p>	<p>Blocking Corruption: <i>major and unpredictable corruption, often producing major uncertainties and enhanced political risk for business (see also Grand Corruption, and Corruption Against the Rule)</i></p>

The concept of corruption is not uniformly accepted without qualification around the world. What might be regarded as corruption in one national or regional culture may not be considered corruption elsewhere in the world, or across time¹³³. Different perceptions and practices of ‘corruption’ may be attributable to diversity in experiences and perceptions of how business and government relations are conducted, rather than detached observations of what may appear to be corrupt payments, for example efforts to ‘buy’ favourable treatment¹³⁴. It can also reflect cultural differences in attitudes to the independence of the judiciary and law enforcement agencies, where those bodies more subject to political control are less likely to consider allegations of corruption either at all, objectively or vigorously¹³⁵.

Adopting a cross-cultural/-national, a survey conducted in Thailand in the early 1990s found what those surveyed (Thai nationals) considered permissible conduct by government officials may well have been regarded as corruption in the United States or Western Europe¹³⁶. Similar attitudes appear to be held in Indonesia in the context of Javanese (patrimonial)

¹³³ Heywood (1997) at 423–425; Nelken and Levi (1996) at 6–10; Kim and Kim (1997) at 561–571; George and Lacey (2000) at 591; Sandholtz and Koetzle (2000) at 33–34; Treisman (2000) at 402–403.

¹³⁴ Kindra and Stapenhurst (1998) at 10. However, according to Wei (1997) at 18, such arguments are really little more than self-interest- and -justification on the part of corrupt officials.

¹³⁵ Nelken and Levi (1996) at 9–10; Goudie and Stasavage (1998) at 124.

¹³⁶ Wei (2001b) at 2. Wei (1997) at 18 quotes a German newspaper report: “*The Thai Deputy Minister of the Interior, Mr Pairoj Lohsoonthorn, has publicly called on officials to accept bribes.... “This is part of traditional Thai culture,” Mr Pairoj said.*”

cultural norms¹³⁷ and in tropical Africa where successful members of a kinship or tribal group are expected to distribute largesse to others in their group.

Such cultural filters can also emerge in developed, industrialised nations with foreign policy expediency framing what is/is not considered corruption, and when/where such practices are problematic and when/where they are not. Several commentators¹³⁸ have claimed western, industrialised nations, especially in the United States and Western Europe, were content, even quite willing, to ignore corruption amongst their political allies during the Cold War period which prevailed from the mid 1940s until the late 1980s, where it gave them economic, political or strategic advantage over their (communist) adversaries.

Areas of Vulnerability

The public sector in most countries is, to varying degrees, vulnerable to corruption, depending on the role and functions of the agency, the nature and extent of supervision, and the ethical culture of the bureaucracy. As observed earlier, corruption as an almost inevitable consequence of

¹³⁷ Robertson-Snape (1999) at 596–598, under which the Javanese ruler would dispense personal favours to his people. See also Theobald (1999) for a general discussion of patrimonialism in least developing countries, and developing countries in Africa and Latin America.

¹³⁸ Williams (1999a) at 487 and (2000) at xiv; Tanzi (1998) at 4; Mauro (1998b) at 11; Quah (2001) at 454; Shams (2001) at 90.

government, with bribery/extortion a standard feature of engagement between officialdom on the one hand, and the citizenry and the private sector on the other¹³⁹.

Areas of the public sector regarded¹⁴⁰ as particularly vulnerable to corruption include: public procurement and contracting¹⁴¹, especially where it is related to military acquisitions¹⁴²; the utilities sectors, such as power, water and transport¹⁴³; licencing, especially where import and export permits are required¹⁴⁴; the administration of price controls¹⁴⁵; revenue collection, in particular for taxation and customs¹⁴⁶; government appointments and/or promotions¹⁴⁷, most notably in areas related to the above activities; and, rezoning of land, especially to commercial and industrial purposes¹⁴⁸. The Asian Development Bank has estimated during the late 1990s corruption cost national governments in the region as much as fifty per cent of their tax revenues¹⁴⁹.

¹³⁹ Some scholars (Khalil et al, 2010, at 179) argue bribery and extortion should not be considered as equivalents in terms of their design and their impact, with the latter being far more pernicious than the former, and initiatives which successfully work to reduce bribery are likely to be defeated when they are inevitably offset by increases in extortion .

¹⁴⁰ Kindra and Stapenhurst (1998) at 9.

¹⁴¹ World Bank (1997) at 106; Tanzi (1998) at 12; Kaufman (1997) at 126; Hellman et al (2000a) at 40.

¹⁴² Gupta et al (2001) at 749.

¹⁴³ Clarke and Xu (2002) at 23.

¹⁴⁴ Kaufman (1997) at 126.

¹⁴⁵ Id.

¹⁴⁶ Jong and Bogmans (2010) at 385; Chiumya (2011) at 539; Thede and Gustafsen (2012) at 662.

¹⁴⁷ It has been observed (Murphy et al (1991) at 521): *“People pay hundreds of thousands of dollars for positions with the power to allocate supposedly free water to farmers in India, since these jobs give them monopoly rights to charge for water.”* See also Kahana and Qijun (2010) at 82.

¹⁴⁸ Tanzi (1998) at 14.

¹⁴⁹ Reported in George et al (2000) at 493.

New firms, and especially smaller businesses, are particularly vulnerable to extortion by corrupt public officials¹⁵⁰, for a number of reasons. These include newer private firms are often more in need of licences and permits to function¹⁵¹, and can be more profitable than other enterprises and hence have a greater capacity, *ceteris paribus*, to pay higher bribes (or be more likely to attract the attention of predatory officials)¹⁵². At the same time, less efficient firms are more likely than their more efficient counterparts to engage in corruption, viewing such expenses as a mechanism to ‘rebalance’ the commercial playing field¹⁵³. Furthermore, bribe taking/extortion may be more risky for the corrupt official at the early and more formative stages of the illicit relationship and with the less efficient firms¹⁵⁴, and hence the corrupt official may demand higher payments in the form of a risk premium. As the relationship matures, and both parties have a history of complicity (and mutual capture), the risk premium diminishes and the corrupt official becomes content with the steady stream of corrupt payments¹⁵⁵.

¹⁵⁰ Murphy et al (1993) at 412; Hellman et al (2000a) at 46; Clarke and Xu (2002) at 8; Emerson (2002) at 63; Hellman and Kaufmann (2002) at 20.

¹⁵¹ Hellman et al (2000b) at 13.

¹⁵² Fisman and Svensson (2000) at 5; Hellman and Kaufman (2002) at 19; Safavian et al (2001) for the (negative) experience of micro-enterprises in post-Soviet Russia, and Bishara (2011) for similar impacts on like enterprises in the Middle East.

¹⁵³ Cheung et al (2011) at 1.

¹⁵⁴ They tend to be inferior in their abilities to conceal their illicit activities from the properly functioning (non-corrupt) authorities: Cheung et al (2011) at 4.

¹⁵⁵ Murphy et al (1993) at 413; Clarke and Xu (2002) at 8.

Countries with an abundance of natural resources, and businesses engaged in the extraction and exporting of natural resources are particularly susceptible to corruption¹⁵⁶. This reflects the often substantial capital investments required to develop a natural resources site (for example, an iron ore or uranium mine, let alone one for precious metals such as gold or minerals such as diamonds or sapphires)¹⁵⁷. It also reflects the tendency for such projects to require numerous approvals and licences, the need for often substantial complementary public investment in infrastructure (such as roads and seaports) and the often very high profits from natural resources development, which in turn attracts the attention of rent-seekers amongst predatory bureaucracies and political players.

Causes of Corruption

There is no one, single cause of corruption. Rather, corruption can build upon one or more of a broad range of factors which are present to varying degrees in almost all countries. These include deficiencies in: economic governance; market institutions; political governance and institutions; the nature and extent of taxation and of government spending; the processes by

¹⁵⁶ Leite and Widemann (1999), and Pendergast, Clarke and Van Kooten (2011) for broad discussions of the linkages between natural resources endowments their development and corruption in developing countries. See also Treisman (2000) at 429; Clarke and Xu (2002) at 20; Paldam (2002) at 220; Sarr et al (2011) at 376. Both generally and specifically where they include diamonds, see Chang and Golden (2010) at 17.

¹⁵⁷ Although Leite and Widemann (1999) at 22 find the fuels and ores sub-sector of the natural resources sector tend to be less vulnerable than the agriculture and foods sub-sector, leading one to conjecture the presence of foreign investors in the former has a disciplining effect on the 'grabbing hand' of government officials which local farmers cannot avoid.

which civil servants are appointed, rewarded and promoted; as well as the presence of activist industry and trade policies, and the mixed impact of globalisation¹⁵⁸.

Poor economic and political governance creates opportunities and incentives for corruption. Key characteristics of poor economic governance include excessive government intervention in economic activity, deficiencies in government transparency¹⁵⁹, accountability and economic management¹⁶⁰, and the absence of a stable, rules-based competitive domestic market place¹⁶¹. Excessive government intervention, often in the form of ‘over-regulation’, creates opportunities for rent-seeking¹⁶² by government officials, lack of transparency can conceal the conflict (or multiplicity) of interest(s) of government officials (especially where they have outside private commercial interests), while the absence of a stable, rules-based competitive market regime provides a fertile ground for arbitrary and discretionary official conduct.

¹⁵⁸ Some analysts, using econometric modelling techniques, have found countries without Protestant (Christian) ethos and traditions are more susceptible to corruption: Sandholtz and Koetzle (2000) at 31; Paldam (2001) at 402; La Porta (1999) at 265; Gokeekus (2008) at 59; Treisman (2000) at 427 - 429; Wu (2005) at 166; Travits (2007) at 225. Serra (2006) at 226, for example, argues this reflects the egalitarian and individualistic characteristic of that creed, in contrast to what the author considers to be the more hierarchical religions such as Islam, Catholicism and Eastern Orthodoxy.

¹⁵⁹ Peisakhin and Pinto (2010) at 278.

¹⁶⁰ For a good discussion of the relative effectiveness of ‘top-down’ and ‘bottom-up’ monitoring to ensure accountability amongst public officials, see Serra (2011). She finds, inter alia, combined forms of such monitoring are more effective than one or other on their own (Id at 3).

¹⁶¹ Wolf and Gurgun (2000) at 3; Aidt, Dutta and Sena (2008) at 196; Clausen, Kraay and Nyiri (2011) at 212.

¹⁶² Defined as “*the activities and expenditures of individuals who seek to change rights to earn the above normal profits described as rents.*”: Khan (1996) at 687. For a detailed discussion of the economic theory of ‘rent-seeking’ see Lambsdorff (2002b) at 99–108; also Murphy et al (1993) at 409, and Khan (1996) at 687–688.

Weak market institutions can facilitate corruption and foster the broader environment for corruption especially in developing nations and economies in transition¹⁶³. Not surprisingly, well-established systems of market institutions – typified by clear and transparent rules, strong law enforcement mechanisms, and a robust competitive environment – reduce rent-seeking opportunities and thus the incentives for corruption¹⁶⁴. Conversely, the weakness of market institutions, evident in the intensity of barriers to entry of new businesses, the (in)effectiveness of the legal system, and the competitiveness of services provided by infrastructure monopolies¹⁶⁵, can encourage corruption

Weak political governance and institutions can also facilitate corruption¹⁶⁶, primarily through the channels of deficiencies in political accountability¹⁶⁷, the structure of the provision of public goods¹⁶⁸ and the absence of an effective rule of law¹⁶⁹. Inadequacies in political accountability can become evident in low probabilities of exposure and punishment for officials engaged in corruption, and inadequate transparency in the provision of

¹⁶³ Boardman and Recanatini (2000) at 1; Cuervo-Cazurra (2008) at 21; Goel and Nelson (2010) at 444.

¹⁶⁴ Abed and Davoodi (2000) at 39.

¹⁶⁵ Boardman and Recanatini (2000) at 15.

¹⁶⁶ Although the direction of causality can also flow the other way, with corruption undermining political governance and State institutions, weakening them / ensuring they remain weak: Hellman and Kaufmann (2002) at 6; Clausen, Kraay and Nyiri (2011) at 214.

¹⁶⁷ Especially where there is a lack of clarity of responsibility amongst/ within political institutions, which can be measured by indicators such as the majority status of government, cabinet duration, party system fragmentation, and influence of opposition parties on policy making: Travits (2007) at 227.

¹⁶⁸ Abed and Davoodi (2000) at 4; Lederman et al (2001) at 4.

¹⁶⁹ Hellman et al (2000a) at 1; Leite and Weidmann (1999) at 23; Brown and Shakman (2007) at 319.

governmental activities, while the absence of competition in the provision of public goods affords additional opportunities for rent-seeking (read: corruption) by officials¹⁷⁰. Shortcomings in these areas can have a profound effect on the incidence of corruption, with democracy¹⁷¹, decentralisation of government¹⁷², electoral competition and rules¹⁷³, parliamentary systems, political stability¹⁷⁴, independent and robust prosecutors¹⁷⁵ and judiciaries¹⁷⁶ and freedom of the press¹⁷⁷ all associated with a lower prevalence of corruption¹⁷⁸.

¹⁷⁰ Andvig and Moene (1990) at 319; Shleifer and Vishny (1993); Lederman et al (2001) at 9; Di Vito (2007) at 26; Di Giacchino and Franzini (2008) at 291; Tonoyan et al (2010) at 819; Bhattacharyya and Hodler (2012) at 3.

¹⁷¹ Naim (1995) at 251 – 253; Rose-Ackerman (1999) at 378; Clarke and Xu (2002) at 20; Wei (2000) at 15; Tresiman (2000) at 433; Sandholtz and Koetzle (2000) at 32; Krause and Mendez (2009) at 181; Brown and Shakman (2007) at 319; Bobonis and Camara Feuertes (2000) at 1; Goel and Nelson (2010) at 440.

¹⁷² Fisman and Gatti (1999) at 3; Wei (2000a) at 15; Sandholtz and Koetzle (2000) at 32; Lederman et al (2001) at 10; Ali and Isse (2003) at 460; Bentzen (2012) at 182. However, Bardhan and Mookherjee (2001) at 1 caution such regional decentralisation of government only changes the nature, not the incidence, of corruption, with local economic, political and social elites benefiting at the expense of non-elites in the provision of government services. Treisman (2000) at 433 makes a similar point.

¹⁷³ Especially regarding term-limits, that is the number of times an elected representative can be (re-) elected: Bobonis and Camara Fuertes (2009) at 2; Ferraz and Finan (2010) at 1.

¹⁷⁴ Leite and Widemann (1999) at 23; Pellegrini and Gerlagh (2004) at 440; Olofsgaard and Zahran (2008) at 166; Hodge et al (2011) at 482. Robinson and Sattar (2011/12) at 738 argue corruption within democratically elected governments has been used to justify, and then sustain, military coups in a number of Asian nations, such as Bangladesh, Pakistan and Thailand.

¹⁷⁵ Van Aaken, Feld and Voigt (2010) at 210.

¹⁷⁶ Naim (1995) at 247; Goudie and Stasavage (1998) at 124; Tonoyan et al (2010) at 819.

¹⁷⁷ Lederman et al (2001) at 2; Treisman (2000) at 404; Gray and Kaufman (1998) at 10; Naim (1995) at 247; Frelie et al (2007) at 838; Bhattacharyya and Hodler (2012) at 3.

¹⁷⁸ For a contrary view see Warner (2003) who argues, following a study of the European Union, the spread of freer trade, deregulation and privatisation, political competition, and economic decentralisation can fuel corruption amongst poorer, less developed economies.

Taxation is often regarded as a primary cause of corruption, particularly in terms of the burden, structure and operation of taxation systems¹⁷⁹. Corruption can be regarded as analogous to an (illegal) tax¹⁸⁰, one that can impose substantial economic costs for developing countries in particular¹⁸¹. Taxation systems particularly vulnerable to corruption tend to be characterised by: laws that are complex and/or difficult to understand¹⁸², and subject to differing interpretations; the payment of taxes requiring frequent contact between taxpayers and tax administrators; and, administrative procedures which involve discretion by tax officials, and/or lack of transparency, for example in the selection of audits and litigation, or the determination and collection of liabilities¹⁸³. The provision of tax incentives, especially to preferred firms or industries, and where it involves discretionary decisions by government officials, also creates windows of

¹⁷⁹ The impact of taxation on corruption can be both first order (the mere existence of a taxation system motivates people to engage in corrupt practices to avoid having to pay taxes *per se*) or second order (for example, people engage in corrupt practices to evade having to pay their assigned tax obligations.)

¹⁸⁰ Rivera-Baitz (2001) at 728; Shleifer and Vishny (1993) at 612; Abed and Davoodi (2000) at 14; Hellman et al (2000a) at 36; Friedman et al (2000) at 481; Olken and Pande (2011) at 4; Cuervo-Cazurra (2008) at 12.

¹⁸¹ By one estimate, each \$US 1 of corruption imposes around \$US 1.67 of burden to the impacted economy: Vinod (1999) at 601, using then prevailing exchange rates. Corruption can also be a regressive 'tax', with the bribe burden carried by smaller firms in economies-in-transition being around 60 per cent higher than for larger firms, when measured as a share of their own annual revenues: Hindriks et al (1999) at 395. According to Tanzi and Davoodi (2000) at 8, the figures were 5 per cent of annual revenues for small firms, compared to 3 per cent for large firms. Marjit et al (2000) at 92 point out richer individuals in a society also have greater capacity to engage in bribery of taxation officials to reduce their tax obligations, opportunities which are not usually available to the poor, thus shifting the relative tax burden away from the rich and more toward the poor and so reducing the progressivity/increasing the regressivity of the income tax system.

¹⁸² Richardson (2006) at 323.

¹⁸³ Tanzi (1998) at 11; Chand and Moene (1999) at 1138; Hindriks et al (1999) at 396–397. See Robertson-Snape (1999) at 594–595 for an illustration of the corruption – taxation nexus in Indonesia during the Soeharto years.

opportunity for corruption¹⁸⁴. However, causality can also run the other way – corruption can adversely impact the taxation system, in the form of greater incidence of tax evasion, higher tax collection costs, and a narrowing of the tax base¹⁸⁵ as business engage in ‘capital flight’ or relocate to the ‘unofficial economy’¹⁸⁶.

Government spending can also be a driver of corruption, with ‘bigger governments’ (that is, those with larger aggregate spending as a proportion of national economies) being more vulnerable to corruption than ‘smaller’ governments¹⁸⁷. Corruption in government spending can be particularly problematic where it involves a substantial degree of discretion in decision-making and/or lack of transparency¹⁸⁸. General public procurement and major public investment projects are particularly vulnerable to corruption¹⁸⁹, while ‘extra-budgetary accounts’ which exist in some national public sector accounting processes are ripe for corrupt exploitation¹⁹⁰. Activities subject to greater confidentiality and secrecy (such as military

¹⁸⁴ Tanzi (1998) at 14; Kaufmann (1997) at 127.

¹⁸⁵ Which means an increased tax burden has to be imposed on a small number of persons to raise a given amount of tax revenue.

¹⁸⁶ Friedman et al (2000) at 461; Al-Marhubi (2000) at 199; Azpitarte (2011) at 13; Singh, Jain-Chandra and Mohommad (2012) at 1.

¹⁸⁷ Goel and Nelson (1998) at 111; Wolf and Gurgun (2000) at 3; Ali and Isse (2003) at 460.

¹⁸⁸ Effective audits of government spending programs have been found to lead to significant reductions in corruption, especially where the results of these audits are publicised through media campaigns, at least in the short term: Bobonis and Camara Fuertes (2009) at 1; Ferraz and Finan (2010) at 1 – 2; Niehaus and Sukhtankar (2011) at 4.

¹⁸⁹ Tanzi and Davoodi (1997) at 1; Tanzi (1998) at 12.

¹⁹⁰ Kaufmann (1997) at 128; Tanzi (1998) at 13.

spending, which is often concealed under a cloak of ‘national security’¹⁹¹, and aspects and stages of privatisation processes¹⁹²) and thus lesser legislative or wider public oversight or review are particularly vulnerable to corruption¹⁹³.

The processes by which civil servants are appointed, rewarded and promoted can also have an impact on the corruption problem¹⁹⁴. The incidence and burden of corruption tends to be higher in systems where civil service personnel practices are more exposed to nepotism and patronage¹⁹⁵. Low civil service salaries, both in absolute terms and relative to those available from comparable employment in the private sector, can stimulate corruption: the lower the relative civil service salary, the higher the incidence of corruption¹⁹⁶, the wedge having been described as “*the rate*

¹⁹¹ Gupta et al (2001) at 752 – 753; Liu (1996) at 28.

¹⁹² Kaufman and Seigelbaum (1997) at 9.

¹⁹³ Schleifer and Vishny (1993) at 599; Mauro (1998a) at 264. The preservation of such secrecy often means the ‘victims’ of corruption, such as taxpayers, are unaware they have been victimised: Sandholtz and Koetzle (2000) at 33.

¹⁹⁴ Although the World Bank (1997) at 105 cautions: “*It is unwise to deal with the possibility of corruption by assuming that government officials are of higher moral standing than the rest of the population.*”

¹⁹⁵ This is especially the case when public sector employment, particularly where it involves greater potential for corrupt and extortive behaviour (with low probability of detection and punishment) or are allocated through an auction system (under which those paying the greatest bribe get the position): Wei (1999) at 18. Research by the World Bank (Wamey (1999) at 1) reports the incidence of the sale of public positions in a number of eastern European countries, with the incidence of ‘position-selling’ being most prevalent for customs officers, tax inspectors, and public legal officials (judges, prosecutors and investigators).

¹⁹⁶ Besley and McLaren (1993) at 120; Van Rijckeghem and Weder (1997) at 4; Kaufman (1997) at 128; Goel and Nelson (1998) at 116; Montinola and Jackman (2002) at 147. But see Treisman (2000) at 436, who produces econometric evidence to challenge this view.

*of temptation*¹⁹⁷. Public sympathy with ‘poorly paid’ civil servants can lead to social acceptance of corruption, and reluctance to report it by ordinary citizens (at least up to the point where they consider it ‘fair and reasonable’)¹⁹⁸.

Activist industry policies can stimulate corruption¹⁹⁹, especially where they are designed to promote one sector over another (usually manufacturing over agriculture and services), are stratified by size of firm (often larger over smaller businesses) or by degree of investment in productive capital and/or in research and development (generally, in the form of public funding for more research/higher technology oriented enterprises)²⁰⁰. Some observers have gone so far as to argue: “... *corrupt politicians devise industrial policies to obtain bribes from the companies they pick as ‘national champions.’*”²⁰¹. In these situations, politicians and bureaucrats with control rights over policy formation and/or the distribution of largesse intervene to capture some of the economic rents (in the form of extortion payments) for

¹⁹⁷ World Bank (1997) at 104.

¹⁹⁸ Van Rijckeghem and Weder (1997) at 23. For a contrary view see Besley and McLaren (1993) at 137, who see more effective monitoring of civil servants conduct of their duties, rather than wage levels, as the better policy response.

¹⁹⁹ Ades and Di Tella (1997a) at 1023; Mauro (1998b) at 11; Khan (1996) at 685.

²⁰⁰ Ades and Di Tella (1997a) at 1023–1024.

²⁰¹ Ibid at 1037. See Moran (1999) at 575, for the example of the South Korean *chaebols* during the administration of Kim Young Sam in the 1990s.

themselves²⁰². Government procurement programs, which are often closely associated with activist industry policies, are also vulnerable to corruption for similar reasons²⁰³.

Trade policy can play an important role in determining the incidence and impact of corruption. A number of studies have found countries less open to international trade (evident in higher tariffs and regulatory/non-tariff barriers) tend to experience relatively greater incidences of corruption, reflecting the absence of the disciplinary effect of greater competition for local companies from foreign firms²⁰⁴. The extortion problem is particularly acute where tariffs are higher, and/or differ considerably across imported goods, providing customs officials with the opportunity to extract rents from importing firms, for example using any discretionary powers to reclassify goods into a lower tariff category in exchange for a corrupt payment²⁰⁵.

²⁰² Politicians in particularly high-leverage positions, especially those with greater power over decision-making processes and outcomes, tend to charge much higher bribe-prices, both in absolute terms and as a proportion of the overall 'value in play': Cheung et al (2011) at 5.

²⁰³ World Bank (1997) at 106; Ades and Di Tella (1997a) at 1036. That is, the bureaucrat seeking a bribe payment to allow the enterprise to even participate, let alone win, the government procurement contract.

²⁰⁴ Ades and Di Tella (1997b) at 514, and (1999) at 988; Sandholtz and Koetzle (2000) at 44; Harma (2000) at 33; Treisman (2000) at 435; Torrez (2002) at 387.

²⁰⁵ Economists have found a strong association between the variance in tariffs (a measure of their dispersion) within individual countries and the incidence of corruption across nations, with much of the extorted payments constituting 'corruption with theft' – that is, most of the money going into the pockets of corrupt customs officials: Kaufman (1997) at 122; Gatti (1999) at 2; Jong and Bogmans (2010) at 357; Chiumya (2011) at 539. See also Clarke and Xu (2002) at 20.

Globalisation can have a mixed impact on corruption, on the one hand combating it and on the other hand facilitating it. The corruption combating effects of globalisation include its positive impact on democratisation of political processes, decentralisation of decision-making, liberalisation of market forces (including deregulation of markets, and privatisation of nationalised assets), and expanded freedoms for the media²⁰⁶. By contrast, globalisation can be a force for facilitating corruption within, and encouraging its spread between, countries. The globalisation of electronic communications, evident in the rapid up-take in usage of the Internet and allied electronic mail systems, may have increased substantially the opportunities for corruption, not least of which through their facility for international money transfers and related money laundering²⁰⁷.

Consequences of Corruption

The specific consequences of corruption are usually contextual, being dependent on the institutional structures, and state of economic development and growth of a particular Nation-State. In a developing country pursuing market-based economic development strategies, corruption may be regarded as a transitive and short-term cost which has to be borne to achieve faster, sustained economic growth in the longer term. By comparison, for nations with totalitarian systems corruption can seriously threaten, even lead to the breakdown of, the economic and political system^{208, 209}.

²⁰⁶ Naim (1995) at 247; Kaufman (2003) at 2; Hodge et al (2011) at 482; Lalountas (2011) at 645; Badinger and Nindl (2012) at 16.

²⁰⁷ Quah (2001) at 456.

²⁰⁸ Braguinsky (1996) at 14,

Corruption can be a substantial disincentive to foreign direct investment (FDI)²¹⁰, reducing the overall levels of such inflows and presaging capital outflows (even ‘capital flight’), especially after financial and foreign exchange liberalisations²¹¹. In short, corruption deters often much needed FDI²¹², with investment decisions being distorted by the nature and incidence of corruption, usually encouraging greater investment in politically favoured and/or less efficient activities²¹³ and/or industries/firms less likely to be subject to corrupt expropriations (for example, manufacturing, rather than the more vulnerable resource industries²¹⁴). Corruption can also distort the way in which multi-national firms finance their FDI, working to discourage equity and encourage debt based financing²¹⁵.

The relative incidence of corruption in the FDI source and recipient countries can also be important, with multinational enterprises tending to skew their foreign investments towards places with similar corruption

²⁰⁹ Ibid at 24.

²¹⁰ Abed and Davoodi (2000) at 31–32; Habib and Zurawicki (2001) at 695; Smarzynska and Wei (2000) at 12; Wei and Wu (2001) at 19; Besancenot and Vranceanu (2002) at 231; Lambsdorf (2003) at 240; Vinod (2003) at 886; Cuervo-Cazurra (2008) at 12. Wei (1997) at 11 estimates a unit increase in corruption can be associated with a 16 per cent fall in the inflow of foreign direct investment, for selected group of developing countries.

²¹¹ Rivera-Baitz (2001) at 727.

²¹² Wei (2001a) at 12; Habib and Zurawicki (2001) at 687.

²¹³ Brunetti et al (1997a) at 23.

²¹⁴ Brouthers, Gao and McNicol (2008) at 673. The resources sector being more vulnerable because of factors such as licensing and the higher sunk costs associated with developing facilities such as mines, and oil and gas systems.

²¹⁵ The latter of which can be regarded as a more conditional and qualified form of commitment and a better means for handling political risk, but usually entails lesser transfers of management and marketing expertise, and technology to the host country: Straub (2008) at 245; Pantzalis et al (2008) at 387.

profiles to their home countries²¹⁶. Whilst this may see foreign investors from ‘clean’ countries orienting their investments toward similar host countries, it can also result in investors from more corrupt nations directing their capital towards host nations’ with similar levels and styles of corrupt behaviour²¹⁷, especially given the capacity of multinationals from corrupt nations to capitalise the value of their operating experience in such environments²¹⁸.

Corruption can also have a profound impact on the composition of capital flows into an economy, shifting them away from direct investment toward loan or portfolio flows²¹⁹ (in effect, from longer to shorter term investments), and toward greater reliance on foreign currency denomination of capital transfers²²⁰ thus shifting the currency risks onto the recipient country; a potentially quite sizeable cost of corruption. Corruption can also impact the composition of FDI by forcibly skewing such investment toward joint ventures rather than otherwise-preferred wholly-

²¹⁶ Econometric modelling has found company directors who are less accountable to shareholders in their home jurisdictions tend to pay higher bribes in foreign markets: Cheung et al (2011) at 5.

²¹⁷ Wu (2006) at 852; Cuero-Cazurra (2006) at 807.

²¹⁸ In the form of higher-than-otherwise asset valuations. In effect, understanding how to operate in a corrupt environment becomes an intellectual asset to the enterprise: Pantzalis et al (2008) 387. As such, corrupt nations may not necessarily lose from corruption if they target similarly corrupt, capital-rich nations as sources of foreign direct investment.

²¹⁹ Wei and Wu (2001) at 20 -21, in part reflecting the availability of formal and informal insurance and related protections from international agencies such as the International Monetary Fund; Caprio, Faccio and McConnell (2011) at 21.

²²⁰ Ibid at 20.

owned subsidiaries²²¹. This can also involve more defensive approaches to intellectual property protection, such as lesser technology transfer (notably of less sophisticated and behind ‘state of the art’ technologies) than may otherwise have been the case²²².

Corruption can have a profound adverse impact on the stability of private sector financial institutions, in particular domestic banks and equity markets, by reducing the quality of the balance sheets of banks, other institutional lenders and firms²²³. Economic research has found corruption contributes to banking distress, and can accelerate the transmission of financial instability across international equity and currency markets²²⁴. It can also impair the development of private financial institutions and systems in developing countries, and their capacity to engage with the broader international financial system to the cost of economic growth and development in impacted developing countries²²⁵.

Corruption appears to have a mixed effect on foreign aid, with economists finding more corrupt countries tend to receive more foreign aid than their less corrupt counterparts²²⁶. The line of reasoning is as follows: corruption undermines economic development and growth, and public revenue raising capacities, in poorer countries which are then seen by aid donors as more in

²²¹ Smarzynska and Wei (2000) at 13; Hallward-Driemeier (2009) at 27.

²²² Smarzynska and Wei (2000) at 13.

²²³ Wei and Wu (2001) at 21.

²²⁴ Vinod (2003) at 873, citing, at 889, Thailand and the ‘Asian Financial Crisis’ of 1997 as a case-in-point.

²²⁵ Broadman and Recanatini (2000) at 16; Vinod (2003) at 877. Most often evident in interests rates which are higher, and foreign direct investment inflows that are lower, than otherwise.

²²⁶ Alesina and Weder (2002) at 1126.

need of foreign aid. However, when foreign aid is forthcoming it tends to create new opportunities for corruption, especially in the aid-favoured activities²²⁷, while corruption tends to undermine aid-effectiveness, especially in lower income and transitional economies²²⁸. This, in turn, deters private donors and agencies from providing supplementary aid, which, together, have a negative impact on capital investment, and social development and economic growth²²⁹.

Corruption can have a profound adverse impact on economic and social development in developing countries by expanding income inequality and increasing poverty²³⁰. This occurs because corruption impedes economic growth, reduces the progressivity of the taxation system, distorts and undermines the effectiveness of social welfare spending, and results in lower general funding of, and unequal access to, the education system and through this the formation of human capital²³¹. It also reflects the tendency of wealthy elites to lobby for preferential exchange rate, and trade, taxation and government spending policies that advance their interests²³². Such distributional consequences are likely to become more severe the greater the persistence of corruption²³³.

²²⁷ Ali and Isse (2003) at 460.

²²⁸ Wolf and Gurgun (2000) at 8.

²²⁹ For an extensive discussion of the linkages between foreign aid and corruption see Kolstad, Fritz and O'Neil (2008), who argue the causal linkages and the consequences are more complex than presented and analysed by many quantitative economic scholars, and more detailed and nuanced approaches are required.

²³⁰ Gupta et al (1998) at 1; Li et al (2000) at 155.

²³¹ Mauro (1998a) at 263; Gupta et al (1998) at 29; Wei (1999) at 2; Olofsgaard and Zahran (2008) at 166; Hodge et al (2011) at 482.

²³² Gupta et al (1998) at 7; Pani (2011) at 164.

²³³ Gupta et al (1998) at 6. Econometric research has estimated if business perceptions of the incidence of corruption in Bangladesh had been reduced to that of Singapore (that is, if Bangladesh had been perceived as being as 'clean' as Singapore) then Bangladesh's

Corruption can be clustered with regulation and taxation as distortions to the market economy emanating from the public sector, and imposed upon the private sector at a broader cost to business entrepreneurship²³⁴, investment²³⁵, employment²³⁶, productivity²³⁷ and economic growth and development²³⁸. All three – regulation, taxation and corruption – can influence the relative importance of the official (within the law) and unofficial (outside the law) economies²³⁹. Government officials can use regulation and taxation, and their administration, as instruments to leverage corrupt payments, while citizens and businesses can engage in corrupt transactions to avoid or mitigate the impact of regulation and taxation²⁴⁰.

The failure of public officials to lead by good example can mean the ordinary citizenry have diminished respect for proper authority and

average annual per capita economic growth rate could have been almost 2 per centage points higher in the 25 years to 1985: Wei (1999) at 10.

²³⁴ Murphy et al (1991) at 522. Fisman and Svensson (2000) at 3, estimate each one percentage point increase in the bribery rate is associated with a 3 per centage point reduction in firm growth, which is about three times the estimated effect of taxation. See also Gaviria (2002) at 261; Fadahunsi and Rosa (2002) at 397; Foellmi and Oechslin (2007) at 95.

²³⁵ World Bank (1997) at 103; Ades and Di Tella (1997b) at 514; Gaviria (2002) at 246.

²³⁶ Especially amongst smaller firms: Gaviria (2002) at 261.

²³⁷ Both in terms of the levels and rates of growth of total factor productivity: Salinas-Jiminez et al (2007) at 913; and of public sector productivity: Del Monte and Papagni (2001) at 14; Lambsdorff (2003b) at 457.

²³⁸ Mauro (1995) at 681; Liu (1996) at 28; Johnson et al (1997) at 160; Barreto (2000) at 48; Paldam (2002) at 220; Pellegrini and Gerlagh (2004) at 432; Blackburn et al (2006) at 2464

²³⁹ Johnson et al (1997) at 160; Friedman et al (2000) at 460; Eilat and Zinnes (2002) at 1233; Azpitarte (2011) at 13; Singh, Jain-Chandra and Mohommad (2012) at 1.

²⁴⁰ Economists have found a direct correlation between taxation and regulation on the one side, and corruption on the other: the higher the level of regulation and taxation, the greater the corrupt payments politicians can extort from entrepreneurs: Johnson et al (1997) at 170; Svensson (2003) at 220; Hopkins and Rodriguez-Pose (2007) at 200. Khalil et al (2010) at 192–193 argue where law enforcement is required to pursue bribery or extortion (that is, a ‘one or the other’ situation) priority should be given to, and the greater dividends will come from action against, extortion.

through it lesser respect for government, whether at bureaucratic or elected levels, and if politicians and civil service leaders are regarded as being corrupt, there can be lesser motivation for ordinary people to refrain from engaging in similar conduct. As such, a ‘contagion effect’ spreads throughout the public sector²⁴¹.

Corruption can also cause biases within national taxation systems²⁴², in particular encouraging tax evasion, poor tax administration, and exemptions (both legal and illicit) that disproportionately favour politically well-connected and financially affluent population groups. Such practices can cause a narrowing in the tax base and reduce the progressivity of the tax system. In broad terms, the greater the incidence of corruption in the taxation system, the greater the tax-impost required to raise any given level of revenue²⁴³. Economists have found corruption is associated with substantial revenue losses²⁴⁴, which reflect a pattern of businesses under-reporting their taxable affairs in collusion, and individuals negotiating their tax liabilities, with corrupt tax inspectors. It can also reflect the pervasiveness of tax-evasion and the more regressive the tax system (that is, the relative burden of taxation is shifted from higher to lower

²⁴¹ Chand and Moene (1999) at 1130; Goudie and Stasavage (1998) at 130. As the World Bank observed, “*Unchecked, the creeping accumulation of seemingly minor infractions can slowly erode political legitimacy to the point where even non-corrupt officials and members of the public see little point in playing by the rules.*”: World Bank (1997) at 102.

²⁴² Gupta et al (1998) at 7. See Hindricks et al (1999) for a general discussion of the interaction between corruption, and taxation administration and policy.

²⁴³ Freisdman et al (2000) at 461.

²⁴⁴ Tanzi and Davoodi (2000) at 18 report a unit increase in corruption, measured as a one-step rise in a given corruption index, is associated with a 1.5 per centage point decline in a nation’s total-revenue-to-GDP ratio, a 2.7 per centage point decline in its tax-to-GDP ratio, and a 0.6 per centage point fall in income-tax-revenue-to-GDP ratios.

income/wealth persons)²⁴⁵. Direct (earnings-based) taxes appear more vulnerable than indirect (consumption or expenditure-based) taxes to corruption, with any given increase in the incidence of corruption coming at a greater cost to direct tax than indirect tax revenues²⁴⁶.

Elsewhere within the public account, corruption distorts the pattern of public sector spending. Not surprisingly, corrupt politicians and officials tend to spend a greater amount of public resources on activities which are more susceptible to bribery and extortion (such as unproductive infrastructure, and military acquisitions) and lesser amounts on those areas less vulnerable to such malfeasance (such as education and health)²⁴⁷. And, where such capital works/infrastructure spending takes place, they tend to be more of the so-called 'white elephant' variety²⁴⁸ - unproductive infrastructure with little or no commercial, economic or social value. Corruption also has causal linkages to higher-than-otherwise costs for any given project, lower quality of public sector infrastructure, and lower expenditures on operations and maintenance of existing infrastructure facilities²⁴⁹.

²⁴⁵ Hindricks et al (1999) at 395; Marjit et al (2000) at 92–93. For a contrary view see Hunt and Laszlo (2005) who find corruption is not regressive, in that higher income households are more likely to make greater use of more senior and corrupt types of officials than are lower income households.

²⁴⁶ Recognition of which has acted as an incentive for some governments to reorient taxation systems toward indirect (consumption/value-added tax) style systems: Tanzi and Davoodi (2000) at 20 - 21.

²⁴⁷ Mauro (1998a) at 263; Gupta et al (2001) at 767; Tanzi and Davoodi (1997) at 3.

²⁴⁸ Mauro (1998a) at 275.

²⁴⁹ Tanzi and Davoodi (1997) at 7; Wei (1999) at 11. These problems tend to be particularly acute in areas such as utility services (power, water and sewerage), roads, bridges and highways, and telecommunications: Tanzi and Davoodi (1997) at 18; Clarke and Xu (2002) at 1. Case studies have found corruption can increase the cost and lower the quality of public works projects by between 30 and 50 per cent: Tanzi and Davoodi (1997) at 5.

Corruption has an adverse impact on economic efficiency given its capacity to distort resource allocation within the public sector (where, as noted, infrastructure spending is skewed toward activities more vulnerable to corruption, ahead of economic or social merit) and the private sector where corporate effort is skewed toward rent-seeking activities rather than entrepreneurial endeavour²⁵⁰ (even to the extent of firms engaging in ‘competitive corruption’²⁵¹)²⁵². For many businesses, corruption can also push them to hold a greater share of their assets in liquid form (such as cash and deposits) which are less vulnerable than fixed assets (such as plant and structures) to corruption²⁵³ or, as noted earlier, forcing a sizeable proportion of them into ‘the unofficial economy’ to escape “*the grabbing hand*”²⁵⁴ of corrupt officials.

Corruption also impacts adversely upon income distribution and inequality, with income distribution generally being less equal in more corrupt economies²⁵⁵. This outcome reflects the tendency for social redistribution

²⁵⁰ Goudie and Stasavage (1998) at 120.

²⁵¹ Hellman and Kaufman (2002) at 20–21, where larger and longer established firms in the private sector engage in rolling ‘bidding wars’ with each other and with smaller and newer firms through corrupt arrangements to secure and/or retain unequal influence with key government decision-makers.

²⁵² Economists have estimated such inefficiency costs can reduce annual economic growth rates by as much as one-fifth: Barreto (2000) at 47. It has been reported businesses operating in China spend between 3 to 5 per cent of their operating costs on ‘gifts’ for government officials (Naim (1995) at 254), and a striking 90 per cent of Russian and Ukrainian business managers say it is normal for bribes to be paid to government officials (Johnson et al (2000) at 497).

²⁵³ Caprio, Faccio and McConnell (2011) at 1.

²⁵⁴ Friedman et al (2000) at 459. Ibid at 477 estimate a unit increase in an international corruption index is correlated with an almost 10 per cent rise in the share of the ‘unofficial economy’ within the broader national economy for a sample of 42 developed and developing economies.

²⁵⁵ Li et al (2000) at 155.

policies to create opportunities for exploitation by corrupt politicians and officials²⁵⁶, and for the poor to receive lower levels of social and other governmental services, have infrastructure decisions skewed against them²⁵⁷ and income-earning options (especially by engaging in small business) reduced²⁵⁸. Corruption also plays an important role in explaining differences in income inequality across nations²⁵⁹, with the impact being particularly powerful in Asia and in Latin America²⁶⁰.

Not surprisingly, corruption can also fuel what is sometimes called the ‘black’ or the ‘parallel’²⁶¹ economy: illegal activity separate from conventional, legal commerce and industry. This can reflect the illegal nature of the corrupt activity, the desire of businesses vulnerable to extortion to avoid the reach of corrupt officials²⁶², and/or a rational commercial response to corruption-distorted policy settings or behaviour by government officials²⁶³. As a result, a smaller share of commercial activity takes place in the ‘official economy’, and that which remains is usually less

²⁵⁶ Alesina and Angeletos (2005) at 1241.

²⁵⁷ Being biased against projects that benefit the poor: Wei (1999) at 13.

²⁵⁸ Wei (1999) at 13; Bishara (2011) at 228.

²⁵⁹ Li et al (2000) at 157; Hunt (2006a) at 2.

²⁶⁰ Interestingly, this inequality effect is configured in something of an ‘inverted U-shape’ – that is, visually akin to a ‘flat hump’ - indicating high or low levels of corruption tend to be associated with low income inequality, while intermediate levels of corruption tend to be associated with higher income inequality. This would suggest middle income earners are more vulnerable to the adverse consequences of corruption (at least in the way it impacts on national income distributions) than are low income earners (who have lesser income with which to pay bribes) and higher income earners (who may be better positioned to insulate themselves, or exploit opportunities arising, from corruption): Li et al (2000) at 177.

²⁶¹ Fadahunsi and Rosa (2002) at 397; Braguinsky (1996) at 24.

²⁶² Friedman et al (2000) at 459; Emerson (2002) at 64; Johnson et al (2000); Eilat and Zinnes (2002); Fadahunsi and Rosa (2002) all provide good general discussions of the linkages between corruption and the ‘black economy’.

²⁶³ Marcouiller and Young (1995) at 630; Emerson (2002) at 63.

efficient than that which migrates to the 'black economy', thus producing a downward bias in official statistics on commercial and economic development and growth²⁶⁴. By one estimate²⁶⁵, corruption can induce as much as one-eighth of total national wealth to be redistributed from the formal to the informal economy.

Beyond these 'business-location' decisions at the industry and firm level, corruption reduces the efficiency of firms as corrupt behaviour, in particular the payment of bribes, tends to be used by less efficient firms to weaken competition from more efficient enterprises, and thus undermine the ongoing commercial viability of the more efficient firm (where it does not respond in kind to the other firm's corrupt activity)²⁶⁶. It also acts to discourage entrepreneurship, organisational change and innovation²⁶⁷, given corrupt players tend to benefit from preservation of the 'existing rules of the game'²⁶⁸. The adverse effect of corruption on private sector innovation can be particularly powerful, especially amongst smaller, start-up enterprises²⁶⁹. Unlike their more established counterparts, innovative smaller businesses

²⁶⁴ Braguinsky (1996) at 24; Eilat and Zinnes (2002) at 1233.

²⁶⁵ Barreto (2000) at 48. See also Alam (1989) at 450.

²⁶⁶ Clark and Riis (2000) at 110 – 111; Alam (1989) at 450. The United States Government has reportedly claimed bribes determined the outcomes of some 239 international business contracts valued at \$US 108 billion in the four year period to May 1998: George et al (2000) at 493.

²⁶⁷ With management effort diverted into engaging in corruption, rather than leading the company: Murphy et al (1991) at 520 and (1993) at 412; Rivera-Baitz (2001) at 728; Dal Bo and Rossi (2007) at 958 – 959.

²⁶⁸ Shleifer and Vishny (1993) at 615.

²⁶⁹ Murphy et al (1993) at 413; Safavian et al (2001) at 1215. Fisman and Svensson (2000) at 3 estimate each one percentage point increase in the bribery rate reduces firm growth by three percentage points.

are often constrained in their cash flow and access to credit facilities, and meeting demands for corrupt payments can require diversion of scarce capital away from productive activities.

Macro-econometric modelling²⁷⁰ has also identified positive and negative implications of corruption for nations. Corruption has been found to add to inflation (both in terms of its level, and its variability)²⁷¹ and reduce economic growth rates²⁷², potentially quite substantially²⁷³. However, high and variable inflation can also facilitate corruption - that is, the causality runs from inflation to corruption²⁷⁴ - by making such practices easier to conceal. For example, spurious invoicing or price-loadings associated with corruption tend to be easier to mask during periods of higher inflation, as distinct from lower inflation when they may be more obvious²⁷⁵. Widespread corruption can also reduce national savings²⁷⁶, which is important for funding government spending and business investment, by as much as one-seventh²⁷⁷.

²⁷⁰ That is, at the national and international levels.

²⁷¹ Braun and Di Tella (2001); Abed and Davoodi (2000) at 22; Al-Marhubi (2002) at 202; Paldam (2002) at 215.

²⁷² Mauro (1995), Knack and Keefer (1995), Kaufman and Wei (1999), Gupta et al, 1998) at 26; Ehlich and Lui (1999) Braun and Di Tella (2001) ; Paldam (2002) at 215; Aidt, Dutta and Sena (2008) at 196.

²⁷³ This higher variability in inflation reduces business investment (where a one standard deviation – a measure of variability - increase in inflation variability reduces investment by just over 1 per cent of national output and reduces economic growth by around 0.33 per cent annually): Braun and Di Tella (2001) at 16 – 17.

²⁷⁴ Paldam (2002) at 222.

²⁷⁵ Braun and Di Tella (2001) at 1. Econometric estimates also indicate a one-standard deviation increase in corruption leads to a decline in average investment rates of some 8.5 per cent of national output (Mauro (1995) at 681), and a fall in economic growth rate of 1.4 per cent points annually (Leite and Weidmann (1999) at 25).

²⁷⁶ Vinod (1999) at 594.

²⁷⁷ Barreto (2000) at 47.

Corruption has also been found to be pro-cyclical, that is moving in tandem with the business and economic cycles²⁷⁸: corruption being higher during periods of business and economic growth, and lower during business and economic downturns. Analysts have found rapid economic growth can lead to more corruption, reflecting the greater opportunities for public officials to demand corrupt payments and capacity to pay by business²⁷⁹ and households²⁸⁰. However, other researchers have made contrary findings, with the incidence of corruption rising during economic downturns as a greater number of people seek preferential treatment as a means of ameliorating commercial pain during difficult economic times²⁸¹.

Table 2.2 provides a summary of some of the main causes and consequences of corruption, grouped into four main themes: political; economic; institutional; and, policy settings. The listing is non-exhaustive. Similarly, the causal linkages do not necessarily run only from causes-to-consequences, but as the earlier discussion has indicated can run in multiple directions: what is a consequence in one situation may well be a cause in another. For example, a weak or compromised system of law enforcement can in turn lead to weak or non-existent civil society which in turn can lead to patronage based civil service appointments and promotions

²⁷⁸ Braun and Di Tella (2001) at 4; Fisman and Svensson (2003) at 212. Or at least the public's willingness to tolerate corruption: Heywood (1997) at 419.

²⁷⁹ Leite and Weidmann (1999) at 23.

²⁸⁰ Hunt and Laszlo (2005) at 26.

²⁸¹ Goel and Nelson (1998) at 113.

and through this a misallocation of infrastructure spending, inefficient regulatory and taxation systems which results in lower economic growth, higher inflation and greater vulnerability to external shocks (for example, exchange rate crises)²⁸².

Table 2.2: Causes and Consequences of Corruption

Causes	Consequences
<p>Political:</p> <ul style="list-style-type: none"> • Absence of effective rule of law • Weaknesses in political accountability • Lack of competition in the provision of public goods • Distorted political competition/electoral rules • Lack of freedom of the press 	<p>Political</p> <ul style="list-style-type: none"> • Diminished electoral and political accountability • Weaker civil society • Impedes transitions-to-democracy • Lack of effective freedom of the press

²⁸² The analogy of a neural network would not be in appropriate

Causes	Consequences
<p>Economic:</p> <ul style="list-style-type: none"> • Excessive government intervention in economic activity • Low levels of governmental transparency • Poor quality of economic management • Absence of rules-based, competitive markets 	<p>Economic:</p> <ul style="list-style-type: none"> • Distorted and/or weaker economic growth • Deterrent to foreign investment • Higher inflation • Distorted income/ wealth distributions • Greater vulnerability to external shocks • Weakens entrepreneurship
<p>Institutions</p> <ul style="list-style-type: none"> • Absence of clear and transparent rules • Weak or compromised law enforcement (at policing, prosecuting and judicial levels) • Unwarranted barriers to entry by new market players 	<p>Institutions:</p> <ul style="list-style-type: none"> • Weaker legal/judicial systems • Compromised electoral authorities • Weak or non-existent civil society • Distorted and weaker financial systems

Causes	Consequences
<p>Policy Settings:</p> <ul style="list-style-type: none"> • Inefficient and/or excessive taxation systems • Non-transparent public expenditure regimes • Patronage based civil service appointments and promotion systems • Activist industry and trade policies 	<p>Policy Settings:</p> <ul style="list-style-type: none"> • Compromised market signals • Distorted foreign aid flows • Mis-allocation of infrastructure spending • Inefficient regulatory and taxation systems • Lower quality civil services

Ongoing Debates

While there appears to be a high degree of consensus in the academic and policy communities on the causes and consequences of corruption, there is discord on whether corruption has any redeeming characteristics (that is, benefits). A rolling controversy within scholarly and broader policy circles concerns what has become known as ‘the beneficial grease debate’²⁸³. In essence, is petty corruption, such as small payments to accelerate civil service decision-making or action, always injurious or can it have beneficial effects?²⁸⁴

²⁸³ Sometimes referred to as the ‘virtuous bribery’ story: Wei (1999) at 14. For a good general review of the ‘grease the wheels’ debate see Meon and Sekkat (2005).

²⁸⁴ Although no credible commentator or scholar has yet come forward to defend ‘grand corruption’.

Scholarly work has argued corruption can be efficiency-enhancing in economies burdened by government failure²⁸⁵, excessive or inefficient regulatory systems²⁸⁶, artificial impediments to competition²⁸⁷ and/or where there is a high level of certainty within an industry or nation regarding the bribery process and its location within governmental decision-making²⁸⁸. Corruption can also be beneficial: in accelerating the demise (even collapse) of totalitarian States²⁸⁹; where significant market distortions exist or market mechanisms are weak²⁹⁰; where corrupt activities act as de facto forms of ‘deregulation’ (albeit arbitrarily so)²⁹¹; for guaranteeing property rights which would otherwise be absent²⁹²; where it encourages the corporatisation or privatisation of government activities²⁹³; where it works

²⁸⁵ Leys (1965) at 220; Khan (1996) at 683. Colombatto (2003) at 375; Mendex and Sepulveda (2006) at 96.

²⁸⁶ Leff (1964) at 11; Leys (1965) at 223; Huntington (1968) at 386; Barreto (2000) at 37; Dutt and Traca (2010) at 857; Jong and Bogmans (2010) at 385. Tullock (1996) at 6 argues underpaying tax officials and allowing them to retain some proportion of the taxation revenue they extract from ordinary and/or recalcitrant taxpayers, albeit a form of corruption, can improve the efficiency and receipts of the taxation, presenting a case study of China.

²⁸⁷ Leys (1965) at 220; Celentani and Ganuza (2002) at 1273.

²⁸⁸ Fisman and Gatt (2006) at 128, although the efficiency benefits of this lower uncertainty are not absolute, but relative to the inefficiency costs of greater uncertainty.

²⁸⁹ Braguinsky (1996) at 14; Cheung (1996) at 1.

²⁹⁰ Leys (1965) at 223; Lui (1996) at 26; Cuervo-Cazurra (2008) at 21.

²⁹¹ Nye (1967) at 420; Levy (2007) at 423; Jong and Bogmans (2010) at 392. But only up to some limited point, after which corruption becomes counter-productive: Braguinsky (1996) at 15.

²⁹² Colombatto (2003) at 374; MacIntyre (2003) at 12. Perversely, ‘rights to corrupt’ can become so entrenched they themselves become a form of ‘property rights’ which are actually saleable or transferable, as has been the case in India: Cheung (1996) at 4.

²⁹³ Shleifer and Vishny (1994) at 1015; Abed and Davoodi (2000) at 14. Presumably only when and where corruption is present in the privatisation process. The net benefits, from an anti-corruption standpoint, of converting a corrupt government instrumentality into a corrupt private sector entity are likely to be questionable.

to overcome discrimination against minority groups (which can be especially problematic in developing countries)²⁹⁴; creating social redistribution policies and systems, which absent some degree of tolerated corruption, may not have existed²⁹⁵; and, can even be preferable when used to avoid more disastrous military conflicts²⁹⁶. In these situations, corruption may be the least-worst alternative to such distortions, inefficiencies or practices²⁹⁷.

However, critics²⁹⁸ of the ‘beneficial grease’ view challenge the underlying direction of causation – that inefficiency induces corruption – pointing out corruption causes those inefficiencies subject to complaint and corrupt response²⁹⁹. In effect, a corrupt official has a strong incentive to create

²⁹⁴ Nye (1967) at 420.

²⁹⁵ Alesina and Angeletos (2005) at 1241, who consider some nominal level of corruption may be the price to be paid for social welfare improving policies for the poor, which would not have been created absent the opportunities for corrupt exploitation by malfeasant politicians and public officials.

²⁹⁶ Parchomovosky and Sigelman (2009) consider bribery to be a credible and less costly alternative than the direct and consequential costs of military conflict, whether between or within nations. In these situations, it may be cheaper for one party to bribe the other not to initiate or engage in warfare.

²⁹⁷ Lui (1985) at 778 and (1996) at 27 points to the example of corruption which introduces price signals into an economy, where they would not otherwise exist. Bayley (1966) at 726–730 hypothesises, but does not argue for, a range of potential ‘benefits’ of corruption, leaving to then-further research to test these ideas empirically. As one analyst boldly observed: “... *an economy sufficiently plagued by bureaucratic red-tape can be made better-off by corruption and is also capable of higher sustained growth rates because of that corruption.*”: Barreto (2000) at 51.

²⁹⁸ Mauro (1995) at 695; Kaufman (1997) at 116–118; Gaviria (2002) at 246; Alam (1989) at 446–452. Tanzi and Davoodi (2000) at 3 regard the ‘beneficial grease’ perspective as a “... *romantic view of corruption...*” For a balance sheet approach, outlining the costs and benefits of corruption, see Nye (1967).

²⁹⁹ Bradhan (1997) at 1323; Mauro (1996) at 685; Alam (1989) at 449; Habib and Zurawicki (2001) at 690; Gaviria (2002) at 267. That is, “... *it is usually presumed that a given set of distortions are mitigated or circumvented by the effects of corruption; but quite often these distortions and corruption are caused or at least preserved or aggravated by the same common factors.*”: Bradhan (1997) at 1323.

inefficiencies (what economists call ‘endogenous harassment’³⁰⁰), for example in administrative processes or additional regulation, for which he/she can seek corrupt payments to assist the business person work their way around³⁰¹.

Regardless of which causally precedes which, corruption or inefficiency, once the circular motion commences it generates a downward spiral³⁰², with less efficient firms engaging in corrupt transactions, the dividends of public spending being artificially skewed towards such firms, which in turn acts as an incentive for inefficient firms to remain or be sustained in business (rather than being made redundant by market forces), and other similar firms to join them in such conduct. In the lexicon of economics, firms replace entrepreneurial endeavour with rent-seeking activity³⁰³, with the consequently lower entrepreneurship, investment and innovation leading to lower economic growth³⁰⁴. Such distortions are greater for smaller firms³⁰⁵, especially those at the start-up phase of business activity in areas where there are relatively greater regulatory barriers to market entry, who are

³⁰⁰ Clarke and Xu (2002) at 24; see also Safavian (2001) at 1218.

³⁰¹ What one commentator has called “*tailored harassment*”: Wei (1999) at 14.

³⁰² Shleifer and Vishny (1993) at p 601; Naim (1995) at 249; Cheung (1996) at 1; World Bank (1997) at 103; Bradhan (1997) at 1328; Lambsdorff (2002a) at 238; Tanzi (1998) at 25; Barreto (2000) at 48; Wolf and Gurgun (2000) at 7; Gaviria (2002) at 267; Habib and Zurawicki (2001) at 690; Ehlrich and Lui (1999) at 290 for some econometric evidence of the relationship. Customs officials are seen to be particularly inclined to create rent-generating barriers to international trade: Treisman (2000) at 435.

³⁰³ Tanzi (1998) at 25; Tanzi and Davoodi (2000) at 3.

³⁰⁴ Mauro (1995) at 695; Tanzi and Davoodi (2000) at 7; Barreto (2000) at 47–48. Fisman and Svensson (2000) at 3 estimate each one percentage point increase in the bribery rate is associated with a 3 per centage point reduction in firm growth, which is about three times the effect of taxation.

³⁰⁵ Tanzi and Davoodi (2000) at 7; Safavian et al (2001) at 1216; Gaviria (2002) at 259.

more susceptible to demands from civil servants for corrupt payments³⁰⁶. Similarly, firms with large sunk costs (for example, capital investments made before start of operation) are also more vulnerable to corruption, both in terms of incidence and level (that is, being more likely to be targeted by corrupt officials, and for proportionally larger payments)³⁰⁷.

Policy Tools to Address Corruption

Any number of approaches has been proposed over time for tackling corruption, whether to manage, limit or reduce the practice. Its longevity, measured in centuries, even millennia, suggest corruption has a strong capacity to survive even the best directed, intended and intensive assaults upon it³⁰⁸. Indeed, it has been remarked “*A fight against corruption involves fighting human nature.*”³⁰⁹; or only slightly less fatalistic “*... corruption is a ‘dynamic’ phenomenon that tends to adapt quickly to changes in circumstances.*”³¹⁰.

More encouragingly for those in the anti-corruption camp, some commentators³¹¹ regard corruption as inherently unstable, and ultimately self-predatory and –destructive. This situation arises because of the tendency for those involved in corrupt exchanges to over-reach themselves

³⁰⁶ Tanzi and Davoodi (2000) at 9; Clarke and Xu (2002) at 1; Hellman and Kaufman (2002) at 20; but see Svensson (2003) at 220 for a contrary view. However, the same is not the case with smaller firms with some degree of government ownership, suggesting corrupt officials are reticent to prey upon their own: Gaviria (2002) at 259.

³⁰⁷ Svensson (2003) at 223; Wei and Wu (2001) at 6.

³⁰⁸ Ehlich and Lui (1999) at 272; Barreto (2000) at 35; Wolf and Gurgun (2000) at 15

³⁰⁹ Vinod (1999) at 592.

³¹⁰ Wolf and Gurgun (2000) at 15.

³¹¹ Nelken and Levi (1996) at 4–5.

and thus bring about the collapse of such arrangements. It can also reflect ever increasing competition amongst ‘suppliers of corruption’ seeking new clients, the inevitable fight-back by those excluded from the corrupt system (and its spoils), and the propensity of less-disciplined participants to break ranks (and the necessary mutual silence) when rigorous anti-corruption campaigns come into effect. From this perspective, better anti-corruption strategies may revolve around methods that destabilise corrupt relationships³¹², for example creating distrust amongst the parties, raising transparency and/or increasing the search costs/risks of identifying potential corrupt partners.

An essential action, almost precondition, for tackling corruption is the presence and commitment of the necessary political will – in effect, decisive action and demonstration effect from the political leadership. Just as with corruption in national and other key leadership positions, corruption in the political, administrative and corporate classes can also have contagion effects and foster a culture of corruption, so meaningful commitment from elites is necessary preventing or eliminating corruption³¹³.

The contagion effect of corruption – where an individual, whether in government, in business or even an ordinary consumer sees someone else engaged, profitably, in the practice – should not be under-estimated³¹⁴. The contagion effect can operate on both the demand side (from government

³¹² Lambsdorff (2002a) at 221; Naim (1995) at 251.

³¹³ Gray and Kaufman (1998) at 9; Chand and Moene (1999) at 1138; Goudie and Stasavage (1998) at 133; Kingston (2008) at 90.

³¹⁴ Econometric studies have found physical proximity to corruption can have a (practically and statistically) significant impact on corruption both within the same and between adjacent jurisdictions: Andvig and Moene (1990) at 63; Goel and Nelson (2007) at 840; Becker, Egger and Seidel (2009) at 300.

officials, as bribe takers) and on the supply side (from business and/or citizens, as bribe payers). On the demand side, the prospectively corrupt official operates in an environment of substantial opportunities and rewards for bribery, with lax enforcement and lesser penalties. There may even be a culture of 'learning by watching' or just 'occupational osmosis'³¹⁵, thus underpinning a potentially self-sustaining culture of corruption³¹⁶.

Contagion can also promote anti-corruption effort and initiatives, both in a preventative (for a 'clean' country to deter the slide into corruption) and a remedial (assist an impacted country to effectively deal with the problem) manner³¹⁷. Positive contagion can result from nations belonging to international organisations which are either explicitly (through their membership requirements or rules of operation) or implicitly (transmitted through the behaviour, norms or values of other nation-members) imparted. Such an effect can also work as a rational response to overt economic incentives: access to financial and technical assistance programs may be predicated on achieving membership of the organisation, a condition of which is meeting certain (anti-) corruption performance requirements³¹⁸,

Anti-corruption programs are ultimately political phenomena, given the decision to undertake or initiate them is usually made in the highest political echelons, as are decisions about their scope, priorities and targets. Catalysts for these politically-driven events can include: changes in the

³¹⁵ Goel and Nelson (2007) at 840; Sah (2007) at 2573.

³¹⁶ Herzfeld and Weiss (2003) at 629. Failure to engage in corruption when it is pervasive in a country, sector or institution can lead to a form of 'social exclusion' from that domain, whether for individuals or for corporate entities: Guerrero and Rodriguez-Oriegga (2008) at 370; Wu (2006) at 839.

³¹⁷ Becker, Egger and Seidel (2009) at 309.

³¹⁸ Sandholtz and Gray (2003) at 767.

person or the values of the head of government or state; challenges from counter-elites (for example, opposition parties, and influential voices in the media and in non-governmental organisations); efforts to undermine the credibility of the previous regime (or political alternatives); and/or, as an initiative to set the current and prospective political agenda - in short, to fortify the political position of the head of government³¹⁹.

Where political will is not present, or sufficiently demonstrated, from those in leadership positions, identifying and invigorating pockets of support amongst reform-minded decision-makers and opinion leaders can be valuable³²⁰. This concept has been extended along geographic lines to the idea of special governance zones, especially in developing and/or transitional economies, which governments guarantee as being (and remaining) free of corruption³²¹ which have positive demonstration effects for other parts of the nation, and interested governments³²².

More effective legal penalties and processes can be useful weapons to combat corruption. Options put forward include: more substantial penalties for corrupt behaviour (especially by government officials)³²³; substantive investigative mechanisms, such as independent anti-corruption

³¹⁹ Gillespie and Okruhlik (1991) at 82, although they remain agnostic on the broader question of the effectiveness of such campaigns in reducing the incidence and impact of corruption.

³²⁰ Gray and Kaufman (1998) at 9.

³²¹ Wei (2002) at 2.

³²² Such strategies have been practiced, with results ranging from promising to successful, in locations such as Campo Elias (a small city in Venezuela) to Obninsk (near Moscow, in Russia): see Wei (2001b) at 6 for additional details on these experiences.

³²³ Mokherjee and Png (1995) at 158; Rose-Ackerman (1996) at 1; Goel and Nelson (1998) at 116, who suggest such penalties need to be disproportionately heavy (namely, a hefty multiple of the perceived benefits) to be effective in tackling corruption. See also Van Rijckeghem and Weder (1997) at 5 for similar views.

commissions³²⁴, ombudsman and/or internal investigations units³²⁵; and, whistleblower laws which protect, and even reward, public officials who report on corruption or malfeasance by other officials or contractors³²⁶. Pecuniary penalties, to be effective, need to be substantial and reinforced by the prospect of custodial penalties for more significant corrupt practices³²⁷. Prosecutions of prominent corrupt figures can also have a substantial demonstration effect³²⁸ on both bribe-givers and -takers.

Despite support for independent anti-corruption agencies from governmental and other public policy organizations pressing the anti-corruption agenda, such mechanisms have had mixed impact³²⁹. Their success is often limited by a number of factors including: it can be difficult to establish such agencies, recognising the substantial countervailing interests of influential people engaged in corruption; if established, they can have limited effectiveness, especially where they are subject to control by their political masters who may themselves be corrupt or associates of corrupt business and other political players; and, they may suffer from deficiencies in legislated authority, such as the power to prosecute, independence in decision-making³³⁰, and from funding and staff constraints.

³²⁴ Such as those operating in Hong Kong and Singapore: World Bank (1997) at 107; but see Pope and Vogel (2000) and Quah (2001) for discussions on the effectiveness of this mechanism generally and in a number of Asian countries, respectively.

³²⁵ As exist in South Africa and the United States, respectively: World Bank (1997) at 107.

³²⁶ As exist in the United States: World Bank (1997) at 107; Rose-Ackerman (1996) at 2.

³²⁷ Quah (2001) at 458, who examined the relative effectiveness of financial and custodial penalties in a number of Asian countries.

³²⁸ Gray and Kaufmann (1998) at 10.

³²⁹ Pope and Vogel (2000) at 8; Kaufman (2003) at 3.

³³⁰ Van Aaken, Feld and Voigt (2010) at 205–206.

Amongst the various non-legal approaches put forward for tackling corruption are what have been called ‘social marketing strategies’³³¹. These strategies are based on the organisations of civil society – such as business, consumers, labour unions – working to create an atmosphere in public life that discourages corruption. Key elements of these strategies include raising public awareness of the economic and social costs of corruption, increasing the understanding of the causes of corruption amongst the public, and making a public virtue of anti-corruption behaviour amongst politicians and civil servants³³².

The effectiveness of the fight against corruption is intimately linked to reform of the State³³³. Key elements of the ‘State reform’ model include: honest and visible commitment by the political leadership to the anti-corruption cause³³⁴; policy changes which reduce the demand for corruption in areas such as deregulation and tax simplification; reducing the supply of corruption, by curtailing bureaucratic discretion³³⁵ and instituting effective controls and penalties on vulnerable public officials³³⁶, emphasising prevention ahead of remediation³³⁷; and, resolving difficult issues surrounding the funding of political parties³³⁸.

³³¹ Kindra and Stapenhurst (1998) for an extended discussion of the various options and strategies available and used. See also George and Lacey (2000) at 578 – 587.

³³² So-called ‘one-shot’ campaigns are unlikely to have any sustained impact, with some analysts (Bardhan (1997) at 1334) pointing out it generally takes only a short time after such initiatives are concluded for corruption to return. The situation, however, is likely to be different where such campaigns are sustained.

³³³ Tanzi (1998) at 34; World Bank (1997); Wei (1999) at 24; Hellman et al (2000a) at 1; Abed and Davoodi (2000) at 4; Olofsgaard and Zahran (2008) at 169.

³³⁴ Quah (2001) at 464.

³³⁵ World Bank (1997) at 103; Wei (1999) at 16; Tonoyan et al (2010) at 819.

³³⁶ Di Giachinno and Franzini (2008) at 294.

³³⁷ Goel and Nelson (2007) at 846; the former head of the State Food and Drug Agency, within the People’s Republic of China, Zheng Xiaoyu, was sentenced to death in May

Reform of domestic political institutions is another key element of any strategy to tackle corruption³³⁹. The continuation of corruption until it becomes endemic and the absence of necessary political reform can lead to regime collapse³⁴⁰ and even State failure³⁴¹. Key elements of this reform package include: limiting the size and reach of government, more so in the areas of regulation and taxation ahead of spending³⁴²; decentralisation of government functions from central to provincial or local levels³⁴³; reducing bureaucratic discretion in decision-making³⁴⁴; promoting competition and contestability³⁴⁵ in the delivery of government-provided goods and services³⁴⁶; the introduction or consolidation of democratic electoral

2007 for accepting bribes. The sentence was carried out several weeks later, in July 2007: Earle and Cava (2008/09) at 59.

³³⁸ Tanzi (1998) at 15; Clausen, Kraay and Byiri (2011) at 213.

³³⁹ Lederman et al (2001) at 29 – 32; Wei (1999) at 24; Abed and Davoodi (2000) at 17.

³⁴⁰ Which some scholars regard as a positive dividend of corruption: Braguinsky (1996) at 14; Cheung (1996) at 1.

³⁴¹ Tanzi and Davoodi (2000) at 3.

³⁴² Wei (1999) at 16; Goel and Nelson (1998) at 117.

³⁴³ Wei (2000a) at 16. However, others (Goel and Nelson (1998) at 115) provide findings to the contrary, or (Ahlin (2002); Montinola and Jackman (2002); Fan et al (2009)) mixed results, depending on the nature of the decentralisation program, the latter pointing out that more complex systems of vertical public administration can create additional opportunities for corruption.

³⁴⁴ World Bank (1997) at 105.

³⁴⁵ Potential competition, which the corrupt official would see as a form of risk. Such a risk may place downward pressure on the incidence of corruption, not least of which the ‘bribe price’ charged to bribe-payers: Di Vito (2007) at 26; Ade and Di Tella (1997a) at 515. However, Di Giachinno and Franzini (2008) at 292–293 caution poorly designed bureaucratic competition may see substitution between the forms of corruption, with lower extortion being replaced by higher bribery.

³⁴⁶ Lederman et al (2001) at 6; Clarke and Xu (2002) at 5, who emphasise its importance in the supply of utility services; Ahlin (2002) at 30 and Bose (2004) at 319, where such competition could take place between or within governmental agencies; Ahlin and Bose (2007) at 465, who see competition between corrupt and honest public officials as a means of reducing corruption, on the basis the honest counterparty would prefer to deal with an honest official, at no additional cost, than dealing at a cost (the bribe price) with a dishonest one.

processes³⁴⁷, especially in the form of effective oppositions³⁴⁸, plurality/single member electorates³⁴⁹ and parliamentary systems³⁵⁰; freedom of information legislation³⁵¹; and, introduction or enhancement of freedom of the press³⁵², and avoidance of restrictive defamation laws which can be used to shield corrupt public officials³⁵³. Direct and focused action to weaken corrupt institutions should also be utilised, including encouraging defections of key players from corrupt systems, building coalitions of those adversely affected by corruption and inserting disinformation into corrupt systems to promote distrust, risk and uncertainty³⁵⁴.

Political competition can be an effective tool to reduce corruption by opening government to greater public scrutiny, introducing contestability in the design and performance of the electoral process³⁵⁵ and into the provision of government-supplied goods and services, and the decentralisation of decision-making which challenges the creation of bureaucratic fiefdoms³⁵⁶. In this framework, the capacity of citizens (as taxpayers and voters) and business (as taxpayers and employers) to set limits on governmental activity

³⁴⁷ Naim (1995) at 251–253; Treisman (2000) at 401; Sandholtz and Koetzle (2000) at 38; Montinola and Jackman (2002) at 147; Bobonis and Camara Fuertes (2009) at 1; Bhattacharyya and Hodler (2012) at 3.

³⁴⁸ Rose-Ackerman (1999) at 378.

³⁴⁹ Persson et al (2003) at 958, thus encouraging greater accountability by individual members of the legislature, in contrast to multi-member or party-list systems which are more opaque, with specific members less exposed to electoral retribution for misconduct.

³⁵⁰ But, see Clarke and Xu (2002) at 22 for a contrary view.

³⁵¹ World Bank (1997) at 108; Peisakhin and Pinto (2010) at 278.

³⁵² Eskeland and Theile (1999) at 2; Treisman (2000) at 404; Gray and Kaufman (1998) at 10; Bhattacharyya and Hodler (2012) at 3.

³⁵³ Rose-Ackerman (1996) at 2.

³⁵⁴ Klitgaard (2000) at 5.

³⁵⁵ Montinola and Jackman (2002) at 147.

³⁵⁶ Shleifer and Vishny (1993) at 616.

can act as a constraint on the nature and extent of corruption³⁵⁷. However, decentralisation, if not properly designed and administered, can merely result in a redirection of the corruption, with government provided services being over-supplied to local and regional elites at the expense of the ordinary citizenry³⁵⁸.

Curtailling the powers of individual bureaucrats would include dealing with their monopoly over the issuance of licenses and permits³⁵⁹, the supply of utility services³⁶⁰ and insider information³⁶¹. Under this model, public officials would be given competing jurisdictions so a client or consumer who is not well served by, or subject to extortion demands from, one official can approach another official or supplier³⁶². At the same time, this ‘competition-between-officials’ should have a signalling effect for corrupt practices, and thus act as a ‘check-and-balance’ (absent, of course, collusion between the relevant officials). However, insofar as this approach merely adds further layers of governmental intervention or duplication of services, and/or points of interaction for the business-person seeking to operate their enterprise, it may be counterproductive by adding more leverage points at which extortion can be exercised³⁶³.

³⁵⁷ Barreto (2000) at 36.

³⁵⁸ Bardhan and Mookherjee (2001) at 5.

³⁵⁹ Bardhan (1997) at 1337; Kaufmann (1997) at 126; Goudie and Stasavage (1998) at 129; Lederman et al (2001) at 9; Ahlin (2002) at 30.

³⁶⁰ Clarke and Xu (2002) at 19.

³⁶¹ Lambert-Mogiliansky (2002) at 58.

³⁶² Rose-Ackerman (1996) at 3; Ahlin (2002) at 30.

³⁶³ Ahlin (2002) at 4.

An allied approach involves curtailing discretionary powers exercised by government officials³⁶⁴. Key elements of such a strategy include: streamlining laws and regulations with which business must comply; contracting out to the private sector (with suitable reporting requirement public sector activities subject to endemic corruption³⁶⁵; the introduction of market-based mechanisms for allocating access rights to scarce resources, such as water or land; and, introduction of transparency into public procurement practices³⁶⁶. Staff rotations, especially in positions vulnerable to corruption, can play a useful role³⁶⁷.

Rebalancing the role of the public and private sectors can also be a useful anti-corruption strategy³⁶⁸. Insofar as bureaucratic allocation of scarce resources and regulatory interventions in the operation of markets exists, or is pervasive, there is a proportionate risk of corruption. Activist industry

³⁶⁴ World Bank (1997) at 105–106; and supported by empirical analyses, such as Vinod (1999) at 601.

³⁶⁵ As happened in Indonesia when it contracted out aspects of its customs service, such as pre-inspection and valuation, to a private Swiss firm: see World Bank (1997) at 106 for a summary report.

³⁶⁶ World Bank (1997) at 106. One approach suggested by several scholars involves mandatory debarment of persons, natural and legal, found guilty of corruption, in whatever form, from participating in sub-national, national and multinational public procurement processes (especially as suppliers) for a nominated period of time, say 5 to 10 years: Wu (2005) at 153; Hatchard (2007/08) at 23–28.

³⁶⁷ However, risks include the potential to spread corruption by rotating corrupt officials into previously ‘clean’ positions, and the capacity of corrupt supervisors to rotate non-corrupt subordinates who are not prepared to participate in corrupt activity: Rose-Ackerman (1996) at 2.

³⁶⁸ Wolf and Gurgun (2000) at 13–15 offer an expansive list of potential policy actions for such a re-balancing, ranging across downsizing government, consolidation of public sector financial statements, strengthening the independence of central banks, restructuring of public sector enterprises, and liberalisation of international trade and commerce.

policies, especially where public officials are given broad discretion on which industries and firms to support³⁶⁹ and/or provide tax incentives³⁷⁰ are particularly vulnerable to corruption. While absolute laissez faire is unrealistic, one approach to reducing corruption is bold and comprehensive deregulation of areas of bureaucratic intervention per se and/or particularly vulnerable to corruption, and legalisation of certain otherwise illegal activities³⁷¹. One particularly bold option is quite simply to abolish programs riddled with corruption³⁷².

As observed earlier, the nature and extent of competition within markets tends to impact on the incidence and levels of corruption. Lesser competition in a market³⁷³ and a greater incidence of non-market based pricing³⁷⁴ can lead to greater corruption, as firms subject to reduced competition generally enjoy higher rents. This gives public officials with control rights over such firms' greater incentives to engage in extortive behaviour, in the form of extracting some of that rent for themselves. Conversely, greater competition in markets tends to reduce the rents

³⁶⁹ Wei (1999) at 17.

³⁷⁰ Tanzi (1998) at 14.

³⁷¹ Eskeland and Thiele (1999) at 3; Bardhan (1997) at 1335; Stephan (2010) at 350.

³⁷² Rose-Ackerman (1996) at 3, for example, if corruption is endemic in a subsidy program, then if the program is abolished then the associated corruption will disappear. However, this option may not be appropriate for programs with strong commercial, economic or public policy rationales. Such approaches have been effective in Hong Kong (within the police force, with the legalisation of off-track betting for horse races) and Singapore (within the customs service when the Government allowed more imports to arrive duty-free): Klitgaard (1988).

³⁷³ Ades and Di Tella (1999) at 982; but see Svensson (2000) at 17 for a contrary view.

³⁷⁴ Abed and Davoodi (2000) at 39.

available to firms, and can thus reduce corruption³⁷⁵. As such, effective national competition laws and policies targeted at anti-competitive laws, regulations and practices, and trade liberalisation policies exposing domestic industry to effective competition from foreign trade and investment, can be useful instruments in the anti-corruption armoury of governments³⁷⁶.

An alternative view contends increased competition can lead to greater corruption³⁷⁷. The line of argument is as follows: greater competition in markets encourages higher levels of efficiency and thus profitability amongst participating entrepreneurs, from which corrupt officials can extract greater illicit payments. While some less efficient firms may exit the market under pressure of competition, the corrupt payments obtainable from the remaining efficient firms can more than offset this loss of corrupt opportunity³⁷⁸.

Transparency is another potential weapon in the battle against corruption. At the most basic level, the absence of information on regulations, ambiguous or poorly drafted rules and/or changes to regulations or rules without proper public announcement are fertile grounds for corruption³⁷⁹.

³⁷⁵ Cheung (1996) at 3.

³⁷⁶ Ales and Di Tella 1997 at 1003, and (1999) at 990, and 992; World Bank (1997) at 105–106; Leite and Weidmann (1999) at 23; Treisman (2000) at 435; Wei (2000) at 2; Torrez (2002) at 387; Vinod (2003) at 886; Pellegrini and Gerlagh (2004) at 434.

³⁷⁷ Bliss and Di Tella (1997) at 1001.

³⁷⁸ Economic research tends to support this view, finding the burden of corruption imposed on a firm by corrupt officials depends upon the capacity of the firm to pay: a ‘rent-extraction’ model, under which the more the firm can pay, the more it has to pay: Svensson (2000) at 1. Hallward-Driemeier (2009) at 3 finds exit rates tend to be higher amongst more efficient firms, who are likely to be more targeted by corrupt politicians and public officials given their (the efficient firm’s) higher profitability; the less efficient firm has lesser profits with which to meet the demand for bribes.

³⁷⁹ Tanzi (1998) at 20.

At another level, the greater the degree of transparency in decision-making and in disclosure of interests³⁸⁰, the higher the probability corrupt behaviour will be detected³⁸¹. The ‘scandal’ often associated with corruption is generally considered to make for good news stories, especially in the hands of the tabloid media³⁸². However, transparency can be a ‘double-edged sword’: it can also improve information available to outsiders on the identities of key decision-makers, and thus enhance the potential for ‘connections’ which act as conduits for bribery³⁸³. In effect, transparency in decision-making can act as a de facto form of advertising as to whom should be targeted for corruption³⁸⁴.

Privatisation can also play a constructive role in tackling corruption, with the burden of corruption being lower in countries which have privatised more than comparable nations³⁸⁵, and in industries (especially utilities sectors) where privatisation has occurred relative to those where state-ownership prevails³⁸⁶. The main drivers for this effect include greater

³⁸⁰ Senior public officials in Mongolia are required to make formal declarations of their incomes and assets, and those of their families, upon appointment and annually thereafter, under penalty of displacement or dismissal: Quah (2001) at 457. An initiative endorsed by the World Bank: Kaufman (2003) at 2.

³⁸¹ Bac (2001) at 107.

³⁸² Heywood (1997) at 420. ‘Name and shame’ initiatives – where corrupt officials or agencies are publicly identified in the media – have had some success, for example in Bangalore (in India) where local community groups have highlighted corrupt practices in local government agencies leading to sackings of corrupt officials: Gray and Kaufman (1998) at 10; see also Klitgaard (2000) for a number of cases, rendered anonymous by the author, of the effective use of public exposure to subvert corrupt government agencies and programs.

³⁸³ Bac (2001) at 87.

³⁸⁴ Transparency was problematic, for example, in the Turkish higher education sector during the 1990s when parents and students identified and sought to bribe previously anonymous examiners for entry into selective universities and courses: Ibid at 94.

³⁸⁵ Clarke and Xu (2002) at 22; Tanzi (1998) at 7.

³⁸⁶ Naim (1995) at 253.

managerial disciplines on employees within, and greater market place competition for, the privatised entity³⁸⁷. But, predatory politicians can favour privatisation for its capacity to increase the efficiency of the firm(s) concerned, and thus prospective opportunities and capacities to meet their extortion demands³⁸⁸.

Privatisation processes, where poorly designed or inadequately implemented, can be vulnerable to corruption³⁸⁹, especially where bidders are pressed to pay ‘commissions’ or ‘facilitation payments’ to those with inside information³⁹⁰ or administrative or decision-making powers in the privatisations³⁹¹. Corruption can also result in deliberate underpricing of the assets to be sold, with the difference shared between buyers and corrupt officials³⁹². Privatisations that merely result in the transformation of a public monopoly into a private monopoly are likely to have little, if any, impact on corruption³⁹³; it may just involve a sectoral relocation of the problem. The Soeharto family and its business and political cronies in

³⁸⁷ Clarke and Xu (2002) at 23.

³⁸⁸ Shleifer and Vishny (1994) at 998.

³⁸⁹ Kaufman (1997) at 122; Kaufman and Siegelbaum (1997) at 9; Tanzi (1998) at 7; Warner (2003) at 3. Kaufman and Siegelbaum (1997) provide a good treatment of the issues and linkages between corruption and privatisation for the specialist reader.

³⁹⁰ Rose-Ackerman (2001) at 1893-1894.

³⁹¹ Tanzi (1998) at 7; Rose-Ackerman (2001) at 1893-1894. The balance sheet for the privatisation of the Argentine national airline Aerolinas Argentinas in the late 1980s reportedly included an expenses entry of \$US 80 million for ‘costs associated with the sale’: Naim (1995) at 253.

³⁹² Rose-Ackerman (2002) at 1894.

³⁹³ Id; Kaufmann (1997) at 122; Goudie and Stasavage (1998) at 127.

Indonesia, for example, are alleged³⁹⁴ to have used the domestic liberalisation programs of the 1980s for self-enrichment by grabbing for themselves corporatised and deregulated government entities³⁹⁵.

Trade liberalisation policies can play a constructive role in tackling corruption, especially where they lead to substantial opening of previously protected home markets to international competition³⁹⁶. The enhanced competitiveness of domestic firms unencumbered by debilitating corruption can be reflected in greater foreign trade opportunities³⁹⁷. However, the full benefit of trade liberalisation initiatives, especially where they take the form of reductions in quotas and/or tariffs, can be compromised if the administrative discretion given to customs officials (for example, on classifying goods for quota or tariff purposes) is not curtailed³⁹⁸. Other external drivers can also act as catalysts for domestic economic reforms, as happened in the Philippines during the 1980s and 1990s under policy-pressure from Japan and the United States as important capital lenders³⁹⁹, and in South Korea with the 'Asian Economic Crisis' of the late 1990s⁴⁰⁰.

³⁹⁴ Robertson-Snape (1999) at 595.

³⁹⁵ Such practices were so widespread in Russia after its move to a market economy privatizatsia (privatisation) was nicknamed prikhvatisatsia (grabitization): Naim (1995) at 253.

³⁹⁶ Ades and Di Tella (1997a) at 1033; Leite and Widemann (1999) at 23; Sandholtz and Koetzle (2000) at 44; Habib and Zurawicki (2001) at 687; Torrez (2002) at 387; Vinod (2003) at 886.

³⁹⁷ Gaviria (2002) at 245; Vinod (2003) at 886.

³⁹⁸ Kaufmann (1997) at 122; Goudie and Stasavage (1998) at 128.

³⁹⁹ Moran (1999) at 576.

⁴⁰⁰ Ibid at 570.

Another proactive approach involves greater use by multilateral public financial institutions, such as the International Monetary Fund (IMF) and the World Bank, of conditionality in their lending practices⁴⁰¹. Under this model, IMF and World Bank lending and refinancing is made conditional upon improvements in domestic economic governance, which can include specific actions to address identified corruption problems, for example the establishment of effective and independent anti-corruption agencies⁴⁰². Such conditionality has already been applied by the IMF in its lending to a number of Baltic nations and Newly Independent States (of the former Soviet Union)^{403, 404}. A variation of this approach involves disbarring companies which have criminal convictions for engaging in corrupt practices from tendering for work with the various multilateral development banks

⁴⁰¹ World Bank (1997) at 101; Wei (1999) at 22; Wolf and Gurgun (2000) at 4; Thornburgh (2003) at 139. Some observers (Kaufman (1997) at 129) have called for the international community to withdraw financial support from the most egregiously corrupt nations.

⁴⁰² Pope and Vogel (2000) at 3.

⁴⁰³ See Wolf and Gurgun (2000) at 4–5 for a discussion of these experiences, and their effectiveness in tackling a broad spectrum of corrupt practices, ranging from the sale of preferential trading rights, across the sale of public utilities at very low prices to politically well-connected persons, and to allocation of government debt guarantees to dubious borrowers.

⁴⁰⁴ The IMF's governing Board in 1997 issued a set of Guidelines on "*The Role of the IMF in Governance Issues*" which set down a framework for the IMF's role in client nations in developing institutions and administrative systems designed to eliminate the opportunity for corruption in the management of public resources (see Ibid at 8–9 for a discussion of the Guidelines). However, it has been argued (Wei (2002) at 23) that a rigorous approach to such conditionality by public international financial agencies could mean the World Bank curtailing its development-assistance lending by as much as one-half - no doubt, indicative of the pervasiveness of the corruption problem in potential recipient countries.

Exposure of corrupt nations to rigorous analysis by international private sector rating agencies, especially for ‘country risk’ assessments⁴⁰⁵, can be used to tackle corruption externally when domestic capacities or commitments are limited (or complicitous in the corruption)⁴⁰⁶. Such international credit ratings and the accompanying narrative country reports are widely used by international business and financial institutions in making foreign investment location decisions. They can also constructively act as countervailing power to the propaganda of (corrupt) domestic administrations for who local legal, market or political disciplines may be absent.

Targeted foreign aid programs can be useful features in the armoury of anti-corruption strategists. Beyond ensuring ‘corruption-conditionality’ in the aid and lending programs of international public financial institutions such as the IMF and the World Bank⁴⁰⁷, foreign aid can fund capacity building for domestic law development and enforcement agencies in aid-recipient countries⁴⁰⁸, and the education of policy makers and the broader public about the consequences of corruption⁴⁰⁹. Such an approach requires greater continuing engagement by the donor, beyond the ‘just write a cheque’ model, and is well-suited to the work of non-governmental aid bodies. However, such ‘aid-conditionality’ has been criticised for its

⁴⁰⁵ Essentially an economic and financial evaluation of a nation for its international creditworthiness and/or as a destination for foreign investment.

⁴⁰⁶ Vinod (2003) at 878.

⁴⁰⁷ Wolf and Gurgun (2000) at 8; Tavares (2003) at 104.

⁴⁰⁸ Vinod (1999) at 601.

⁴⁰⁹ Vinod (2003) at 888.

potential to create ‘corruption traps’ for those countries most in need of external assistance in tackling corruption. In this line of thinking, foreign aid is generally conditioned on developing countries implementing Western-defined measures to tackle corruption, but those countries with the least resources to do so are often most at risk of suffering the denial of the very resources they need to achieve those objectives⁴¹⁰.

Domestic laws with extraterritorial reach, such as the United States Foreign Corrupt Practices Act (FCPA), can be useful mechanisms for combating corruption⁴¹¹. Such laws are expected to make affected (in this case, American) firms more corruption-averse than firms from countries without such legislation. However, questions have been raised about the effectiveness of stand-alone laws such as the FCPA in combating corruption⁴¹². The FCPA has reportedly had little, if any, impact on the demand by corrupt officials in developing countries for illicit payments⁴¹³, while the foreign investment behaviour of United States’ firms is not significantly different from other-national firms⁴¹⁴.

⁴¹⁰ Andersson and Heywood (2009) at 760–761.

⁴¹¹ Wei (1999) at 2.

⁴¹² George and Lacey (2000) at 591; Breidenbach (2009) at 175; Salbu (2000) describes the FCPA as “doomed to failure” (at 659) and “ineffectual” (at 679) because it focuses on trying to order behaviour rather than dealing with the systemic problems that drive such conduct. However, he goes on to say (at 681) the FCPA has useful symbolic value for its role in at least raising awareness of corruption.

⁴¹³ Wei (1999) at 23.

⁴¹⁴ The FPCA appears to have had little impact on the export performances of US firms trading with bribery-prone Latin American countries, net of their overall commercial competitiveness: Beck et al (1991) at 301; Wei (1997) at 23; Smarzynska and Wei (2000) at 13. As one analyst has observed: “... *when bribery becomes a necessary part of the business deal, the American firms are just as clever as other investors in finding covert means to pay it in spite of the FCPA.*”: Wei (1997) at 22–23.

International dispute resolution mechanisms could usefully be developed to resolve complaints of corruption in cross-border business, dealing in particular with allegations a 'clean' enterprise lost a contract or other commercial opportunity as a result of the behaviour of a corrupt competitor⁴¹⁵. Such models already exist, in the form of the arbitration processes of the International Chamber of Commerce, and of the International Centre for the Settlement of Investment Disputes maintained by the World Bank⁴¹⁶. A variation of this approach would be to allow impacted enterprises to report the incidence, nature, severity and effect of corruption in developing and transitional economies to public international financial institutions, such as the IMF and the World Bank, who, while not necessarily investigating individual complaints, could use any patterns of complaints to inform their assistance programs⁴¹⁷.

Some commentators see remedial action laying within the principles and practices of multinational enterprises⁴¹⁸. While these businesses can positively commit to appropriate international codes of conduct⁴¹⁹, such as those issued by business and trade associations, and the enterprises themselves, more concrete actions may be necessary. These actions include

⁴¹⁵ Rose-Ackerman (2001) at 1912.

⁴¹⁶ According to scholarly legal opinion, there does not appear to be any substantive legal barrier, either doctrinal or procedural, which would necessarily preclude allegations of corruption being taken into account in international commercial arbitration generally: Fox (2009) at 487, especially where the contract concerned had specific provisions prohibiting the use of bribery (Ibid at 502).

⁴¹⁷ Rose-Ackerman (2001) at 1914.

⁴¹⁸ Ibid at 1911.

⁴¹⁹ For a general discussion of the role and effectiveness of corporate social responsibility statements by corporations in tackling corruption, see Carr and Outhwaite (2009), and Hess (2012).

clear statement by corporate leadership of their opposition to the engagement in corrupt activity by officers, employees and representatives of the organisation, and the introduction of systems of rewards for those who resist and penalties (including referral to appropriate criminal enforcement authorities) for those who engage in such (mis-)conduct.

Summary and Conclusion

There can be little doubt, corruption is a problem. The only real debates revolve around its magnitude, and the causes, consequences and (potential) policy tools to address corruption. Optimists champion the eradication of corruption; pessimists accept its seeming inevitability, and point to its extraordinary longevity and resilience; pragmatists, sitting somewhere between the two, either to try to avoid it or, failing that, hope corruption can be minimised, both generally and in its impact on them in particular.

The causes of corruption are numerous. To some observers, the mere existence of government, and its intervention in markets, commerce and industry, provides sufficient fertile ground for corruption to take root and thrive. Particular causes identified in the scholarly and public policy literature range across poor economic and political governance and institutions, problems inherent within taxation and government spending arrangements, poor bureaucratic processes, and inappropriate policy settings in areas like industry, international trade, and government procurement.

The literature has identified a broad range of commercial, economic, legal, political, and social consequences of corruption: lower and distorted foreign investment in impacted countries; instability in domestic financial institutions; lesser foreign aid, especially for developing countries; greater income inequality and increased poverty, again especially in developing countries; serious distortions to a nation's economic foundations, most notably in terms of private sector innovation, employment, investment, and in broader economic growth and development; biases within taxation systems and in the allocation of government spending, especially between social programs and infrastructure; and, stimulation of the 'black' or illegal economy. Nevertheless, these costs have not prevented some observers from claiming corruption has certain redeeming qualities (in some situations), but they tend to be rather isolated voices.

Just as the causes and consequences of corruption are diverse, so are the various options which have been put forward from different quarters for dealing with corruption. These potential options range across: simple patience and time, given the tendency of corruption to be self-destructive; the need for strong and committed political leadership; more effective legal penalties and processes, including independent anti-corruption agencies and campaigns; reform of the powers, responsibilities and institutions of the State; rebalancing the role of the public and private sectors; expanding competition within markets, including privatisation of government assets

and more liberal trade policies; enhancing transparency in government decision-making; greater use of conditionality in lending by international public financial institutions; increasing use of extra-territorial application of domestic anti-corruption laws and policies; and, wider take-up of codes of conduct by businesses vulnerable to extortion or operating in corrupt environments.

Undertaking economic, legal and other reforms aimed at substantially reducing, if not eliminating, corruption, is a laudable objective. However, those so committed should not under-estimate the nature and extent of likely opposition: “... *corrupt relationships are an important source of resistance to economic liberalisation: participants in corruption benefit precisely because they have rigged the system in their favour.*”⁴²⁰. To expect them to meekly surrender such advantages and privileges may prove to be an overly generous assessment of one’s fellow mankind given “*A fight against corruption involves fighting human nature.*”⁴²¹.

Although corruption is present, to varying degrees, in almost all, and problematic in many, countries of the world, international law has traditionally taken little interest in the topic focusing instead on the more procedural elements of inter-governmental relations such as the sources and the subjects of international law. However, this situation began to change

⁴²⁰ Sandholtz and Koetzle (2000) at 48. See also Kaufman (1997) at 122 – 123, and World Bank (1998) at 1; Charap and Harm (1999) at 1.

⁴²¹ Vinod (1999) at 592.

in the middle of the twentieth century with nation-states shifting toward a more positivist approach to international law, evident in a widening of the subjects of international law to include the natural environment, intellectual property and more recently corruption, as well as the globalisation of international trade and commerce. Indeed, the last decade of the twentieth century saw the negotiation and entry into force of a number of multilateral and plurilateral/regional anti-corruption agreements. The scope and depth of these international legal instruments is the focus of Chapter Three, following.

Chapter 3: International Law and Corruption

*“Each culture has different perceptions and practices
with respect to corruption –
acceptance of what is reasonable and appropriate
differs widely.”⁴²²*

Introduction

Corruption is undoubtedly a serious problem for national governments in their conduct of economic and social policy, for commerce and industry in their domestic and international business transactions, and for all concerned – government, business and society – evident, for example, in lower economic growth, slower economic development, distorted business and social infrastructure decision-making, and greater income inequality and poverty; and, importantly, through its capacity to undermine respect for the rule of law. The scholarly and the popular literature have proposed a great many strategies for tackling corruption⁴²³, any reasonable treatment of which would add several chapters to – and divert the focus of – this study. Rather, this study will focus on the modalities available under international law, in particular multilateral and regional treaties for tackling corruption. While there is no single ‘magic bullet’ (one action which solves all problems in all cases) for dealing with corruption, rigorous approaches under international law are likely to be a key element of any concerted program of action with a realistic probability of success.

⁴²² Kindra and Stapenhurst (1998) at 10.

⁴²³ As reviewed in Chapter 2

In recent years, States have embraced positivist legal approaches at the international level to tackling corruption – creating and adopting rules, rights and obligations which they, exercising their will, voluntarily accept, evidenced in the form of binding obligations under international law. These commitments have manifested themselves in law-making treaties, instruments which set down rules of general or universal application in a specific area of international relations: in the current case, corruption. Such instruments are also normative and intended to create formal legal obligations for the ambitious, future conduct of the participating States, on the terms and conditions of the treaties concerned.

The main subjects of these instruments are primarily States, that is a sovereign entity which has a recognised right to exercise jurisdiction over its own territory and its permanent population. By contrast, non-State persons, such as private companies, and in particular multinational enterprises operating in numerous States, are not Parties to these law-making treaties and generally do not have direct legal rights or duties under them. The international community of nations has used international law to build a series of instruments, with various nomenclatures, to tackle corruption. These efforts, which have been particularly active during the 1990s and early 2000s, involved multilateral bodies such as the United Nations (UN) and the Organisation for Economic Co-operation and Development (OECD), as well as regional organisations covering Europe, Latin America and Africa⁴²⁴.

⁴²⁴ The activities of other organisations such as the International Chamber of Commerce, the International Monetary Fund, Transparency International, the World Bank, the World Trade Organisation and individual countries (such as the United States of America)

The International Law

International law has traditionally been regarded as the system of rights and obligations of States *inter se*⁴²⁵ through which they avoid or contain disputes⁴²⁶, a definition which served adequately for many centuries. However, more recently, and particularly since the early twentieth century, the scope of international law has expanded to include rules relating to: the functioning of international organisations, their relationships with each other, and with States and individuals; and, individuals and non-State entities, to the extent the latter are of concern to the international community.

In the case of international organisations, this reflects the establishment, especially during the mid-twentieth century, of a sizeable number of permanent international organisations, such as the United Nations, the World Health Organisation, and the World Trade Organisation, which have been given international legal personality and have entered into legal relationships with each other and with States⁴²⁷. In the case of individuals, it reflects the movement by the United Nations and the European Union, for example, to create obligations upon themselves and Member States to protect human rights and the freedom of individuals⁴²⁸.

will not be examined in any depth, as to do so would substantially broaden the scope and dilute the core focus of this work.

⁴²⁵ Shearer (1994) at 4; Dixon and McCorquodale (2003) at 1.

⁴²⁶ Blay (2003) at 2.

⁴²⁷ See Shaw (2003) at 46-47 for an interesting discussion of the legal personality of international institutions under modern international law.

⁴²⁸ See Shearer (1994) at 328-338 for a discussion; and, Bantekas (2006) for a wider discussion of corruption as a 'crime against humanity' under international law.

The past century or so has also seen the topics of international law expand considerably from the peace, security and comity between nations issues which prevailed in conventional international law (at least, up to the late nineteenth and into the twentieth century), into areas such as the natural environment, space exploration, banking and finance, economic and social development, intellectual property rights and, as this study will show, corruption. There has also been a stratification of international law with the growing distinction between general and regional rules of international law. That is, between laws and rules of universal application to all States, and those developed and applied only in a particular geographic region where the specific States concerned are located⁴²⁹.

There is also a need to distinguish between private and public international law. Public international law is primarily concerned with relationships between States relating to their governmental functions, while private international law (sometimes called 'conflict of laws'⁴³⁰) addresses the activities of legal and natural persons in their private dealings across national borders. Private and public international law are not mutually exclusive, with many elements of the former arising from the latter, for example the Agreement on Trade-Related Intellectual Property Rights (TRIPS) under the World Trade Organisation, and the United Nations Convention on the Sale of Goods, both of which create platforms for private trans-national trade and commerce.

⁴²⁹ These include so-called 'Latin American international law' - discussed by the International Court of Justice in the *Columbian-Peruvian Asylum Case*: ICJ 1950, 266 - as well as that arising from the formation of entities such as what is now known as the European Union, and the South Pacific Commission.

⁴³⁰ Although 'choices of law' would be a better description - which State's domestic law is applicable to the resolution of a private dispute between individuals where the issues involved are trans-national.

While international law has enjoyed a long and varied path in its evolution from ancient to modern times⁴³¹, reflecting the prevailing notions and practices of international relations and of law of the various ages⁴³², legal scholars have generally seen its theoretical foundations resting on two pillars⁴³³: natural law; and positivism.

. Natural Law

The natural law approach to international law builds on what ancient through to medieval scholars regarded as ‘the law of nature’. Its antecedence in the Greek and Roman philosophical traditions stressed the nature of man as a reasonable being, with laws being those which nature dictated to human reason; the influence of the (Roman Catholic) Christian churches infused a semi-theological element.

Under natural law theory, which dominated scholarship in international law throughout the seventeenth and eighteenth centuries, States submitted to international law because their relations were framed by a higher law – that of ‘nature’. The ‘law of nature’ approach built on the inherent dignity of humankind, and its aspirations for a peaceful and well-ordered

⁴³¹ The current conceptualization of international law builds upon a very long history in the dynamic development of international law, which can be traced back, at least in western historical tradition, to the Greek City States and the Roman Empire. For overviews of evolving history and philosophy of international law (which, while interesting and informative, are not integral to this thesis) see Shearer (1994) at 7-14.

⁴³² Although the adage “*Law cannot be divorced from politics or power...*” (Shaw, 2003: 75) would appear to hold considerable resonance across time and space.

⁴³³ Or, as Shaw (2003) at 48 says “... *a complex relationship between idealism and realism*”, for natural law and positivism, respectively.

community life, and related to God⁴³⁴ the creator – in essence, what is inherently good about human nature – and, law common to all humankind (*jus gentium*)⁴³⁵. The natural law approach to international law has attracted a range of criticisms, largely reflecting its philosophic, and sometimes theological, basis: it is imprecise; it is subjective; and, it tends to be detached from the hard practical realities of international relations. Nevertheless, natural law remains the basic foundation of modern international law.

. **Positivism**

The positivist approach⁴³⁶ basically holds international laws to be much the same in character as municipal law – that is, both emanate from the positive consent and the will of the State to their creation, and willingness to comply with them. In the Westphalian tradition, the State has complete sovereignty and authority. In essence, positivists regard international law as being those rules, rights and obligations which various States, exercising their wills, have voluntarily accepted, evidenced in the form of treaties, diplomatic notes or public documents (for example, speeches by those holding State power).

⁴³⁴ Usually taken from the Christian perspective, given the theological orientation of the natural law philosophers such as St Thomas Aquinas.

⁴³⁵ Themes of natural law have carried over into the twentieth century and can be seen in the existence and content of international instruments dealing with human rights and fundamental freedoms, and war crimes (for example, in the Nuremburg and Tokyo Tribunals formed after the Second World War, and those for Yugoslavia and Rwanda in the 1990s, to deal with allegations of ‘crimes against humanity’): Shaw (2003) at 45.

⁴³⁶ Sometimes also referred to as “consent theory”: Blay (2003) at 14.

A fundamental principle of the positivist school is *pacta sunt servanda* which declares agreements made between governments must be carried out in good faith. The positivist approach, including *pacta sunt servanda*, has not been exempt from scholarly criticism⁴³⁷, in particular for its difficulty in dealing with customary international law (that is, international law which has emerged through consistent practice, rather than the express and consensual exercise of the will of the State).

The response from positivists is that, absent express statements to the contrary by individual States, their consent to international law is tacit or implied by their membership of the international community of nations. This issue has resonance for the creation of new States⁴³⁸ who are expected by existing States to comply with the body of international law existent at their time of formation.

Sources of International Law

The material sources of international law can be regarded as the actual substance from which international jurists and lawyers determine the rule, or law, applicable to a given situation. However, unlike their counterparts dealing with municipal law, the international lawyer does not have ready access to statutes, codes and even jurisprudence, and their work can be confounded by the need to identify and assess the standing of what may be presented as a 'customary rule of international law'.

⁴³⁷ See Blay (2003) at 14-16 for a general discussion of some of these scholarly criticisms.

⁴³⁸ Such as those which emerged during the decolonization of the post Second World War period, and from the break-up of the former Soviet Union in the early 1990s.

Article 38(1) of the Statute of the International Court of Justice comes closest to providing the foundation sources of international law⁴³⁹, identifying: international treaties⁴⁴⁰; international custom (as evidence of a general practice accepted as being law)⁴⁴¹; “(t)he general principles of law as recognised by civilised nations”⁴⁴²; and, as a subsidiary means, judicial decisions and the teaching of the most highly qualified legal academics⁴⁴³. To this listing, some scholars have also added the decisions or determinations of international institutions⁴⁴⁴.

An important allied issue is the order of precedence to be attached to these sources of law. As general rules: treaties, customs and general principles of law prevail over judicial decisions and juristic works⁴⁴⁵, provided the treaty is not in conflict with *jus cogens*; the latter in time will prevail over the earlier in time; and, the special rule will prevail over the general rule⁴⁴⁶. The rule of *jus cogens* is based on an acceptance of fundamental and superior values of international law and relations, and means a treaty or a customary law from a peremptory norm of general international law permits no derogations⁴⁴⁷. Treaties conflicting with *jus cogens* shall be void⁴⁴⁸, while reservations that offended the rule would be unlawful⁴⁴⁹.

⁴³⁹ Brownlie (2001) at 3 describes Article 38 as “... a complete statement of the sources of international law”.

⁴⁴⁰ Article 38(1)(a).

⁴⁴¹ Article 38(1)(b).

⁴⁴² Article 38(1)(c).

⁴⁴³ Article 38(1)(d).

⁴⁴⁴ Shearer (1994) at 28.

⁴⁴⁵ Brownlie (2001) at 3 – 4.

⁴⁴⁶ *lex specialis derogat legi generali*.

⁴⁴⁷ There are clear echoes of Natural Law.

⁴⁴⁸ Article 53, *Vienna Convention on the Law of Treaties and Agreements*, (1969) 8 ILM 679.

⁴⁴⁹ *North Sea Continental Shelf Case*, ICJ (1969) 3.

International Treaties

Treaties are commonly considered to be the foundation of modern international law and are sometimes (naively) viewed as a form of ‘international legislation’ that can create international law more effectively and efficiently than the generally slower moving customary approaches. From a legal perspective, the effect of any individual treaty in leading to the creation of rules of international law is dependent on the nature of the treaty concerned, in particular whether it is: a law-making treaty, which sets down rules of general or universal application in a specific area of interstate relations; or, a treaty contract, between a small number of states and dealing with a matter particular to them⁴⁵⁰.

Law-making treaties create formal legal obligations for the future conduct of the participating States Parties on the terms and conditions of the treaty concerned. Where there are a large number of States Parties to a law-making treaty, the declaratory nature of the provisions of the instrument can be sufficient to support a customary rule⁴⁵¹. Even an unratified law-making treaty can be taken as evidence of a generally accepted rule(s), at least in the short term⁴⁵². Such treaties by their mere existence do not automatically over-ride customary international law in a given area. The latter will not simply dissolve or be absorbed into the former, but rather will maintain its separate legal existence⁴⁵³. However, such situations can lead to

⁴⁵⁰ The former are a source of international law; the latter are not.

⁴⁵¹ Brownlie (2001) at 12.

⁴⁵² *Nottebohm Case, (Second Phase)* ICJ 1955, 23; *North Sea Continental Shelf Case*, ICJ 1969, 3.

⁴⁵³ *Nicaragua Case*, ICJ 1986, 14.

difficulties in international law, given the two rules – one derived from a law making treaty and another from customary international law - may be subject to different principles in regard to their interpretation and application⁴⁵⁴.

Treaty-contracts, by contrast, are not a direct, general source of international law although they may constitute particular law between the States Parties to the agreement. Having said that, treaty-contracts can lead to the formation of international law through the principles underpinning customary law, most notably where non-parties come to accept the provisions of a particular treaty as generating customary international law⁴⁵⁵ and/or there is a recurrence of treaty-contracts laying down similar rules that evolve into a principle of international law⁴⁵⁶.

Multilateral treaties, while having a large number of States Parties, should not necessarily be regarded as international law of general application such that the provisions of those treaties bind non-parties. Rather, non-parties must evidence, by their conduct, their intention to accept the provisions of those multilateral treaties as general rules of international law before they can be regarded as being bound by them. Bilateral treaties, where they are habitually framed in the same way, can be used (with caution⁴⁵⁷) as guidance to prevailing international practice and hence informative of international law (for example, in the area of extradition⁴⁵⁸).

⁴⁵⁴ Shaw (2003) at 91.

⁴⁵⁵ *North Sea Continental Shelf Case*, ICJ 1969, 3.

⁴⁵⁶ Shearer (1994) at 40.

⁴⁵⁷ Brownlie (2001) at 14.

⁴⁵⁸ *Re Muzza Aceitiuno*, ILR 18 (1951), No 98.

. International Custom

Customary approaches have been the dominant source of international law for much of its history, and customary rules have evolved from extensive historical and traditional processes, which in turn facilitated their acceptance by the international community. These rules have emerged from practices and usages from three main circumstances: diplomatic relations between States; the practice of international institutions; and, municipal sources of law.

Diplomatic relations between States, evident in official statements by governments (whether written or verbal; for example, by Foreign Ministers or Ambassadors) constitute evidence of usage (both acceptance or rejection of customs) followed by States; the practice of international institutions, whether in the form of conduct or statements, can promote the development of customary international law concerning their status, powers and responsibilities⁴⁵⁹; while municipal sources, such as State laws or judicial decisions, can be evidence of adoption of such or similar laws which can be taken as general recognition of a broad principle of law⁴⁶⁰.

⁴⁵⁹ Held by the Permanent Court of International Justice, in an Advisory Opinion on the regulatory powers of the International Labour Organisation (ILO): (1922) PCIJ, Series B, No 2 at pp 40 – 41.

⁴⁶⁰ For example, in *The Scotia* the United States Supreme Court found the United States Government had by legislation and practice accepted certain maritime practice and safety laws for ships at sea enacted originally in the United Kingdom: (1871) 14 Wallace 170.

However, two tests must generally be satisfied before a practice or usage can be considered as customary international law. These tests deal with two aspects of the formation of international law: the material, being the actual behaviour of States; and, the psychological, being the belief such behaviour is law⁴⁶¹. The material aspect requires a recurrence or repetition of the acts that stimulate the customary rule. A single act generally is not sufficient: the conduct must be regular and repeated, with constancy and uniformity of practice, especially by those States whose interests are most likely to be affected by the rule in question⁴⁶².

The psychological aspects, also known as *opinio juris sive neccessitatis*⁴⁶³, requires an expectation to emerge that, in similar circumstances in the future, the same conduct will be repeated. Where that expectation evolves into a general recognition by States the conduct concerned is an obligation or a right then the behaviour concerned has changed from practice or usage into customary international law⁴⁶⁴. The determination of *opinion juris* must be inferred from all of the circumstances, not merely the specific actions presented as constituting the material element of the supposed

⁴⁶¹ For an expansive discussion of the material and psychological tests in customary international law, see Shaw (2003) at 70-88.

⁴⁶² *Asylum Case*, ICJ 1950, at 276-277. No particular duration is required to establish a customary rule, although the passage of time will provide evidence of generality and consistency of adoption and application (*Right of Passage Case*, ICJ (1960) 6), while serial departures from the practice may negate claims of a customary rule, although minor deviations would not necessarily do so (*Anglo-Norwegian Fisheries Case*, ICJ 1951, at 138).

⁴⁶³ '(A) general practice accepted as law': Brownlie (2001) at 7.

⁴⁶⁴ Shearer (1994) at 34.

customary international law⁴⁶⁵ and generally and widely recognised by the international community of nations⁴⁶⁶. Such general and wide recognition could not apply when the particular practice was only recognised as law by a small number of States⁴⁶⁷.

A State may seek to exclude itself from customary international law through processes of objection: as a persistent objector during the process of formation of the custom, with the objector being required to provide clear evidence in rebuttal of the assumption of acceptance⁴⁶⁸; and/or, as a subsequent objector, where the State objecting has to demonstrate a consistent and unequivocal manifestation of a refusal to accept the customary law⁴⁶⁹.

. Decisions of Juristic Bodies

Decisions of juristic bodies⁴⁷⁰ can play a authoritative role in the formation of international law⁴⁷¹. However, unlike Courts in common law jurisdictions, they cannot create law through precedent: they are a subsidiary source for determining rules of law⁴⁷². Against this background, the Court cannot regard its previous decisions as binding per se, and as

⁴⁶⁵ *Lotus Case* (1927) PCIJ, Series A, No 10.

⁴⁶⁶ See: *West Rand Central Gold Mining Co vs R*, (1905) 2 KB 391 at 407; and, Article 53 of the *Vienna Convention on the Law of Treaties and Agreements* (1969) 8 ILM 679.

⁴⁶⁷ *Right of Passage Over Indian Territory Case*, ICJ 1960, 6.

⁴⁶⁸ *Anglo-Norwegian Fisheries Case*, ICJ 1951.

⁴⁶⁹ *Id.*

⁴⁷⁰ Such as the Permanent Court of International Justice and its successor, the International Court of Justice.

⁴⁷¹ Article 38(1)(d), Statute of the International Court of Justice.

⁴⁷² Article 59 of the Statute of the International Court of Justice states, inter alia, the Court's decisions have "*no binding force except between the parties and in respect to that particular case.*"

precedents⁴⁷³. However, the Court can, and has, used past decisions as a source of guidance to encourage a substantial degree of judicial consistency, including the reasoning behind those decisions, and the principles of international law⁴⁷⁴, although even here scholars urge prudence⁴⁷⁵.

The judicial decisions of municipal courts can also have evidential value by providing indications of the State practice, and have become important sources for material on the recognition of governments and States, State succession, diplomatic and sovereign immunity, extradition, war crimes, the concept of the 'state of war', and law of prize⁴⁷⁶. Again, scholars warn caution should be exercised in relying on such decisions⁴⁷⁷.

. Juristic Works

Article 38(1)(d) of the Statute of the International Court of Justice directs the Court to apply the teachings of leading jurists and legal publicists as a subsidiary means for determining the rules of international law. They are not, however, an independent 'source of international law'. Rather, juristic writings and analyses have evidentiary value, especially for deducing customary rules from the cumulation of practices or usages. Such works

⁴⁷³ *South West Africa Case, 2nd Phase* ICJ 1966, 5, 36–37.

⁴⁷⁴ The PCIJ in several cases practiced de facto precedent: *Exchange of Greek and Turkish Populations Case*, ICJ (1925) Ser. B. No 10, 21; *Reparations Case*, PCIJ (1926), Ser. B., No 10, 18; and, more recently the ICJ in, inter alia: *Cameroon Case*, ICJ (1962) 27; *South West Africa Case, 2nd Phase* ICJ 1966 5; *North Sea Continental Shelf Case*, ICJ 1969, 3.

⁴⁷⁵ "...it is incautious to extract general propositions from opinions and judgements devoted to a specific problem or settlement of disputes entangled with the special relations of two states." Brownlie (2001) at 20.

⁴⁷⁶ *The Scotia* (1871) 14 Wallace 170; *The Pappuette Habana* (1900) 175 US 677; *The Zamora* (1916) 2 AC 77; *Lauritisen vs Government of Chile* ILR 23 (1956) 708.

⁴⁷⁷ Given the potential for such sources to present a narrow national interest/outlook: Brownlie (2001) at 23.

can, however, have particular value where there are no clearly established customary or treaty rules, or other reliable forms of guidance⁴⁷⁸, on a particular matter, whereupon juristic works can be considered as an independent 'source of law'. Scholarly opinion, however, appears divided on the role and the standing of academic and juristic writers on international law⁴⁷⁹.

. Decisions of International Institutions

While not expressly mentioned in Article 38 of the Statute of the International Court of Justice, the decisions or determinations of international institutions can influence the formation of international law. This contribution can come through a number of channels: they may represent an intermediate or near-to-final step in the evolution of customary law, particularly concerning the operations and powers of the institution (with the degree of influence being measured by the extent of practical adherence to the decision by States Parties)⁴⁸⁰; where

⁴⁷⁸ Or there is a need for 'intellectual support' in a dissenting or separate opinion: Brownlie (2001) at 25.

⁴⁷⁹ On the one hand, such works: "... *are important as a way of arranging and putting into focus the structure and the form of international law and elucidating the nature, history and practice of the rules of law...(and can) inject an element of coherence and order into the subject as well as to question the direction and purposes of the rules.*" (Shaw (2003) at 106). By contrast: "*It is, however, obvious that subjective factors enter into any assessment of juristic opinion, that individual writers reflect national and other prejudices, and, further, some publicists see themselves to be propagating new and better views rather than providing a passive appraisal of the law.*" Brownlie (2001) at 24.

⁴⁸⁰ For example, the status to be conferred upon an abstention by a State when called upon to vote at the United Nations (it should not be regarded as non-concurrence): Shearer (1994) at 46.

those international institutions are empowered to provide binding determinations on the interpretation of instruments under their authority⁴⁸¹; and, where international institutions have the power to give general directions or decisions which are binding on all Members⁴⁸².

. Other Sources

There are a number of other sources of international law beyond those enumerated in the Statute of the International Court of Justice (and discussed earlier). These include general principles of international law and equity, both of which are particularly useful when a court is considering a matter where there is no law per se or clear law on exactly the point under deliberation. Judicial reliance on the 'general principles of law' tends to be greater in international law than in municipal law given the relatively lesser availability of decided cases and legislation.

⁴⁸¹ For example, by the Board of Governors of the International Monetary Fund, pursuant to Article XVIII of the Articles of Agreement establishing the Fund (22 July 1944).

⁴⁸² For example, Article 189 of the Treaty of Rome, of 25 March 1957, which established what is now known as the European Union. Resolutions of the General Assembly of the United Nations, for example, are not binding per se on member States, although where they deal with general norms of international law and are accepted by a majority vote they constitute evidence of the opinions of governments and an accelerated means for the evolution of customary law on the matter at hand: *Nicaragua vs United States of America (Merits) Case*, ICJ 1986, 98.

Some of the principles of international law that have emerged over the past century include: every violation of an engagement involves an obligation to make reparations corresponding to the damage⁴⁸³; private rights acquired under existing law do not cease on a change in sovereignty⁴⁸⁴; a judgement having the authority of *res judicata* is binding on the parties to the dispute⁴⁸⁵; a party that has acquiesced to a particular situation cannot later proceed to challenge it⁴⁸⁶; and, States must act in good faith in meeting their obligations⁴⁸⁷.

Equity – a set of principles constituting the values of the legal system⁴⁸⁸ – has also found its way into international law through references in a number of important decisions by international legal authorities⁴⁸⁹. In one of the clearest statements on the matter, the International Court of Justice noted: “...it is bound to apply equitable principles as part of international law, and to balance up the various considerations which it regards as relevant in order to produce an equitable result.”⁴⁹⁰ However, scholars⁴⁹¹ have

⁴⁸³ *Chorzow Case*, PCIJ (1928) Ser. A, No 17, 4.

⁴⁸⁴ Also known as ‘respect for acquired rights’: *German Settlers in Poland Case*, PCIJ, Ser. B, No 6, 36.

⁴⁸⁵ *Argentina-Chile Case*, 113 ILR 1.

⁴⁸⁶ *Temple Case*, 24 ILR 840. See also estoppel in common law or preclusion in civil law, which have been considered in international law: A State which has by its conduct encouraged another State to believe in the existence of a certain factual or legal situation, and to rely upon that belief, may be estopped (or precluded) from asserting the true situation in its relations with the other State – *North Sea Continental Shelf Case*, ICJ (1969) 3; *Temple of Preah Vihear Case*, ICJ (1962) 6.

⁴⁸⁷ *Fisheries Case*, 55 ILR 238; *Lac Lannoux Case*, 24 ILR 119; *Legality of the Threat or Use of Nuclear Weapons Case*, ICJ (1996) 102.

⁴⁸⁸ Shaw (2003) at 99.

⁴⁸⁹ Inter alia: *Diversion of Water From the Meuse Case*, PCIJ, Ser. A/B, No 70, 73; *Rann of Kutch Case*, 50 ILR 2; *North Sea Continental Shelf Case*, ICJ (1969) 3.

⁴⁹⁰ *Tunisia – Libya Continental Shelf Case*, ICJ (1982) 18, 60.

⁴⁹¹ Shaw (2003) at 102.

criticised the use of equity within international law on a number of grounds, most notably concerning the lack of clarity as to how a dispute is likely to be resolved and the principles likely to be used in reaching a decision, both of which introduced an element of unpredictability.

Subjects of International Law

In broad legal terms, the subjects of law are ‘legal persons’ who possess the capacity to hold and maintain certain rights, and are subject to perform certain duties⁴⁹². Determining legal personality involves an assessment of key concepts within the law, such as status, capacity, competence, and rights and duties. In international law, personality requires a determination of the relationship between rights and duties under such laws, and the capacity to enforce claims⁴⁹³.

. States

The foundation stone of international law is the State⁴⁹⁴. There is little dissent to the status, capacity or competence of States to accept rights and make commitments to obligations, and they enjoy a number of fundamental rights within the international legal order: independence; equality; and, peaceful co-existence. The main characteristic of a State is its independence, or sovereignty, which has been defined as the capacity to

⁴⁹² *Reparations for Injuries Case*, ICJ, (1949) 179.

⁴⁹³ Shaw (2003) at 176.

⁴⁹⁴ For further discussion, see the sub-section, above, on positivism.

provide for its own well-being and development, free from the domination of other States, provided that in doing so it does not impair or violate the rights of other States⁴⁹⁵.

On the issue of rights and obligations of States, international law starts from the point of permitting freedom of action for States unless there is a rule (either treaty or customary in origin) which constrains such sovereignty. However, such freedom as exists within, not outside, the international legal system and as such the international law determines the scope and content of the independence of States, not the States themselves acting individually⁴⁹⁶. Prominent amongst the rights and duties of States are: the right to exercise jurisdiction over its territory and its permanent population; the right to self-defence (in certain circumstances); and, the duty not to intervene in the internal affairs of another sovereign State⁴⁹⁷.

Another important characteristic of States is their legal equality – in terms, of their rights and duties. States, regardless of their economic, political or military power or size, have the same juridical capacities and functions^{498,499}. The right to peaceful co-existence has largely emerged from several

⁴⁹⁵ *Yearbook of the International Law Commission*, 1949 at 286.

⁴⁹⁶ Shaw (2003) at 190.

⁴⁹⁷ *Corfu Channel Case*, ICJ (1949) 4.

⁴⁹⁸ See, for example, the *United Nations: Declaration on Principles of International Law Concerning Friendly Relations and Cooperation among States* (1970) 9 ILM 1292.

⁴⁹⁹ Which has been manifest in the 'one vote, one value' system which operates within the United Nations General Assembly. However, this should be viewed against the veto powers of the United Nations Security Council, and the privileged status of its permanent members – Britain, China, France, Russia and the United States of America.

resolutions of the United Nations General Assembly⁵⁰⁰ covering concepts such as sovereign equality, non-interference in the internal affairs of other States, respect for the territorial integrity of States, and condemnation of subversive activities by one State against another.

Associations of States can have legal personality under international law separate to those of the participating States depending on the circumstances and the constitutional nature of the arrangement, and upon international acceptance. Confederations that involve several countries acting closely together under some form of international agreement and central institutions with agreed functions are likely to find international legal personality⁵⁰¹. Looser associations of sovereign States, such as the (British) Commonwealth of Nations, which do not intend to form binding legal relations between participating sovereign States and which operate as discussion fora, are unlikely to secure such personality⁵⁰².

International organisations, such as the United Nations and the International Labour Organisation, can (and do) have international legal personality where their enabling treaties contain constitutional provisions setting out their duties and obligations. The International Court of Justice has expressly held, in terms applicable to other international organisations, the United Nations is a subject of international law with the attendant rights

⁵⁰⁰ Resolutions 1236 (XII) and 1301 (XIII).

⁵⁰¹ For example: *Treaty of the European Union (Maastricht)*, (1992) 31 ILM 227; *Charter Treaty of the Commonwealth of Independent States*, 1995, 34 ILM 1298; *Preliminary Agreement Concerning the Establishment of a Confederation Between the Federation of Bosnia and Herzegovina, and the Republic of Croatia*, 1994, 33 ILM 605.

⁵⁰² Shaw (2003) at 215,

and duties⁵⁰³. This status can also extend to regional international organisations, again through the terms of their constituent instruments, as is the case with the North Atlantic Treaty Organisation (NATO)⁵⁰⁴ and the European Union (EU)⁵⁰⁵.

. Non-State Persons

Business entities, such as international public companies and multinational corporations, can obtain international legal personality in certain (limited) circumstances. In the case of international public companies, international legal personality would depend on its constitutional nature, powers and competencies, and distance from municipal law. International public companies, such as the Bank of International Settlements (created by virtue of a treaty between five States in 1930) and Intelsat (created as an intergovernmental structure in 1973) have the requisite legal personality.

Multinational corporations, by contrast, are privately owned business entities operating across multiple States. They can have economic resources beyond those available to smaller States, and often enter into agreements and contracts with foreign States (for example, in the terms and conditions of foreign direct investment). However, such corporations, generally

⁵⁰³ See Shearer (1996) at 58 for a discussion of this point.

⁵⁰⁴ *Agreement on the Status of the North Atlantic Treaty Organisation, National Representatives and International Staff* (1951).

⁵⁰⁵ Inter alia: *Treaty of Rome* (1957), *Maastricht Treaty on European Union and Economic and Monetary Union* (1993), 31 ILM 227.

created by municipal law, do not have international legal personality and the law of treaties does not govern their contractual obligations with States⁵⁰⁶. Despite a number of international efforts to regulate their global conduct⁵⁰⁷, the international legal status of multinational corporations and the legal effect of such regulations remain unresolved⁵⁰⁸.

Individuals traditionally have not been considered subjects of international law⁵⁰⁹, with the chain-linkage (generally) being from the international law to the State to nationality to the individual. This situation was manifest where an individual making a claim against a foreign State would have the matter subsumed (and advanced or otherwise) under that of his/her national State⁵¹⁰.

International law does not create general direct rights for individuals⁵¹¹, although States can confer particular rights on individuals which can become enforceable under international law⁵¹². International law can (and

⁵⁰⁶ *Anglo-Iranian Oil Company Case*, ICJ (1952) 93.

⁵⁰⁷ See for example: *United Nations Commission on Transnational Corporations Draft Code of Conduct*, (1984) 23 ILM 602; *World Bank Guidelines on the Treatment of Foreign Direct Investment*, (1993) 31 ILM 1366.

⁵⁰⁸ Shearer (1996) at 61 suggests: “One tenable solution is to characterize these entities as subjects of transnational law, that is to say, a legal order of the nature of a tertium quid intermediate between international law, on the one hand, and domestic national law on the other.” In effect, proposing a third plane, between international law and municipal law.

⁵⁰⁹ Although adherents to Natural Law would say the essential feature of international law, and indeed law itself, is concern for the human being.

⁵¹⁰ *Panevezys – Saldutiskis Case*, PCIJ Series A/B, No 76; *Mavrommatis Palestine Concessions Case*, PCIJ (1924) Series A, No 2. An international agency, such as the United Nations, can espouse a claim against a State on behalf of one of its officials: *Reparations for Injuries Case*, ICJ (1949) 182.

⁵¹¹ *Danzig Railways Officials Case*, PCIJ (1928) Series B, No 15.

⁵¹² For example, Article 304 (b) of the Treaty of Versailles, in 1919, allowed nationals of the allied powers to bring actions against Germany in their own names for compensation;

does), however, impose obligations upon individuals, most notably through international individual criminal responsibility for what are considered to be crimes against war, peace and humanity⁵¹³, as well as specific issues such as: the conduct of apartheid (a form of racial discrimination)⁵¹⁴; the distribution of obscene publications⁵¹⁵; the supply and usage of illegal narcotics⁵¹⁶; engaging in torture⁵¹⁷; hostage taking⁵¹⁸; and/or, piracy at sea⁵¹⁹. Thus, delinquents, such as international drug traffickers, hostage-takers, or pirates, can be subjects of international criminal law.

while the EURATOM Treaty of 1957 grants individuals and corporations certain rights of direct appeal to the European Court of Justice against decisions of organs of the European Union (*Treaty Establishing the European Atomic Energy Community, 1957*). More recently, a number of international treaties, mainly in the human rights area, have conferred direct rights on individuals and have enabled them to have direct access to international courts and tribunals: See for example: *The European Convention on Human Rights, 1950*; *The Optional Protocol to the International Covenant on Civil and Political Rights, (1967)* 6 ILM 368; and, *The International Convention for the Elimination of All Forms of Racial Discrimination, (1966)* 5 ILM 350.

⁵¹³ For example, Article 228 of the *Treaty of Versailles, (1919)*, and Article 6 of the *Agreement for the Prosecution and Punishment of Major War Criminals, (1945)* 39 AJIL, Supp. 259, both of which dealt with the prosecution before military tribunals of persons alleged to have committed war crimes. See also the International Law Commission's *Draft Code of Crimes Against the Peace and Security of Mankind (1991)* 30 ILM 1584.

⁵¹⁴ *The International Convention on the Suppression and Punishment of the Crime of Apartheid (1974)* 13 ILM 50.

⁵¹⁵ *The Agreement for the Suppression of the Circulation of Obscene Publications (1910)*; *The International Convention for the Suppression and Circulation of and Traffic in Obscene Publications (1924)*.

⁵¹⁶ *The Agreement Concerning the Suppression of Opium Smoking (1931)*; *The Convention for the Suppression of the Illicit Trafficking in Dangerous Drugs (1936)*.

⁵¹⁷ *The Draft Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment (1984)* 23 ILM 1027.

⁵¹⁸ *The International Convention Against the Taking of Hostages (1979)* 18 ILM 1456.

⁵¹⁹ *The International Maritime Organisation Convention on the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (1988)* 27 ILM 668.

International and Municipal Law

An important issue within international (and municipal) law is the extent, if any, to which domestic courts are obligated to give effect within their domestic jurisdiction to the rules of international law, both where these rules are in harmony or in conflict with municipal law. To what extent should municipal courts take into account international law, and how should they deal with conflicts between international and municipal law?

There are two main theories of the relationship between international and municipal law – monism and dualism (the latter sometimes also called pluralism). Monism holds international and municipal law are essentially connected parts of a single legal system; by contrast, dualism holds international and municipal law represent two discretely different legal systems. Some scholars⁵²⁰ have suggested monism sits comfortably within the Natural Law (and the idea that the individual is a subject of international law), while dualism sits with positivism (and its view international law regulates relations between States, while municipal law regulates the conduct of citizens between themselves, and with the State). A third view – harmonisation – has emerged that sits between monism and dualism, which holds international and municipal law each have their respective fields of competence and coverage, and instances where they collide or conflict are the exception. In this context, international law is superior in dealing with the relations between States, while municipal law is supreme in the domestic domain.

⁵²⁰ Shearer (1996) at 64; Blakin (2003) at 119–120.

Tackling Corruption under International Law

The active engagement of the international diplomatic and legal communities in corruption issues has tended to lag behind those of the business and academic communities. While commerce and industry has been exposed, in varying manners, to the practice of corruption for many years, and the academic community (especially those in the economics and development studies disciplines) have been actively studying relevant dimensions of corruption over the past thirty or so years, international legal activity has lagged behind both in time and in endeavour⁵²¹. Indeed, it has really only been since the 1990s that Nation States and their advisors have become actively engaged in international efforts to combat corruption in its various forms.

The motivations for these efforts are varied and range across: the changed economic and political dynamics of international relations since the end of the Cold War⁵²²; the liberalisation of the world economy, especially the globalisation of business⁵²³; shifts in practitioner and scholarly thinking on development policies and strategies⁵²⁴; and, concerted efforts by the United States to multilateralise⁵²⁵ its own domestic anti-corruption initiative⁵²⁶.

⁵²¹ For a short history of co-ordinated international legal efforts to combat corruption over the past century see Anechiarica (1999) at 380–387.

⁵²² “(T)he removal of the compelling need to support corrupt regimes for national security reasons.”: Webb (2005) at 193.

⁵²³ Nesbit (1998).

⁵²⁴ Shams (2001) at 92.

⁵²⁵ Randall (1997); Gantz (1998) at 466; Brademas and Heimann (1998) at 17; Corr and Lawler (1999) at 1253; Salbu (1999a) at 54; Unzicker (1999/2000) at 665; Salbu (2000) at 684; Abbott (2001) at 276; Shams (2001) at 96; George et al (2000) at 486. According to one scholar (Metcalf, 2000, at 133): “America’s economic competitors where pleased as punch that the US had handicapped its own firms in the competitive environment of international trade.” For a sweeping rhetorical critique of this multilateralisation see

This study will consider six major international instruments created during the past two decades to tackle corruption, namely the: United Nations Convention Against Corruption (2003; UNCAC)⁵²⁷; OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (1997; OECD - FPO)⁵²⁸; Commentaries on the Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (1997; OECD – FPO - Commentaries)⁵²⁹; Criminal Law Convention on Corruption of the Council of Europe (1999; (CLCC-CE)⁵³⁰; Inter-American Convention Against Corruption (1996; IACAC)⁵³¹; and, the African Union Convention on Preventing and Combating Corruption (2003; AUCPCC)⁵³².

Salbu (1999b), in particular what he sees (at 226-227) as the moral and political peril of such action: “*The moral peril consists of the dangers of intrusiveness, paternalism, imperialism and disrespect that arise whenever one state imposes its discretionary values upon another state. The political peril entails the ill will, as well as the potential conflict, that can result from the imposition of alien values.*” For a solid critique of the Salbu view on corruption, see Nichols (1999) at 291-297.

⁵²⁶ Foreign Corrupt Practices Act of 1977. Public Law No 95-218, 91 Stat. 1494 (1998).

⁵²⁷ 43 ILM 37 (2004). For a history of the UNs anti corruption work see: Pierros and Hudson (1998) at 87-88; Landmeier (2002) at 590-591, and for a critique of the effectiveness of the UNCAC see Igbinedion (2009).

⁵²⁸ 36 ILM 1016 (1997). For general histories of this instrument see Pierros and Hudson (1998) at 92; Zagari and Ohri (1999) at 66-75; George et al (2000); and Posadas (1999/2000) at 376-382, in particular for its foundations in the US FCPA.

⁵²⁹ George et al (2000).

⁵³⁰ 38 ILM 505 (1999); ETS 173. For concise histories of the EU's internal work on corruption see: Pierros and Hudson (1998) at 89-91; Posadas (1999/2000) at 395-399; Landmeier (2002) at 592-593; Anonymous (2002b).

⁵³¹ 35 ILM 724 (1996). For concise histories of this instrument see Sutton (1996/97) at 1442-1450; Jimeses (1998) at 157; Zagari and Ohri (1999) at 54-62; Shams (2001) at 103-108; Posadas (1999/2000) at 382-394; Henning (2001) at 806-809; Landmeier (2002) at 591-592; Altamirion (2006/07) at 499-523; and, Morrissey at 169-181.

⁵³² 43 ILM 1 (2003).

These instruments are not exhaustive of all of the multilateral or regional treaties dealing substantively with bribery issues or in some way touching to varying degrees on the corruption issue whether in the private or public sector, or within the broader framework of international law agreements⁵³³. However, they constitute a representative sample of the main international instruments currently in force⁵³⁴. Other instruments⁵³⁵ which touch upon corruption issues to some degree but not examined in this study include the: United Nations Convention against Transnational Organized Crime⁵³⁶; Southern African Development Community (SADC) Protocol against Corruption⁵³⁷; Anti-Corruption Action Plan for Asia and the Pacific⁵³⁸; Council of Europe's Twenty Guiding Principles For The Fight Against Corruption⁵³⁹; Council of Europe's Civil Law Convention on Corruption⁵⁴⁰; Fight Against Corruption Involving European Community Officials⁵⁴¹; and, European Union's Joint-Action To Fight Corruption In The Private Sector⁵⁴².

⁵³³ Carr (2007) at 131–142 argues the multiplicity of such conventions is indicative of weakness, not strength, in the international fight against corruption, pointing to a range of what she regards as inconsistencies in key concepts, definitions and approaches, which are likely to undermine their individual and their collective effectiveness by, for example, allowing for selective compliance by States Parties.

⁵³⁴ For a list of their antecedents, which can provide some context and history to their development, see Figure 3.1.

⁵³⁵ Several of which have been superseded by those in the group being studied.

⁵³⁶ 40 ILM 353; UN GA Res 55/25; for a concise history of the UN's work on anti-corruption see Gantz (1998) at 470–472.

⁵³⁷ Adopted by the SADC Heads of State and Government at their August 2001 Summit held in Malawi.

⁵³⁸ Agreed at the 3rd Annual ADB/OECD Anti-Corruption Conference for Asia Pacific, held in Tokyo in December 2000.

⁵³⁹ Adopted by the Committee of Ministers on 6 November 1997, Resolution (97) 24.

⁵⁴⁰ ETS 174.

⁵⁴¹ Adopted by Council Act 97/C 195/01 of 26 May 1997 (C 195 of 25 June 1997).

⁵⁴² Adopted by the Council on 22 December 1998 (OJ L 358, 31.12.1998).

This study will not look at: the role of international financial institutions such as the International Monetary Fund (IMF) or the World Bank and their lending policies and practices⁵⁴³; the work of multilateral business organisations such as the International Chamber of Commerce (ICC)⁵⁴⁴; proposals to include corruption within the jurisdiction of the International Criminal Court⁵⁴⁵ or the World Trade Organisation (WTO)⁵⁴⁶; or of

⁵⁴³ However, those interested in good discussions on the actual and potential role of the World Bank in anti-corruption activity could usefully see: Shams (2001) at 95-99; Zagaris and Ohri (1999) at 78-81; Wallace-Bruce (2000) at 372-374. For similar reviews of the actual and potential role of the IMF see: Harms (2000) at 204-207; Zagaris and Ohri (1999) at 81-83. See also Posadas (1999/2000) at 399-401.

⁵⁴⁴ The ICC issued two sets of its own (non-binding) guidelines: *“Recommendations to Combat Extortion and Bribery in Business Transactions”* (17 ILM 417: 1978); and, *“Revisions to ICC Rules on Extortion and Bribery in International Business”* (35 ILM 1301: 1996). For general reviews of the work of the ICC in anti-corruption field see: Boswell (1997) at 1173-1175; Gantz (1998) at 473-476; Zagaris and Ohri (1999) at 86-88; Harms (2000) at 174; Vincke (1997) at 198; Loren (2001) at 337; Salbu (2001) at 456-458; Delaney (2006/07) at 450-451. The work of private business bodies like the ICC should not be undervalued according to Brademas and Heimann (1998) at 22: *“Corporate self-regulation will multiply the effectiveness of government antibribery law enforcement.”*

⁵⁴⁵ For an interesting discussion of such a proposal see Harms (2000) at 197-204.

⁵⁴⁶ Nichols (1995/96), Harms (2000); Abbott (2001); Posadas (1999/2000) at 410-412; Alai (2008/09); Schefer (2009). Nichols (1995/96) at 713 is particularly critical of proposals for the WTO to take on a major and leadership role in tackling corruption: *“The World Trade Organisation is not empowered to solve all of the world’s woes, nor should it try.”*

individual countries, such as the United States and its Foreign Corrupt Practices Act (FCPA)⁵⁴⁷; or of individual multinational enterprises⁵⁴⁸; as to do so would substantially broaden the scope and dilute the focus of this work.

. Definitions

The six anti-corruption instruments under review have both commonalities and differences in the range of covered definitions. For example, while several provide definitions for “*public official*”, “*foreign public official*”, “*confiscation*” and “*proceeds of crime*”, only one or two (variably) provide definitions of “*illicit enrichment*”, “*legal persons*”, and “*private sector*”.

While the UNCAC has the largest number and broadest range of definitions, it still has a number of notable gaps in the suite of definitions, for example “*foreign country*”, “*legal person*”, “*private sector*”, and “*public agency/enterprise*”. As such, while it could arguably be considered the primary benchmark for international anti-corruption agreements, being the

⁵⁴⁷ For discussions of the origins, development and application of the United States Foreign Corrupt Practices Act (15 U.S.C. §§ 78dd-1), and its seminal role in the creation of a number of the multilateral instruments examined in this study see: Martin (1997/98) at 420-428; Corr and Lawler (1999) at 1255-1296; Posadas (1999/2000) at 348-365; Taylor (2000/01); Poon (1995/96); Randall (1997); Gantz (1998) at 459-465; Zedalis (1998); Salbu (2001) at 445-453; Landmeier (2002) at 594-605; Krever (2007/08) at 87-96. The legislative shortcomings of the FCPA were remedied in *The Omnibus Trade and Competitiveness Act of 1988* (Public Law No 100 – 418, Stat 1107 (1998)). For a discussion of the shortcomings and the remedial action taken see Wallace-Bruce (2000) at 360-362, and then at 361-362 for how US companies worked around the requirements of the FPCA.

⁵⁴⁸ For an interesting perspective on the role of individual multinational enterprises, and their capacity to use domestic civil litigation to progress an anti-corruption agenda, see Burger and Holland (2006/07) at 62-69.

most comprehensive, it is not exhaustive of all of the relevant issues. Only one of the instruments provided a formal definition of “*legal person*”: “...any entity having such status under the applicable national law ...”⁵⁴⁹.

The definition of “*public official*” is, understandably, a fulcrum one for anti-corruption instruments. Conceptually, they can be: “(i) any person holding a legislative, executive, administrative or judicial office of a State Party, whether appointed or elected, whether permanent or temporary, whether paid or unpaid, irrespective of that person’s seniority; (ii) any other person who performs a public function, including for a public agency or public enterprise, or provides a public service, as defined in the domestic law of the State Party and as applied in the pertinent area of law of that State Party; (iii) any other person defined as a “public official” in the domestic law of a State Party.”⁵⁵⁰. By contrast, the CLCC-CE adopts a more descriptive approach: “... public officer”, “mayor”, “minister” or “judge” in the national law of the State in which the person in question performs that function and as applied in its criminal law.”⁵⁵¹.

⁵⁴⁹ CLCC-CE, Art 1 (d).

⁵⁵⁰ UNCAC, Article 2 (a); similar definitions can be found in IACAC, Article 1 and AUCPCC, Article 1.

⁵⁵¹ CLCC-CE, Art 1 (a).

An “*official of a public enterprise*” is defined in one instrument only, being a public official who “*shall be deemed to perform a public function unless the enterprise operates on a normal commercial basis in the relevant market...*”⁵⁵². “*Public authority*”, by comparison, may be held by persons (e.g. political party officials in single party states) not otherwise formally designated as public officials⁵⁵³.

In this context, a “*public enterprise*” is an enterprise over which government(s) directly or indirectly exercise a dominant influence – for example, when the government(s) hold the majority of the enterprise’s subscribed capital, control the majority of voting shares or appoint a majority of the members of its administrative or managerial body or board⁵⁵⁴. The allied concept of “*public agency*” is an “*... entity constituted under public law to carry out specific tasks in the public interest.*”⁵⁵⁵.

Only two of the instruments provided definitions of “*foreign public official*”. Such an approach was to be expected for the UNCAC given its comprehensive nature, and the OECD-FPO given such persons are the primary focus of that instrument. The UNCAC defines a “*foreign public official*” in both ex officio and functional terms as: “*...any person holding a legislative, executive, administrative or judicial office of a foreign country,*

⁵⁵² OECD – FPO – Commentaries, Para 15.

⁵⁵³ Ibid, Para 16

⁵⁵⁴ Ibid, Para 14.

⁵⁵⁵ Ibid, Para 13.

*whether appointed or elected; and any person exercising a public function for a foreign country, including for a public agency or public enterprise.”*⁵⁵⁶.

The OECD – FPO is virtually identical, although it adds “... *and any official or agent of a public international organisation.*”⁵⁵⁷.

Beyond these two instruments, the inclusion of specific definitions for key concepts related to anti-corruption practices and processes can only be regarded as patchy in the instruments under review. For example, often only one (or at most two) of the instruments provide a definition of a particular concept, and no instrument provides a broad range of definitions across most, let alone all, concepts, although the UNCAC has the largest number of definitions, per se.

“*Foreign country*”, a critical concept in international anti-corruption endeavour, is defined in only two of the instruments, as “... *not limited to states, but includes any organised foreign area or entity, such as an autonomous territory or a separate customs territory*”⁵⁵⁸ and as “*all levels and subdivisions of government, from national to local*”⁵⁵⁹.

⁵⁵⁶ UNCAC Art 2 (b).

⁵⁵⁷ OECD – FPO, Art 1 (4) (a).

⁵⁵⁸ OECD – FPO – Commentaries, Para 18.

⁵⁵⁹ OECD – FPO, Art 1 (4) (b).

Similarly, “*public international organisation*”, and “*official of an international organisation*” are each defined in one instrument only: the former as “*any international organisation formed by states, governments, or other public international organisations ...*”⁵⁶⁰, and can include a regional or multilateral organisation (for example, the European Commission or the Secretariat of the World Trade Organisation); and, the latter as “*...any person who is authorized by such an organization to act on behalf of that organization.*”⁵⁶¹.

“*Public function*” is given broad ‘definition’ (almost to the extent of subjectivity) in one instrument as “*... any activity in the public interest ...*”⁵⁶² delegated to an official by a government, while another is more specific, defining it to mean “*any temporary or permanent, paid or honorary activity, performed by a natural person in the name of the State or in the service of the State or its institutions, at any level of its hierarchy.*”⁵⁶³. However, another provides a definition of the allied concept of “*official duties*” as: “*... any use of the public official’s position, whether or not within the official’s authorised competence.*”⁵⁶⁴.

⁵⁶⁰ OECD – FPO – Commentaries, Para 17.

⁵⁶¹ UNCAC, Article 2 (c) .

⁵⁶² OECD – FPO – Commentaries, Para 12.

⁵⁶³ IACAC, Article 1.

⁵⁶⁴ OECD – FPO, Art 1 (4) (c) .

Surprisingly, corruption and bribery are formally defined in only two of the instruments. “*Corruption*” has been defined as: “...*the acts and practices including related offences proscribed in this Convention ...*”⁵⁶⁵ (pointing in particular to illicit enrichment), while bribery is distinguished between ““*active bribery*”, meaning the offence committed by the person who promises or gives the bribe, as contrasted with “*passive bribery*”, the offence committed by the official who receives the bribe.....”⁵⁶⁶.

Allied concepts include: “*illicit enrichment*”, which is defined to mean: “*the significant increase in the assets of a public official or any other person which he or she cannot reasonably explain in relation to his or her income.*”⁵⁶⁷; and, “*improper advantage*”: “... *something to which the company concerned was not clearly entitled ...*”⁵⁶⁸.

. Jurisdiction

All of the instruments address in some way the critical issue of jurisdiction, whether determined by territory or nationality, or both (extra-territoriality). Several make clear statements regarding the application of territorial jurisdiction using a conventional geographic test – that is, where the offence is committed in its territory⁵⁶⁹. However, a number of the

⁵⁶⁵ AUCPCC, Art 1.

⁵⁶⁶ OECD – FPO – Commentaries, Para 1

⁵⁶⁷ AUCPCC, Art 1.

⁵⁶⁸ OECD – FPO – Commentaries, Para 5.

⁵⁶⁹ IACAC, Article V, first para; and AUCPCC, Article 13 (1) (a) for similar.

instruments define nationality as a basis for jurisdiction. For example: *“Nationality jurisdiction is to be established according to the general principles and conditions in the legal system of each Party.”*⁵⁷⁰.

Some instruments state territorial jurisdiction should not be too constrictive or rigidly applied: *“The territorial basis for jurisdiction should be interpreted broadly so that an extensive physical connection to the bribery act is not required.”*⁵⁷¹. Others adopt a mixed approach: the offence is committed in whole or in part in its territory; the offender is one of its nationals, one of its public officials or a member of one of its domestic public assemblies; and, the offence involves one of its public officials or members of its domestic public assemblies or any person who is at the same time one of its nationals⁵⁷².

Some instruments deal with extra-territoriality, albeit in different ways: *“Nothing in this Convention shall entitle a State Party to undertake in the territory of another State the exercise of jurisdiction and performance of functions that are reserved exclusively for the authorities of that other State by its domestic law.”*⁵⁷³. But, by contrast: *“This Convention does not preclude the application of any other rule of criminal jurisdiction established by a State Party under its domestic law.”*⁵⁷⁴.

⁵⁷⁰ OECD – FPO – Commentaries, Para 26; OECD – FPO, Article 4 (2); AUCPCC, Article 13 (1) (b) for similar.

⁵⁷¹ OECD – FPO – Commentaries, Para 25.

⁵⁷² CLCC-CE, Article 17 (1).

⁵⁷³ UNCAC, Article 4 (2).

⁵⁷⁴ IACAC, Article V, fourth para; AUCPCC, Article 13 (2) for similar.

However, efforts have been made to provide indicative thresholds for the use of extra-territorial jurisdiction upon own-nationals: “... *when the offence, although committed outside its jurisdiction, affects, in the view of the State concerned, its vital interests or the deleterious or harmful consequences or effects of such offences impact on the State Party.*”⁵⁷⁵. To avoid multiple legal jeopardy, regardless of jurisdiction, a person shall not be tried twice for the same offence⁵⁷⁶.

Given the numerous bases for jurisdiction, one of the instruments provides a (diplomatic) approach to deal with competing jurisdictions. When more than one State Party claims jurisdiction over an alleged offence, they are encouraged to consult with each other with a view to determining the most appropriate jurisdiction for prosecution⁵⁷⁷. How such consultations are handled, and the outcome realized is, in effect, determined on a case-by-case basis.

. The Public Sector

The instruments under review deal with a number of aspects of public sector administration or functioning relevant to corruption, both actual and potential. These range across: employment; election to public office; conflict of interest; codes of conduct; whistle-blowing; public financial accounting; public procurement; and, transparency. The UNCAC, again, provides the most expansive coverage of these issues (dealing with each of them), followed by the IACAC and the AUCPCC, both of which largely echo the main United Nations’ instrument.

⁵⁷⁵ AUCPCC, Article 13 (1) (d).

⁵⁷⁶ Ibid, Article 13 (3).

⁵⁷⁷ OECD – FPO, Article 4 (3).

The employment provisions emphasise prevention of corruption through, inter alia, objective, rigorous and transparent public sector employment practices, with adequate levels of remuneration (taking into account levels of development in the nation concerned). States Parties are required to maintain robust systems for the recruitment, hiring, retention, promotion and retirement of government officials, which are to be based on principles of efficiency, transparency and objective criteria such as merit, equity and aptitude⁵⁷⁸.

The UNCAC is the only instrument which deals, albeit weakly, with preventative measures in the election of persons to public office, calling upon States Parties to establish criteria for persons seeking election to public office, transparency of funding for such candidates (including, where appropriate, public funding) and transparency to obviate potential conflicts of interest⁵⁷⁹.

⁵⁷⁸ UNCAC, Article 7.1.

⁵⁷⁹ Although States Parties are only required to “*consider*” adopting such measures: see for example, UNCAC, Article 7.2 and 7.3.

The UNCAC gives further guidance on the question of conflict of interest, addressing both disclosure of benefits which may give rise to potential conflicts of interest and the imposition of penalties for those in breach of codes of conduct or standards. States Parties are expected to require public officials to declare their outside activities, employment, investments or assets from which a potential conflict of interest may arise⁵⁸⁰ with penalties for violations of such measures⁵⁸¹.

The IACAC goes further providing a reinforcing measure to assist in the detection of any dividends from conflict of interest, requiring States Parties to consider the application and establishment within their jurisdictions of *“(s)ystems for registering the income, assets and liabilities of persons who perform public functions in certain posts as specified by law and, where appropriate, for making such registrations public.”*⁵⁸².

Several instruments encourage States Parties to introduce ‘whistle-blowing’ laws to encourage and/or protect those who come forward to disclose potential instances of corruption; allowing them to do so without legal or other prejudice. For example, States Parties shall: *“...facilitate the reporting*

⁵⁸⁰ Ibid, Article 8.5.

⁵⁸¹ Ibid, Article 8.6.

⁵⁸² IACAC, Article III.

*by public officials of acts of corruption to appropriate authorities, when such acts come to their notice in the performance of their functions*⁵⁸³; and, create “(s)ystems for protecting public servants and private citizens who, in good faith, report acts of corruption, including protection of their identities.”⁵⁸⁴.

. The Private Sector

Of the instruments under review, only the UNCAC provides any substantive treatment of the private sector, although the AUCPCC touches on several issues in a general, and oblique, manner. Surprisingly, the private sector is defined in only one of the instruments, as being: “...*the sector of a national economy under private ownership in which the allocation of productive resources is controlled by market forces, rather than public authorities and other sectors of the economy not under the public sector or government.*”⁵⁸⁵.

Prevention of corruption in the private sector is addressed, in any meaningful way, in only one instrument (the UNCAC). These preventative measures range across the promotion of: co-operation between law enforcement agencies and private sector entities; integrity within the private sector, including through codes of conduct and encouraging good commercial practices; and, of transparency, especially in the identity of legal

⁵⁸³ UNCAC, Article 8(4).

⁵⁸⁴ IACAC, Article III.

⁵⁸⁵ AUCPCC, Article 1.

and natural persons. They also include the prevention of the misuse of procedures for the regulation of private entities and conflict of interest, in particular where a former government official subsequently obtains related employment in the private sector.

A number of the instruments give particular attention to rigour and transparency in accounting and financial reporting matters. States Parties are required to take measures regarding the maintenance of books and records, financial statement disclosures and accounting and auditing standards, to prohibit: the establishment of off-the-books accounts; the making of off-the-books or inadequately identified transactions; the recording of non-existent expenditure; the entry of liabilities with incorrect identification of their objects; the use of false documents; and, the intentional destruction of bookkeeping documents earlier than foreseen by the law.⁵⁸⁶ Additionally, States Parties are required to ensure private sector entities “... *have sufficient internal auditing controls to assist in preventing and detecting acts of corruption and that the accounts and required financial statements of such private enterprises are subject to appropriate auditing and certification procedures.*”⁵⁸⁷.

⁵⁸⁶ UNCAC, Article 12(3); and similarly OECD – FPO, Article 8 (1).

⁵⁸⁷ UNCAC, Article 12 (2) (f).

Only one of the instruments⁵⁸⁸ makes an express statement on the prohibition of the tax deductibility by the private sector of bribe payments: “Each State Party shall disallow the tax deductibility of expenses that constitute bribes ... (and) other expenses incurred in furtherance of corrupt conduct.”⁵⁸⁹ However, other instruments take a more moderate approach, only requiring States Parties to “consider” such treatment⁵⁹⁰.

. Criminal Offences

The instruments under review seek to establish criminal liability for legal and natural persons for a range of offences. These offences in the public sector include: bribery of a public official; solicitation by a public official; bribery of a foreign public official, or officials of public international organisations; bribery of elected officials/representatives; diversion of property by a public official (for example, embezzlement or misappropriation); trading in influence; abuse of function; and, illicit enrichment. In the private sector, they range across: bribery; solicitation; embezzlement; handling the proceeds of crime, both laundering and concealment; attempt and participation.

⁵⁸⁸ However, the OECD’s “*Recommendation of the Council on the Tax Deductibility of Bribes to Foreign Public Officials*”, (OECD Doc: DAF/FE/IME/BR (97)20) adopted by the Council on 11 April 1996, deals solely and specifically with this issue.

⁵⁸⁹ UNCAC, Article 12 (4).

⁵⁹⁰ IACAC, Article III.

Several establish the liability of legal persons: “... *the liability of legal persons may be criminal, civil or administrative. Such liability shall be without prejudice to the criminal liability of the natural persons who have committed the offences.*”⁵⁹¹. The CLCC-CE requires juridical persons to be liable for the actions of a natural legal person “... *who has a leading position within the legal person...*”⁵⁹².

Somewhat surprisingly, only two of the instruments (the UNCAC and the CLCC-CE) contain particular provisions requiring States Parties to make bribery of domestic public officials by a legal person in the private sector a criminal offence: “... *when committed intentionally: (t)he promise, offering or giving, to a public official, directly or indirectly, of an undue advantage, for the official himself or herself or another person or entity, in order that the official act or refrain from acting in the exercise of his or her official duties...*”⁵⁹³.

A greater number, however, make solicitation by a public official a criminal offence, where such payments “... *directly or indirectly, of an undue advantage, for the official himself or herself or another person or entity, in order that the official act or refrain from acting in the exercise of his or her official duties.*”⁵⁹⁴. The IACAC and the AUCPCC both go one step further

⁵⁹¹ UNCAC, Article 26 (1)-(3); see also OECD – FPO, Article 2; CLCC-CE, Article 2.

⁵⁹² CLCC-CE, Article 18(1).

⁵⁹³ UNCAC, Article 15(a); CLCC-CE, Article 2 has the same intention and thrust, and is almost identical in its wording.

⁵⁹⁴ UNCAC, Article 15(b); and, also CLCC-CE, Article 3.

by defining “*undue advantage*” to include “... *any goods of monetary value, or other benefit, such as a gift, favour, promise or advantage for himself or herself or for another person or entity, in exchange for any act or omission in the performance of his or her public functions.*”⁵⁹⁵.

Interestingly, only one of the instruments deals expressly with the contentious issue of what are sometimes called ‘facilitation payments’ – small amounts paid to expedite the progress of a matter, rather than the outcome per se of the matter. “*Small “facilitation” payments do not constitute payments made “to obtain or retain business or other improper advantage” are also not an offence.*”⁵⁹⁶. Such payments shall not be grounds for the application of extra-territorial jurisdiction, where it is allowed/practiced⁵⁹⁷. Interestingly, the generally broad UNCAC did not address this issue.

Several, however, require States Parties to make an offence of the diversion of property, in particular embezzlement or misappropriation, by a public official, giving broad reach to the concept of ‘property’, being “... *public or private funds or securities or any other thing of value entrusted to the public official by virtue of his or her position.*”⁵⁹⁸.

⁵⁹⁵ AUPCC, Article 4 (1)(a), which is closely mirrored in IACAC Article VI (I).

⁵⁹⁶ OECD – FPO, Para 9.

⁵⁹⁷ Ibid.

⁵⁹⁸ UNCAC, Article 17; see also IACAC, Article XI (2)-(4) inclusive; and, AUCPCC, Article 4(1)(d).

Participation, attempt and related actions and measures are made offences under all of the instruments. The UNCAC, for example, requires States Parties to establish as an offence “... *participation in any capacity such as an accomplice, assistant or instigator ...*”⁵⁹⁹ in corrupt conduct, or where there an attempt⁶⁰⁰ or preparation⁶⁰¹ to engage in such conduct. The OECD – FPO extends this reach to embrace “... *complicity in, including incitement, aiding and abetting, or authorisation of an act ...*”⁶⁰² and “...*attempt and conspiracy to bribe ...*”⁶⁰³, while the IACAC applies a cover-all approach of: “... *participation as a principal, coprincipal, instigator, accomplice or accessory after the fact, or in any other manner, in the commission or attempted commission of, or in any collaboration or conspiracy to commit ...*”⁶⁰⁴.

One area where there is a strong commitment to action, at least measured by the number of instruments containing statements on the matter, is making an offence of the laundering of the proceeds of crime, and in particular acts relating to bribery, solicitation and other forms of corruption. Such ‘laundering’ includes: the conversion or transfer of property; the concealment or disguise of the true nature, source, location, disposition,

⁵⁹⁹ UNCAC, Article 27 (1).

⁶⁰⁰ Ibid, Article 27 (2).

⁶⁰¹ UNCAC, Article 27 (3).

⁶⁰² OECD – FPO, Article 1 (2); see also CLCC-CE, Article 15, dealing with aiding and abetting.

⁶⁰³ OECD – FPO, Article 1 (2).

⁶⁰⁴ IACAC, Article VI (5); and, the almost identically worded AUCPCC, Article 4(1)(i).

movement or ownership or rights with respect to property; and, the acquisition, possession or use of property; where the legal person knows such property is the proceeds of crime⁶⁰⁵.

Similarly, concealment of the proceeds of crime is to be made an offence under several of the instruments: For example: *“(t)he concealment or disguise of the true nature, source, location, disposition, movement or ownership of or rights with respect to property which is the proceeds of corruption or related offences.”*⁶⁰⁶. This legal liability extends to include where the legal person did not participate in the primary offence, although they know the property is the result of corrupt conduct⁶⁰⁷.

. Enforcement and Sanctions

The elements of an offence shall include *“(k)nowledge, intent or purpose ... (which) may be inferred from objective factual circumstances.”*⁶⁰⁸. For public officials subject to domestic law, any immunity granted to public officials will not be an obstacle to the investigation of allegations against, and the prosecution of, such officials⁶⁰⁹.

⁶⁰⁵ UNCAC, Article 23; AUCPCC, Article 6 (a) and (c); OECD FPO, Article 7; and, CLCC-CE, Article 13.

⁶⁰⁶ AUCPCC, Article 6 (b).

⁶⁰⁷ UNCAC, Article 24; see also IACAC, Article VI (4); AUCPCC, Article 4 (1)(h).

⁶⁰⁸ UNCAC, Article 28; see also OECD – FPO, Para. 3.

⁶⁰⁹ AUCPCC, Article 7 (5); see also UNCAC, Article 30 (2).

Prosecution and adjudication powers implemented by States Parties shall be “...exercised to maximize the effectiveness of law enforcement measures in respect of those offences and with due regard to the need to deter the commission of such offences.”⁶¹⁰. Where investigation and prosecution involves a foreign public official, States Parties will not be influenced by considerations of national economic interest, the potential effect upon bilateral relations with another country, or the identity of the natural or legal persons involved⁶¹¹.

In general terms, penalties will be “...effective, proportionate and dissuasive criminal or non-criminal sanctions, including monetary sanctions”⁶¹² and can extend in the case of natural persons to “...include deprivation of liberty sufficient to enable effective mutual legal assistance and extradition.”⁶¹³. The civil or administrative sanctions that could be imposed upon legal persons for an act of bribery of a foreign public official under the OECD-FPO include: exclusion from entitlement to public benefits or aid; disqualification from participation in public procurement; placing under judicial supervision; and/or judicial winding-up⁶¹⁴.

⁶¹⁰ UNCAC, Article 30 (3).

⁶¹¹ OECD – FPO, Article 5.

⁶¹² UNCAC, Article 26 (4); OECD – FPO, Article 8 (2); CLCC-CE, Article 19 (1) - (2).

⁶¹³ OECD – FPO, Article 8 (1).

⁶¹⁴ OECD – FPO, Commentaries, at Para 24.

Specific sanctions in other instruments include: custodial penalties⁶¹⁵; suspension or removal from office for a public official⁶¹⁶; disqualification from holding public office (as an elected representative), or holding office in a wholly-owned government enterprise⁶¹⁷; seizure and forfeiture⁶¹⁸; monetary sanctions⁶¹⁹; annulment of contracts⁶²⁰; withdrawal of a concession⁶²¹; and, entitlement to seek compensation for damages⁶²².

Scholarly Commentary

There is little dissent within the scholarly community that while robust domestic action to tackle bribery and corruption is necessary, it is not of itself sufficient⁶²³. To be effective, domestic action needs to be augmented by complementary international initiatives.

⁶¹⁵ OECD – FPO, Article 3 (1).

⁶¹⁶ UNCAC, Article 30 (6).

⁶¹⁷ Ibid, Article 30 (7).

⁶¹⁸ UNCAC, Article 31; OECD – FPO, Article 3 (3); IACAC, Article XV; AUCPCC, Article 16 (1).

⁶¹⁹ OECD – FPO, Article 3 (2); AUCPCC, Article 16 (1).

⁶²⁰ UNCAC, Article 34.

⁶²¹ Ibid.

⁶²² Ibid, Article 35.

⁶²³ Nichols (1999) at 279.

The instruments examined in this study can play a useful reinforcing role. Indeed, a sizeable body scholarship regards the mere existence of these multi-national instruments as amongst their most valuable contribution to the anti-corruption challenge⁶²⁴. Each of the instruments has been subject to varying degrees of scholarly analysis, for their strengths and weaknesses, and failings and opportunities for improvement.

The UNCAC has its strengths including broad treatment of the major aspects of the anti-corruption effort, namely prevention, criminalisation and international co-operation⁶²⁵. However, scholars have identified several weaknesses in the UNCAC, most notably: the failure to incorporate robust monitoring mechanisms⁶²⁶; the requirement for States Parties to only ‘consider’ preserving property for confiscation⁶²⁷; over-reliance on bilateral relations for asset recovery⁶²⁸; and, the lack of meaningful obligations on States Parties to effectively incorporate the provisions of the Convention into municipal law⁶²⁹.

⁶²⁴ Sutton (1996/97) at 1470, Gantz (1998) at 481, Perrios and Hudson (1998) at 86, and Low (1998) at 154 for the IACAC; Zagaris and Ohri (1999) at 76, George et al (2000), Unzicker (1999/2000) at 655, and Wehrle (2000) at 31 for the OECD FPO; Webb (2005) at 210 for the UNCAC; Udonbana (2003) at 447 for the AUCPCC.

⁶²⁵ Ibid at 206.

⁶²⁶ Ibid at 228.

⁶²⁷ Ibid at 209.

⁶²⁸ Ibid at 210.

⁶²⁹ *“It follows the formula of the weakest regional conventions by giving states parties a large degree of leeway to decide if and how far to incorporate the Convention into national law.”*: Webb (2005) at 221.

The OECD – FPO has attracted considerable scholarly praise⁶³⁰ for its fight⁶³¹ against corruption, largely due to its developed country membership⁶³² and its focus on supply-driven corruption emanating from multinational corporations.

Other strengths of the OECD-FPO are seen to include: the clear and unequivocal nature of the commitments of the States Parties⁶³³; its peer-based monitoring program and mutual legal assistance measures, which can assist in ensuring uniformity of implementation⁶³⁴; the capacity for non-OECD members to accede to the instrument as full States Parties⁶³⁵; the inclusion of provisions dealing with accounting, record-keeping and disclosure requirements⁶³⁶; the inclusion of provisions stating that the exercise of prosecutorial discretion shall not be subject to economic or foreign policy considerations, or of the identity of the legal or natural persons involved⁶³⁷; and, any statutes of limitation maintained by States Parties cannot be used to defeat enforcement of implementing legislation⁶³⁸.

⁶³⁰ Shams (2001) at 100; Gantz (1998) at 483; Zagaris and Ohri (1999) at 75, and Tronnes (2000) at 130, use similar laudatory statements. Brademas and Heimann (1998) at 19 are more moderate in describing it as “*a solid framework for an international system*” for tackling corruption.

⁶³¹ The OECD’s commitment to the fight against corruption led one commentator (Anonymous, 2002a, at 82) to say “... *the OECD appears to have become a sect of true believers in opposing foreign corrupt practices.*”

⁶³² For a good discussion of Australia’s early implementation of the OECD Convention see Wallace-Bruce (2000) at 369-372.

⁶³³ Gantz (1998) at 491.

⁶³⁴ Tronnes (2000) at 121; Gantz (1998) at 489; see Wehrle (2000) for a good overview of the peer review processes of the OECD-FPO.

⁶³⁵ Gantz (1998) at 490; Zagaris and Ohri (1999) at 75.

⁶³⁶ Pierros and Hudson (1998) at 98.

⁶³⁷ Corr and Lawler (1999) at 1309.

⁶³⁸ Ibid.

However, the OECD-FPO has also attracted criticism for: its failure to address the role of the bribe-taker, especially where the corruption incident was demand-driven⁶³⁹; the failure to cover domestic public officials⁶⁴⁰, candidates for public office, political parties and/or party officials⁶⁴¹, corruption of which can readily defeat the ‘public official’ test which underpins the instrument; the failure to cover family members of any of these persons/groups⁶⁴²; the failure to expressly prohibit the tax deductibility of bribes⁶⁴³; the inadequate coverage of bribery by foreign subsidiaries⁶⁴⁴; the inadequate treatment of government procurement, in particular for foreign aid programs⁶⁴⁵; the absence of a ‘trading in influence’ provision⁶⁴⁶; while, the wide grant of discretion⁶⁴⁷ to States Parties in designing, and the resulting differences in, the implementing legislation⁶⁴⁸ has diminished the effectiveness of the Convention.

⁶³⁹ George et al (2000) at 518; Miller (2000) at 160; Loren (2001) at 328; Harms (2000) at 161; Pierros and Hudson (1998) at 99; Nesbit (1998) at 1305.

⁶⁴⁰ Gantz (1998) at 486; Nesbit (1998) at 1305; Webb (2005) at 196.

⁶⁴¹ Shams (2001) at 100; George et al (2000) at 516; Pierros and Hudson (1998) at 97; Corr and Lawler (1999) at 1305; Posadas (1999/2000) at 381; Webb (2005) at 196; Nesbit (1998) at 1305; Brademas and Heimann (1998) at 19; “... *a huge loophole for foreign countries which could then channel illicit payments to party officials rather than government officials.*”: Gantz (1998) at 486.

⁶⁴² Posadas (1999/2000) at 381.

⁶⁴³ Corr and Lawler (1999) at 1309. However, this was pursued in the subsequent “*Recommendation of the Council of the OECD on the Tax Deductibility of Bribes to Foreign Officials*”: 35 ILM 1311 (1996).

⁶⁴⁴ George et al (2000) at 516; Loren (2001) at 326; and similarly Zedalis (1998) at 178 on the use of intermediaries.

⁶⁴⁵ George et al (2000) at 520-521 for a discussion of the nature of the problem and potential remedial action.

⁶⁴⁶ Gantz (1998) at 487.

⁶⁴⁷ Tronnes (2000) at 119.

⁶⁴⁸ George et al (2000) at 517; Brademas and Heimann (1998) at 19; Miller (2000) at 140; Harma (2000) at 49.

The IACAC has also attracted laudatory commentary from the scholarly community⁶⁴⁹ reflecting its achievement of having as States Parties both capital exporting countries (such as the United States of America; ‘the supply side’ of corruption) and capital-importing nations (for example, Brazil; the ‘demand side’ of corruption)⁶⁵⁰. Other positive aspects of the IACAC are seen to include: its capacity to defend/strengthen democratic institutions and processes in participating developing countries⁶⁵¹ and in its region⁶⁵²; it encourages member States to deal with domestic corruption⁶⁵³; its focus on the conduct of individuals, ahead of entities such as corporations⁶⁵⁴; and, its illicit enrichment provision which only requires an unexplained increase in personal assets rather than clear proof of acceptance of a bribe⁶⁵⁵.

Even so, the IACAC has drawn criticisms including: the absence of an overarching paradigm to determine what forms of official misconduct should be considered criminal⁶⁵⁶; the potential propensity for States Parties to exercise the opt-out provisions of the Convention⁶⁵⁷; the tentative nature of implementation of elements of the IACAC by States Parties within their

⁶⁴⁹ Shams (2001) at 107; Wallace-Bruce (2000) at 367.

⁶⁵⁰ Id; Webb (2005) at 193.

⁶⁵¹ Webb (2005) at 193.

⁶⁵² Sutton (1996/97) at 1472.

⁶⁵³ Webb (2005) at 193.

⁶⁵⁴ Sutton (1996/97) at 1476.

⁶⁵⁵ Which, in effect, means a shift in the onus of proof and a lower burden of proof: Boswell (1997) at 1171.

⁶⁵⁶ Henning (2001) at 796.

⁶⁵⁷ Low (1998) at 154.

domestic jurisdictions⁶⁵⁸; and, the absence of any formal dispute settlement mechanism, especially for dealing with claims by one State Party that another is failing to effectively perform its obligations under the Agreement⁶⁵⁹.

Substantive criticisms include: its failure to incorporate provisions dealing with attempted corruption⁶⁶⁰ and to enable institutionalised follow-up to further develop the instrument, and for the vague nature of the monitoring mechanism of the compliance and performances of State Parties⁶⁶¹; the potential for greater-than-facilitation payments to avoid coverage⁶⁶²; and, the imbalance of punitive- over incentive-based approaches to dealing with corruption, the latter of which are likely to be more effective in regional cultures⁶⁶³.

Summary and Conclusion

The world community of nations during the early 1990s and into the early 2000s expanded greatly the use of law-making treaties under international law to reinforce the battle against corruption. Such instruments were largely normative and intended to create formal legal obligations on the participating States Parties, primarily through the enactment and enforcement of consequential municipal criminal laws.

⁶⁵⁸ Boswell (1999) at 142; Brademas and Heimann (1998) at 19; Zagaris and Ohri (1999) at 54; Wallace-Bruce (2000) at 367.

⁶⁵⁹ Gantz (1998) at 489.

⁶⁶⁰ Henning (2001) at 811.

⁶⁶¹ Shams (2001) at 107; Webb (2005) at 197-198.

⁶⁶² Henning (2001) at 809.

⁶⁶³ Husted (2002) at 413.

These instruments have, to varying degrees of breadth and depth, dealt with: definitions of key features of corruption; issues of jurisdiction; coverage of the public and the private sectors; the nature of offences; and enforcement and sanctions. However, they still have important shortcomings, including inadequate attention to demand-driven corruption (looking at the causal role of the bribe-taker), the scope of the concept of 'public official', and the tolerance and subjective nature of 'facilitation payments'. While no individual instrument necessarily deals with all possible issues, they collectively, and in a number of cases individually, constitute substantial progress on the state of international legal (and diplomatic and public policy) affairs prevailing in the early 1990s.

The real importance of these instruments will rest on two key pillars: firstly, in the medium to longer term, the extent to which they are broadened and deepened in their content and their reach, potentially taking into account the plethora of issues raised in numerous scholarly commentaries discussed in this chapter; and, secondly, and more immediately, the extent to which the treaties are infused into the municipal criminal laws of the various States Parties and through this change the behaviour of those at whom they are targeted.

The essential foundation of these international anti-corruption agreements is the interface of law and economics: economics because corruption results in potentially serious distortions to the allocation of economic resources and broader economic decision-making; and, law because corruption is usually a criminal act in most mature legal systems. Economic analyses in law and economics generally centre on the place of economic efficiency and the role of the price mechanism as a signal of past and future decision-making by individual economic actors (persons, households or firms). By comparison, legal analyses in law and economics focus on the roles of explicit and implicit prices for legal actors. The interface of such price signals, their impact of decision-making by economic and legal actors, and on wider efficiency is the foundation of law and economics. The broader interface between, and the main theories of, law and economics are examined in Chapter Four, following.

Table 3.1 Current Instruments and their Antecedents

Instrument	Antecedents ⁶⁶⁴
United Nations Convention Against Corruption (2003) ⁶⁶⁵	<p><i>“General Assembly Resolution on Measures Against Corrupt Practices of International and Other Corporations, Their Intermediaries and Others Involved” (1979)⁶⁶⁶</i></p> <p><i>“Draft UN Code of Conduct on Transnational Corporations” (1984)⁶⁶⁷</i></p> <p><i>“UNCITRAL Model Law on the Procurement of Goods, Construction and Services” (1994)⁶⁶⁸</i></p> <p><i>“Declaration Against Corruption and Bribery in International Commercial Transactions” (1996)⁶⁶⁹</i></p> <p><i>“International Code of Conduct for Public Officials” (1996)⁶⁷⁰</i></p>

⁶⁶⁴ From within the same organisation.

⁶⁶⁵ 43 ILM 37 (2004).

⁶⁶⁶ 18 ILM 180 (1979).

⁶⁶⁷ 23 ILM 602 (1984).

⁶⁶⁸ 33 ILM 445 (1994).

⁶⁶⁹ 36 ILM 1043 (1997); G A Res 51/191.

⁶⁷⁰ 36 ILM 1039 (1996); G A Res 51/69.

<p>OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (1997)⁶⁷¹</p>	<p><i>“Declaration on International Investment and Multinational Enterprises”</i> (1976)⁶⁷²</p> <p><i>“OECD Guidelines for Multinational Enterprises”</i> (1976)⁶⁷³</p> <p><i>“Recommendation on Bribery in International Business Transactions”</i> (1994)⁶⁷⁴</p> <p><i>“Recommendation of the Council of the OECD on the Tax Deductibility of Bribes to Foreign Officials”</i> (1996)⁶⁷⁵</p> <p><i>“Revised Recommendation of the Council on Combating Bribery in International Business Transactions”</i> (1997)⁶⁷⁶</p>
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⁶⁷¹ 37 ILM 4 (1998).

⁶⁷² 15 ILM 967 (1976).

⁶⁷³ Ibid.

⁶⁷⁴ 33 ILM 1389 (1994).

⁶⁷⁵ 35 ILM 1311 (1996). For a general discussion of the Recommendation, see Shams (2001) at 98.

⁶⁷⁶ 36 ILM 1016 (1997).

<p>Criminal Law Convention on Corruption of the Council of Europe (1999)⁶⁷⁷</p>	<p><i>“Convention on the Protection of the European Communities’ Financial Interests”</i> (1995)⁶⁷⁸</p> <p><i>“First Protocol to the Convention on the Protection of the European Communities’ Financial Interests”</i> (1996)⁶⁷⁹</p> <p><i>“Convention on the Fight Against Corruption Involving Officials of the European Communities or Officials of Member States”</i> (1997)⁶⁸⁰</p>
<p>Inter-American Convention Against Corruption (1996)⁶⁸¹</p>	

⁶⁷⁷ 38 ILM 505 (1999).

⁶⁷⁸ OJ C 316 (1997) 49.

⁶⁷⁹ OJ C 313 (1996) 2.

⁶⁸⁰ 37 ILM 12 (1997); Council Act No 97/C 195/01, 1997 OJ 195, 2-11. For a general discussion of this instrument see Webb (2005) at 201-202.

⁶⁸¹ 35 ILM 724 (1996).

<p>African Union Convention on Preventing and Combating Corruption (2003)⁶⁸²</p>	<p><i>“Transparency Code for the Management of Public Finances”</i> (2000)⁶⁸³</p> <p><i>“Accra Declaration on Collaborating Against Corruption”</i> (2001)⁶⁸⁴</p>
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⁶⁸² 43 ILM 5 (2004).

⁶⁸³ Cited by Udonbana (2003) at 455.

⁶⁸⁴ Ibid.

Chapter 4: Theories of Law and Economics

*“For the rational study of the law,
the black-letter man may be the man of the present,
but the man of the future is
the man of statistics and the master of economics.”⁶⁸⁵*

Introduction

Corruption, regardless of the form it takes – bribery or extortion; occasional or systemic – is essentially an economic and a legal phenomenon: economic because it involves inefficient transfer of resources, usually from better to lesser advantageous uses; legal because almost without exception, corruption is illegal in mature legal systems, whether international and municipal. The broadening and deepening position of corruption within the international economic law parallels similar growing-closer interaction between law and economics – how economic misconduct can, and does, undermine the rule of law; and, the effectiveness or otherwise of the law in preventing, or failing that remediating, this situation.

This chapter will examine the linkages between economics and the law. While causality no doubt flows both ways – economics impacts on the law, and the law impacts on economics⁶⁸⁶ – this study will embrace the former approach given its placement within the broader scholarly literature on corruption, economics and the law, and the econometric modelling to

⁶⁸⁵ Holmes (1897) at 469.

⁶⁸⁶ Also known as regulation. For a good overview of this dimension of the law and economics interface, which is outside the scope of this study, see Gordon (2000).

follow. In this examination of the linkages between law and economics, we will focus on the main theoretical streams: the jurisprudential niche of law; the Chicago school; Public Choice theory; Institutional law and economics; Neo-Institutional law and economics; Rational Choice theory; and, Behavioural law and economics. We will not adopt the thematic approach that looks at the law and economic dimensions of, for example, contract, competition, corporate, evidence and procedure, family, labour relations, property (intellectual and physical), public finance and taxation, and tort law⁶⁸⁷. We will, however, look at ‘criminal law and economics’.

The economics of the law and economics discourse has largely revolved around microeconomics (the economics of the individual, the household and/or the firm), in contrast to macroeconomics (of the nation as a whole). Without undertaking a lengthy report of the many dimensions of microeconomics⁶⁸⁸, it is worth identifying a few key underpinnings which frame discussion of law and economics issues⁶⁸⁹. In essence, microeconomics is the study of how consumers and producers allocate scarce resources amongst competing uses. Microeconomic theory tells us consumers seek to

⁶⁸⁷ Those interested in the law and economics approaches in these areas could usefully start with several ‘readers’ of the main papers in each of these sub-areas, and progress thereafter based on their own interests. Prominent amongst these anthologies are, in alphabetical order: Coleman and Lange (1992 a and b); Parisi (2000); Parisi (2001a); Posner (2001); Posner and Parisi (1997a and b, and 2002).

⁶⁸⁸ Such material being available to the interested reader from a broad range of undergraduate, and post-graduate by coursework textbooks, accessible from any university library or better bookshop.

⁶⁸⁹ For a good general discussion, reasonably accessible to the non-economist, see Ulen (1992).

allocate their scarce incomes and time amongst the broadest range of goods and services available to them so as to maximise their satisfaction, whilst producers seek to allocate the land, labour and capital (including entrepreneurial and intellectual property) available to them to create the best product and/or service at the lowest price, and thus maximise their profitability.

The key mechanism within microeconomics for making such allocative decisions is the price mechanism. Price signals in a competitive and well-functioning market condense an enormous amount of information into a tractable measure to assist consumers and producers come to the best possible decision for them. Such prices can be absolute (for the consumer, the ticket price of good or service he/she is looking to purchase) or relative (for the producer, comparing the prices charged by several suppliers of essential inputs, such as electricity). These explicit prices can be contrasted with implicit prices. The latter emerge where there initially appears to be no explicit price yet there are real economic resource allocative costs involved in making a choice between multiple options.

Legal rules can contain explicit and/or implicit prices: the former, for example, a pecuniary penalty for breach of the law (say, a speeding fine); the latter, taking the form of the economic consequences of a decision or rule on those impacted by it (say, producer and consumer responses to a new law or regulation). The implicit prices of legal rules can influence the conduct of those subject to those rules, taking the form of the costs of: being

informed of the rules; taking precautionary measures and/or of conforming with them (especially for producers who may have to vary their production methods and processes); and, administering and enforcing them (both for public agencies, and private actors where the rules create new private rights, such as intellectual property rights)⁶⁹⁰. The interface of these costs and prices, and legal rules is at the heart of law and economics.

In this study, the concept of law and economics is based on causality running from economics to the law, and involves the application of economic theory to the study of the creation, structures and processes of the law and its institutions. This study takes the view economics can challenge lawyers to think more broadly about the law⁶⁹¹, ahead of a concentration on strict doctrinal approaches, drawing on the ability of economics to formulate testable hypotheses that can be evaluated through the application of rigorous statistical tools to quantifiable evidence⁶⁹². However, in taking this position, we accept economic analysis can be just one perspective on complex legal pictures.

⁶⁹⁰ For an interesting study of the interaction of these issues, in the area of tort, see Ulen (1992) at 114–118.

⁶⁹¹ Posner (2004) at 67. Breyer (1983) at 295, and Becker (1983) at 306–308 usefully remind us lawyers will still be making legal arguments, even if they are using economics as part of their evidence or their argument.

⁶⁹² Which led one social scientist (a sociologist: Friedman, 2010/11 at 488) to state: “*Many economists will prune away, quite ruthlessly, anything that interferes with the process of making their field formally rigorous.*”

The Law in Law and Economics

Any general reading of the expansive law and economics literature could well leave the reader with the impression the subject is mostly about the application of economics to the law⁶⁹³ and not much about the law itself. Such a perception would be mistaken: there is much law in law and economics, whether it be in the common or the statute law⁶⁹⁴.

The basic nature of the common law is the progressive development through jurisprudence of principles of law, which act as the foundation stone for judicial decision-making. In effect, the development of the common law is the progressive search for such foundations, and the authority and legitimacy of such laws. Historically, such foundations have ranged from theology in the Middle Ages (when the law was strongly influenced by religious institutions such as the Churches and clerics in the Christian world), the secular natural law movement from the Renaissance to the Eighteenth and Nineteenth centuries⁶⁹⁵, and the positive scientific attitudes which sought to apply the rigorous methods of the natural sciences to the law⁶⁹⁶. The law and economics movement is a successor to these

⁶⁹³ For a readable history of the development of law and economics see Grembi (2007).

⁶⁹⁴ On the substantial, gap-filling, role for law and economics in statutory interpretation, see Rizzo and Arnold (1987), reflecting the fact “*the legislative process functions with limited time, information, foresight and deliberative powers...*” (Id at 169).

⁶⁹⁵ For a discussion of the influence of key thinkers from this period, such as David Hume, Adam Smith and Jeremy Bentham, see Rowley (2005) at 1-9.

⁶⁹⁶ The United States Supreme Court, in *Daubert vs Merrell Dow Pharmaceuticals Inc*, 509 US 579 (1993) has set out a four step requirement for determining whether evidence presented to American courts should be accepted as ‘science’. They are: the theoretical foundations of the methods must yield testable propositions which could be falsified; these methods should preferably be published in peer-reviewed scholarly journals; there should be known rate of error which can be used to assess the inferences; and, the methods used should be generally accepted within the relevant scientific community.

perspectives⁶⁹⁷. The capacity of the common law to embrace the law and economics perspective in many ways highlights its core strengths – its dynamic characteristics of flexibility and adaptability to the continuing change and evolution in the societies it serves⁶⁹⁸. However, this flexibility and adaptability is not found in all corners of the law. To some, such as those holding doctrinal views of the law, the arrival of the law and economics movement would be akin to seeing the barbarians at the gates to the city⁶⁹⁹.

To legal doctrinalists, whose influence was strongest at the end of the nineteenth and into the early twentieth centuries, the law is separate and apart from external influences, whether they be religious, natural science, social or economic. In this view⁷⁰⁰, the law is a logical form of inquiry into the inter-relationships between legal propositions in a given legal order – almost a pure and independent science. The law is a set of principles to be

According to Crespi (1992) at 233, the law cannot be considered a ‘science’ as one cannot readily subject its underlying assumptions to rigorous testing for falsifiability. For an expansive discussion of the application of scientific methods to the law see Ulen (2002).

⁶⁹⁷ Readers interested in the history of the law and economics movement see: Hovenkamp (1990b), for an expansive discussion of its origins in the period between 1870 and 1930; and, Mackaay (2000b), Harris (2003), Hylton (2004) for more general historical reviews.

⁶⁹⁸ The common law system also plays a more powerful (and positive) role in promoting economic growth and development than does the civil law system, in the countries where they are practiced: Mahoney (2001) at 503.

⁶⁹⁹ Although it has been paid the ‘flattering’ compliment of being “*arguably the most successful of economics’ various imperialistic movements.*”: Medema (2003) at 1 and (2006) at 14. A sentiment endorsed by others such as Epstein (1997) at 1168; Goodhart (1997) at 2; Campbell and Piciotto (1998) at 253; Grembi (2007) at 3. Supporters of law and economics see it as “*the (premier) interdisciplinary field of legal studies*”: Posner (2004) at 66; the “*dominant paradigm for legal research*”: Salzberger (2007) at 3; while “*law and economics has always been an elite activity, like playing polo.*”: Cooter (2011) at 1479. Such hubris likely provides additional motivation for critics of law and economics.

⁷⁰⁰ Often associated with influential American legal academic, C C Langdell, who championed the doctrinalist approach during his time as Dean of Harvard Law School.

found within case law, through the consistent study of judicial decisions across time, with legal questions answered with sole reference to legal materials such as precedents, statutes, legislative debates and records, and the better scholarly works. Within this framework, judicial opinion has pre-eminent standing in the formation of the law, with legal reasoning focusing on identifying doctrine⁷⁰¹.

The pure legal science of doctrinalism has drawn criticism for its self-referential nature as well as for its insularity, most notably from the broader ethics, social conditions, and political currents of the wider community in which the law was placed (and meant to serve)⁷⁰². Such critics come from a range of perspectives, such as what could be called ‘sociological jurisprudence’, which argues the law cannot be viewed in isolation of the wider social conditions and social sciences in which it operates. In this view, Judges need to take into account the surrounding economic and social contexts which in turn impact judicial decision-making and through it the development of the law.

If ‘sociological jurisprudence’ was a critique of doctrinalism, then the Legal Realist movement that emerged in the 1930s was a full-on assault. The Legal Realists rejected the core tenet of doctrinalism – the existence of an objectively determined set of legal rights and obligations based on rigid legal rules. Rather, the Legal Realists emphasised the flaws and the limitations of

⁷⁰¹ As a result, the doctrinal approach “... revolved around a few fundamental axioms, derived primarily from empirical observation of how courts had in the past responded to particular sorts of problems. From these axioms, one could and should deduce – through non-controversial, rationally compelling legal processes – a large number of specific rules or corollaries.”: Fischer et al (1993) at vii.

⁷⁰² Mercurio and Medema (1997) at 8.

the law⁷⁰³, and the (imperfect) human factor underlying judicial reasoning: a Judge's decision to follow or distinguish a precedent was essentially determined by subjective value judgements (moral, social or political) rather than by unbending logic⁷⁰⁴. Such value judgements were influenced by the economic, social, political and other currents of the time. And, by extension, a better comprehension of the law and its implications came from an understanding of its inter-relationships with other social sciences, such as anthropology, economics, political science and sociology.

The Legal Realists saw a special relationship between law and economics, given legal change was often linked to developments in economic ideas and conditions. In contrast to the law and economics movement which was to follow in the second half of the twentieth century (who saw causality flowing from economics to the law), the Legal Realists saw causality going from the law to economics. In this view⁷⁰⁵, the law provides an important foundation for the operation of economies by framing the outcomes of competitive markets and its forces through, for example, economic-laws such as competition, contract, corporations, environmental⁷⁰⁶, finance, intellectual and physical property, labour and taxation. To the Legal Realists, by such interactions, the law could be used to improve the social condition of mankind⁷⁰⁷.

⁷⁰³ Tamanaha (2008/09) at 732.

⁷⁰⁴ Mensch (1990) at 22.

⁷⁰⁵ Llewellyn (1925) at 678–681.

⁷⁰⁶ For example, tradable emissions rights, which apply economic principles to the environment.

⁷⁰⁷ Tamanaha (2008/09) at 737.

The Economics of Law and Economics

If the law of law and economics was largely concerned with the role of the law in guiding economic processes, the economics within law and economics is about the role of economic criteria, in particular efficiency, in the design and operation of the law. However, and not surprisingly, there has been substantial debate between the various schools of thought within law and economics on the absolute and/or relative importance of efficiency, and of other considerations (for example, equity⁷⁰⁸ and utility⁷⁰⁹) and indeed between the disciplines of law and of economics⁷¹⁰.

Economic theory attaches great weight and significance to the concept of purely competitive, perfectly functioning markets characterised by⁷¹¹: a great many consumers, motivated by self-interest and a desire to maximise utility⁷¹²; a great many producers, also motivated by self-interest and a desire to maximise their profits in diffuse industries and/or contestable markets; neither consumers nor producers being able to control prices in

⁷⁰⁸ For a flavour of the debate on the limitations of economics in the law which flared during the 1970s and into the early 1980s see: Posner (1974/75); Leff (1974); Kennedy (1976); Posner (1979a); Bloustein (1978); Michelman (1979); Coleman (1982), and more recently Dorff and Fezan (2009); and for limitations of the law in economics, see inter alia Buchanan (1974).

⁷⁰⁹ See for example, Coleman (1980).

⁷¹⁰ The latter of which is attributable, to some degree, to cultural differences - lawyers being inherently normative, while economists are predominately positivist, in outlook: Posner (1979a) at 285.

⁷¹¹ Mercuro and Medema (1997) at 14.

⁷¹² According to Ogus (2004b) at 365, utility maximization for someone looking to engage in a criminal act can be estimated by using the equation $U < qE + pD$, where U = the utility the individual derives from non-compliance with the law, qE is the probability and allied costs of the offense being detected by law enforcement agencies, and pD is the probability of a formal conviction and its associated costs (fines or loss of income from a custodial penalty) and other informal costs (such as social opprobrium for breaching community norms).

their markets, and thus being price-takers for the goods/services they buy or sell; prices which act as indicators for consumers and producers, as signals of shortages or surpluses; products which are homogeneous and hence substitutable; no barriers for either consumers or producers to enter or exit a market; all consumers and producers being fully informed of the prices and other conditions of all market transactions; all resources being held as private property, with clearly defined and well known property rights; and, extant property rights fully enforced through the law⁷¹³.

Economic theory also attaches substantial weight and significance to allocative efficiency, that is the extent to which: the allocation of inputs in a given production process delivers the mix of outputs which best meets the needs of consumers; and, the allocation of those outputs across consumers delivers the maximum possible consumer benefit. In this situation, if all factors of production (land, labour and capital), and goods and services (both as inputs and outputs) are transacted in perfectly competitive markets, then the outcomes of these processes are efficient. Optimal efficiency is achieved when the marginal benefit of any activity equals its marginal cost, either side of which efficiency can be improved by doing more (when marginal benefit is greater than marginal cost) or less (vice versa) of it.

⁷¹³ The nature, causes and extent to which these theoretical ideals breakdown is the 'bread and butter' of applied economics, for example: less than fully contestable markets; some producers can be price-makers in shallow markets; not all products are homogeneous or seen as such (by virtue of advertising); and, all players, whether consumers or producers, are fully informed. Perhaps they are principles more honoured in the breach than the observance.

In the law and economics setting, such efficiency can take several forms: Pareto efficiency, both in exchange and in production; and, Kaldor-Hicks efficiency⁷¹⁴. The most important of these concepts is Pareto optimality, which means resources (land, labour, capital) cannot be reallocated so as to make one individual better off without making someone else worse off. In a broader social economics/law framework, when the marginal social benefit of an activity equals its marginal social cost the activity has achieved the Pareto optimal allocation of resources; individual consumers and/or producers cannot be made better off by any other allocative mix. When all activities within an economy are at Pareto optimal, then the economy is Pareto optimal.

However, the law impacts the initial conditions for determining Pareto optimality, with each Pareto optimal/efficient outcome dependent upon the original allocation of property rights in the resources concerned, within which each stage of the market-based transaction (that is, re-allocation) of resources takes place⁷¹⁵. As such, rather than a single Pareto efficiency for the whole economy, there may well be an almost infinite number of Pareto-efficient situations, each of which is determined by the initial allocation of resources and of property rights thereto. Indeed, Pareto optimality may never be achieved in markets whose structural characteristics fall short of the very high standard of pure competition or where there are deficiencies

⁷¹⁴ For a good discussion of Pareto and of Kaldor-Hicks efficiency, written in a style reasonably accessible to the non-economist and with minimal algebra and complex graphics, see Coleman (1980) at 512-520.

⁷¹⁵ Cooter (1987) at 152–153. Some scholars have rejected Paretian approach, arguing instead for a ‘maximin model’ which would provide the least advantaged members of society to have a veto over any change: Rawls (1971) and (1974).

in the allocation or protection of property rights⁷¹⁶. Similarly, because litigation has distributional consequences (a particular judicial decision makes someone ‘better off’, and another ‘worse off’), Pareto optimality is likely to be unachievable in practice⁷¹⁷. Pareto optimality may never be achieved where any degree of importance is attached to the concept of equity or fairness, given they imply actors may wish to adopt a legal rule that expressly reduces the well-being of one or more members of the community⁷¹⁸.

In reality, it would be a rare and exceptional circumstance in which Pareto optimality could be achieved. In this situation, the better objective is Kaldor-Hicks efficiency, also known as the compensation principle⁷¹⁹. This principle holds a change from one economic or legal state to another (for example, a change in economic policy, or in judicial precedent) which favours some persons or group(s) at the expense of others can deliver an unequivocal improvement in social welfare⁷²⁰ if the gainers compensate the losers so the latter accept the change, and the gainers remain better off after

⁷¹⁶ This situation is sometimes called ‘market failure’, and often generates calls for government intervention to address such shortcomings. The better question is whether the net costs of perceived market failure are greater, equal to, or less than those associated with government failure. Such a debate is for another place.

⁷¹⁷ Coleman (1980) at 511; Cooter (1987) at 151.

⁷¹⁸ Kaplow and Shavell (1999) at 64. Nevertheless, the Pareto rule still has significance for its implications in determining what criteria to employ when making policy choices, and how they are made: Ibid at 72.

⁷¹⁹ It is also part of the theoretical framework of cost-benefit analysis within economics.

⁷²⁰ The overall welfare of society rather than the public funding of social support payments to those in need.

paying the compensation. Or, in simpler terms, a change is a Kaldor-Hicks improvement if the gains to the winners exceed the losses to the losers (essentially an aggregated society-wide cost-benefit analysis)⁷²¹.

. The Chicago School

The core thread of the Chicago school of law and economics⁷²² is: the maximal role for markets and competition, and the minimal role for government and regulation; and, the maximal role for efficiency, with distributional issues being second-order matters⁷²³, more properly left to government and legislatures through the fiscal account (expenditure and taxation)⁷²⁴.

⁷²¹ The actual payment of compensation is unlikely to happen in a real world situation. It would require each and every winner/loser to be identified, the quantum of their individual gain/loss to be calculated, and then some costless mechanism found to execute the transfer of compensation without error. The more practical realisation of Kaldor-Hicks efficiency/the compensation principle is the change involves net gains to be distributed, and these amount to an increase in overall economic welfare. For a broader critique of the application of Pareto and Kaldor-Hicks to the law see: Coleman (1982); Ellerman (2009).

⁷²² The Chicago school has produced, over time, some of the leading thinkers in law and economics, including Ronald Coase (a Nobel Laureate), Gary Becker (also a Nobel Laureate) and Richard Posner. Such has been the influence of Coase, one prominent scholar (Stigler (1992) at 456, himself a Nobel Laureate) differentiates law and economics into two periods: BC and AC, or Before Coase, and After Coase.

⁷²³ Which has led one critic (Michelman (1978) at 311) to argue the Chicago approach to law and economics (and the Posnerian approach in particular) “...*is oblivious to questions of distributive justice, and in general disregards all human valuations or motivations that are not responsive to considerations of price, or cost, in a sense approximately measurable by methods available to economic science.*”

⁷²⁴ “... *when redistribution is possible, it tends to be limited to those few who become parties to law suits. And even then, redistribution may be haphazard.*”. Kaplow and Shavell (1994) at 675.

The early Chicago approach, which emerged during the 1920s and 1930s, built upon the classical foundations of the economics of Adam Smith⁷²⁵ and the libertarian political philosophies of Jeremy Bentham⁷²⁶. In essence, within the liberal democratic tradition, economic actors engage in the rational pursuit of self-interest, competition is an essential and virtuous feature of economic life, and market-generated outcomes are preferable and superior to those flowing from government interventions with market mechanisms⁷²⁷. However, such thinking came under pressure from the rise of Keynesian economic policy thinking, which saw a greater role for government intervention, and to the New Deal/Great Society-style policies introduced in reaction to the Depression of the 1930s.

The later Chicago approach, which emerged in the 1950s⁷²⁸, sought to show in econometric/quantitative modelling terms the strong links between competitive markets and efficient outcomes. This work led to their advocacy of competitive markets, a limited role for government interference in markets, a lesser role for income- and wealth-redistributing government policies, greater emphasis on market forces and voluntary exchange, and

⁷²⁵ For an expansive discussion of the contribution of Adam Smith to law and economics, see Malloy (1988).

⁷²⁶ For an insight into the influence of Bentham on key Chicagoans, such as Richard Posner, see Posner (2005). And, for a championing of the (claimed) under-recognised contribution of British economist Henry Sidgwick, see Medema (2007).

⁷²⁷ Which included scholars such as Milton Friedman, George Stigler, Gary Becker, Armen Alchian, Harold Demsetz, and Richard Posner. For an intellectually entertaining discussion of the inconsistencies of scholarly advocacy of greater government intervention in markets, see Coase (1974a).

⁷²⁸ Friedman, Stigler and Becker all subsequently became Nobel Laureates in Economics, although only Becker's award (and to a lesser degree Stigler) could be attributable to work in the domain of law and economics.

with them a superior place for the common law in mediating disputes⁷²⁹. In this view, the best situation in law and economics is one of common law and free markets, with efficiency being the critical parameter for determining the application of economics to the law and rules of law operating to impose pseudo-prices on non-market activities⁷³⁰.

The sequential Chicago schools of thought on law and economics contain several common threads, founded on the application of the economics of price theory to the law: individuals rationally⁷³¹ pursue the maximisation of their satisfaction; individuals respond to price incentives in their market and non-market behaviours, with changes in the law impacting human behaviour by altering the relative prices of different forms of activity⁷³²; and, the law, both in its content and its outcomes, should be assessed on the basis of efficiency⁷³³. For individuals (as consumers), maximising satisfaction involves processing all information available, from which they rank all of the possible alternatives open to them according to their desirability, and then compose and choose the mix of goods and services which maximises their satisfaction (also known as utility⁷³⁴). For businesses (as producers), the comparable objective is profit maximisation, which is the mix or level of

⁷²⁹ Sometimes called the ‘Bethamite approach to law and economics’: Posner (1979a) at 282; after Jeremy Bentham, a nineteenth century British economic and moral philosopher.

⁷³⁰ Posner (1985a) at 92; Posner (1987b) at 5. For a critique of this view see Michelman (1978) at 308-309; Rose-Ackerman (1994) at 56-58.

⁷³¹ As Hylton (2004) at 10 usefully reminds us: “*some minimal degree of rationality must be accepted, even by critics of the rationality assumption. For if men are completely or always irrational, laws are pointless.*”. For an extensive, and detailed, discussion of the place of rationality, in economics, law, psychology and sociology, and in the interactions between them, see Schroeder (2000).

⁷³² In particular, between legal and illegal: Parisi (2004) at 5.

⁷³³ Landes and Posner (1987); Posner (1992).

⁷³⁴ To some, such as Cooter (2005) at 226, utility maximization should be the central objective of the law, with economics providing guidance on its realisation.

output, prices charged, composition of inputs (land, labour and capital) and the prices thereof, and contracting practices (for the purchase of inputs/sale of outputs). For both consumers and producers, rational maximisation involves engaging in additional activity until the marginal cost equals the marginal benefit, of doing so.

Compliance with the law by consumers and producers can be seen in a similar light – as a matter of rational choice⁷³⁵. Compliance is a matter of weighing the marginal benefits of breaching the law⁷³⁶ against the marginal costs of doing so. It follows those who engage in activities which breach the law can be expected to have different marginal benefit/cost profiles for illegal/legal conduct to other members of the community (in effect, different attitudes to risk and reward). Such persons may well be acting rationally for the maximisation of their own satisfaction, but quite differently from the ‘reasonable man/woman’ of traditional legal theory⁷³⁷, who is socialised into, and behaves according to, the norms and conventions of a community: *homo economicus* vs *homo justus*⁷³⁸.

⁷³⁵ Posner (1979a) at 284.

⁷³⁶ Dishonouring a contract; engaging in tortious conduct; committing a criminal offence, such as making or demanding a corrupt payment.

⁷³⁷ Posner (1974/75) at 763.

⁷³⁸ For a discussion on the relative roles of the law and of norms in framing human conduct see: Ellickson (1998); Posner (1998a); Cooter (2000a and b); Ogus (2004a); Shavell (2005); Tunick (2009).

Economics establishes the value of such marginal benefits and costs through the price mechanism; the law does so through the sanctions profile (the nature of the penalty - pecuniary vs custodial; and the level of thereof – a small fine or a long prison sentence). To the Chicagoans, the interface of law and economics becomes a question of convergence to the point where the price of illegal behaviour increases (through pecuniary or custodial penalties) to a level dissuasive of that misconduct; the marginal cost equals the marginal benefit of illegal behaviour to the individual⁷³⁹.

The Chicagoans, not surprisingly given their emphasis on market forces, place great emphasis on the use of economic efficiency considerations in the evaluation of legal decision-making and rules. Key concepts include Pareto efficiency and Kaldor-Hicks efficiency⁷⁴⁰. As such, a key element of scholarship in the Chicagoan tradition has involved evaluating the extent to which the common law aligns to economic efficiency (sometimes known as positive law and economics), and in developing efficiency-based legal rules to guide legal decision-making (normative law and economics). In short, the common law as a whole has an underlying economic logic⁷⁴¹.

⁷³⁹ Posner (1983) at 75.

⁷⁴⁰ Both of these concepts have been discussed at length above.

⁷⁴¹ Coase (1960) at 19. According to Posner (1987b) at 5: “... *the common law is best understood not merely as a pricing mechanism, but as a pricing mechanism designed to bring about an efficient allocation of resources in the Kaldor-Hicks sense.*”

In this context, the development and application of the common law operates as if its primary objective is to maximise allocative efficiency; the most efficient allocation of an economy's resources. Thus, the main institutions of the common law (the judiciary and precedent) should be used to promote efficiency by facilitating market transactions through contracts and related law, and judicial decisions within the common law that result in the same allocation of resources which would have emerged from a free market⁷⁴². The latter proposition is, in turn, founded on two premises: inefficient legal rules are more likely to be subject to more frequent and/or intensive challenge in the courts than are efficient ones⁷⁴³; and, the judiciary, either explicitly or implicitly, work to identify and implement legal rules which generate efficient outcomes⁷⁴⁴.

The normative stream of the Chicago school is concerned with determining efficient legal rules where the common law departs from the pursuit of economic efficiency. A simple example illustrates the point: if A causes harm to B (say by causing air pollution), B may successfully litigate to have A cease his polluting activity. However, the cost of pollution abatement may cause economic damage to A. In this situation, to avoid harm to B, we must also harm A. The solution, to the normative Chicagoans, is to identify

⁷⁴² Director (1964); Coase (1974a). For a critique of this view see Michelman (1978) at 310, most notably: "*A litigated case presents a judge with a sharply restricted set of choices of liability awards and rule formulations. Probably no choice within the available set will significantly alter the price system or wealth distribution then observable in the economy.*".

⁷⁴³ Given the expectation by the challenger the benefits from the elimination of inefficient laws will exceed the costs involved of such litigation: Rubin (1977) at 55; Priest (1977) at 65.

⁷⁴⁴ Posner (1983) at 4–5; Posner (1990) at 359; Posner (1992) at 356.

and then avoid the greatest harm⁷⁴⁵, and through this maximise society's welfare. More formally, this approach has become known as the Coase Theorem, which sets down in essence that if rights are fully specified and transaction costs are zero, then the parties to a dispute will engage in negotiations that ultimately deliver an efficient outcome regardless of the initial assignment of rights⁷⁴⁶. Resolving such relative harm, at the least social cost, is a matter for negotiation between the directly impacted parties who, acting as rational utility maximising individuals⁷⁴⁷, will converge on the optimal, mutually beneficial outcome; the most efficient outcome will be achieved without the need for judicial intervention. The axiom of this approach is judicial efforts to engage in deterministic (inefficient) allocation of rights⁷⁴⁸ will ultimately prove ineffective, given such rights will always move to their highest-value use. Importantly, there is minimal role for third party interveners, such as governments, who have the capacity, if not the tendency, to produce an inferior – that is, less efficient – outcome as a result of their intervention⁷⁴⁹.

⁷⁴⁵ Coase's 'social cost': Coase (1960).

⁷⁴⁶ For expansive discussions of the Coase Theorem see: Samuels (1974); Buchanan (1973).

⁷⁴⁷ Sometimes called 'wealth maximisation' by Chicagoans like Richard Posner: see for example, Posner 1979a and 1985. In this view, 'wealth' is a synonym for expected utility: Id at 87.

⁷⁴⁸ The transaction may have physically involved the exchange of goods or services, but to Coase (2005) at 205, the transaction was really about the buying and selling of legal rights.

⁷⁴⁹ According to Goodhart (1997) at 17: "*Government and politics are clearly ... the source of some absurdly inefficient outcomes.*".

To some, the true essence of Coase's landmark work on social cost is that the cost of government failure generally exceeds that of market failure⁷⁵⁰. That is, the presence of a social cost is insufficient to justify governmental intervention⁷⁵¹. Coase himself has observed, what could not unreasonably be called 'Coase's Second Theorem': "*The kind of situation which economists are prone to consider as requiring corrective Government action is, in fact, often the result of Government action. But, there is a real danger that extensive Government intervention in the economic system may lead to the protection of those responsible for harmful effects being carried too far.*"⁷⁵². Economics places the reactive tendency for government intervention within the 'theory of second best', where an intervention that discourages one undesirable outcome may be encouraging an even worse result, which in turn is overall welfare reducing⁷⁵³.

⁷⁵⁰ Buchanan (1973) at 579; Horwitz (1980) at 906; Rowley (1981) at 402; Barretto et al (1984) at 256; and, your humble author.

⁷⁵¹ For an entertaining illustration of Coase's thinking, using the case study of the provision of services by British lighthouses, see Coase (1974b).

⁷⁵² Coase (1960) at 28; Coase elaborated on this point: "... *the existence of 'externalities' does not imply that there is a prima facie case for governmental intervention, if by this statement is meant that, when we find 'externalities' there is a presumption that governmental action (taxation or regulation) is called for rather than the other courses of action which could be taken (including inaction, the abandonment of earlier government action, or the facilitating of market transactions).*" (Coase (2005) at 215). According to Veljanovski (1980) at 170: "... *Coase's real contribution (is that) he stressed that legal and government intervention were themselves costly, and that realistic policy analysis required imperfect markets to be compared to imperfect governments and legal systems.*"

⁷⁵³ A commonly cited example are laws which penalize the use of marijuana may be socially disadvantageous if they encourage the consumption of alcohol. The answer to this question is an empirical one engaging a number of disciplines. Donohue (1998) at 6, for example, posits whether criminal activity should be (inefficiently) supplied by a monopoly (and hence lesser output; greater probability of detection) than more efficiently in an open, contestable market.

The initial either/or situation underpinning the Coase Theorem (either A suffered harm, or B suffered harm) was tempered by subsequent thinkers⁷⁵⁴ who recognised transactions costs were not zero and could, depending on their level, potentially preclude bargaining. In this case, the parties would negotiate toward an optimal result within the boundaries of efficiency and liability: the party causing the harm would only continue to do so while the benefits thereof (say, revenue or profit) exceeded the costs of doing so (say, compensatory damages), the convergence point (where marginal benefit equals marginal cost) being the optimal outcome. Thus, the role for the judiciary is to infer who should accept liability for the harm, and where this is correctly allocated to the party who can remedy the matter at least cost then an efficient decision will emerge (that is, imposing ex post liability on the party who can remedy the harm at the least cost)⁷⁵⁵.

The broader Chicago School approach to law and economics, and in particular its emphasis on efficiency, has attracted a substantial volume of criticism for both normative and positivists reasons⁷⁵⁶. On the normative side, these criticisms have included: whether efficiency/wealth maximisation is a legitimate and/or proper objective for the law⁷⁵⁷; efficiency cannot be traded-off for justice⁷⁵⁸, and directly lead to social improvement other than through enhancing utility⁷⁵⁹ or equity⁷⁶⁰; the failure of the

⁷⁵⁴ See, for example, Calabresi and Melamed (1972) at 1089.

⁷⁵⁵ Calabresi (1970) at 24-31; Calabresi and Hirschhoff (1972) at 19; and Calabresi and Klevorick (1985) at 585.

⁷⁵⁶ For extensive discussions of the normative vs positive debate see Bruce (1989). Detailed consideration of these debates is outside the core thrust of this study.

⁷⁵⁷ Veljanovski (1981) at 5-10; Hovenkamp (1990a) at 826; Baker (1975) at 4; Rose-Ackerman (1990) at 62.

⁷⁵⁸ Stigler (1992) at 462.

⁷⁵⁹ Parisi and Klick (2004) at 445.

proponents of utilitarianism to distinguish between act and rule utility, and their preference for the former over the latter⁷⁶¹; the failure to take into account the distributional consequences of legal decision-making⁷⁶², whether common law or statutory⁷⁶³; individuals may well see utility or benefit maximisation in a broader social, rather than personal-specific, context, giving greater weight to inter-personal or social benefit than narrow self-interest⁷⁶⁴; and, individual liberty realised through the legal system is more important than economic efficiency (which should be pursued through other channels, such as the legislature)⁷⁶⁵.

On the positivist side, these criticisms have ranged across: whether positivism is really just a form of instrumentalism (that is, a means to an ends), which in turn reverts to its normative foundation; utility maximisation is different to wealth maximisation⁷⁶⁶, with individuals often making decisions which deliver lesser pecuniary rewards, but greater

⁷⁶⁰ Calabressi (1970) at 26–28, and 39–54; Calabressi (1980) at 555; Rawls (1973). Muth (2010) at 132–133 argues considerations of equity need to be viewed more widely than just the primary counterparties in a matter, but take into account the interests, in particularly any harms caused to, third parties, an approach he labels (at 132) as “heterodox law and economics”. However, this raises the challenge of defining the breadth and depth of ‘third parties’ – in essence, how wide is ‘the circle of stakeholders’?

⁷⁶¹ Tunick (2009) at 80, defining ‘act utility’ as reflecting situations where an act can be justified when there is greater utility from doing than not doing the act, while ‘rule utility’ pertains when an act can be justified when there is greater utility from adhering to a rule which justifies the act than not adhering to that rule.

⁷⁶² Also known as equity in economics.

⁷⁶³ Horwitz (1980) at 906; Calabressi (2005) at 170; Heckman (1997) at 328; Hovenkamp (1990a) at 837; Cotter (1996) at 2072; Baker (1975) at 4; Cirace (1991) at 1140–1142; Goodhart (1997) at 16.

⁷⁶⁴ Stigler (1992) at 457; Parisi (2004) at 15 – 18; Farber (2003) at 1797; Tunick (2009) at 82.

⁷⁶⁵ Cooter (1987) at 142.

⁷⁶⁶ For a good discussion of the utility maximization approach, see Cooter (2005).

intangible satisfactions⁷⁶⁷; whether individuals are fully informed⁷⁶⁸; the failure to take into account co-ordination games and network externalities⁷⁶⁹; the considerable practical difficulties of reliably measuring the Pareto and the Kaldor-Hicks approaches to efficiency⁷⁷⁰; whether the absolute and marginal utilities which underpin efficiency analysis are the same across individuals, space and time⁷⁷¹; and, ultimately, can the judiciary actually undertake the necessary analyses in a practical, robust and transparent manner consistent with the administration/design of laws⁷⁷², without attracting the ire of the legislature⁷⁷³.

. The Austrians

The Austrian school of law and economics, like the Chicagoans, emphasises the central role of the individual, loading on the concept of ‘praxeology’ – that is, the actions of the individual are at the centre of the law and of economics. In more scholarly terms, praxeology is a process of inquiry which focuses on the efforts of humans to determine and satisfy their wants,

⁷⁶⁷ Persons in positions of corporate and/or political leadership take actions motivated by personal status, envy or other reasons of malice, ahead of any financial gain: Hovenkamp (1990a) at 829. As we shall see in the later chapters on the application of law and economics to criminal behaviour and to corruption (the focus of this study).

⁷⁶⁸ A key assumption of neo-classical economic foundations of Chicagoan law and economics, which is doubtful according to Stigler (1992) at 457.

⁷⁶⁹ Co-ordination games are situations where individuals develop, pursue and implement their strategies in a co-ordinated manner with others (Ahdeih (2011) at 62–65) while network externalities involve individuals taking into account the impact of their actions on other people, even at an expense to themselves (Ibid at 61–62).

⁷⁷⁰ Hovenkamp (1990a) at 833–835; Parisi (2004) at 13–15; Farber (2003) at 1795; Calabressi (2005) at 171–181, and at 175 for an interesting insight into the use of game theoretic conduct which can frustrate Pareto and Kaldor-Hicks efficiency.

⁷⁷¹ Hovenkamp (1990a) at 849; Baker (1975) at 28; Crespi (1992) at 236; Farber (2003) at 1793; Muth (2010) at 112

⁷⁷² Parisi (2004) at 12.

⁷⁷³ Kaplow and Shavell (1994) at 675.

and from this deducing the implications for further individual action⁷⁷⁴. In this framework, the impact of the alternatives considered, and the choices and decisions made, extend beyond the person concerned, but depend on the external economic, legal, social and political environment in which the person functions. In contrast to the Chicagoans, in Austrian law and economics the person does not passively respond to the world around him/her, but rather is a pro-active player, following a path of human action toward their preferred ends; they are not standardised *homo economicus* who reacts to events around them but heterogeneous agents (*homoagens*⁷⁷⁵,⁷⁷⁶) who make things happen⁷⁷⁷.

The Austrians' recognise a central role for efficiency in the praxeological framework⁷⁷⁸, but of a different kind to that espoused by the Chicagoans⁷⁷⁹. To the Austrians, efficiency is viewed through the subjective eyes of the individual, focusing on how they make their choices over what objectives to pursue, what means they will employ to achieve these goals, and their (the person's) assessments of the costs and benefits involved in the different

⁷⁷⁴ Sechrest (2004) at 33; Mercuro (2009) at 105; Leeson (2012) at 5.

⁷⁷⁵ Schwartzstein (2002) at 1134–1135; Sechrest (2004) at 33, although neither of them specifically use the term.

⁷⁷⁶ Veepil (2011) at 202; thus rendering econo-/lexi-metric modelling of human behaviour especially challenging, if not problematic: Litschka and Grechenig (2010) at 66.

However, Sechrest (2004) at 30 implicitly rejects this view, arguing causality-based methods (such as regression) are the appropriate quantitative tools for empirical Austrian law and economics. Crespi (1997/98) at 379 says “*Austrian models resemble flashlights whose translucent lenses dimly illuminate a large area of ground rather than sending forth a bright but narrow beam of light.*”

⁷⁷⁷ Sechrest (2004) at 19.

⁷⁷⁸ Individual goal-seeking.

⁷⁷⁹ ‘Utility maximisation’.

options⁷⁸⁰. The Austrian emphasis on the actions, the plans and the rights of the individual extends to the repudiation of the concept of the collective, such as ‘society’. To the extent any such collectives may exist, the Austrians see them as merely the interactions of individuals which do not, in any economic or legal way (in the current context) constitute an entity in its own right⁷⁸¹.

The formation of objectives and the making of choices and decisions by the individual takes place within a broader environment of imperfect information and pervasive uncertainty, constrained by the inevitable limits of human knowledge and decision-making capability. The complexities of this situation are further compounded by the location of the person in a dynamic setting, which can see events, and new experiences and/or knowledge, induce a change in objectives and/or preferred means for achieving them. Constant change, rather than stability, is the norm⁷⁸². As such, time plays an important part in Austrian law and economic analysis.

⁷⁸⁰ Crespi (1997/98) at 330–331; Veepil (2011) at 204; Litschka and Grechenig (2010) at 62.

⁷⁸¹ Crespi (1997/98) at 334. As one Austrian-minded scholar stated (Sechrest (2004) at 34), in no uncertain terms: “*There are, to put it bluntly, no such things as “public goods”, “the public interest”, “the public good”, “the national interest” or “collective security”. These are just empty phrases used by particular persons to manipulate others to bring about specific ends.*”

⁷⁸² Krizner (1997) at 61–62; Schwartzstein (2002) at 1131; Litschka and Grechenig (2010) at 61.

In the Austrian framework, ‘time’ is the period which can elapse between when the individual accumulates the necessary information and knowledge and then makes a decision to act, and between when this decision is taken and when the objective being pursued is achieved. Importantly, to the Austrians, this time period creates the possibility, even the likelihood, the individual will change his/her preferences, experience an increase (or a decrease) in his/her economic resources and/or obtain new information or knowledge, leading to a revision or change in objective and/or the means of pursuit of an unchanged objective⁷⁸³. In this context, time can be as short as that involved in making a particular retail purchase or as long as the life-cycle.

This operating environment of perpetual change generates opportunities for entrepreneurs, actors who identify and seek to take advantage of change and the non-steady state nature of the objectives and the preferences of individuals by creating new experiences, knowledge, products and technologies to meet those evolving objectives and preferences. To the Austrians, asymmetries in information and knowledge are not evidence of market failure, but an integral element of the effective functioning of markets⁷⁸⁴. Movements in market prices and property rights act both as revealed signals to entrepreneurs of the changing objectives and preferences of individuals, and to individuals of the responses of entrepreneurs; this

⁷⁸³ Crespi (1997/98) at 325.

⁷⁸⁴ Krizner (1997) at 62; Veepil (2011) 201; Schwartzstein (2002) at 1128 - 1129.

iterative, dynamic and never-ending process driving commercial activity and economic growth and development⁷⁸⁵. Not surprisingly, therefore, the Austrians reject the concept (central to neo-classical economics, and which underpins the Chicagoan view) of stable equilibrium, holding instead that the perpetual process of market adjustment might see movements toward equilibrium⁷⁸⁶ but never its sustained realisation⁷⁸⁷. Entrepreneurs also play a critical role in dealing with transaction costs in the exchange of property rights, and through this the creation and distribution of wealth⁷⁸⁸. While the Coasean framework sees transaction costs as being externalities in the exchange of property rights, the Austrians regard such costs as being internalised by the entrepreneur when they organise and undertake the exchange of relevant property rights; they are included in the price of the exchange of property rights⁷⁸⁹.

The Austrian's envisage a limited role for both governmental and legal institutions; one of minimal interventionism. The appropriate role of government is to put in place institutions which are best able to promote and deliver decentralised decision-making, with control being achieved by reliance on market forces⁷⁹⁰. In this context, the law should not

⁷⁸⁵ Crespi (1997/98) at 328; Schwartzstein (2002) at 1128 – 1129; Litschka and Grechenig (2010) at 64.

⁷⁸⁶ Which could create opportunities for leximetric modellers interested in analysing the impact of legal and regulatory interventions using the dynamics of error-correction techniques, in particular the path and the pace of movement of actor(s) undertake in moving to a new steady state.

⁷⁸⁷ Known by various terms, including “equilibration”, Krizner (1997) at 62; ‘equilibrating processes’, (Ibid) at 65.

⁷⁸⁸ Sechrest (2004) at 32).

⁷⁸⁹ Entrepreneurs engage in transactions with a view to reducing negative, and increasing positive, externalities, the difference between which is the value-added which they can capture as their reward: Veepil (2011) at 207-209.

⁷⁹⁰ Krizner (1997) at 81.

unnecessarily limit entrepreneurial activity, whether in the form of constraining their capacity to identify opportunities, to obtain feedback from individuals (especially consumers) or act to distort behaviours and incentives⁷⁹¹. As such, the legal system, and its institutions, should integrate economic and social habits, customs and norms, along with legal rules, in facilitating the functioning of market processes⁷⁹². In this situation, the law should emerge from the customs and practices of the commercial, economic and social market place (rather than the determinism of legislatures or bureaucracies), with the proper role of the judiciary and the legislature being limited to ‘filling in the gaps’ in existing rules⁷⁹³. Taken together, the role of governmental and legal institutions is to define (through statute) and/or enforce (through judicial processes) private property rights to encourage entrepreneurs to perform their roles efficiently⁷⁹⁴.

Clearly, the Austrians do not have a static, or even a slow-moving, view of law (and economics). Rather, law and economics are engaged in a perpetual process of continual change, with the law (informed by the economics of the marketplace) growing through a process of continuous change and discovery⁷⁹⁵. Ultimately, the law and economics are simply just parts of a creative, dynamic process of interaction and discovery by *homoagens*.

⁷⁹¹ Crespi (1997/98) at 375.

⁷⁹² Mercuro (2009) at 107.

⁷⁹³ Litschka and Grechenig (2010) at 74–75.

⁷⁹⁴ Cordato (1989) at 239; Sechrest (2004) at 35.

⁷⁹⁵ Krizner (1997) at 73; Crespi (1997/98) at 329.

The Austrians, to date, do not appear to have expressly examined the place and the treatment of corruption within their theoretical framework. However, an arms-length observer could see the Austrian's regarding corruption as merely another feature of the market place the entrepreneur may have to confront. An Austrian approach to the remediation of corruption would likely depend on whether it was driven by government failure (for example, inefficient bureaucracy and/or regulations) or by market shortcomings (for example, by some entrepreneurs looking to gain unfair market advantage). However, the Austrians would most likely look first to market based solutions (such as norms of acceptable behaviour, and deregulation and transparency) ahead of broader and deeper legislative and regulatory interventions (and then likely only to the extent necessary, and no more, to effectively deal with the recognised problem).

. **The New Haven Perspective**

The New Haven perspective, in contrast to the Chicagoan and the Austrian commitment to competition and free market economics, recognises the place of market failure and the role of government intervention in remedying such defects. In the New Haven view, law and economics should address alleged market failures, focusing on both the allocative efficiency and distributional implications thereof while also showing

concern for justice and fairness⁷⁹⁶. Thus, the key interface in law and economics to the New Haveners is between efficiency and fairness, with the government/legislature, not the courts, being responsible for dealing with distributional and social issues⁷⁹⁷.

On the economic side, the New Haveners favour individual choice and the use of market forces, where they function properly, with government policy interventions that rely on incentives⁷⁹⁸ to influence consumer and producer choice. On the legal side, they see a much greater role for statute and regulation (and by association with the latter, greater reliance on governmental institutions) than the Chicagoans⁷⁹⁹. To the New Haveners, law and economics are but two sub-ordinate instruments of broader public policy framework⁸⁰⁰.

To the New Haveners, the key tool for the application of law and economics in the judicial processes is cost-benefit analysis⁸⁰¹. In this framework, courts would require the parties⁸⁰² to justify their actions, when challenged, by showing they have maximised net benefits subject to statutory, budgetary

⁷⁹⁶ Rose-Ackerman (1992) at 6 - 9; Rose-Ackerman (1994) at 59.

⁷⁹⁷ Ibid at 54; Cooter (2005) at 222; see also Kaplow and Shavell (1994) at 667.

⁷⁹⁸ Both positive in the form of subsidies, and negative in the form of taxes or penalties.

⁷⁹⁹ The Chicagoans do not regard statute law as having no efficiency-enhancing impact whatsoever, just that common law is superior in realizing this objective. Rather, statute can be efficiency-enhancing where they place such considerations ahead of redistribution: Posner (1979) at 294.

⁸⁰⁰ Rose-Ackerman (1992) at 3.

⁸⁰¹ For a good general review of the literature on the application of cost-benefit analyses to law and economics see Huang (2009).

⁸⁰² In particular, governmental agencies advocating an intervention to address a claimed market failure.

and informational constraints. The presumption in favour of net benefit maximisation would help to deliver interventions which produced outcomes more aligned with national, rather than vested, interests⁸⁰³. In this situation, the role of the courts would move away from reviewing bureaucratic decision-making to ensuring compliance with administrative guidelines, toward reviewing the internal consistency of statutes, in particular their substance with the preamble and statements of purpose⁸⁰⁴.

. The Public Choice (Virginia) School

The Public Choice (Virginia) School⁸⁰⁵ focuses on the economic analysis of non-market decision-making, treating individual decision-makers as actors in complex activities that generate political outcomes. Traditionally, Public Choice has centred its attention on the economic analysis of political decision-making by elected officials (such as heads and ministers of government), bureaucrats, lobbyists for vested interests, and voters⁸⁰⁶, working to identify the political failures in the formation of laws and from this stressing the importance of market-like mechanisms in the design and application of better legal rules⁸⁰⁷. As such, Public Choice contributes to the understanding of the interaction of law and economics by providing an

⁸⁰³ Rose-Ackerman (1994) at 60.

⁸⁰⁴ Ibid at 62.

⁸⁰⁵ Named after the Thomas Jefferson Centre for Studies in Political Economy at the University of Virginia, where the original work on public choice was pioneered by, *inter alia*, James Buchanan. It also has a Nobel Laureate (Buchanan). He was awarded the Nobel Prize for Economics in 1986 for his contribution to the contractual and constitutional bases for the theory of economic and political decision-making.

⁸⁰⁶ For a good general discussion of these issues see McNutt (1996) at Chs 1, 4 and 5.

⁸⁰⁷ Parisi (2004) at 10.

insight into the creation and implementation of statute law through the political process, and the pursuit of a broad range of policy objectives. In essence, the Public Choice model focuses upon the incentives which created the legal rule, rather than directly attempting to assess the costs and benefits of each individual rule⁸⁰⁸.

The Public Choice/Virginian school builds on two core pillars: conventional public choice approaches to bureaucracies and legislatures; and catallaxy, which is an operational/exchange-based approach to public choice. The conventional approach to public choice, which focuses on the analysis of bureaucracies, legislatures and the State⁸⁰⁹, has as its foundation the idea of homo economicus – that is, individuals, within both economic and political environments, behaving to maximise their own utility; in essence, an outcomes-oriented model. By contrast, the catallaxy approach to public choice focuses on the development of voluntary agreements between actors in the economic and political domains; in essence, a process-oriented model.

Within the Virginia School, both the conventional and catallaxy approaches to public choice have positive and normative elements. The positive branch addresses the constitutional processes underpinning the broader rules of government, the political processes underlying the creation of statute by

⁸⁰⁸ Parisi and Klick (2004) at 437.

⁸⁰⁹ Early writings in this field of public choice include: Stigler (1971 and 1976), and Peltzman (1976) on regulation; Shughart and Tollison (1986), Faith and Tollison (1983), Stigler (1976), and Peltzman (1980) on legislatures; and, Tullock (1965) and Downs (1967) on bureaucracies.

parliaments, and, the bureaucratic procedures behind the creation of rules and regulations. The normative branch examines how each of these areas (constitutional, parliamentary and bureaucratic) function to deliver efficiency-enhancing outcomes⁸¹⁰.

In effect, the Public Choice approach is engaged in an analysis of closed systems. Neo-classical economics, for example, views political actors and institutions, and their decisions, such as laws and regulations, as exogenous (that is, external) to economic activity. By contrast, in the Public Choice model, political players, institutions and decisions are endogenous to (that is, internal to, or part of) economic behaviour. Taken as a whole, to the Virginia School, rational utility-maximising individuals participate in both the economic market place (of production, consumption and exchange) and the political decision-making process (for example, as voters or political actors) to enhance their welfare, with society's scarce resources allocated by the outcomes of the economic marketplace and the political process, separately and interactively⁸¹¹.

As noted earlier, the conventional (*homo economicus*) stream of Public Choice links individual behaviour to collective action in an effort to explain how political processes work⁸¹². Attention is also given to the creation and operation of 'political rules' – those under which political actors, such as

⁸¹⁰ To be clear, and to distinguish, the main actors in the public choice approach are legislators, bureaucrats and voters; in the Chicagoan approach they are the judiciary.

⁸¹¹ Buchanan (1972) at 12.

⁸¹² From a law and economic perspective, the creation by parliaments of statutes and by bureaucrats of regulations.

legislators and bureaucrats, make political decisions, which in turn bound their capacity to make political choices (again, create legislation and regulations). From a law and economics perspective, the question becomes: which rules maximise political engagement, ensure minimal government intervention in the market economy and through it deliver the laws and policies providing the most efficient allocation of society's resources⁸¹³?

To the Virginians, the answer can be found by examining the interaction between the rational ignorance of voters and the self-interest of politicians/legislators. In this situation, it is often rational for voters to be ignorant of the key issues and policy options for dealing with them given: the cost of acquiring information is disproportionate to the likelihood of their individual vote determining the election outcome; and, the tendency for politicians to place their own interests ahead of the public interest by creating government programs or laws which maximise their electoral appeal to vested interest groups or geographically key voter groups (for example, in marginal electorates). In short, there is generally little incentive for the individual voter to obtain all relevant information in order to make a vote-decision, whilst there are strong incentives for politicians to embrace short-term strategies or policies that maximise the probability of re-election and political advancement (for example, ministerial appointment) – in the law and economics context, promising statutes which deliver outcomes sought by supportive vested interest groups.

⁸¹³ Buchanan (1974) at 486–487.

The Virginians also see an active role for the bureaucracy⁸¹⁴, which has a special resonance in the law and economics context. Bureaucrats can play an important role by filling in the gaps which may exist in legislation⁸¹⁵, and have the capacity to generate sub-ordinate legislation in the form of the design and administration of regulation. Again, and similar to the case of the politician, the Public Choice school focuses on how, when and why the interests of the bureaucrat are different to those of the electorate/society, and how their (the bureaucrats') decisions can be inefficient. In part, this efficiency-gap reflects the utility maximisation of the bureaucracy and is not coterminous with that of society⁸¹⁶.

By contrast with the homo economicus approach to Public Choice models, the catallaxy perspective focuses on the dynamics and processes of co-operation and exchange. The positive branch of catallaxy applies Public Choice models at the level of simple exchanges operating within well-defined and known rules, examining how differences between people are resolved under prevailing political institutions. In the law and economics context, its main application is in the design and content of constitutions⁸¹⁷. The normative branch questions how differences should be resolved. To the

⁸¹⁴ See McLean (1987) at 81-102, and McNutt (1996) at 99-137 for wider discussion.

⁸¹⁵ For example, laws which set objectives but are not specific on implementation.

⁸¹⁶ The bureaucrat valuing metrics such as power, prestige and rank, size of budget under their control, and number of sub-ordinate staff.

⁸¹⁷ Where the basic rules of collective order and the structure of governmental institutions are determined, in particular, in facilitating the design and operation of institutions which promote the convergence of the self-interest of the governors with the general welfare of the governed; Buchanan (1975) at 228.

Virginians⁸¹⁸, the preferred approach is to create a political process whose structures and operations reveal the motivations and values of political actors, with the exchanges moving toward consensus driven by the objective of maximising net social benefit (that is, the interests of the whole, ahead of those of the individual)⁸¹⁹. In this situation, political (and by association, legislative) institutions are structured and operate (like the market) through exchanges with outcomes based on the gains from trade for all participants. Such outcomes are efficient where they find the consensus support of individuals in society⁸²⁰.

. Institutional Law and Economics

The institutional approach to law and economics, as its name suggests, places the institutions of law and of economics at the centre of analysis, where institutions are mechanisms of collective action used to control individual action, with collective action being able to restrain, liberate or expand individual action⁸²¹. The three main original pillars of the Institutional approach emphasised: the need to collect and use empirical data rather than abstract ideas to ground theories of economics (and later its interaction with

⁸¹⁸ Ibid at 227.

⁸¹⁹ For examples of the application of public choice models in non-zero sum games (ie there is a winner and a loser) see Mueller (1979) at 129-154.

⁸²⁰ Two scholars, Jonathan Klick and Francesco Parisi, have attempted to use the Virginia School as a springboard for what they have labelled the 'functional school of law and economics'. However, their writings have largely been limited to four extraordinarily similar papers (Parisi, 2004; Parisi and Klick, 2004; Klick and Parisi, 2005 and 2009), with insufficient interest from any other law and/or economics scholars to sustain the description of their perspective as a 'school'.

⁸²¹ Commons (1934).

the law); choices between different institutions should be made pragmatically and dynamically (in the context of a continually changing real world), and in a unified manner between economic, legal and political institutions; and, the importance of understanding the influence of groups (especially vested interests) and their impact on the structure and operation of institutions.

Within the Institutionalist framework, some scholars⁸²² regard economic and legal processes as inseparable, and as coercive power structures and relationships that in turn require an understanding of their origins and implications for the distribution of economic power. Legal institutions merely set the boundaries for the capacity of actors to engage in economic coercion⁸²³. In this situation, the interface of law and economics involves the courts assessing every statute for its economic implications, in particular its allocative and distributive consequences, and its potentially adverse effect on individual liberty or property. However, and in contrast to the Chicagoans, the Institutionalists accept the presence of inefficiency, and recognise the challenge for the law (and for economics) of choosing between different inefficient configurations⁸²⁴.

⁸²² For example, Hale (1952).

⁸²³ Such coercion was not necessarily to be seen in a pejorative light, but rather as a simple reality of life.

⁸²⁴ Barretto et al (1984) at 263.

Other Institutionalist scholars⁸²⁵ regard the law and economics as disciplines of obligations, duties, liberties and rights. In this (optimistic) view, legal and economic institutions are formed and adapted as needed to changing social conditions; such institutions are dynamic participants in various (inter alia, economic, legal, political and social) reform activities. Market economies influence the law by placing pressure on the political (statute law) and legal (common law) systems for legal changes which promote a preferred direction for that evolution, and the law influences the economy by guiding the development of market economies in a particular direction (usually in the form of constraining what may be considered the less socially desirable features of market institutions). The challenge for legal decision-makers, in this framework, involves choices between alternative imperfect institutions⁸²⁶.

Unlike a number of the other streams of law and economics (the Chicagoans and the Virginians), the Institutionalists did not distinguish between the various sources of law or intervention in markets, be they bureaucratic, jurisprudential, legislative or regulatory. Rather, the Institutionalists see them as different forms of the relationship between government and the economy, and/or legal and economic processes. However, in contrast to the Chicagoans and the Virginians who saw causality flowing in a single direction (from changes in laws or legal structures, to changes in the

⁸²⁵ Commons (1934).

⁸²⁶ Komesar (1981) at 1350.

conduct or structure of market economies and thus on to changes in economic performance) the Institutionalists see causality being bi-directional⁸²⁷ (that is, changes in economic performance could also cause changes in market structures which in turn caused changes in the law⁸²⁸).

The work of the early Institutionalist thinkers subsequently evolved into a series of foundational principles for the interaction of law and economics in an institutional setting: economic behaviour determines, and is determined by, the institutional environment in which it occurs; the interaction between individual behaviour and institutions is evolutionary; and, such behaviour tends to be constructive-conflict in nature, which needs to be channelled by appropriately structuring institutions (such as the law) capable of exerting social control over economic conduct⁸²⁹. In essence, the Institutional school is about the interaction of institutions and the behaviour of different actors at various stages of decision: at the constitutional stage, being the broad social contract of a society; at the institutional stage, involving the structuring (and restructuring) of the economic-legal-political institutions in society; and, at the economic impact stage, examining the effects of the economic-legal relationships.

⁸²⁷ On the 'structure<>performance' linkage see Schmid (1989) and (1994); on the 'conduct<>performance' linkage see Samuels (1975) and (1989).

⁸²⁸ Competition law is a clear example: inefficiencies arise in markets dominated by a lack of competition (due to, say, abuse of market power by oligopolies) which in turn is dealt with through stronger competition laws.

⁸²⁹ Gordon (1964).

The Institutionalists also engage in comparative institutional analysis⁸³⁰, seeking to explain and compare the different outcomes likely to emerge from discrete, alternative institutional structures for their implications for costs, efficiency, prices, incomes, employment and other economic parameters of the quality of life of individuals and the productive capacity of enterprises. This approach to efficiency is a key point of differentiation between the Institutionalists and the Chicagoans: while efficiency is the primary consideration in law and economics to the Chicagoans, to the Institutionalists it is but one of a number of economic considerations (along with prices, costs, income, production, and risk) in the allocation of rights⁸³¹. To the Institutionalists, there is no single, unique efficient result; each specific interaction between law and economics⁸³² will give rise to a particular set of prices, costs etc. As such, where the law seeks to protect different economic rights then various efficient outcomes will emerge. Insofar as the law whether through jurisprudence or statute, or changes therein, generates efficient outcomes, they should be examined from the point of view of the litigants, rather than society at large⁸³³.

⁸³⁰ Mercurio (1989); Samuels (1981).

⁸³¹ Samuels (1989) at 1563; Schmid (1989) at 67.

⁸³² That is, the allocation of rights.

⁸³³ Samuels (1981) at 154.

. Neo-Institutional Law and Economics

Neo-Institutional law and economics, like its Institutionalist counterpart, is founded on the premise institutional arrangements are important determinants of economic structures⁸³⁴. However, Neo-Institutional law and economics extends earlier Institutional thinking in two notable respects: first, individuals rationally pursue their own self-interest subject to constraints, in the form of stricter definitions of property rights and transactions costs, and the capacity of persons to process information⁸³⁵; and, second, institutional structures are formed and evolve to enhance society's wealth producing capacity – that is, having the objective of wealth maximisation. The Neo-Institutionalists also extend the concept of the institution, from the formal constitutional, statute and common law rules of the game of the Institutionalists, to include informal mechanisms such as customs, conventions and codes of conduct.

The Neo-Institutionalists identify three key groups of formal rules which constitute a critical part of society's institutional structure, namely political, economic and contract (legal) rules⁸³⁶. Political rules define the hierarchal structure of the political system and its decision-making process, while economic rules define property rights over assets and the ability to exchange those assets. Legal rules set down the provisions relating to an agreement to exchange rights in property. Taken as a whole, these three sets of rules

⁸³⁴ North (1990) at 3, another Nobel Laureate.

⁸³⁵ Ostensibly, the economic concept of 'bounded rationality' – that is, the computational ability of the human mind to acquire, analyse and make a decision from a massive volume of information. In effect, individuals make rational decisions, bounded (limited) by their capacity to process available information.

⁸³⁶ For longer discussion, see North (1990).

facilitate economic and political exchange within either the existing or a changed institutional structure, which in turn leads to gains from exchange (trade) and increases in wealth. And, given the interdependent and multidirectional nature of the relationships between these rules, changes in one rule can induce changes in the others⁸³⁷.

Much of the applications work of the Neo-Institutionalists, and indeed their Institutional forebears, has revolved around the property rights approach to economic and legal analysis⁸³⁸. Property rights are important to such analyses given they determine the ownership of resources, their allocation between individuals, the costs and benefits of the usage of those resources and, through all of these factors, establish the incentives which drive economic behaviour and performance. They also determine the distribution of power and wealth within the politico-economic system. Differences in the allocation, and the costs and benefits, of ownership drive the incentives and the constraints on individuals to engage in economic behaviour, and in particular in exchange of those property rights.

The willingness and the capacity of individuals to engage in exchange is a function of their ability to participate in transactions within a contractual (that is, legal) framework that minimises uncertainty surrounding contract performance⁸³⁹. For an effective exchange to take place⁸⁴⁰, society needs institutional arrangements to facilitate, and if necessary enforce, such transactions. Alternately, absent a strong institutional framework

⁸³⁷ North (1989).

⁸³⁸ North (1990); Barzel (1989); Libecap (1989 a and b).

⁸³⁹ North (1990) at 34.

⁸⁴⁰ That is, one where the benefits exceed the costs to the parties.

supportive of property rights, high transaction costs before, and uncertainty over rights after, an exchange would have a chilling impact on such trade⁸⁴¹. As such, to the Neo-Institutionalists, legal rules help to lower the transaction costs associated with exchange and so facilitate more numerous and complex contractual agreements. Such legal rules can be found in the broader sources of law (in particular, statute or common law) or, preferably to the Neo-Institutionalists, within contracts⁸⁴².

An important challenge to the Institutional/Neo-Institutional approach has been a questioning of the effectiveness of laws, given a fundamental purpose of institutions is to create and enforce the law (Allott, 1980), and to facilitate compliance (Snyder, 1993). In this perspective, the purpose of the law is to shape the behaviour of individuals (at the micro-legal level) and of society (at the macro-legal level), by prescribing what is, and what is not, permitted/required, framed by the establishment and conduct of institutions and the processes of the law. As such, the effectiveness of laws is a proxy measure of the effectiveness of institutions (Synder, 1993; Iida, 2004).

Institutional failure arises when the laws they create and administer are not effective, reflecting shortcomings in either design and/or compliance. Flaws in the design of laws which can undermine their effectiveness include: the laws are out-of-step with fundamental norms and values of the individuals and the societies in which they operate, and such are not accepted by those they are intended to govern; are not widely known or understood by them (absent professional legal advice and interpretation); and/or, legislators are

⁸⁴¹ Eggertsson (1990) at 317; North (1993) at 245.

⁸⁴² Galanter (1981) at 3.

not receptive to, and willing to act on, indicators of the ineffectiveness of laws such as poor compliance (Allott, 1980). Shortcomings in enforcement and compliance (most notably in the form of changing behaviours or values, or delivering different-than-otherwise outcomes: Iida, 2004) can diminish the effectiveness of laws by reducing respect for the specific laws concerned, for the law more generally and for the institutions which create and implement them (Synder, 1993).

Other Schools

While the neo-classical (Chicagoan), the Austrian, the Public Choice (Virginian), the Institutional and Neo-Institutional schools have dominated much of the law and economics literature, a number of other players have also made footprints on the field. These other players come from the perspectives of Critical Legal Studies, Rational Choice, Behavioural, Game Theory and Internationalism⁸⁴³.

. Critical Legal Studies

Critical Legal Studies (CLS) has its origins in ideological, left-of-centre economics and politics: an economics which gives greater emphasis to distributional impacts than efficiency considerations⁸⁴⁴; and, a politics responding to the ascendancy of liberalism within the dominant schools

⁸⁴³ Although they are not in all ways and at all times mutually exclusive from the other schools.

⁸⁴⁴ Kelman (1979a) and (1979b); Kennedy (1981).

(especially those of the Chicago and Public Choice law and economics⁸⁴⁵). In the CLS perspective, placing efficiency considerations at the centre of law and economic scholarship only serves to act as a brake on political activism by diverting attention to a claimed trade-off between efficiency and equity⁸⁴⁶.

Beyond efficiency, proponents of CLS also disapprove of other key pillars of the liberal approach to law and economics. They criticise: the Coase Theorem on zero transactions costs for its empirical implausibility (on the basis the prices consumers would want to surrender an entitlement are likely to be much higher than the amount they would be prepared to pay for one they do not have)⁸⁴⁷; the primacy attached by libertarians to private property and to contracts, in particular in promoting the role and function of markets, and the assumption of uniform utilities across all actors⁸⁴⁸; and, the failure of the libertarians to take into account the concept and practice of discrimination, which introduces otherwise ignored biases into law and

⁸⁴⁵ Schwartz (1984) at 422; Hutchinson and Monahan (1984) at 205; Eastman (2000) at 754; Ostas (1998) at 207.

⁸⁴⁶ Kennedy (1981).

⁸⁴⁷ Kelman (1979b).

⁸⁴⁸ Kennedy and Michelman (1980).

economic analyses⁸⁴⁹. They are not averse to personalising their attacks on leading libertarians, in particular Richard Posner⁸⁵⁰ (although this criticism has been seen as a back-handed compliment)⁸⁵¹.

Other proponents of CLS see the law as a political or social, rather than an economic, institution giving particular attention to the role of the law within broader society, how the law fulfils those roles and the interaction of the law with other prevailing political and/or social (as distinct from economic) institutions⁸⁵². In this framework, the law is a subset of political and/or social theory⁸⁵³, in contrast to its development over time as part of, and as a vehicle for legitimising, the prevailing economic order⁸⁵⁴.

⁸⁴⁹ Kelman (1991).

⁸⁵⁰ Minda (1978); Balkin (1987). Leff (1974) at 452 describes the then current edition of Posner's *Economic Analysis of Law* as "... four hundred pages of tunnel vision...", while Campbell and Piciotto (1998) at 255 go even further: "*Posner has built ... an ideology of law and economics, and ignoring or disparaging objections with various degrees of disingenuousness.*" (reading 'disingenuousness' in its diplomatic meaning as 'stupidity'). They point, in particular, (Id) to the controversial Landes and Posner (1978) paper on the 'market for babies'.

⁸⁵¹ "*Volume of criticism is not the best measure of the persuasiveness of a theory, but it does suggest the importance that some part of the scholarly community places on the theory.*": Priest (2005) at 370. Advocates of law and economics are not unwilling to fire back: "*law and economics has always been an elite activity, like playing polo.*": Cooter (2011) at 1479.

⁸⁵² Kornhauser (1984) at 365; Trubeck (1984) at 589.

⁸⁵³ Hutchinson and Monahan (1984) at 213.

⁸⁵⁴ Ibid at 222; Kornhauser (1984) at 352.

By comparison, more radical advocates of CLS see it founded in neo-Marxism⁸⁵⁵: scientific Marxism, which stresses the determination of economic, legal and political ideas by social relationships and the ownership of the means of production; and, critical Marxism, which argues for the radical indeterminacy of social circumstances, and hence the impossibility of developing sustainable laws⁸⁵⁶. In the latter situation, there are no coherent principles that can guide the judiciary in the interpretation and application of the law, so they apply their own contemporary or doctrinal values⁸⁵⁷. The perceived *critical* challenge, for advocates of the CLS approach (and the 'C' within the term CLS), is to change the prevailing legal consciousness⁸⁵⁸ and to move legal discourse to the (political) left⁸⁵⁹.

. Rational Choice

The Rational Choice approach to law and economics is founded on the processes of human decision-making, most notably cost-benefit/risk-reward analysis. The decision-making process can be either substantively rational (being proportional to the achievement of a given objective, within the

⁸⁵⁵ See, for example, Fitzpatrick and Hunt (1987).

⁸⁵⁶ Kennedy and Michelman (1980).

⁸⁵⁷ Schwartz (1984) at 441.

⁸⁵⁸ Trubeck (1984) at 590. According to Schwartz (2012), the Critical Legal Studies movement had minimal impact on the progress of law and economics, given the former tended to focus their analytical efforts on distributive justice, gender and racial equality issues while the latter attended to business, commercial and economic law matters. Any influence the Critical Legal Studies movement came to an end when it collapsed in the 1980s: Medema (2006) at 1; Schwartz (2012) at 10. The volume and pattern of scholarly writings on law and economics would seem to indicate the CLS community do not appear to have re-asserted themselves in the debate, but may well have moved on to other fields of legal scholarship.

⁸⁵⁹ Eastman (2000) at 764.

constraints of given or expected resources), or procedurally rational (the outcome of a process of deliberation)⁸⁶⁰. Put simply, a person – whether natural or legal – will engage in an activity when the expected benefits/rewards exceed the expected costs/risks. The decision taken – for example, in the context of law and economics, to commit a criminal act – is a matter of careful, thoughtful and rational deliberation; will the benefits exceed the costs? In contrast to some of the other approaches to law and economics, the cost-benefit foundations of Rational Choice are values-neutral, merely seeking to set down decision procedures (that is, dealing with practical, rather than moral, questions)⁸⁶¹.

While there is no single, broadly accepted definition, Rational Choice builds on two core pillars⁸⁶². First, choice is rational when it is deliberative and consistent, meaning the decision-maker has considered carefully their proposed course of action, and can give a reasoned justification for making that choice from amongst the range of alternatives available. The rational decision-maker will, over a run of time, make consistent and reasonably stable choices compatible with a set of personal objectives⁸⁶³. Second, and

⁸⁶⁰ Jones (2001) at 1146.

⁸⁶¹ Hoffman and O'Shea (2002) at 342.

⁸⁶² Ulen (2000) at 791.

⁸⁶³ Nozick (1993). However, this conceptualization could also apply to an irrational decision-maker: the *irrational* decision-maker can, over a run of time, make consistent and reasonably stable choices compatible with a set of personal objectives.

probably more formally, individuals have transitive preferences, and they seek to maximise the utility they derive from those preferences, subject to various constraints such as time, money and cognitive abilities⁸⁶⁴.

However, this is not to say all individuals are fully rational at all times; some people may make what appear to others to be less-than-rational, or even (what are subjectively considered) irrational decisions. Rather, the ‘rational person’ in economics, and in law and economics, is a composite of the community of interest whose inconsistencies or biases are evened out in the aggregate. As such, this approach allows those using a Rational Choice framework to analyse the behaviour of groups of individuals as if their members were rational, in particular in response to a legal change. In reality, most rational people do not completely ignore, nor totally conform to, any given legal change but rather adapt, to the changed incentive/disincentives (benefits/costs) the new law produces⁸⁶⁵.

Traditionally, the Rational Choice approach has favoured market (that is, economic) rather than non-market (that is, legal) choices for a number of reasons. These include market choices are frequent and routine, and thus if people make mistakes when they make choices they have the opportunity

⁸⁶⁴ That the Rational Choice approach to decision-making is almost an article of faith within the economics profession reflects its desirable features for economic analysis: it allows economists to make predictions of human behaviour, which tend to be borne out by empirical evidence; deviations from predictions are usually explicable by factors other than the potential irrationality of the decision-maker; and, the presence of an evolutionary fitness amongst economic actors (the rational will survive and prosper, the irrational will experience penury and demise): Ulen (2000) at 792–794.

⁸⁶⁵ Veljanovski (1980) at 177.

to learn from experience through repeated transactions. The exercise of market choice is generally mediated through relative prices and the use of money, so the decision-maker can make a reliable estimate of the comparative price/worth of alternate courses of action⁸⁶⁶. In addition, market choices usually have a single, optimal decision-outcome, in contrast to non-market choices where there are potentially a large number of suitable outcomes⁸⁶⁷.

However, this does not necessarily mean Rational Choice models have application only in economics, and not in law and/or law and economics: many legal decisions have market-like characteristics. Rational Choice within law and economics sees the law creating rules which impose implicit prices (in the form of potential penalties, monetary and custodial) on different forms of future behaviour, with actors making legal decisions on the basis of those relative prices (risk/reward) in much the same way they would in making decisions based on relative prices (costs/benefits) in a market situation. In essence, legal decisions often have a market-choice-like quality. This approach has particular resonance to decisions to commit a crime⁸⁶⁸.

⁸⁶⁶ Including the opportunity cost of the decision taken.

⁸⁶⁷ Ulen (1998).

⁸⁶⁸ Such activity can be rational where the perpetrator evaluates the costs/benefits of legal and illegal (criminal) activity: the expected costs being the probability of being apprehended and convicted multiplied by the monetary value of the penalty (fines and/or lost income/wealth from a custodial sanction), allowing also for reputation loss at being branded a criminal; while the expected benefits can be calculated as the probability of the activity not being detected, or failing that a conviction achieved, multiplied by the monetary and non-monetary (reputation gain?) benefits of the particular crime. Decisions to engage in corruption, one form of crime, may well be the result of a rational choice. See the pioneering work of Becker (1968).

The application of Rational Choice models of law and economics has particular resonance in criminal law, such as in the optimum use of prices and sanctions to deter or penalise wrong-doing. In this domain, the price is the money extracted for doing what is permitted, whilst a sanction is a detriment imposed for doing what is prohibited⁸⁶⁹. The challenge for Rational Choice analysts of law and economics is assessing the effective impact of prices and of sanctions upon behaviour, and placing the 'dividing line' at an appropriate position between the two instruments^{870,871}. While advocates of the prices/sanctions approaches to Rational Choice law and economics see it having flexible application to areas of the law such as contract, regulation and tort, they concede it has lesser latitude in the criminal law where socially accepted behaviour is generally one of low tolerance (the socially preferred situation is one of no crime at all)⁸⁷².

⁸⁶⁹ Cooter (1984) at 1523.

⁸⁷⁰ A problem compounded by the heterogeneity of individuals (natural and legal) in their attitudes to risk (some being risk averse, others risk takers) and in their income/wealth, the latter of which impacts upon their responsiveness to price-based penalties: Polinsky and Shavell (1979) at 880. All other things being equal, a wealthier person is likely to be less responsive than a poorer person to a given dollar amount of penalty, but more responsive to a custodial sanction (given the greater cost of loss of income, and damage to reputation).

⁸⁷¹ The relative role of prices and sanctions in framing human behaviour largely depends on the capacity of law makers to identify socially desirable behaviour and the costs of deviations from it. Where lawmakers can clearly define such behaviour, but are prone to error in assessing the costs of deviation therefrom, the blunter instrument (sanctions) is preferred to the sharper (prices). Where the converse prevails (lawmakers can accurately measure the external costs of misconduct, but not define socially desirable behaviour) then prices are to be preferred to sanctions as the instrument for legal intervention: Cooter (1984) at 1524.

⁸⁷² Ibid at 1549.

The application of cost-benefit methodologies in law and economics has both strengths and weaknesses⁸⁷³. Amongst its key strength is the capacity to resolve policy issues underpinning many statutes⁸⁷⁴ by questioning how much the parties to the matter may be willing to pay⁸⁷⁵. This ‘willingness to pay’ is particularly useful in assisting the law to find a ‘market price’ for a non-market good or service which can be a problem when comparing legal rules⁸⁷⁶. It also has the capacity to test Kaldor-Hicks efficiency by asking, in a measurable way, what price the ‘winners’ would have to pay to compensate the ‘losers’ from any legislative activity and whether the former would be willing to pay it per se⁸⁷⁷. However, its weaknesses include the malleability and subjectivity of certain of the benefits, especially where they are intangible and/or some time away in the future, and its unsuitability to situations involving systemic risk in particular where the ‘costs of getting it wrong’ can be pervasive and substantial⁸⁷⁸. Ultimately, the worth of cost-benefit techniques in law and economics will come with the rigor and transparency with which they are used, and subject to contest and justification.

⁸⁷³ Hoffman and O’Shea (2002) at 346.

⁸⁷⁴ Although some scholars (Goodhart (1997) at 21) are not necessarily convinced of the effectiveness of such modalities: “*Any statute that is enacted on a floodtide of popular emotion is liable to be unbalanced.*”

⁸⁷⁵ How much cost are they willing to incur to obtain a given benefit; or what benefit can be expected to flow from a given cost.

⁸⁷⁶ Hoffman and O’Shea (2002) at 357.

⁸⁷⁷ Ibid at 358.

⁸⁷⁸ Drissen (2012) at 4.

. Behaviouralism

A key challenge to the Rational Choice model comes from the Behaviouralist camp⁸⁷⁹ who, ostensibly, argue individuals or even groups are not necessarily perfectly rational at all time and in all circumstances⁸⁸⁰. Whilst not rejecting the idea of a linkage between law and economics, they challenge the underlying argument of the Rational Choice paradigm – that of perfect rationality – proposing instead an approach which takes account of the imperfect nature of human behaviour⁸⁸¹. If individuals are less than perfectly rational⁸⁸², their responses to changes in the law may not necessarily be what is predicted or sought by legal policy-makers and legislators⁸⁸³. Behaviouralists see their approach to law and economics as superior to the Rational Choice camp in two important respects: they consider their assessment of human conduct to be more realistic; and, they propose testable hypotheses, rather than merely offering assumptions, of human behaviour⁸⁸⁴. Similarly, they see their approach as providing a better

⁸⁷⁹ Behavioural law and economics may well be a misnomer. The better appellation might well be ‘law and psychology’: Sunstein (1999) at 111; Arlen (1998 at 1789); Prentice (2000) at 740; Mitchell (2003) at 17. Or “*the evolutionary (biology) analysis in law*”: Jones (2001) at 1143.

⁸⁸⁰ Somewhat maligned as the “*equal incompetence assumption*”: Mitchell (2002) at 67.

⁸⁸¹ Rachlinksi (2011) at 1676, who regards the term “behaviorial law and economics” as misleading, seeing the interface as ‘law and psychology’ (at 1677 - 1678).

⁸⁸² This less than perfect rationality does not extend to mean individuals are irrational, or their behaviour is random or impossible to predict, just that they fall short of the rational *homo economicus* favoured by the Chicagoans and the Rational Choice camps: Jolls et al (1998a) at 1475 -1476.

⁸⁸³ “... *the analysis of the incentive effects of legal rules based on such implausible behavioural assumptions (as are found in Rational Choice models) cannot possibly result in efficacious legal policy, at least not in all circumstances.*”: Korobkin and Ulen (2000) at 1055 –1056.

⁸⁸⁴ Jolls et al (1998a) at 1489; Jolls (2007) at 2.

understanding of the nature and the extent of the changes in the law needed to achieve any given legal or public policy objective⁸⁸⁵, in contrast to the ‘one size fits all’ approach of the Rationalists. However, the Behaviouralists do not hold out their approach as justifying State paternalism through the law, recognising legal policy makers, legislators and bureaucrats are just as vulnerable to the same cognitive and motivational distortions as everyone else⁸⁸⁶.

In contrast to the individual of Rational Choice (characterised by the Behaviouralists as having stable preferences, rational expectations of the future, optimal processing of information and utility maximising), the conduct of the real person is bounded – by bounded rationality, bounded willpower and bounded self-interest⁸⁸⁷. Each of these bounds pushes the ordinary person further away from the idealised homo economicus⁸⁸⁸.

Bounded rationality reflects the limited nature of human cognitive abilities; no-one has unlimited mental computational abilities, and a flawless and infinite memory⁸⁸⁹. No individual, no matter how clever, has an unlimited memory or inexhaustible computational abilities to evaluate and differentiate between all possible situations, or completely specify every

⁸⁸⁵ Jones (2001) at 1145.

⁸⁸⁶ Sunstein (1997) at 1178; Rachlinski (2011) at 1680. However, one leading behavioural law and economics thinker – Jolls (2007) at 34 – 36 advocates “*debiasing through law*”, where both procedural and substantive law is used to guide people away from making errors of judgment.

⁸⁸⁷ Jolls et al (1998) at 1476.

⁸⁸⁸ “*Most people may never be able to optimize anything because there are so many ways to do a task wrong, and only one way to get it right.*”: Epstein (2006) at 113.

⁸⁸⁹ For an expansive discussion of the concept of ‘bounded rationality’ see Simon (1955). Also: Korobkin and Ulen (2000) at 1075–1102; Jones (2001) at 1150–1156; Jolls (2007) at 10–15.

potential outcome. Indeed, such a ‘full-specification approach’, where the individual pursues to the point of exhaustion all possible information, options and implications is likely to be inefficient, with the better mechanism for the great majority of ordinary people involving the use of mental shortcuts and broad rules of thumb to process information and make decisions⁸⁹⁰. The use of such approaches results in departures from the basic Rational Choice model in two ways: judgemental and decision-making. In this framework, actual judgements show systematic departures from the models of unbiased forecasts suggested by the Rational Choice camp, whilst the actual decisions taken violate expected utility theory.

Bounded rationality tends to be reflected in several forms of behaviour. One of the most powerful of these forms of conduct is the so-called availability heuristic⁸⁹¹ – people tend to attach greater weight to more recent⁸⁹² and more salient⁸⁹³ events. One form of this availability heuristic is anchoring: people tend to make probability-based decisions based on an anchor, or some arbitrary initial value, from which they tend to be reluctant to move⁸⁹⁴. Juries in particular are vulnerable to both anchoring and to hindsight bias⁸⁹⁵: the tendency of decision-makers to attach an excessively

⁸⁹⁰ Adler (2009) at 140-143.

⁸⁹¹ The use of heuristics themselves are subject to behaviouralist analyses – as proxies for other decision-making inputs when the cost of information collection, analysis and decision-making is high or difficult: Sunstein (1997) at 1187.

⁸⁹² For example, the probability of a motor vehicle accident may be considered by an individual to be greater if they have recently witnessed such an event, than if they have not.

⁸⁹³ Jolls (2004) at 10.

⁸⁹⁴ Sunstein (1997) at 1188.

⁸⁹⁵ For a good discussion of hindsight bias in juries in negligence cases see Jolls et al (1998a) at 1523–1527. In short, juries tend to find in favour of the plaintiff more frequently than rigorous cost-benefit analysis would regard as appropriate.

high probability to an event simply because it ended up happening⁸⁹⁶. A countervailing tendency to hindsight bias in human behaviour is the tendency toward over-optimism⁸⁹⁷. In this situation, people tend to believe adverse events are far less likely to happen to them than to others⁸⁹⁸.

Another form of bounded rationality is the use of understanding(s) by individuals when confronted by the need to make decisions. Understandings involve the tendency of an individual to work toward ends, as distinct from using the means, immediately before them in their decision frames and intellectual capacities⁸⁹⁹, especially in situations where the decision process is complex or the outcome may result in a degree of difficulty. Understandings are likely to be called upon by individuals particularly in situations where they have attitudes and/or concepts which are already internalised, based on either education or experience, but will be less useful, even unavailable, to lesser analytically capable people, where they are confronted with a problem they have not dealt with before. Clearly, a weakness with the understandings approach is if people are recognised as being capable of interpreting a situation idiosyncratically, then all forms of behaviour can be brought under its umbrella and none considered inconsistent with it – making it little guide at all.

⁸⁹⁶ For an expansive discussion see Korobkin and Ulen (2000) at 1095 – 1100.

⁸⁹⁷ Also known as over-confidence bias: Ibid at 1091 – 1093.

⁸⁹⁸ Implying politicians and bureaucrats should exhibit restraint in creating new regulatory interventions or regimes when an undesirable event occurs: Ibid at 1100 – consistent with Coase's so-called 'Second Theorem: author.

⁸⁹⁹ Ellis and Hayden (2005) at 47.

Other forms of bounded rationality include categorisation (the differing ways by which individuals categorise information, contexts or events)⁹⁰⁰, self-serving bias (the tendency of individuals to integrate information in a manner most consistent with their own interests)⁹⁰¹, and obstinacy, where individuals refuse to even consider possible courses of action, which may be in their own interests, driven by motivations such as acrimony (for example, toward the other party in the potential settlement of litigation), or stubbornness⁹⁰², even to the extent of forgoing potential financial gain⁹⁰³.

Bounded willpower is seen to exist because individuals take actions they know are contrary to their longer term interests⁹⁰⁴. A more prevalent form of bounded willpower is likely to be habitual behaviour, which causes individuals to (repeatedly) make sub-optimal decisions in certain circumstances⁹⁰⁵. In this situation, the role of the law is to ‘steel’ the individual’s (deficient) willpower – that is, compel them to some minimum standard of behaviour beyond what they might normally do for themselves⁹⁰⁶. Bounded willpower can have particular application in areas of law where decisions taken ‘today’ can have implications which are either

⁹⁰⁰ For a discussion of categorization as a form of bounded rationality see Hill (2000) at 573 – 575.

⁹⁰¹ Isaacharoff (1998) at 1738. This tends to distort how individuals evaluate decisions relating to litigation (both as plaintiff and defendant): Korobkin and Ulen (2000) at 1093–1094.

⁹⁰² Bavli (2007) at 22.

⁹⁰³ Ibid at 39.

⁹⁰⁴ The classic example being people who smoke or take illegal drugs, well aware they are at very least injurious to their health and potentially fatal.

⁹⁰⁵ For example, habitually buying at the same retailers or service providers, rather than ‘shopping around’.

⁹⁰⁶ Mandated minimum retirement incomes policies, such as the Australian superannuation guarantee scheme, are a case in point – requiring those in the labour force to undertake a minimum provision of saving for their own retirement. Mandated cooling off periods for certain forms of consumer purchases is another case in point.

distributed across time, or whose impact is a long time away⁹⁰⁷. Behaviours subject to bounded willpower, whether by addiction or habit, raise challenges for legal policy makers and legislators given they are likely to be more difficult to manipulate or modify than the Rational Choice approach would otherwise predict⁹⁰⁸.

Bounded self-interest is a qualification upon the utility maximisation of Rational Choice: people care about how they treat others, even strangers, in some circumstances. As a member of a wider society, they wish to treat other people fairly and be similarly treated by them. The classic example is the simple bargaining situation known as the Ultimatum Game, in effect, a game where the winner can take all, or almost all, of the dividends. Studies have shown the winner in such games may be motivated by fairness toward the loser – being prepared to take a majority of the dividends, but still leave the loser with a substantial minority (up to a sizeable 40 per cent)⁹⁰⁹. A corollary of this preference for fairness is what is known as ‘extremeness aversion’, where people seek a compromise between stated alternatives. In this sense, how options are presented can influence the decision made, while the introduction of even irrelevant options can alter the outcome⁹¹⁰. Not surprisingly, extremeness aversion tends to generate compromise effects, most notably choosing a ‘second best/less preferred’ outcome⁹¹¹.

⁹⁰⁷ For example, criminal law, where the offence takes place immediately but any penalty may be imposed across time, in the form of a long custodial sentence.

⁹⁰⁸ Korobkin and Ulen (2000) at 1115.

⁹⁰⁹ For a description and discussion of the Ultimatum Game, see Jolls et al (1998a) at 1489 – 1493; According to Arlen (1998) at 1786, “*some groups of people do not care about fairness (and become economists)...*”.

⁹¹⁰ Sunstein (1997) at 1181–1182, who argues an axiom of economics ‘the irrelevance of irrelevant alternatives’ may well be wrong.

⁹¹¹ For example, the tendency of many people to choose the second or third most expensive item on a menu, when they may really have preferred the first most expensive

Behavioural law and economics has particular resonance for criminal conduct and the criminal law. On the one hand, those actively engaged in criminal activity tend to suffer less from bounded rationality (an imprecise assessment of the probability of apprehension and punishment) than of bounded willpower (they tend to value the immediate benefits of their illegal activities more than the longer term costs, which can be spread out – in the form of a custodial sentence – over a much longer period of time). In the lexicon of the economist, they have sharply declining discount rates⁹¹².

Like other streams within the law and economics sub-discipline, Behaviourialism is not without its critics. Amongst the criticisms⁹¹³ levelled at Behaviourialism are: it is not really an alternative to the Rational Choice model at all, but at best a modest embellishment⁹¹⁴ and at worst atheoretical⁹¹⁵; many of the ‘findings’ upon which Behaviourialism are based are derived from laboratory research, as distinct from fieldwork, and hence its generalisability is debatable⁹¹⁶; what Behaviourialists claim to be irrational behaviour is more realistically people processing incomplete information to the best of their abilities or what is reasonably available to them at the time

(presumably for reasons of palate rather than explicit price alone): Sunstein (1999) at 135–136.

⁹¹² Jolls et al (1998a) at 1538–1539.

⁹¹³ For a rejoinder to some of the criticisms recorded below, discussion of which is outside the range of this study, see Rachlinski (2000).

⁹¹⁴ According to one legal scholar (Kelman (1998) at 1586), advocates of behavioural law and economics “*seem to confuse discordant observations for a countertheory...*”. See also Arlen (1998) at 1768; Farber (2001) at 281.

⁹¹⁵ Posner (1998b) at 1560: “*(behaviourialism has) overlooked the distinction between a description and a theory because they confuse explanation and prediction... (it) seems perilously close to the abyss of non-falsifiability; perhaps it has fallen in.*”

⁹¹⁶ Isaacharoff (1998) at 1742: Of the Behaviorialists “*There is every reason to believe that modesty is the most prudent course for its proponents.*” (Ibid at 1744). See also: Rostain (2000) at 985; Mitchell (2002) at 72.

and place (that is, rationally in their circumstances)⁹¹⁷; Behaviourialists have overstated their case, reflecting the tendency of their research to go looking for exceptional conduct⁹¹⁸, confusing counter-stories with competing theory⁹¹⁹, and failing to take into account contextual or institutional settings⁹²⁰; many of the behaviours are not systematic, and hence it is not possible to predict with any degree of reliability how, when and where they will occur⁹²¹; and, shortcomings in individual behaviour at one point in time can be overcome by ‘learning from one’s mistakes’ across place and time⁹²².

. Game Theory

The game theory approach to law and economics, whilst not necessarily holding out a discrete theoretical framework for dealing with the interactions between the two disciplines, does carry forward a number of the threads of other perspectives on law and economics. Rather than a theory of the law⁹²³, game theory could better be regarded as a rigorous, quantitative method for analysis of the law (and law and economics) – in

⁹¹⁷ Kelman (1998) at 1583; Isaacharoff (1998) at 1732; Jones (2001) at 1147.

⁹¹⁸ Mitchell (2003) at 1.

⁹¹⁹ Jones (2001) at 1157; Mitchell (2002) at 76.

⁹²⁰ Isaacharoff (1998) at 1743; Mitchell (2002) at 73; Rostain (2000) at 986.

⁹²¹ “*Behaviourial economic analysis of law cannot serve as the basis for broad normative policy conclusions because it cannot provide a coherent alternative model of human behaviour capable of generating testable predictions and policy conclusions in a wide range of areas.*”: Arlen (1998) at 1777. See also: Mitchell (2003) at 21; Rostain (2000) at 979-980.

⁹²² Known as Bayesian updating in economics: Kelman (1998) at 1583–1584; See also Arlen (1998) at 1769.

⁹²³ According to some scholars, the value of the application of game theory to the law has been its capacity to confirm insights which are already incorporated into the law: Kattan and Vigdor (1996) at 441–442.

essence, a modelling framework⁹²⁴. Whilst detailed discussion of the theoretical constructs is outside the scope of this study, game theory has seen scholarly applications in areas of the law ranging across contract⁹²⁵, civil litigation (notably, the conduct of proceedings⁹²⁶), negligence⁹²⁷, criminal law (in enforcement⁹²⁸, plea bargaining⁹²⁹ and in corruption⁹³⁰), competition law⁹³¹, taxation⁹³² and environmental law⁹³³.

Conceptually, game theory can be regarded as the use of equations, usually founded in the conditional probability branch of statistics and econometrics, to build models of the behaviour of decision-makers whose choices impact on each other. In effect, game theory is a form of interactive and sequential decision-making requiring the players involved in the game to make an assessment of what information the other party possesses, and how they can be expected to use that information⁹³⁴ to produce efficient outcomes⁹³⁵. For

⁹²⁴ “*In general, all actors (players in game theory) are assumed to be bloodless, personalityless, passionless maximizing machines. In short, the perfect Posnerite economic man.*”. Shubrik (1991) at 291.

⁹²⁵ Katz (1990b).

⁹²⁶ See, for example, Katz (1990a); Chen et al (1996). Also Rosenberg and Shavell (1985) for litigation initiated for its strategic, nuisance value; and Bebchuk (1996) for the curious situation of bringing civil proceedings with a negative expected value (that is, the costs of litigation are expected to exceed the damages awarded).

⁹²⁷ Chung (1993),

⁹²⁸ Reinganum (1993); and, Khalil et al (2010) for its application to bribery and extortion.

⁹²⁹ See, for example, Grossman and Katz (1983), Reinganum (1988); Kobayashi and Lott (1996); Baker and Mezzetti (2001).

⁹³⁰ Wu (2005) at 156–157; Carbonara et al (2008) at 785–791.

⁹³¹ Ayres (1987); Wiley (1987); Kattan and Vigdor (1996); Carlton et al (1996).

⁹³² Graetz et al (1996) at 4.

⁹³³ For an expansive reading list of some of the key papers in these areas see: Ayres (1989) at 1292; Huang (1995) at 109–114.

⁹³⁴ A critical assumption of game theory in general, and in its application to the law in particular, is what is known as the Nash equilibrium, where the solution to a game requires each player’s strategy to be their best response only to the other player’s similarly best response. That is, all players pursue strategies which optimize their own self-

all players, the result sought is the same: to optimise the expected net utility/value from the game⁹³⁶. The interaction of game theory and the law occurs when a (usually small) number of players who have private information adopt strategies designed to advance their own interests, taking into account the interests and the strategies of other players⁹³⁷. In these situations, the substantive and procedural law existent can constitute a detailed set of ‘rules of the game’⁹³⁸, which can (and do) impact the final outcomes (known in game theory as equilibria), and the sensitivity of the players in their conduct/participation in the game⁹³⁹.

Designing a game, and its application to a legal situation, requires the analyst-modeller to define several key elements: the players, being the individuals who make the decisions⁹⁴⁰; the order of play and the actions which are available to each player at each point of the game; the information possessed by the players at the time they make their decisions; and, the outcomes and the payoffs for the players that result from different combinations of decisions and resulting actions. The rational game player

interest, informed by the strategies of the other players: Ayres (1989) at 1297. See also Katz (1990b) at 233-238.

⁹³⁵ For a review of the scholarly debate over whether, or not, game theory allows analysts to identify, and players to negotiate toward, efficient results in the Chicagoan outcome see Ayres (1990) at 1315 – 1317.

⁹³⁶ Rosenberg and Shavell (1985) at 4; Cooter et al (1982) at 226. For a contrary view, see Ahdeih (2011) at 62–65, who considers co-ordination games, where players co-ordinate their strategies and choices to benefit all players, rather than just individual’s pursuing their singular interests.

⁹³⁷ That is, the law operates as means of bounding strategic behaviour by the parties, especially in non-co-operative situations, and thus act to facilitate the movement toward equilibrium (or a solution): Katz (1990b) at 229.

⁹³⁸ Ayres (1989) at 1294; Posner (1998) at 765.

⁹³⁹ Graetz et al (1996) at 4; Posner (1998) at 765,

⁹⁴⁰ In the context of law and games, the plaintiff and the defendant, but can also be extended to their legal advisers and judicial officers.

may also draft a scheme, or sequence of plays⁹⁴¹ and thus develop a contingency plan before the game commences, revising as it progresses; a tangible form of rational expectations⁹⁴². Not surprisingly, what at first glance may appear a simple game can generate a broad range of possible outcomes (or no outcomes at all) even when graphically represented as a tractable decision-tree⁹⁴³ rather than the potentially overwhelming matrix-algebra format⁹⁴⁴.

Games can be co-operative or unco-operative. As the nomenclature suggests, in co-operative games the players recognise their interdependence and seek to co-ordinate their actions and move in a co-operative manner toward a mutually beneficial equilibrium outcome, akin to the Coase Theorem and the Pareto optimality favoured by the Chicagoans⁹⁴⁵. Players in co-operative games tend to be motivated by the realisation they can gain more by joint action with others than by acting alone⁹⁴⁶ and have an expectation of further interactions in the future. By contrast, and as the terminology indicates, a unco-operative game is the observe of a co-operative one, and tends to be typified by adversarial moves, hostile strategies and even threats, with early moves being along non-equilibrium

⁹⁴¹ Actions by his/her opponents, and his/her possible reactions, and so on.

⁹⁴² Cooter et al (1982) at 230-231.

⁹⁴³ Also known as extensive form.

⁹⁴⁴ For illustrations of the extensive form processes see P'ng (1983) at 541; Rosenberg and Shavell (1985) at 4; Ayres (1989) at 1299-303; Shubrik (1991) at 286. For those interested in an algebraic representation see: for the criminal law, Grossman and Katz (1983), Reinganum (1988 and 1993), Baker and Mezzetti (2001); civil litigation, Katz (1990a) at 9-12, and then 16-21; in torts, Chung (1993); in bargaining and negotiation in general, Milgrom and Stokey (1982); in antitrust/ competition law, Milgrom and Roberts (1982).

⁹⁴⁵ Milgrom and Stokey (1982) at 18.

⁹⁴⁶ Also known as positive sum games.

paths⁹⁴⁷. Players in these games tend to be motivated by a rivalrous mindset, and a gain for the other player is considered as coming at a cost to oneself (ostensibly, a zero sum game attitude), and often see their interactions as one-off and unlikely to occur again in the foreseeable future.

Amongst the most challenging of games, yet most applicable to the law, are those involving asymmetric or incomplete information. Such games involve at least one player in the game being unsure about any one, or even all, of the constitutive parts of the game, but most notably the identity of the other players, the information available to them, their strategies and their expected payoffs. The converse of such information is common knowledge, that is one of complete and perfect information which is known by all players to a game, and each player knows this information is known to all other players, and so on.⁹⁴⁸

In games with asymmetric or incomplete information the lesser informed player will often attempt to deduce the information available to their better informed rival(s), and his/her/their strategies, from their behaviour - for example, their early moves, how they respond to your moves, and in a legal context any offers of settlement they make or accept/reject those made by

⁹⁴⁷ Being courses of action which are unlikely, of themselves, to produce an outcome. Non-co-operative games are seen to be particularly applicable to situations of adversarial or aggressive bargaining/negotiation, for example in the processes of litigation, in the early stages of contracting or in the corporate marketplace (such as an unwelcome merger or acquisition): Ayres (1991) at 422.

⁹⁴⁸ The board game of chess is a good example of a game involving perfect information, in that each player has full knowledge of all of the moves that have taken place up to a particular point in the game being played: Shubrik (1991) at 287. For a good discussion of games involving common knowledge, see Milgrom and Stokey (1982), Milgrom and Robert (1982), and Geanakoplos (1992),

the first player, all of which can convey information⁹⁴⁹. Alternately, the information-advantaged player may sequentially and incrementally release small amounts of the information he/she holds to their rival within a strategy⁹⁵⁰ of using this progressive disclosure for negotiating advantage⁹⁵¹. The former approach is known in game theory as a separating equilibrium⁹⁵² and the latter known as persuasion⁹⁵³ or signalling⁹⁵⁴ games⁹⁵⁵. Such games are relatively common place in legal processes involving bargaining or negotiations, for example in contracting⁹⁵⁶, litigation or when private players deal with regulators⁹⁵⁷. Similarly, the information disadvantaged player can draw on the reputation of his better informed rival player, using information on past behaviour to draw usable inferences about future conduct⁹⁵⁸. Reputation issues tend to have greater weight in games where the players expect to have ongoing relationships or repeated interactions in

⁹⁴⁹ For example of this form of ‘information gaming’ in the criminal law, in particular relating to plea bargaining in the United States legal system, see Baker and Mezzetti (2001).

⁹⁵⁰ In the lexicon of game theory, strategy is the interaction of information and action/moves, and contingency plans, by the players: Shubrik (1991) at 288.

⁹⁵¹ Chen et al (1996) at 241.

⁹⁵² In contrast to a pooling equilibrium, where the players discreetly pursue similar strategies.

⁹⁵³ Chen (1996) at 241.

⁹⁵⁴ Posner (1998) at 766.

⁹⁵⁵ Although signalling can be illegal under competition law where it is used amongst players with an implicit collusive motivation, such as sending messages about pricing strategies: Carlton et al (1996) at 431.

⁹⁵⁶ For an expansive discussion of the application of game theory to contract negotiations see Katz (1990b).

⁹⁵⁷ Bebchuk (1984) at 414; Greatz et al (1996) at 4; Lewis and Poitevin (1997) at 50.

⁹⁵⁸ Known as backward induction in game theory. For an application, see Katz (1990b) at 238 – 239.

the future, especially where there is potential for retaliation based on past behaviour⁹⁵⁹. Such approaches are analogous to Bayesian leximetrics in which a player updates their prior beliefs based on how others behave⁹⁶⁰.

The presence of asymmetric or incomplete information can impact on the law, and vice versa: most notably, the law can evolve to deal with imbalances in information⁹⁶¹, and by setting the framework for bargaining⁹⁶² or when the law itself becomes part of the rules of the game⁹⁶³. Changing the (legal) rules of the game, known in game theory as discontinuous change⁹⁶⁴, even slightly can have a substantial impact on the outcome of any legal-economic game, especially where it involves bargaining between players.

The application of game theory to the law is not without its critics, who challenge it on a number of grounds. Prominent amongst the claimed shortcomings are: the robustness of the assumptions of common knowledge and of full information (all parties to the game have full and shared information; there are no information asymmetries)⁹⁶⁵; the parties to the game/legal matter have the same conjectures about the outcome (such as

⁹⁵⁹ Mahoney and Sanchirico (2002) at 6.

⁹⁶⁰ Cooter et al (1982) at 230-235.

⁹⁶¹ For example, competition and consumer protection law.

⁹⁶² For example, in contract, in divorce/family law as well as civil and criminal litigation.

⁹⁶³ Also sometimes known as 'bargaining in the shadow of the law': Mnookin and Kornhauser (1979) at 950; Cooter et al (1982) at 225.

⁹⁶⁴ For a discussion of this concept see Ayres (1990) at 1314.

⁹⁶⁵ Huang (1995) at 106–107. Although supporters of the application of game theory to the law, and to law and economics, point out it does at least make transparent the imperfect distribution of information amongst players, and the potential costs of such allocations and its remediation: Ayres (1990) at 1310.

attitudes to risk and uncertainty⁹⁶⁶), and thus can converge on a single equilibrium (absent which there will be multiple, or no, solutions to the game⁹⁶⁷); the outcomes of particular games are very sensitive to the way problems are defined, and the assumptions made in designing the game⁹⁶⁸; most games are single-shot (one play each) which, while keeping them tractable, are unrealistic⁹⁶⁹; even in multiple step games, the players maintain a single strategy fixed at the start of the game⁹⁷⁰; the generalisability of results, in particular the tendency for cases to show an outcome might happen as distinct from it being likely to occur⁹⁷¹; and, potentially most important, the players and other interested parties are ‘homo economicus’^{972,973}. The practical application of game theory to the law has been impeded by what amounts to the very high (analytical) barriers to entry⁹⁷⁴: even legal academics with a sound understanding of law and economics can find conditional probability demanding, let alone a practising lawyer without a higher degree in economics or mathematics.

⁹⁶⁶ Cooter and Rubinfeld (1989) at 1077.

⁹⁶⁷ Supporters of game theory and the law (and economics) rejoinder the potential for multiple or no equilibria may well reflect poor specification of the game/problem, or an inability to keep it tractable: Ayres (1990) at 1310.

⁹⁶⁸ Kobayashi (1996) at 412; Graetz et al (1996) at 4.

⁹⁶⁹ Kattan and Vigdor (1996) at 446.

⁹⁷⁰ Ibid.

⁹⁷¹ Kobayashi (1996) at 418.

⁹⁷² Huang (1995) at 107.

⁹⁷³ Efforts to improve the reality of games has seen the development of ‘super-games’, typified by multiple players, an infinite number of periods and opportunities for players to change strategies along the way. However, such analytically useful innovations have come at the cost of tractability, and producing stable and consistent equilibria. “*In other words, the supergame predicts that anything can happen*”: Kattan and Vigdor (1996) at 447. Readers interested in the play-out of a super-game should see Farrell and Maskin (1989) although a high level of proficiency in probability modelling will be presumed.

⁹⁷⁴ Ayres (1989) at 1292.

Empirical Legal Studies

Like game theory, empirical legal studies (ELS) is not per se a theory of law and economics. Rather, ELS champions the application of the methodologies of statistical analysis to legal situations. ELS-based studies have used methods such as agent based simulations⁹⁷⁵, content analysis⁹⁷⁶, regression (whether cross-sectional, panel, longitudinal or dynamic/time series), forecasting (including of judicial decisions⁹⁷⁷), multivariate methods⁹⁷⁸, decision-path analysis⁹⁷⁹ and even experimental (laboratory-based) methods⁹⁸⁰.

ELS aims to overcome what its supporters see as some of the shortcomings of non-empirical legal studies⁹⁸¹, in particular testing alternate legal policy options, seemingly anomalous examples or instances⁹⁸² and/or developing counter-factuals⁹⁸³. In this frame, narrative, normative and/or theoretical

⁹⁷⁵ Picker (2002).

⁹⁷⁶ The analysis of words, phrases, sentences et al in narrative texts, such as judicial decisions or legislative debates. Useful software includes Nvivo or Statistica Word Miner. For a good discussion of the application of content analysis in empirical legal studies see Heise (1998/99) at 825–826.

⁹⁷⁷ Rutger et al (2004) at 1171–1179.

⁹⁷⁸ Eisenberg (2000) at 668; Harcourt (2002) at 998.

⁹⁷⁹ Rutger et al (2004) at 1195–1205.

⁹⁸⁰ Croson (2002) and (2009).

⁹⁸¹ Heise (1998/99) at 808 argues: *“Assertions unconnected to an empirical basis fill law review articles (and judicial opinions). Anecdotal evidence is comparatively simple and transparent, requiring little expertise to generate the expected reaction. Regrettably, however, scholars possess few, if any, mechanisms to assess anecdotal evidence for truthfulness, typicality or frequency. Lacking such mechanisms, anecdotal evidence supplies a risky foundation upon which to form generalisations applicable to a larger population.”*

⁹⁸² Croson (2002) at 930 – 936.

⁹⁸³ That is, ‘what might/would have happened had things (as defined) been different: Croson (2009) at 43. Such studies are commonplace in econometric modelling both for economic management and for policy formulation.

legal scholars still have their place (as generators of hypotheses) whose work is then used as inputs by empirical legal scholars (in testing the validity, or otherwise, of those hypotheses)⁹⁸⁴.

However, a number of important barriers exist to the widening and the deepening of ELS within the legal academy, most notably the seeming lack of interest in, or preparedness to embrace, quantitative methods amongst senior legal scholars⁹⁸⁵. Other barriers to the expansion of ELS include its potential to threaten favoured theories (or at least make them more vulnerable to rigorous challenge)⁹⁸⁶, its contest to the normative nature of the law⁹⁸⁷, the paucity of data sets relevant to/suitable for empirical legal analysis⁹⁸⁸ and the status of empirical studies as ‘second class scholarship’⁹⁸⁹.

The empiricists have, however, made useful advances in areas such as the effectiveness of laws, focusing most notably on whether new (largely statute) laws have changed citizen behaviour (both at the aggregate and the individual levels), and/or delivered outcomes distinctly different from that which may well have otherwise prevailed⁹⁹⁰. Empirical studies on the effectiveness of laws (where the impacts of legal change were the focus of scholarly analysis) have come from non-legal disciplines as well as from legal scholarship.

⁹⁸⁴ Heise (1998/99) at 815, who argues, pointedly, (at 818) “...*numbers provide less shelter than words.*” and again (at 824) “*nullius in verba*” (‘trust not words’); Croson (2002) at 927 – 928.

⁹⁸⁵ Heise (1998/99) at 810 and (2002) at 828; Eisenberg (2011) at 1738.

⁹⁸⁶ Heise (1998/99) at 813.

⁹⁸⁷ Ibid at 814.

⁹⁸⁸ Heise (2002) at 829 and (2011) at 1748.

⁹⁸⁹ Heise (1998/99) at 819 – 820; Heise (2011) at 1748.

⁹⁹⁰ A core theme of this thesis which will be examined in more detail in Chapter 6, with application to corruption, using modern leximetric modelling techniques.

Non-legal studies which have examined issues relating to the effectiveness of laws⁹⁹¹ have focused on blood alcohol concentration laws for motor vehicle drivers (Zwerling and Jones, 1999; Voas et al, 2003) and mandatory seat belt usage in motor vehicles (Zara et al, 2001; Shults et al, 2004; Adams et al 2013⁹⁹²), generally finding them to be useful in achieving their policy objectives, although the overall effectiveness is strongly influenced by enforcement as distinct from the law per se (McArthur and Kraus, 1999; Rivara et al, 1999).

Legal studies which have used leximetric methods to examine the effectiveness of laws have ranged across property law (Welsh, Carpentier and Hubell, 2001), road safety law (again, both drink-driving and seat belt use; Muller, 1982; Jonah and Lawson, 1984; Asch et al 1991), divorce law (Gonzalez-Val and Marcen, 2012), and health (anti-smoking) laws (Del Bono et al, 2013). The methods used ranged across simple comparisons of coefficients of modelling different conditions (Jonah and Lawson, 1984; Welsh, Carpentier and Hubbell, 2001), tests of equality of outcomes before and after a legislative change (Muller, 1982; Asch et al, 1991), difference-in-difference techniques (Del Bono et al, 2013) and more rigorous breakpoint (also known as event/intervention) modelling methods (Garbacz, 1992; Gonzalez-Val and Marcen, 2012; Vujic et al 2012). With a small number of exceptions (Garbacz, 1992; Gonzalez-Val and Marcen, 2012; Vujic et al 2012), the various legal studies were ostensibly tentative explorations of the effectiveness of laws using simple to modest quantitative methods.

⁹⁹¹ Coming mainly from medicine and public policy.

⁹⁹² An interesting study which looks at how potential offenders try to 'game the law', by using one law (seat belts) to defeat another law (drink driving).

International Law and Economics

Law and economics has traditionally had, at best, only a modest footprint in international law⁹⁹³. However, the law and economics movement has over the past decade or so entered this domain, exploring the application of primarily Rational Choice (in several forms) and Institutional models to international law.

The Rational Choice approach to international law and economics has focused on theories such as: self-interest (where, as the nomenclature suggests, States Parties develop and honour international obligations out of distinct self-interest⁹⁹⁴); and, reputation risk, that is a concern about their reputation as a co-operative and reliable counterparty.⁹⁹⁵ In the self-interest model, States Parties develop, commit to and comply with international law for several distinct reasons. These include: the simple coincidence of self-interest, as common forms of behaviour are often in the self-interests of States Parties regardless of the conduct of others; attitudes to coercion, especially amongst smaller and/or less powerful States who, concerned at being the subject of sanctions or other penalties by their more powerful counterparts, engage in conduct which is more in the interests of the larger State than their own; the desire to be treated by other nations in the same way our State treats them; and, as a means of overcoming co-ordination

⁹⁹³ For an overview of these debates see: Goldsmith and Posner (1999) at 1113–1116; Guzman (2002) at 1830–1840, and (2004) at 123–128.

⁹⁹⁴ Goldsmith and Posner (1999) at 1114–1115. They conceptualise national interest as being the sum of the interests of individuals and institutions: Goldsmith and Posner (2000) at 654.

⁹⁹⁵ Guzman (2002) at 1825; Parisi and Ghei (2002) at 94 use a game-theoretic framework examine the issue of reputation as a form of multiple-stage game between repeat players.

problems, which can be particularly problematic when using customary international law in a multilateral world of many complex relationships⁹⁹⁶ and significant externalities⁹⁹⁷. To some advocates of the self-interest model, opinion juris is largely a fiction, with customary international law merely a descriptive account of regularities in the behaviour of States⁹⁹⁸.

To advocates of the application of the Rational Choice approach to international law, dealing with externalities can best be achieved through explicit treaties. This modality allows the implications of the international agreement to be made clear to the direct parties and potentially transparent to other States who can then consider its consequences for themselves and others. Such information will also allow potentially interested States Parties to determine whether the international instrument moves them closer to Pareto optimal situation or a Kaldor-Hicks approach is needed⁹⁹⁹. At the same time, an appreciation of the externalities will inform interested States Parties (often beyond the original, direct Parties) in moving toward a Coasean outcome: continuing negotiations to the point where participants exhaust the potential gains from dealing with those externalities, to the extent transactions costs¹⁰⁰⁰ have been accounted for in determining the costs/benefits of the negotiation process¹⁰⁰¹.

⁹⁹⁶ Where explicit treaties may well be the better option: Goldsmith and Posner (2000) at 659.

⁹⁹⁷ In effect, the consequences for States Parties not directly involved in the agreement. Analogous to spill-over benefits or costs.

⁹⁹⁸ Goldsmith and Posner (1999) at 1115.

⁹⁹⁹ Sykes (2004) at 18.

¹⁰⁰⁰ These transactions costs are likely to extend beyond the mere financial costs of participation in negotiations (staff time, travel costs etc), and extend to those (often intangible) costs of State Parties engaging with domestic political players, and incurring the burden of 'issue linkage' (where dealing with the primary issue at hand involves addressing related, or otherwise attached, issues: Sykes (2004) at 21).

In the Rational Choice-Reputational model, the effectiveness of international law is the outcome of an interaction of the concern of a State Party with its reputation for reliability and trustworthiness (present and future), and the attitude(s) of other States Parties to the offending State in failing to fully honour or act in outright breaches of those laws¹⁰⁰². Concerns with reputation-risk arise whether the international law and obligations result from customary, treaty or 'soft' international law¹⁰⁰³. An important element of the Rational Choice-Reputational model of international law and economics is the presumption of repeated interactions amongst State players: where the relationship is a 'one-off game' the issue of reputation does not necessarily arise as engagement is not expected to be repeated. However, such 'one-off' games are rare in reality, with most practical international relations being open-ended repeated games. In its simplest form – a two stage game¹⁰⁰⁴ – at the first stage, the States Parties negotiate over the content of the international law (for example, a bilateral

¹⁰⁰¹ Ibid at 19. Such pressures, according to Sykes (2004) at 21, underpin the efficiency of, and growing preference for, multilateral over bilateral negotiations, especially on economic and related issues.

¹⁰⁰² Downs and Jones (2002) at S96; Guzman (2005) at 122. Where the adversely impacted State Party is prepared to accept the violation of the international law, for whatever rational reason of its own, then said breach may be regarded as technical in nature only. For example, Country B may 'accept' Country A's breach of a commitment if it (B) expects a greater gain in the longer term for a continuing relationship.

¹⁰⁰³ International law, such 'soft law' can take the form of joint communiqués, ministerial accords or memoranda of understanding which contain signals of commitment: Guzman (2002) at 1835; Kirchner (2007) at 5. See also Abbott and Snidal (2000) for a wider discussion.

¹⁰⁰⁴ For a game theoretic exposition, see Guzman (2002) at 1841–1844, and Guzman (2005) at 135 – 137.

undertaking) and their level(s) of commitment thereto. At the second stage, the participating States Parties then consider the extent of their compliance with those commitments, weighing the benefits of some measured level of under-performance (or even default) against the costs to their reputation¹⁰⁰⁵.

The Rational Choice approach to international law and economics has been qualified in the form of Strategic Choice¹⁰⁰⁶, especially in the decisions of Nation States. In this framework, when making decisions of an international nature, Nation States: anticipate the likely choices and reactions of other players; are concerned about the consequences of their actions; apply fairly consistent and stable preferences across time and issues; prioritise and select means which will deliver superior outcomes, consistent with those preferences; and, use the best available information. The difference between the Strategic and the Rational Choice models of international law and economics reflects the capacity and the costs of acquiring full information, with the former ostensibly being the 'best possible decision' in the prevailing (limited) information situation¹⁰⁰⁷.

¹⁰⁰⁵ For factors such as honourable behavior and reliability. Reputation costs can also be reflected in higher costs for the negotiation and implementation of future agreements, with wary counterparties demanding the reputation-poorer State deliver on its commitments first, or make a weighted-share contribution to monitoring and verification of performance, or even posting some form of 'international bond of performance'. For a general critique of the application of game-theory to international law and economics, see Chinen (2003).

¹⁰⁰⁶ Keohane (2002) at S308.

¹⁰⁰⁷ Ibid at S309; Sykes (2004) at 7.

The Institutional footprint in international law and economics has generally been more modest than that of Rational Choice. But, like their domestic companions, Institutionalists in international law and economics argue ‘institutions matter’¹⁰⁰⁸. International institutions and the laws they administer and/or create, like their domestic counterparts, exist to make or constrain decisions outside of the conventional price mechanism. Such international institutions are formed, and maintained, to facilitate co-operation and transactions between States who trade, not in goods and services, but in the core assets of nations – the components of power¹⁰⁰⁹. In this context, the currency is jurisdiction, ranging across the power to prescribe, to adjudicate and to enforce, and the outcome of the trade is the States’ maximisation of its own basket of preferences within the wider context of their broader international relations objectives (such as enhancing their national interest, prestige and status, and legal and regulatory jurisdiction). This trade can also extend to the creation of multilateral mechanisms to deal with externalities, and/or platforms for direct negotiations over such matters¹⁰¹⁰. Elsewhere in this framework, private sector players, such as international businesses, look to identify, and then arbitrage or otherwise take advantage of, the various imperfections and opportunities presented by the international legal system to maximise their own commercial and economic advantages¹⁰¹¹.

¹⁰⁰⁸ Dunoff and Trachtman (1997) at 7.

¹⁰⁰⁹ Ibid at 13.

¹⁰¹⁰ Sykes (2004) at 16–19. The World Trade Organisation (WTO) is seen as a means for addressing such externalities, or spillovers, in international trade and commerce. For example, where policy actions in one area are linked to those in another area – such as cross-sectoral retaliation during trade disputes: Dunoff and Trachtman (1997) at 16–17.

¹⁰¹¹ Danielsen (2011) at 32.

Theories of Law, Economics and Corruption

While rich veins of scholarly thinking and debate have emerged from a number of schools and perspectives across a range of theories of law and economics, sadly this work has not extended to theorising over the place and treatment of corruption within their respective frameworks¹⁰¹². However, such potential theorising is likely to approach the law and economics of corruption from a range of angles, with differing perspectives on the causes and better approaches to remedying the corruption problem¹⁰¹³.

The core thrust of Chicagoan theorising on the law and economics of corruption would likely build on extending Coase's Second Theorem, arguing corruption was the result of government per se and its expansive intervention in the functioning of markets¹⁰¹⁴. In this context of government failure, the appropriate strategy would be to reduce the footprint of government through a program of minimal-regulation and maximal-competition related reforms, both of which would enhance economic efficiency¹⁰¹⁵. In addition, greater transparency in governmental activities

¹⁰¹² Unfortunately, to the best of the author's knowledge and researches, none of the scholars within any of the schools et al have expressly discussed these linkages. Until advocates and critics of each of the schools et al do so, we can only speculate.

¹⁰¹³ The following narrative is the author's conjectures of what each of the schools/ movements/ perspectives might argue on the interface of their respective theories' of law and economics with corruption.

¹⁰¹⁴ By creating opportunities for corrupt politicians and bureaucrats to extract economic rents from market actors.

¹⁰¹⁵ The fundamental objective of Chicagoan law and economics.

would also re-weight the marginal-cost/-benefit equation of corrupt activity, although it is an empirical question whether this would likely result in ‘higher priced corruption’¹⁰¹⁶ or reduced corruption, the answer reflecting the attitude to, and value placed upon, reputation by corrupt players.

The Austrian’s would regard corruption as merely another feature of the market place the entrepreneur may have to confront. An Austrian approach to the remediation of corruption would likely depend on whether it was driven by government failure¹⁰¹⁷ or by market shortcomings¹⁰¹⁸. However, the Austrians would most likely look first to market based solutions such as norms of acceptable behaviour, and deregulation and transparency, ahead of broader and deeper legislative and regulatory interventions and then likely only to the extent necessary, and no more, to effectively deal with the recognised problem.

To the New Haveners, corruption would likely reflect market failure, resulting in less efficient markets and diminished fairness. The appropriate law and economics response would be two-pronged: more effective statutes and regulation, and associated enforcement thereof; and, more energetic courts championing the national interest through more punitive, even potentially exemplary, sentencing for those convicted of corrupt activity.

¹⁰¹⁶ To compensate for the increased risk in a more transparent environment

¹⁰¹⁷ For example, inefficient bureaucracy and/or regulations.

¹⁰¹⁸ For example, by some entrepreneurs looking to gain unfair market advantage.

The Public Choice (Virginia) school would theorise corruption as reflecting the prevalence of the self-interest of politicians and bureaucrats, and their capacity to exploit the rational ignorance of voters¹⁰¹⁹ about corruption. In this context, politicians and bureaucrats would be motivated to keep corruption ‘below the media/political radar’, and to de-emphasise incidences of corruption if they otherwise arise in public policy discourse. Building on their ‘conventional approach’ to Public Choice, for the Virginians the starting point for tackling corruption would likely begin with stronger (both in breadth and depth) anti-corruption legislation and more effective enforcement. Key elements of such legislation would likely include enhanced penalties¹⁰²⁰ and heightened enforcement¹⁰²¹.

The Institutionalists would likely regard corruption as a metric of institutional failure, and the ascendancy of vested interests (corrupt players) over the broader interest. They would also likely regard corruption as distortive of the underlying system for the trading in property rights and corrosive of the broader institutional structure (both governmental and market). The challenge for the Institutionalists (both old and new schools) would centre around the development and implementation of political, economic and legal rules both individually and collectively, and the creation of appropriate institutional structures which impacted the behaviour and the decision-making of actors, whether already or potentially corrupt.

¹⁰¹⁹ Whom are largely unaware, and thus similarly unconcerned.

¹⁰²⁰ For example, exclusion from political or bureaucratic office for those convicted of corruption, thus defeating their capacity to engage in the practice.

¹⁰²¹ For example, the creation of well-resourced, ‘clean-hands’ agencies specifically targeting corruption.

Stronger form Critical Legal Studies exponents, particularly those holding toward the neo-Marxist view, would treat corruption as reflecting the inherent failure of the freer market, libertarian approach to law, economics, politics and society. In this framework, while they would be concerned with the adverse impacts of corruption on the economically disadvantaged and politically disempowered sections of society, they would view corruption as useful in undermining the veracity of the market system, and contributing to their ambition of fundamental economic, legal, political and social change.

Rational Choice thinkers would consider corruption as the rational outcome of a conscious and deliberate cost-benefit/risk-reward assessment by participants, with the outcomes being sufficiently superior to the available alternatives which would have been considered by actors. In this context, the appropriate legal-economic response is unremarkable: rebalance the cost-benefit/risk-reward equation, by raising the costs/risks¹⁰²² or reduce the benefits/rewards¹⁰²³, or some superior combination thereof. However, and rationally, corrupt politicians and bureaucrats will have powerful incentives (bounded in self-interest) to resist such rebalancing.

Behaviourialists are likely to theorise corruption as the outcome of a reasoned consideration by corrupt players of the potential costs-benefits/risks-rewards of such conduct. However, and in contrast to the Rational Choice approach which uses similar prisms, the Behaviourialists would consider the decisions-making and processes of engagement in corruption as reflecting the limited rationality, willpower and/or self-interest of the

¹⁰²² For example, more effective enforcement; greater penalties.

¹⁰²³ For example, disproportionate asset confiscation laws.

corrupt players. In this framework, the Behaviourialists would focus their attention on initiatives which influenced this limited rationality and willpower¹⁰²⁴, and limited self-interest¹⁰²⁵. In essence, Behaviourialists would be looking to leverage the psychology and the behaviours of actors to move them away from corrupt inclinations or conduct.

Strict game theorists and modellers are likely to be normatively indifferent to corruption, viewing it as just another form of sequential interactions (game) between players. Their foci would likely be on modelling the different forms of corrupt behaviour, its implications and the effectiveness of alternative countervailing interventions or responses to stimuli. Nevertheless, the largely positivist approach of Game Theorists, focusing on which types of games best explain behaviours and decision-making of players in the corruption game (both enforcement and offenders), and how they can best be explained in leximetric terms, are likely to provide valuable insights into the better/best/optimal strategies for tackling corruption.

The Legal Empiricists, like their cousins the Game Theorists, can also be expected to be normatively indifferent to corruption, their interest being largely concerned with ‘can we model it’ – that is, subject corruption to rigorous leximetric data analyses and modelling. However, the Legal Empirists are likely to consider corruption from a different perspective to Game Theorists. While Game Theorists are tend to focus on the processes

¹⁰²⁴ Such as ensuring corrupt actors understood the wider implications and longer term of their behaviour.

¹⁰²⁵ In particular how their own interests are likely to be disadvantaged by corruption, for example where a corrupt competitor ‘out corrupts’ them in say a government tender.

of corrupt behaviour (in particular, the dynamics of the interactions between players), the Legal Empiricists would be expected give greater attention to leximetric modelling the causes and consequences of corruption, and the effectiveness of laws addressing corruption (as will be seen in Chapter 6 of this thesis).

International law and economics would likely theorise corruption in positivist terms, as a threat to the effectiveness and the integrity of international law, and system of international relations. From this standpoint, they would focus on how best to use the instruments and processes of international law, and the toolkit of international law and economics to deal with corruption. Advocates of international law and economics would likely see explicit international instruments (mainly formal treaties, whether bilateral or multilateral) as the primary vehicles for progressing an anti-corruption agenda, harnessing the concern of States Parties with self-interest¹⁰²⁶ and reputation¹⁰²⁷.

¹⁰²⁶ The tangible economic et al benefits of being corruption-free.

¹⁰²⁷ As a principled and trustworthy actor in international affairs.

Criticisms of Law and Economics

While the interaction of law and economics has built something of a following in the academic and practitioner communities, it would be unwise to overstate the extent of its embrace. Most likely, law and economics has a loyal band of adherents, and a few zealous advocates; but it also has its critics who champion their views with equal, if not greater, commitment.¹⁰²⁸

One of the earliest and most energetic¹⁰²⁹ criticisms of the law and economics movement (especially the Chicago branch) concerned the status to be afforded to objectives such as efficiency and wealth maximisation. Numerous critics of Chicago law and economics have decried the primacy its champions attached to efficiency/wealth maximisation as the fundamental purpose of the law¹⁰³⁰. The nature of these criticisms include: realising efficient outcomes requires perfectly competitive markets, assumptions/conditions which are rarely found in the real world¹⁰³¹; the

¹⁰²⁸ One of the more sarcastic being Leff (1974) at 459: “*If we find a way to slip in our normatives in the form of descriptives, within a discipline offering narrow and apparently usable epistemological categories, we would all be pathetically grateful for such a new and more respectable formalism in legal analysis.*” For expansive and serial criticisms of the law and economics movement see Cirace (1991). Bernstein (2005) at 102 goes so far as to call law and economics a “*sickness*” and its product as “*classic cases of GIGO (garbage in, garbage out).*” (Ibid at 101).

¹⁰²⁹ In terms of the exchange of scholarly articles.

¹⁰³⁰ Malloy (1988) at 259; Stigler (1989) at 631; Mason (1992) at 179; Campbell and Piciotto (1998) at 257; Ellickson (1998) at 538.

¹⁰³¹ Humes (2003) at 968–969. The conditions include: the products in the market must be homogenous; each market participant must be a ‘price taker’, that is they must not have sufficient power to set prices in a market; all market participants must be fully and perfectly informed; and, all markets must be fully contestable and competitive, meaning anyone can enter or leave a market (that is, there are no barriers, market or regulatory, to entry or exit. See also: Campbell and Piciotto (1998) at 258; Veljanovski (1980) at 165–167; Bernstein (2005) at 109–112.

human community is a more complicated social arrangement, with some people willing to place greater emphasis on the group/society than on the individual¹⁰³²; government is no less legitimate than the market, both being the creation of human choice¹⁰³³; and, the debatable proposition implicit in much of the law and economics advocacy that economics speaks with one, agreed voice on most issues¹⁰³⁴.

One particularly incisive criticism has focused on the pre-eminence given to microeconomics (the economics of the individual or the firm) ahead, and almost to the exclusion, of macroeconomics (whole economies)¹⁰³⁵. From the macroeconomic perspective, the proper role of law and economics is to develop an infrastructure of law, whether common or statute, which promotes longer-term economic growth. Indeed, the macroeconomic approach is likely to be more realistic than its microeconomic counterpart, given the proclivity of legislatures to enact laws with macroeconomic goals¹⁰³⁶.

¹⁰³² Leff (1974) at 468; White (1987) at 169; Ellickson (1998) at 340.

¹⁰³³ Leff (1974) at 468.

¹⁰³⁴ Williamson (1983) at 211; Wald (1987) at 227–228.

¹⁰³⁵ Hume (2003) at 959. A point conceded by one of the ‘founding fathers’ of modern law and economics, who has acknowledged a better understanding of law and (macro) economics would improve our understanding of movements in the business cycle and financial crises: Posner (2010) at 268, and at 271. Few would cavil with the view that ‘law and *macro*-economics’ is under-developed compared to its ‘law and *micro*-economics’ sibling; a challenge for future scholarship. The modelling undertaken in this thesis (as outlined and reported in Chapter 6, “Modelling Corruption”) could be seen to go some way to fill the gap in this scholarship, albeit as a ‘spillover’ from the main research question/ objective of this study.

¹⁰³⁶ Such as economic growth, employment creation, trade facilitation, and/or price stability: Hume (2003) at 971.

Another prominent stream of criticism of the Chicago approach to law and economics has focused on the latter's treatment of distributional issues, and in particular the relationship between efficiency on the one hand and the distribution of income and wealth on the other. Critics of the Chicago view have argued¹⁰³⁷ if a perfectly competitive market (an essential feature of the Chicago model) is to operate, there must also be some clearly defined initial distribution of income and wealth as this is the foundation for the economically and/or socially efficient market outcome: for each initial different distribution of income/wealth, there is a different efficient outcome. Furthermore, the Chicagoans 'efficiency theory of rights'¹⁰³⁸ is seen as flawed¹⁰³⁹ because the valuation of such rights is contingent upon those the individual already possesses (the initial allocation), and thus their wealth and capacity to acquire more economic rights. Closing this theoretical gap requires making value judgements about the distribution of such rights.

¹⁰³⁷ Veljanovski (1980) at 173.

¹⁰³⁸ Economic rights should be assigned to those who value them most highly.

¹⁰³⁹ Ibid at 174.

Some scholars have gone so far as to express concern that the incursion of law and economics into the law is threatening the very soul of the law itself¹⁰⁴⁰, with the law being reduced to little more than a branch of economics¹⁰⁴¹. In this view¹⁰⁴²: the positivist nature of economics is seen to be inconsistent with the fundamentally normative nature of the law; the rationalist underpinnings of economics do not sit comfortably with the often irrational and unpredictable behaviour which regularly confront practitioners of the law; economics idolises the individual, and denies the concept of ‘society’, whilst the law recognises both the individual and society; and, economics regards the law as a series of priced and commoditised services provided by lawyers and the courts in a contestable marketplace, demeaning the legal and judicial processes as providers of justice.

¹⁰⁴⁰ Some scholars (Waller (2009/10) have gone so far as to describe law and economics, and the Chicago perspective in particular, as a “*virus ... (which) has spread by penetrating a new area of the law, replicating itself, and transmitting itself to new host bodies of law or legal jurisprudence.*” (at 369) and calling for legal scholars to work to find “*an effective antibody (capable of) immunizing the host from the successful introduction of a new ideology.*” (Ibid at 370).

¹⁰⁴¹ Frankel (2006) at 24.

¹⁰⁴² These points are made, and argued, by Id, and by Bernstein (2005)

Summary and Conclusion

Without doubt, it would be churlish to deny there are not cultural differences between those trained, versed and practicing in the professions of economics and of law¹⁰⁴³. They have different lexicons, methods of analysis¹⁰⁴⁴ and discourse, epistemologies and presentation styles in setting out their world-views, the most important of which is the economist's commitment to positivism and the lawyer's leaning toward normativism¹⁰⁴⁵. Lawyers tend to be inductive rather than deductive in their analytical style, seeking out universal truths from singular statements embedded in the judgements of courts; such an approach is anathema to economists¹⁰⁴⁶. Lawyers prefer to move from the observation of facts to the derivation of a theory; economists generally use evidence to assess a pre-determined theory¹⁰⁴⁷. Lawyers focus on the detailed facts of a particular case, and

¹⁰⁴³ For a good discussion of some of the practical difficulties for front line judicial officers in applying economics to the law, some of which relate to differences of professional culture and modus operandi see Mason (1982), Breyer (1983) and Wald (1987). For views on the cultural differences from academe (albeit from the legal perspective alone) see: Summers (1983) at 339–340; Schwartz (1983) at 332–333; White (1987); Stigler (1992).

¹⁰⁴⁴ Malloy (1991) at 37 reduces the 'legal approach to problem solving' to what he considers a simple equation: facts + issues + rules and proper form + precedent + rationale = correct answer +/- human error. The companion 'economic approach to problem solving' is defined (Ibid at 41) as economic facts + economic issues + economic principles + prior economic distributions + efficiency rationale = correct answer +/- human error. In this schema, according to Malloy (Id) law and economics, therefore, becomes: legal facts + legal issues + legal rules and forms + legal rationale = economic facts + economic issues + economic principles + prior economic distributions + efficiency rationale, which in turn equals correct answer +/- human error.

¹⁰⁴⁵ Katz (1996) at 2230, which he describes as "... *things as they are and things as they should be, between fact as value, between is and ought.*"

¹⁰⁴⁶ Cooter (1982b) at 1265.

¹⁰⁴⁷ White (1987) at 167; Wald (1987) at 236.

precise formal arguments; economists appear to prefer seemingly general models and the inferences they produce¹⁰⁴⁸. And, lawyers strive to exercise a broader judgement in which all aspects of the matter at hand are evaluated; economists tend to deal with partial relationships on a *ceteris paribus* basis, with key interactions being much simplified¹⁰⁴⁹, although this is not a unanimous view¹⁰⁵⁰. Rather, and lest one think the professional deprecation flows only one way¹⁰⁵¹, lawyers can suffer from a lack of sufficient facility in statistical techniques to enable them to engage in rigorous quantitative analysis^{1052, 1053}, have a horizon which tends to focus

(narrowly) on the workings of the courts and the judiciary, find comfort in doctrinalism¹⁰⁵⁴ and jurisprudence¹⁰⁵⁵, and regard other disciplinary perspectives on the law as heresy and its proponents akin to heretics¹⁰⁵⁶. They may also have a proclivity to embrace, in an uncritical manner, strong

¹⁰⁴⁸ Veljanovski (1980) at 175; Wald (1987) at 236.

¹⁰⁴⁹ Breyer (1983) at 303; Rowley (1981) at 394 – 395.

¹⁰⁵⁰ “... *legal scholars and lawyers have always been skeptical of theory, reluctant to reach too far in justifying a conclusion and, instead, going only far enough to encompass the facts before them.*”: Ulen (2004a) at 415.

¹⁰⁵¹ “*Legal scholarship in its present state has many of the characteristics of descriptive botany.*”: Kitch (1983) at 194.

¹⁰⁵² “*Like the rabbits in Australia, economists have discovered an unoccupied niche in the ecology, namely the absence of quantitative reasoning in the law, and are moving quickly to fill it.*”: Cooter (1982b) at 1261. As an Australian economist, I must thank Cooter.

¹⁰⁵³ Although the increasing emphasis on ever more complex and technical econometric and statistical methods in law and economics scholarship – usually requiring a technical efficiency of a PhD in Economics – may become self-defeating for the spread of law and economics within the legal academy, and the judicial and legal practitioner communities: Schwartz (2012) at 3 and 20.

¹⁰⁵⁴ “...*for whom empirical work is foreign territory inhabited by dragons.*”: Ulen (2004a) at 420.

¹⁰⁵⁵ Which economists tend to regard as insubstantial theories: Cooter (1982b) at 1266.

¹⁰⁵⁶ Ulen (2004a) at 418.

and universalist assumptions which lack substantive foundation¹⁰⁵⁷. Economists also have a superior capacity to see the connections between ends and means, and have the capacity to trace (and estimate) both the inter-relationships and the trade-offs between various objectives¹⁰⁵⁸.

This study stands with those who position themselves between the polar extremes of the law and economics debate: it is too much to claim law and economics is, or should be, the totality of legal analysis; and, it is too little to claim there is no role at all for law and economics in legal analysis. Rather, the better view sees economics as a constructive tool for improving legal analysis in appropriate circumstances; but it is not an end in itself. Like others¹⁰⁵⁹, we regard law and economics as a practical and useful tool for bringing order to a chaotic world, and adding analytical rigour in the commercial and economic branches of the law¹⁰⁶⁰. As such, this study sees the utility in economics being derived from its capacity to help with formulating testable hypotheses that can be evaluated through rigorous

¹⁰⁵⁷ Hansmann (1983) at 227: “*It is not unusual ... to see ... legal scholars apply that same theory, decade after decade, without making further inquiry into the truth or falsity of the theory, to evaluate changes in the law.*”

¹⁰⁵⁸ Veljanovski (1980) at 175.

¹⁰⁵⁹ Rowley (1981) at 391; Barretto et al (1984) at 258; Donohue (1988) at 912; what Cotter (1996) at 2073 calls ‘*pragmatic law and economics*’.

¹⁰⁶⁰ “*Economics provides a scientific theory to predict the effects of legal sanctions on behaviour. To economists, sanctions look like prices, and presumably, people respond to these sanctions much as they respond to prices Economics has mathematically precise theories (price theory and game theory) and empirically sound methods (statistics and econometrics) of analyzing the effects of prices on behaviour.*”: Cooter (2005) at 223. A similar sentiment is expressed by Veljanovski (1980) at 176.

methods against experience and quantifiable evidence. In designing and applying such models, the challenge remains to ensure they are realistic and tractable, and not so elaborate and complex as to be unmanageable or unintelligible to the better informed reader, whilst also giving structure and direction for empirical work¹⁰⁶¹.

While scholars have proposed a broad range of theories of law and economics, their application to crime and criminal behaviour, such as corruption, has been made more challenging by the seeming absence of a single, homogeneous form of 'the criminal' or motivation for engaging in 'criminal behaviour'. Nevertheless, Rational Choice Theory has tended to dominate scholarly thinking on the law and economics approach to analysing crime and criminal behaviour at the level of the individual, who will make their 'criminal activity decision' based on the costs/benefits, or risks/rewards, involved. In making these risk/reward assessments, the individual (prospective criminal, or in the context of the current study, potential bribe-payer/-taker), will take into account, inter alia, the likelihood of apprehension, prosecution and conviction, and the expected form of penalty; in short, crime is a decision framed by law and economics. However, the role of Game Theory should not be under-valued with decisions to engage in (or desist from) criminal activity likely to

¹⁰⁶¹ Hansmann (1983) at 228; Barretto et al (1984) at 259. Which, according to Ulen (2002) at 900, "*...is an absolutely vital part of the development of a mature legal science.*".

be informed by the expected actions of other players such as counter-parties (for example, corrupt officials willing to seek out alternate bribe-payers) and/or competitors (for example, other bribe-payers willing to take their place in the corrupt relationship), while Empirical Legal Studies has the capacity to examine, metric and thus enable rigorous comparisons of the drivers and the impacts of crime, including corruption. Theoretical issues in the law and economics of crime and criminal behaviour are considered in Chapter Five, following.

Chapter Five will examine the law and economics of crime which, as we will see, is a particularly challenging undertaking given there is no single, homogeneous form of 'the criminal'. Rather, those who participate in crimes, such as corruption, have differing degrees of engagement in criminal activity, attitudes to risk, access to information on the law, degree of concern about potential apprehension, and responsiveness to sanctions. These issues will be considered through the prisms of the law and economics of criminal behaviour, enforcement, punishment and deterrence, and the nature of 'markets for criminal activity'. While there is 'no one size fits all' definition of the criminal in all situations, it would appear the Rational Choice approach to law and economics – involving an evaluation of the risks and rewards of criminal activity – is likely offering the better explanation of criminal activity.

Chapter 5: The Law and Economics of Crime

*“The profit of the crime is the force which urges a man to delinquency:
the pain of the punishment is the force employed to restrain him from it;
If the first of these forces be the greater, the crime will be committed;
if the second, the crime will not be committed.”¹⁰⁶²*

Introduction

Analyses of the law and economics of crime¹⁰⁶³ are greatly challenged by the absence of a single homogenous individual form of ‘the criminal’. Beyond the usual socio-demographic characteristics of age, income, gender, social status, ‘the criminal’ in the law and economics context is rendered heterogenous by their: engagement in criminal activity (career and professional vs occasional and opportunistic, moving back and forward between legitimate and illegitimate, not actively seeking, but exploiting, easy options which may present themselves); attitudes to risk (risk preferrers, risk-neutral, risk averse); degree of information on the law, and related capacity to conceal their crime (high, medium, low); concern at potential apprehension (just an occupational risk, or to be mitigated even at

¹⁰⁶² Jeremy Bentham (1843), cited in Cook (1977) at 174.

¹⁰⁶³ The law and economics of crime movement has common foundations with the Chicago school of law and economics – both emanated from the University of Chicago, both in terms of their early journalistic outlets (*Journal of Political Economy*, and, *Journal of Legal Studies*, respectively), and of the authors such as Gary Becker (for a while), Isaac Ehrlich, Richard Posner and George Stigler.

substantial cost); responsiveness to sanctions (low, medium, high disutility for custodial penalties); and, the nature of the punishment regime they are likely to confront (financial vs custodial, as well as any stigma effects); all of which serve to create an almost individualised marginal cost/benefit profile for each and every criminal, actual or potential. Whilst it may be possible to profile the 'average' criminal, analysts should not overlook the potentially substantial variance amongst those who engage in criminal activity¹⁰⁶⁴.

While the scholarly literature on the law and economics of crime is rich in algebraic formulae to carry, and even 'prove', the various arguments, this chapter will lean toward the narrative for ease of exposition and reflecting the home discipline of the thesis being law (rather than fully-fledged calculus). Those looking for mathematical proofs of the various arguments and propositions will find much elsewhere in which to immerse themselves¹⁰⁶⁵. However, there have also been several substantive empirical

¹⁰⁶⁴ Henderson and Palmer (2002) at 147.

¹⁰⁶⁵ For example, Becker (1968); Landes (1971); Posner (1973), in particular the expansive appendix; Block and Lind (1975a); Ehrlich (1977); Polinsky and Shavell (1979); Kaplow (1990b); Malik (1990); Polinsky and Shavell (1991); Shavell (1991) and (1992); Stanley (1995); Rasmusen (1996); Baik and Kim (2001); Henderson and Palmer (2002); D'Antoni and Galiati (2005); Lee and McCrary (2005).

studies which have used cutting edge (for their respective times) leximetric¹⁰⁶⁶ techniques, such as forecasting models¹⁰⁶⁷, panel data¹⁰⁶⁸, path analyses¹⁰⁶⁹, probability modelling-based decision-tree analyses¹⁰⁷⁰ and, simultaneous equation modelling¹⁰⁷¹.

An interesting application of the law and economics of crime is the nexus between regulation and corruption. While regulations can be created to serve public interest¹⁰⁷² or private interests¹⁰⁷³ purposes, they are also vulnerable to being drawn into the vortex of corruption. This has led to a line of scholarly inquiry within law and economics into the relationship between regulation and corruption, in particular the challenging question of ‘which causes which’: does regulation cause corruption, or does corruption cause regulation?

¹⁰⁶⁶ Leximetrics means the application of econometric techniques to the law. For interesting application in the criminal law see, for example, Ehrlich (1977) at 749–760; Blumstein and Nagin (1977), at the appendix; Cook and Zarkin (1985) at 120–125; Grogger (1991) at 300–307; van Tulder and van der Torre (1999) at 479–482.

¹⁰⁶⁷ Cohen et al (1980); van Tulder and van der Torre (1999), for forecasting models of minor criminal offences, such as burglary and robbery.

¹⁰⁶⁸ Witte (1980) at 62; Viscusi (1986) at 323; Philipson and Posner (1996) at 422; Lynch et al (2000) at 231; Katz et al (2003) at 334; Bar-Ilan and Sacerdote (2004) at 6; Lee and McCrary (2005) at 13.

¹⁰⁶⁹ Thornberry and Christenson (1984) at 407.

¹⁰⁷⁰ Viscusi (1986) at 329; Shavell (1990) at 439.

¹⁰⁷¹ See, for example: Ehrlich (1973) at 549; Carr-Hill and Stern (1973) at 291; Orsagh (1973) at 357; Ehrlich and Brower (1987) at 100; Cameron (1988) at 308; Trumbull (1989) at 427.

¹⁰⁷² Such as the regulation of markets to redress economic and social costs associated with, *inter alia*, imperfect competition in markets and/or undesirable market outcomes.

¹⁰⁷³ Where regulations are created and enforced for the benefit of the regulator or those being regulated.

Criminal Behaviour

The criminal law has generally regarded criminal behaviour as deviant social misconduct¹⁰⁷⁴. Whilst not necessarily disputing this fundamentally sociological perspective, the law and economics movement regards criminal behaviour as a rational decision, one where the individual weighs the costs and benefits of their criminal behaviour. In the lexicon of economics, an individual will engage in criminal activity if the expected utility to him/her from doing so exceeds that from alternate uses of his/her time¹⁰⁷⁵, and/or the rewards exceed the risks of criminal conduct, and in particular where the expected marginal benefit is greater than the expected marginal cost¹⁰⁷⁶. For society, enforcement of the criminal law will proceed to the point where the marginal gain in curtailment of crime approximates the marginal costs involved¹⁰⁷⁷. The costs and benefits of the criminal law (and enforcement) chain are merely the price signals of crime¹⁰⁷⁸. Where utility is measured in a monetary sense, as personal income and wealth increase such individuals are less likely to engage in criminal behaviour, or seek criminal activities

¹⁰⁷⁴ Ehrlich (1973) at 521.

¹⁰⁷⁵ Becker (1968) at 176; Ehrlich (1972) at 262; also known as 'the occupational choice approach to crime': Ehrlich (1973) at 522.

¹⁰⁷⁶ Stigler (1970) at 529; Ehrlich (1972) at 262; Ehrlich (1973) at 522; Bar-Ilan and Sacerdote (2004) at 15.

¹⁰⁷⁷ Easterbrook (1983) at 292.

¹⁰⁷⁸ Ibid at 289; Posner (1985b) at 1214; Lee and McCrary (2005) at 1.

which have proportionally higher rewards¹⁰⁷⁹. However, where utility is measured in an intangible manner, or using a psychological metric ('the challenge of getting away with it'¹⁰⁸⁰), economic factors play a lesser role. From the risk/reward perspective, the decision to engage in criminal activity reflects the interaction of factors such as the probability of conviction for each offence, the punishment per offence and a portmanteau of other considerations (for example, reputation costs of even a failed prosecution, or of conviction)^{1081, 1082}.

Attitudes to risk are important determinants of the propensity to engage in criminal behaviour. Some citizens are wholly law abiding, and may well never participate in criminal conduct; others are risk-avoiders, and are unlikely to ever engage in criminal activity, or if they were to do so it would require a substantial margin of reward over risk; some are risk-neutral, and may well evaluate any decision to perform a criminal act as a

¹⁰⁷⁹ The capacity for an individual to engage in legal and illegal activities should not be regarded as mutually exclusive; a person can have a presence in both camps: a young male may be a truck-driver during the day, and a drug dealer at night. Similarly, it is plausible for an individual to work in the legal market for an extensive period, before dipping temporarily into criminal conduct: Ehrlich (1973) at 523–524.

¹⁰⁸⁰ Empirical research for the United States suggests some 40 per cent of criminals engage in wrong doing for hedonistic reasons, such as what they perceive as the 'glamour', 'excitement' or 'enjoying the fast life': Anderson (2002) at 307.

¹⁰⁸¹ Becker (1968) at 177; Rose-Ackerman (2010) at 234, in the specific case of choosing whether or not to engage in and/ or report, corrupt behaviours. According to Stigler (1970) at 530, apprehension and conviction are merely part of the occupational choice decision-making of the criminal, much like physical injuries to athletes – something which just needs to be taken into account.

¹⁰⁸² Empirical research indicates the decision to engage in crime does not involve evaluating the risk of each of apprehension, conviction and sanction, but the conditional probability (that is, interaction) of all three risk elements: Viscusi (1986) at 330. In statistical terms, these probabilities are multiplicative, rather than additive, meaning the cost of errors in estimating what are ostensibly subjective probabilities are likely to be compounding (that is, errors in earlier elements of the apprehension – conviction – penalty chain are likely to come at a higher price than those later in the chain).

straight-forward risk/reward proposition; and, others are risk-takers, who may well have a preference for crime as a means of deriving utility (whether monetary or otherwise) and a tendency to discount risk/inflate reward¹⁰⁸³. Whilst the criminal law cannot be stratified *ex ante* to deal with different attitudes to risk by each and every individual, any given deterrent is likely to be more effective for the risk-averse than risk-neutral or risk-preferrers¹⁰⁸⁴, all other things being equal.

The law and economics of crime approach sees crime as potentially self-perpetuating, for rational economic reasons – that is, individuals with a record of criminal convictions are channelled increasingly into illegal activities through the foreclosure of opportunities in the legal market place. Looked at another way, for many convicted criminals the employment market place narrows with the increase in incidence, nature or seriousness of their offence, pressing them to relocate to the illegitimate marketplace to earn income¹⁰⁸⁵. An accountant convicted of fraud is unlikely to be able to practice in the legitimate market, and may well find him/herself selling their professional skills to those operating in the illegitimate sector. The punishment regime can also play a role in the self-perpetuation of crime, in particular where imprisonment for younger or marginal offenders results in vocational education and training for subsequently career criminals; prisons as ‘colleges of crime’¹⁰⁸⁶.

¹⁰⁸³ Ehrlich (1973) at 528, and (1977) at 742. For an expansive discussion of the likely responses of risk-neutral, -averse, and -preferring individuals to different potential criminal situations, see Polinsky and Shavell (1979) and (2000).

¹⁰⁸⁴ Tauchen et al (1993) at 12.

¹⁰⁸⁵ Ehrlich (1973) at 529. For general discussions of the labour market choice approach to criminal activity, see Block and Heineke (1975), and Freeman (1996).

¹⁰⁸⁶ Ehrlich (1973) at 535 and (1981) at 315; Cook (1977) at 166–167; Shepherd and Rubin (2013) at 3 – 4.

Enforcement

An important challenge for the law and economics of crime sub-movement has been addressing the relative allocation of scarce public resources to different parts of the criminal law chain, in particular between enforcement and punishment. Early theoretical work¹⁰⁸⁷ on the issue proposed the better strategy for controlling criminal activity was to focus on lifting the probability of conviction ahead of strengthening the subsequent penalty regime, which has subsequently been borne out by empirical studies¹⁰⁸⁸. The underlying thinking behind this approach was potential risk-neutral criminals were more concerned at being apprehended than being punished. For law enforcement strategists this meant better resourcing the police and the courts, although it also meant stratification¹⁰⁸⁹.

An important challenge for law enforcement agencies is whether to pursue maximal or optimal enforcement – that is, pursue all law enforcement options to the point of exhaustion (maximisation), or to the point of greatest efficiency (optimisation). The harsh reality of public finance, that taxpayers dollars are not limitless and are subject to other competing calls, means law enforcement is most unlikely to ever be maximal¹⁰⁹⁰. Law enforcement will

¹⁰⁸⁷ Becker (1968) at 181.

¹⁰⁸⁸ Ehrlich (1973) at 553; Witte (1980) at 79; Trumbull (1989) at 429; ; van Tulder and van der Torre (1999) at 476. In short, if the probability of conviction for a crime could be raised to a very high level (even close to one hundred per cent), then penalties could be tailored simply to the social cost of the crime committed.

¹⁰⁸⁹ The cost of such resources is likely to be higher, and their effectiveness lower, the more serious the criminal activity given the more demanding evidentiary requirements and likely greater recourse to concealment and legal defensive measures by the alleged criminal: Ehrlich (1973) at 540–541.

¹⁰⁹⁰ Enforcement agencies will never be able to pursue exhaustively the investigation, apprehension and prosecution of each and every allegation of criminal conduct.

also be bounded by the opportunity cost to the taxpayer of crime control – what else those scarce public resources devoted to policing, prosecutions and imprisonment could have been spent upon (for example, education, health, infrastructure)¹⁰⁹¹. Rather, law enforcement agencies and policy makers will pursue optimal enforcement, taking into account the marginal cost and the marginal benefit of doing so¹⁰⁹², both in the aggregate and in the particular¹⁰⁹³. The marginal cost of enforcement, however, will generally be informed by the marginal benefit of deterring such criminal activity in the future, which in turn is often framed by social values – more law enforcement resources are, understandably, devoted to actioning a murder than a shop-lifting incident, for example.

Optimal enforcement has both supply-of-offences by the criminal, and supply-of-enforcement by law agencies, dimensions. For the career criminal, the propensity to engage in crime (both in its type and level of activity) is framed by the rules of occupational choice¹⁰⁹⁴: what is the net present value of the expected benefits/costs of criminal activity compared to those from legitimate behaviour¹⁰⁹⁵, and what is the impact of the frequency

¹⁰⁹¹ Freeman (1996) at 37.

¹⁰⁹² Stigler (1970) at 527; Easterbrook (1983) at 295; Polinsky and Shavell (2000a) at 49.

¹⁰⁹³ For example, the front line police detective-manager, and public prosecutor in the choice of criminal acts to investigate and prosecute, respectively.

¹⁰⁹⁴ Viscusi (1986) at 317 likens the decision to engage in criminal activity to one to take on hazardous employment. For the person employed in a hazardous job the key issue is one of workplace safety, which can be crystallized into the probability of injury multiplied by a measure of its severity. For the criminal the factors are the probability of apprehension and conviction, multiplied by a measure of the severity (of the sanction).

¹⁰⁹⁵ According to one empirical study (Ibid at 336), the crime risk premium ranges between 54 and 64 per cent. That is, as a generalization, the net return from an illegitimate activity has to be around 54 to 64 per cent higher than from a credible legitimate activity to make the illegal act worthwhile to the criminal.

of committing crime on the probability of apprehension and conviction?¹⁰⁹⁶ Decision-making by the criminal on the frequency at which they commit a crime will be informed by the tendency for the probability of detection to rise with the incidence of criminal conduct, given the potential for law enforcement agencies to learn about the criminal's patterns of behaviour.

The law enforcement agency in the nature and extent of its activity pursues a strategy based on minimising the sum of social damage from crime and enforcement costs. The first part of this calculation involves enforcement to the point where marginal return equals marginal cost, whilst the second part inclines those tasked with enforcement (police and prosecutors) to pursue the frequent violator and those whom cause the most damage¹⁰⁹⁷. The prosecutor will be informed by the opportunity cost of going to trial, taking into account whether the publicly financed resources could be better used elsewhere/in pursuing another enforcement action. In essence, prosecutorial decision-making involves optimising returns (successful prosecutions) within a given financial constraint (a taxpayer-funded budget)¹⁰⁹⁸.

¹⁰⁹⁶ Ehrlich (1972) at 274.

¹⁰⁹⁷ Stigler (1970) at 533.

¹⁰⁹⁸ Easterbrook (1983) at 297.

Punishment

An important challenge for the criminal law is to impose appropriate and effective punishment. The law and economics approach to crime goes one step further, proposing optimal punishment¹⁰⁹⁹. In this regard, analyses of the law and economics of crime have looked at two particular themes: first, the absolute and relative use of financial and custodial penalties; and, second, if maximal penalties, whether financial or custodial, are most effective.

Early work on the law and economics of crime held fines were to be preferred, wherever feasible, as a form of punishment as they were more likely to improve social welfare¹¹⁰⁰. This thinking reflected the social costs¹¹⁰¹ of imprisonment and probation for convicted criminals exceeded those of imposing a financial penalty (which had lower administrative costs for enforcement agencies, and even brought in revenue to the public account). It also built on the foundation financial penalties would be more effective and could be more finely tuned and implemented than imprisonment in imposing marginal increases in punishment¹¹⁰². Fines also have advantages of: being seen by society as compensation for the cost of

¹⁰⁹⁹ That is, minimising the net social loss resulting from crime, measured as the damage caused by the crime, and the costs of apprehension, conviction and punishment: Becker (1968) at 207; Ehrlich (1982) at 5.

¹¹⁰⁰ Becker (1968) at 193. See also: Viscusi (1986) at 328; Easterbrook (1983) at 293; Shavell (1985) at 1232 and (1991) at 1091; Polinsky and Shavell (2000a) at 51. For a contrary view, arguing against the simple substitutability of financial and custodial penalties, Block and Lind (1975) at 246.

¹¹⁰¹ Measurable as the public financial expenses.

¹¹⁰² In the lexicon of economics, fines are sharper, and imprisonment is blunter, policy instruments.

crime (or even a tax on crime¹¹⁰³); not imposing onerous multiple costs on society, being both the cost of the crime itself and the additional cost of funding custodial penalties; economists being generally better able to estimate the elasticities (responsiveness) of individuals to fines than to imprisonment, so allowing better targeted and tailored use of criminal penalties to the crime and the individual; and, setting a transparent, measurable and comparable pricing regime for crime(s), both in their absolute and relative levels¹¹⁰⁴.

However, analysts of the law and economics of crime are not absolute in this preference for fines over imprisonment, recognising society regards some crimes (like murder or serious sexual assault) as so heinous nothing less than a substantial custodial penalty is acceptable¹¹⁰⁵. Similarly, they recognise there are social costs involved in implementing custodial penalties atop of the social costs of the crime already committed, such as the cost to taxpayers of operating a prison system¹¹⁰⁶, and the potential for such institutions to raise the probability of repeat offences either by recidivism or acting as ‘colleges of crime’¹¹⁰⁷.

¹¹⁰³ Cook (1977) at 174; Posner (1980) at 410; Waldfogel (1993) at 139; Friedman (1999) at 259.

¹¹⁰⁴ Becker (1968) at 195.

¹¹⁰⁵ Ibid at 198; Shavell (1985) at 1236. Posner (1985b) at 1209 points out, given the cost of murder to the victim is close to infinity, it is difficult to estimate a sufficiently heavy fine as to deliver effective deterrence to murder.

¹¹⁰⁶ Posner (1980) at 410; Ehrlich (1981) at 317.

¹¹⁰⁷ Ehrlich (1981) at 315; Shepherd and Rubin (2013) at 6-7. Myers (1983) at 165 cautions against using data on repeat offenders as reliable measures of recidivism, pointing out it could also be interpreted as a measure of the individual’s failure as a criminal rather than their commitment of resources to illegitimate activities.

The issue of maximal penalties has been subject to considerable scholarly debate, with the weight of argument, and evidence, appearing to favour the view that imposition of maximal penalties is not appropriate as a consistent and uniform practice in punishment. Whilst maximal penalties can be politically and socially attractive¹¹⁰⁸, the consistent use, or high probability, of maximal penalties can act as a motivation for increased or even maximal concealment of criminal conduct¹¹⁰⁹. Rather, punishment should be proportionate to the crime¹¹¹⁰, tailored to the attitudes to risk of the criminal¹¹¹¹, with maximal penalties being used sparingly as they have the potential to defeat marginal deterrence if used excessively¹¹¹².

The optimal penalty is likely to be proportional to the harm caused by the crime¹¹¹³: modest penalties for the least harmful actions, moving up a ‘punishment curve’¹¹¹⁴ toward a peak of the most onerous penalties (capital punishment, or ‘never to be released’¹¹¹⁵) for the most harmful acts, taking into account the economic and the social costs of imposing the penalty¹¹¹⁶.

¹¹⁰⁸ The ‘tough on crime’ mantra often heard during election campaigns.

¹¹⁰⁹ Malik (1990) at 341.

¹¹¹⁰ Ehrlich (1982) at 6.

¹¹¹¹ Malik (1990) at 352; Kessler and Levitt (1999) at 359.

¹¹¹² If the criminal expects to incur the maximal penalty for a given crime, they have little incentive to moderate their conduct/have an incentive to move to the frontier of misconduct for a given penalty: Polinsky and Shavell (2000) at 63.

¹¹¹³ For an expansive discussion of the challenges involved in quantifying ‘harm’ in the applications of economics to the criminal law, see Lynch et al (2000).

¹¹¹⁴ For an interesting effort to empirically estimate the shape of a punishment curve, albeit at one point in time, see Waldfogel (1993) at 146.

¹¹¹⁵ Even this penalty can be sub-optimal, as it provides no disincentive for a criminal imprisoned for murder not to murder again whilst in prison. In effect, any repeated murders whilst in jail become ‘free-goods’: Posner (1985) at 1211. See Ehrlich (1975) for an expansive discussion of the effectiveness of capital punishment.

¹¹¹⁶ Kaplow (1990a) at 245. A proposition made more complicated in the reality when society wishes to introduce the (non-economic) concept of fairness into the determination of optimal penalties: Polinsky and Shavell (2000a) at 224–229.

In broad and practical terms, this approach means ‘lesser offences’ may be better punished by financial penalties, whilst ‘more serious’ crimes should attract custodial penalties. However, an important determinant of whether a penalty is optimal may well be framed by the attitude to risk of the individual concerned¹¹¹⁷. For the risk-averse individual, any probability of detection and potential criminal charge alone may be optimal, meaning effective deterrence obviates the need to really consider punishment at all; for the risk-neutral individual, the maximum feasible fine is likely optimal (other than for more egregious offences); whilst for risk-takers, it is likely to be onerous, and custodial ahead of financial (all other things being equal). The optimal custodial penalty (that is, the interaction of the duration and severity of imprisonment) is a function of the net expected harm of the alleged criminal conduct, ranging from zero up to a point where the expected net harm of the wrongdoing equals the cost of imprisonment (where a fine is the more efficient penalty), after which expected net expected harm exceeds the cost of incarceration (that is, imprisonment is the better penalty)¹¹¹⁸.

An important challenge for the enforcement agencies, and the judicial processes (in particular, the prosecutors and the judiciary) is the demanding information requirements to enable them to determine, and then impose, optimal penalties. At the highest level, this threshold can be perfect information: the courts are able to obtain full and complete information about the defendant, their actions, their motivations, their expected and realised private benefits from the wrongful act, and their responsiveness to

¹¹¹⁷ Kaplow (1992) at 6.

¹¹¹⁸ Polinsky and Shavell (2000a) at 69.

different penalties for committing a harmful or undesirable action for any given probability of apprehension¹¹¹⁹, a problem made more difficult when the alleged criminal themselves used imperfect information in their criminal decision-making¹¹²⁰. While theoretically engaging, perfect information is rarely available in the real world in which law enforcement agencies and the courts are required to operate, especially with events or responses with very low probabilities which are generally quite difficult to estimate reliably¹¹²¹.

The ‘punishment curve’ is critical information for those looking to engage in criminal conduct¹¹²². In premeditated crimes and/or those based on an *ex ante* rational decision-making process¹¹²³ (in contrast to ‘fits of passion’ crimes which are generally not amenable to mainstream economic analysis¹¹²⁴), the marginal punishment may well impact on the decision to commit a crime, and what crime to commit. If the margin of punishment is narrow, this can act as an incentive for a criminal to engage in relatively

¹¹¹⁹ Shavell (1985) at 1241–1242.

¹¹²⁰ Bebchuk and Kaplow (1992) at 369; Lee and McCrary (2005) at 3; and D’Antoni and Galiati (2005) at 3, pointing to the criminal’s likely imperfect information and/or knowledge of variables such as the probabilities of apprehension, conviction and distribution of penalties.

¹¹²¹ Posner (1985b) at 1208.

¹¹²² The rate at which the burden of penalties for more serious crimes increases. Viscusi (1986) at 321 prefers the term ‘frontier’ to ‘curve’, on the basis the latter can be regarded as the outer limit of criminal behaviour, while the potential criminal may be inclined to engage in something less than maximal criminal activity, depending on how they utilize the various factors which constitute ‘the criminal decision’.

¹¹²³ Analyses of the law and economics of crime assume the individual committing the crime is sufficiently rational to be deterrable: Posner (1985b) at 1205. Studies applying this method of analysis to non-rational, or irrational, individuals are seemingly rare.

¹¹²⁴ Although for empirical studies see: Ehrlich (1973) at 549, who concluded the conventional law and economics of crime approach was less reliable in analyzing crimes of passion than those of premeditation.

more serious crimes¹¹²⁵ – the classic example being kidnapping a victim, and then whether or not to murder them¹¹²⁶. Looked at another way, reducing the penalty of the lesser crime may well diminish the incidence of the greater crime¹¹²⁷. Similar issues arise with the treatment of first-time and repeat offenders, with literature emphasising relatively more severe penalties for any given offence committed by repeat offenders¹¹²⁸.

The determination of the penalty can also impact the incidence of crime and the cost of enforcement. Where the penalty regime fails to impose sufficient penalty for concealment of a crime, over and above the committing of the crime itself, an implicit signal is sent to the criminal to devote more resources to concealment¹¹²⁹. The appropriate response would see the penalty loading for concealment (being in addition to the punishment for the harm caused by the offence itself) rising at least in proportion to the degree of concealment involved in the offence; where it is more than proportionate, this would act as a disincentive to concealment. Such a penalty loading would also need to take into account the higher cost to taxpayers of funding law enforcement of more intensively concealed crimes¹¹³⁰.

¹¹²⁵ Ehrlich (1977) at 751.

¹¹²⁶ Ehrlich (1975) at 401, and more broadly for a wider discussion of the marginal effects of capital punishment at the highest point of the punishment curve. Also, Polinsky and Shavell (2000a) at 63.

¹¹²⁷ Posner (1985b) at 1207.

¹¹²⁸ Chu et al (2000) at 135; Emons (2004) at 41.

¹¹²⁹ Stanley (1995) at 1.

¹¹³⁰ Becker and Stigler (1974) at 2.

Deterrence

In the law and economics of crime, the underlying objective of deterrence is clear-cut: it aims to modify the ‘price of crime’ for offenders, actual and prospective, by intervening in the determination of the marginal cost/benefit (or risk/reward) equation¹¹³¹. The subsequent challenge becomes identifying ‘the best form of deterrence’: whether it is punishment or prevention; if punishment, fines or imprisonment; if punishment, maximal or optimal; if prevention, private or public; and, what permutations and combinations of these factors. The ongoing scholarly debate on each of these points, individually and interactively with each other, suggests the best which can be said is ‘there is no one size that fits all’, and the best approach may be contextual.

The use of financial penalties (fines) is seen¹¹³² as the first-best form of punishment, wherever they are feasible and appropriate for the crime. The effectiveness of fines tends, however, to be determined by their proportionality to the wealth of the convicted criminal¹¹³³ – a fine of any given money amount will likely have a greater impact on a low than a high income/wealth individual¹¹³⁴. The appropriate response to this seemingly regressive aspect would be to stratify the financial penalty regime to the capacity to pay of the criminal¹¹³⁵, set in the context of an equivalent

¹¹³¹ Ehrlich (1981) at 312.

¹¹³² Ehrlich (1981) at 317 and (1982) at 6; Posner (1980) at 409; for a more qualified view, in relation to organized crime, see Coffee (1980) at 419.

¹¹³³ Polinsky and Shavell (1991) at 618.

¹¹³⁴ A potentially heavy burden for the former, and a trifle for the latter.

¹¹³⁵ Bar-Ilán and Sacerdote (2004) at 2.

disutility the convict would have experienced through imprisonment¹¹³⁶. In this situation, the well-targeted fine becomes analogous to a system of progressive taxation, with a transfer payment from the individual to society¹¹³⁷. However, given the low income/wealth levels of many career criminals, even fines of a modest amount are likely to be a substantial share of their financial assets, thus potentially rendering the convict unable to pay and imprisonment as the only credible penalty¹¹³⁸.

The effectiveness of imprisonment as a punishment tends to be conditional on the income, wealth and social status of the criminal: those at the upper end of these ranges tend to have a strong aversion to imprisonment, and hence it has a greater deterrent effect on their conduct, than those at the lower deciles; they have more to forego or lose in income, wealth and social status¹¹³⁹; the 'stigma effect' of imprisonment¹¹⁴⁰.

¹¹³⁶ Posner (1980) at 410, although this may only apply to affluent offenders and/or perpetrators of white collar crimes, as some offences are regarded by society as so egregious that no money amount would be acceptable: Ibid at 411.

¹¹³⁷ Bar-Ilan and Sacerdote (2004) at 16.

¹¹³⁸ Shavell (1985) at 1238. Consider the case of the drug-addicted criminal, who undertakes criminal activity to fund their addiction; they are unlikely to have any real wealth or much in the way of non-committed legitimate income.

¹¹³⁹ Block and Lind (1975b) at 488.

¹¹⁴⁰ Witte (1980) at 80; Posner (1980) at 414. Although stigma effects can also apply for certain forms of crime punished by financial penalties, see Blumstein and Nagan (1977) at 269.

The stigma effect of a custodial penalty is generally regarded as sociological¹¹⁴¹ although it can also be economic¹¹⁴². As such, the economic effect of stigma becomes one of a longer term discount on future labour income for the individual(s) concerned. At the same time, stigma may not be linear, rising in proportion with the amount of time spent in prison, but rather have an absolute rather than a relative impact – that is, there is a disutility of having been imprisoned per se, largely regardless of the length of time spent in custody¹¹⁴³. As a consequence, stigma has diminishing effectiveness in addressing recidivism – having ‘lost one’s reputation’ the marginal stigma cost of future criminal penalties converge on the negligible. Indeed, stigma may promote criminality through recidivism as a rational response to the adverse economic effects of limited legitimate employment opportunities¹¹⁴⁴.

The certainty attached by law enforcement agencies and by criminals to the likely penalty for a criminal act also influences its effectiveness, with uncertainty over the penalty (and hence creating doubt or imprecision in the risk/reward equation) generally enhancing effectiveness¹¹⁴⁵. Individuals, even experienced criminals, are likely to have imperfect information, let alone reasonable knowledge, of the probability and/or the magnitude of

¹¹⁴¹ Mainstream citizens avoid social interaction with criminals, regarding them as ‘undesirable’.

¹¹⁴² Persons with criminal records being limited to lower wage, less attached and low/non-career employment, or even extended unemployment (Rasmusen (1996) at 520), and/or become less appealing prospects for marriage/life-partnering (Shepherd and Rubin (2013) at 6).

¹¹⁴³ Polinsky and Shavell (2000) at 47.

¹¹⁴⁴ Ehrlich (1972) at 264; Cook (1977) at 168; Myers (1983) at 163; Thornberry and Christenson (1984) at 398; Rasmusen (1996) at 539.

¹¹⁴⁵ Block and Lind (1975b) at 484; Harel and Segal (1999) at 277. However, this uncertainty has been criticized as creating something of a lottery in the enforcement process: Ehrlich (1982) at 4.

apprehension, conviction and sanction. Rather, their information set is likely to range somewhere within the spectrum of little or only vague information, to subjective or at most objective probability distributions¹¹⁴⁶. Law enforcement agencies may see a tactical advantage in keeping precise information confidential, or uncertain, although it would appear most members of society, and criminals in particular, have good general senses of the likelihood their acts, as a class, are harmful¹¹⁴⁷.

The effectiveness of imprisonment on the incidence of criminal behaviour is also influenced by the elasticity of supply of potential offenders. Quite simply, if convicted criminals who are incarcerated for their offences are readily replaced by either new entrants to that criminal marketplace, or stepped up activity by existing players, the market supply of criminal behaviour is likely to remain fairly much unchanged¹¹⁴⁸. This situation is more likely to occur for crimes against property¹¹⁴⁹ or so-called ‘victimless

¹¹⁴⁶ With little likelihood of having made a robust estimate of conditional probability – that is, the cumulation of the probabilities of apprehension, conviction and penalty: Polinsky and Shavell (2000a) at 68. For an empirical study bearing out “*the self-perceived invincibility amongst criminals*” see Anderson (2002). He estimates some 76 per cent of potential criminals are ill-informed about one or more elements of the probabilities of the apprehension – conviction – punishment chain, with 83 per cent believing they would not be caught for their wrong doing: Ibid at 304.

¹¹⁴⁷ Kaplow (1990b) at 94.

¹¹⁴⁸ Cook (1977) at 169; Ehrlich (1981) at 316; Posner (1985b) at 1216; Cameron (1988) at 305; Freeman (1996) at 36. For example, if the arrest, conviction and imprisonment of a given number of drug dealers induce new dealers to enter the market for the supply of drugs, or existing suppliers to fill the gaps created by their now-imprisoned competitors, the incidence of criminal activity does not diminish, assuming the original conviction had no impact on consumer demand.

¹¹⁴⁹ Particularly where there is a strong secondary market for the criminally obtained property – for example, stolen alcohol, tobacco, household electrical appliances or motor vehicles (whole or parts): Ehrlich (1981) at 309.

crimes¹¹⁵⁰, than for those against persons¹¹⁵¹. Such effects have also been found in empirical work on the elasticity of different forms of crime, with high levels of substitutability between various types of property crime (although not between property and crimes against the person)¹¹⁵², suggesting an ‘underlying rate of crime’ where the law enforcement chain impacts the composition more than the level of aggregate criminal activity. The additional challenge for law enforcement agencies therefore becomes how to impact the substitutability between crimes, and the nature and extent of competition and contestability in the marketplace of crime¹¹⁵³.

One aspect of the deterrence stream of the law and economics approach to crime which appears to have attracted relatively little attention has been the role of law enforcement agencies in preventing crime – more specifically, intervention occurring at the earliest stage, before the criminal act takes place or failing that causes an offence of lesser social harm. Identifying the optimal point of intervention (prevention vs punishment) will be informed by the marginal deterrence of the ‘punishment curve’. If the marginal deterrence for an offence is regarded as ‘too low’ by criminals¹¹⁵⁴, the

¹¹⁵⁰ For example, voluntary participation in criminal acts such illegal gambling, prostitution, and use of illegal narcotics: Becker and Stigler (1974) at 4.

¹¹⁵¹ Ehrlich (1996) at 54.

¹¹⁵² Levitt (1998) at 361.

¹¹⁵³ A ‘crack-down’ on any one form of crime by law enforcement agencies driven down the net dividend for criminal activity in that area but, *ceteris paribus*, raise the net dividends on another area: Viscusi (1986) at 322.

¹¹⁵⁴ The expected marginal benefit of a crime to them exceeds the potential marginal cost to them.

prevailing sanctions regime is unlikely to be an effective deterrent, and law enforcement agencies will have to place greater reliance on prevention¹¹⁵⁵. An inherent problem in the prevention-based model is the substantial information demands imposed upon law enforcement agencies: they need to have accurate information about potential criminal acts before they occur, which is likely to be problematic for higher level crimes and/or those where the criminal invests substantially in concealment.

A Market for Criminal Activity

The great bulk of the scholarly work on the law and economics of crime has come from what can be considered a partial perspective¹¹⁵⁶ – that is, a detailed and intensive examination of a particular dimension of the broader issue, such as enforcement, deterrence or punishment. Somewhat rarer are generalised perspectives – those which seek to adopt a more wholistic, overview standpoint¹¹⁵⁷. Such integrated frameworks have been referred to as ‘a market model of crime’¹¹⁵⁸ and build on several key pillars: participants in the criminal market place, whether criminals, victims, and/or the various law enforcement players behave in an optimising manner; they form expectations of the relative availability of legitimate and illegitimate

¹¹⁵⁵ Shavell (1993) at 261.

¹¹⁵⁶ This comment should not be regarded as a criticism of such approaches, which have been the backbone by volume and value, in the development of the law and economics of crime. Rather, is a means of distinguishing different approaches.

¹¹⁵⁷ Which necessarily build upon the foundations put in place by the partial analyses.

¹¹⁵⁸ Ehrlich (1996) at 44.

activities, and on the certainty and severity of punishment; the distribution of preferences for crime ¹¹⁵⁹have a stable distribution throughout the population; the objective of law enforcement is the maximisation of social welfare¹¹⁶⁰; and, the behaviour of all individuals leads to an equilibrium, or a long-run level of crime. The competitive advantage of this model is its capacity to take into account the interaction between the different elements.

In the market model of crime, the supply of offences reflects a risk-neutral individual's decision to engage in illegal activity which in turn is based on the expected net balance of the risks and rewards of doing so, and the availability of legitimate and illegitimate activities. On the other side of the market are the demand for offences, which in the case of illegally obtained goods and services is the market for the purchase of such ill-gotten gains (for example, what is 'the market' for stolen plasma televisions). Public enforcement of the law involves assessing the marginal costs of enforcement against the marginal benefits of crime prevention, taking into account the potential complementarity and substitutability of different crimes. The market for crime will be in equilibrium when criminals looking at the net expected return from crime, and government through law enforcement agencies looking at net social welfare, do not feel any need to adjust their

¹¹⁵⁹ Including attitudes to risk of undertaking crime.

¹¹⁶⁰ The minimisation of social loss resulting from criminal activity.

conduct and thus change the prevailing net price of crime. Empirical testing of the integrated market model of crime¹¹⁶¹ bears out one of the foundation stones of the law and economics of crime literature: the efforts of law enforcement agencies in apprehending and convicting the criminal are likely to be more effective than pursuing a specific penalty.

Law and Economics of Regulation and Corruption

Any general reading of the law and economics, and of the corruption, literatures will almost inevitably come across the interaction between regulation and corruption. These literatures deal with issues such as: the theoretical drivers of regulation, whether it is created and enforced in the public interest of society or in the private interest of those doing and those being regulated; and the positivist perspective of ‘which causes which’ – that is, whether regulation causes corruption, or corruption causes regulation. While not a central theme of this study, the interaction between regulation and corruption provides an interesting insight into a key relationship in law and economics.

An important hurdle in the study of the law and economics of regulation is the general lack of a consensus definition of the term ‘regulation’. For the purposes of this study, we take regulation to be the use of legal instruments to achieve economic-social policy objectives, and these instruments can be used by the regulatory authority to require behaviour under penalty of

¹¹⁶¹ Ibid at 62.

sanctions¹¹⁶². Economic regulation tends to address issues both of structure and of conduct: the former is concerned with regulating market structures, and the entry/exit from participation in a specified market, for example an individual holding the professional qualifications required to practice¹¹⁶³; and, the latter, with behaviour in a market, for example regarding anti-competitive conduct such as price fixing or market sharing. Social regulation focuses on social (and/or other non-economic) issues, such as consumer, environmental and labour protection matters, although it soon becomes clear the two areas are not mutually exclusive (most notably, social regulation can have economic impacts, and economic regulation can have social impacts).

Both economic and social regulation impact on the efficiency of markets, with substantial literatures across several disciplines¹¹⁶⁴ presenting arguments and case studies of how regulations, by design, are intended to improve the efficiency of markets¹¹⁶⁵ and where they reduce the efficiency of markets¹¹⁶⁶. Regulatory interventions in the operation of markets impact on efficiency through two main channels. The first of these channels is static efficiency, which in turn can be divided into productive and allocative efficiency: productive efficiency referring to the situation where production takes place at minimum cost¹¹⁶⁷; whilst allocative efficiency means the

¹¹⁶² Adapted from den Hertog (2000) at 223.

¹¹⁶³ Commonly found in accountancy, architecture, law and/or medicine.

¹¹⁶⁴ Economics, law, public policy and sociology, to name just a few.

¹¹⁶⁵ Where they are considered necessary to redress anti-competitive conduct.

¹¹⁶⁶ Where they distort and/or impede the dynamics of demand and supply. Expansive discussion of this debate, and review of the arguments and evidence, is outside the scope of this study.

¹¹⁶⁷ Productive efficiency can also encompass 'x-inefficiency' which can arise where monopoly firms choose, and are able, to operate at less than optimal efficiency due to the absence of effective market competition: Depoorter (2000) at 502.

correct range and mix of goods and/or services is produced. The second is dynamic efficiency, which addresses the potential for future gains available from the optimal application of scarce economic resources arising from, for example, management or technological changes or innovations. A key outcome of dynamic efficiency is either lesser resources are used to produce the same quantity/quality of goods and services, or the same amount of resources can produce an increased quantity/quality of goods and services¹¹⁶⁸. Regardless of the efficiency impact of different regulatory strategies and interventions, regulation results in what economists call ‘deadweight costs’¹¹⁶⁹. Regulatory interventions, at least in theory, occur when the benefits exceed the costs associated with the regulation.

The law and economics of regulation literature places regulatory theory into two main categories: public interest theory¹¹⁷⁰; and the private interest (also known as Chicago) theory.

¹¹⁶⁸ Dynamic efficiency can also mean, in a macro-economic context, the speed with which markets clear and economies stabilise in response to wider government or market conduct, or exogenous events.

¹¹⁶⁹ The loss to economic and social welfare associated with the public administration of any regulatory regime, usually measured as some subsidy or tax-revenue equivalent: Becker (1983) at 376, and (1985) at 334-335; see also the discussion in this study on government failure.

¹¹⁷⁰ The footprint of the public choice school of law and economics has been quite modest in the area of the law and economics of regulation, and in the small number of scholarly studies from the public choice perspective have tended to be grouped under the umbrella of the public interest theory.

. Public Interest Theory

Public interest theory, in its simplest form, holds governments intervene in markets and/or society to advance the public interest. In a law and economics context, and focusing on the regulation of markets and market behaviour, regulatory interventions attempt to redress the economic costs associated with imperfect competition, unbalanced market behaviour, missing markets and undesirable market outcomes. Under the public interest theory, regulations dealing with imperfect competition address market characteristics such as cartels and monopolies, for example: by prohibiting their creation, or allowing their existence and operation only under certain conditions relating to their conduct and regulatory oversight; and/or, where there are natural monopolies, optimal productive efficiency is most likely to be achieved when output is concentrated in the hands of a single producer, regulations are likely to focus on preventing abuse of that market power, the treatment of potential competitors for all or part of the market and the development of new technologies.

Regulations dealing with unbalanced market operations are intended to promote the stability of markets, and facilitate the expeditious realisation of market equilibrium (that is, remove, or failing that minimise, impediments to signals of demand and supply in markets). Unbalanced market operations-based regulations have application where producers engage in destructive competition for reasons of over-capacity, or sizeable and yet-to-be fully recovered sunk costs of production (usually relating to a substantial

capital investment in new production capacity). In this state of affairs, competitors in the market-place may attempt to 'wait-out' other players, expecting other producers to incur the commercial and financial costs of adjustment (usually in the form of exiting the industry), with any sectoral rationalisation potentially resulting in a natural oligopoly (that is, only a small number of firms supplying the relevant market).

Missing market regulation attempts to deal with circumstances where potentially viable and sustainable markets simply do not exist due to impediments such as informational problems, or external effects and public goods. Informational problems can take the form of the absence of information about potential consumers or producers to counter-parties¹¹⁷¹ or conditions in a market (demand, supply and/or prices) for consumers and producers, the absence of which can result in shrinking markets¹¹⁷². However, such problems are more likely to take the form of informational asymmetries between market players which can result in outcomes such as adverse selection¹¹⁷³ and moral hazard¹¹⁷⁴. Adverse selection and moral hazard considerations underpin arguments for regulations of certain professions and trades, such as builders, electricians and plumbers.

¹¹⁷¹ Consumers may be poorly informed about potential suppliers, and firms may not be aware of potential markets for their products.

¹¹⁷² With implications for the emergence of oligopolies and/or monopolies.

¹¹⁷³ Where the purchasing decisions of insufficiently informed consumers cause higher quality goods to be driven out by lower quality goods.

¹¹⁷⁴ Where parties to contracts and/or transactions misuse their absolute and relative informational advantages, for example relating to the quality and/or risks associated with a product or service. For example, a patient in a surgical procedure may otherwise not be fully informed about the risks involved.

Missing markets can be remedied, according to public interest theory, through the provision of public goods and services within a regulated framework. Such goods and services tend to have several core characteristics: they are generally not commercially viable for the private sector to supply; it is impossible, or prohibitively expensive, to exclude people from consuming or otherwise benefiting from supply if they fail to pay; and, consumption by one person does not preclude another person from also consuming that good or service¹¹⁷⁵.

Finally, public interest theory posits a remedial role for regulation in dealing with undesirable results from the conduct of liberal markets. The benchmark for determining what is or is not 'undesirable' is often judgemental, and involves referencing economic outcomes against social aspirations: regulation involves a trade-off between economic efficiency and social equity objectives. As such, the primary function of regulation moves from focusing upon the economic efficiency to the social equity of the use of scarce resources¹¹⁷⁶.

Not surprisingly, the public interest theory approach to regulation has attracted a spectrum of criticism. These criticisms range across: challenges to the underlying tenet of the public interest theory, that of market failure, with respondents pointing out liberalisation of markets, rather than

¹¹⁷⁵ Conventional examples include road and sea safety, public law and order and national defence services, and access to the radio spectrum.

¹¹⁷⁶ Prominent examples include standardised pricing and implicit cross-subsidisation for publicly provided postal and transport services, where the unit cost-surplus' of short-distance/urban carriage are higher, with the differential used to subsidise, longer haul/remote area services.

increased regulation of them, will better address the perceived problem¹¹⁷⁷, and claims ‘government failure’ from poor regulatory design and implementation impose greater economic and social costs than the original ‘market failure’ claimed to justify the regulatory intervention¹¹⁷⁸; the assumption government has perfect information on the perceived problem, and is able to identify and implement efficiently the optimal regulatory response¹¹⁷⁹; the assumption government regulation is costless (that is, does not of itself create information-search, or product-transaction costs) and efficient (by intervening to remedy a perceived problem in one part of the economy, it does not create otherwise avoidable inefficiencies elsewhere in the economy¹¹⁸⁰.

. Private Interest Theory

The Chicago school of law and economics were early critics of the public interest approach to regulation, either: questioning the need per se for regulatory intervention and proposing a long-term contracting approach to remedying the ‘market failures’ claimed to justify regulatory interventions; or, advocating what could politely be called ‘the private interest theory of regulation’¹¹⁸¹, or more acerbically ‘the capture theory of regulation’¹¹⁸². The

¹¹⁷⁷ Thinking which provided the fundamental force behind the deregulation movements which began in the 1970s, and continued for the following three decades, in many western industrialised, transitional, and some developing, economies.

¹¹⁷⁸ See Coase (1960) at 18; Posner (1974) at 340 and (1975) at 807. The prevalence of government failure over market failure is sometimes regarded as ‘Coase’s Second Theorem’, a topic addressed elsewhere in this study.

¹¹⁷⁹ To which Noll (1983) at 377 responded by arguing the public interest theory of regulation be recast from pursuing optimality or perfection in redressing market failures, just superiority over market-based alternatives.

¹¹⁸⁰ Posner (1974) at 340.

¹¹⁸¹ Stigler (1971) at 3.

Chicagoans regard regulation, like taxation, as another mechanism by which governments can achieve their redistributive and/or re-allocative functions¹¹⁸³.

The long-term contracting approach to regulation¹¹⁸⁴ holds there is no situation where regulation by public sector agency can be guaranteed to deliver optimal social welfare. Rather, where a regulatory agency seeks to constrain a monopolist (or even oligopolists) to competitive levels of pricing and production, the better approach is a public auction of a defined franchise contract to either manage the natural monopoly (where it is in public ownership) or to operate in the monopoly/oligopoly space (where it is in the private sector). In this situation, the auction mechanism would require those participating in the bidding process to offer a package of price, quantity and other characteristics which would converge on the competitive outcome¹¹⁸⁵, and facilitate the transfer of any potential economic rents (above normal profits) from the private to the public account. Key provisions which the parties would need to include in any contracts would include: duration (balancing the relative merits of longer vs shorter term lengths); pricing (including inflation-based adjustment rules); quality of service (set as specified requirements vs aspirations, and any penalties); adjustment clauses (where conditions change); and, the treatment of cross-subsidises (for example, of household consumers of utility services)¹¹⁸⁶.

¹¹⁸² Posner (1974) at 335; Peltzman (1976) at 228.

¹¹⁸³ Posner (1971) at 23.

¹¹⁸⁴ The seminal work in this area being Demsetz (1968); see also Priest (1993).

¹¹⁸⁵ Demsetz (1968) at 65.

¹¹⁸⁶ Priest (1993) at 309–312.

This long-term contracting model for improving regulatory effectiveness was extended in the form of the contestable markets approach to regulation¹¹⁸⁷, the central tenet of which was that where there was free entry and exit from a market the threat of potential competition would deliver superior efficiency than could be achieved under governmental regulation. In this situation, dominant market players, whether they be private sector monopolies or oligopolies, would conduct themselves in a manner close to how they would behave in a competitive market, lest any deviation from such behaviour motivate new rivals to enter their market space. The contestable markets approach, however, does not call for 'no regulation at all', rather it advocates government, when designing regulatory interventions, should direct their efforts to tackling barriers to entry to markets by potential competitors and to promoting an environment which facilitates market-competition¹¹⁸⁸.

Under the private interest/capture theory, regulation originates at the behest, and/or over time ultimately comes to serve the interests, of the regulators themselves or the firms/industry being regulated¹¹⁸⁹. In the case of regulator self-interest, regulators design and implement regulations to advance their own private interests, whether this takes the form of the

¹¹⁸⁷ The foundational works in this area were those of Baumol (1982) and Baumol et al (1982).

¹¹⁸⁸ In the situation of a monopoly or oligopoly market, the better role for regulators is to encourage, rather than discourage, new entrants to the relevant market(s); the least desirable are regulations which impede contestability by creating barriers to entry and/or exit.

¹¹⁸⁹ The seminal work in this area being that of Stigler (1971).

opportunity to extract rents (such as bribes¹¹⁹⁰), expand their bureaucratic empire, defeat or exclude competition from alternative regulatory agencies¹¹⁹¹ or to advance a political or social agenda¹¹⁹².

In the first stream (the behest approach), the firms/industries concerned seek regulation as a means of controlling the behaviour of existing operators, and/or the entry of new (competitor) players thus providing legal protection (via regulation) for what competition law might otherwise prohibit (pseudo cartelisation)¹¹⁹³. In the second stream of thinking (the 'serving their own interests' approach), the regulatory agency avoids conflicts with the regulated firms/industries as it requires their co-operation in obtaining necessary information and indeed, even justifying its own existence if the relevant firms/industries at their own initiative 'fix the problem' which motivated the original regulatory intervention, while regulators may well be looking, post public service, for second or semi-retirement careers in the firms/industries they had previously regulated.

The capacity of private interests to engage with, and exploit, the regulatory processes for their own advantage tends to be a function of the vigour and the size of the group: private interests more passionate about, and committed to, their sectional agenda tend to be more effective in achieving regulatory capture than their less energised counterparts; and, smaller

¹¹⁹⁰ McChesney (1987) at 105.

¹¹⁹¹ McKenzie and Macaulay (1980) at 304.

¹¹⁹² Ibid at 298, who consider the case of regulators with anti-free market politics.

¹¹⁹³ Demsetz (1968) at 65; Stigler (1971) at 5 – 7; Posner (1971) at 345; McChesney (1987) at 105.

groups tend to operate more effectively than larger groups, given the likely greater homogeneity of their interests (and in some cases, their geographic concentration) and ability to concentrate on a narrower agenda, have lower transaction costs of membership and compliance, and greater ability to deal with ‘free rider’ problems (that is, restricting the benefits to those directly participating in the process, and excluding any gains flowing to non-members)¹¹⁹⁴. For these reasons, producer interests are more likely to, and more effectively, engage in regulatory capture than consumer interests.

To some Chicagoans, the regulatory process is merely a mechanism for the redistribution of wealth, with participating interests seeking to (implicitly) tax other parties outside of, and transfer the gains to, their own group¹¹⁹⁵. Key challenges for participants – whether politicians on the supply side or producers/consumers on the demand side of the regulatory equation – in designing and administering such an arrangement include narrowing the base of effective opposition (those losing from the redistribution), not placing an excessive burden (loss) onto a single or small number of groups such that they are motivated to mobilise against the regulation, and ensuring the effectiveness of the regulations¹¹⁹⁶.

The private interest theory of regulation sees the role of politicians not as honest or mere brokers, but rather as active players, in the regulatory process. In this approach, the activist–politician engages in the regulatory process to extract rents to his/her advantage both by creating regulations

¹¹⁹⁴ Posner (1971) at 345–350; Peltzman (1976) at 213; Becker (1985) at 330.

¹¹⁹⁵ Stigler (1992) at 459; Becker (1985) at 330; Peltzman (1976) at 212.

¹¹⁹⁶ For example, to market entry which sustain higher-than-market-determined prices.

which benefit an affluent or influential vested interest, or threatening to create regulations which adversely impact such interests¹¹⁹⁷, in return for consideration such as organising votes, financial contributions or even bribe payments¹¹⁹⁸. In the latter case, the activist-politician may gain by forgoing his/her legislative discretion to impose some regulatory-based burden on the potentially impacted group, for example constraining their market activities, or reducing their economic and/or social rents obtained from existing regulation through targeted deregulation¹¹⁹⁹.

One potential response by those subject to the attention of the activist-politician is to form coalitions to defend their interests, although such arrangements can provide information to aggressive politicians on potential targets for new and/or additional rent-extraction¹²⁰⁰. The adverse economic and social costs of such regulatory gaming by predatory politicians also include the tendency for entrepreneurs and others in the private sector to inefficiently skew their investment decisions toward capital which is short-lived, mobile or salvageable (that is, not firm-specific, but potentially saleable) as a form of insurance against political risk and even expropriation¹²⁰¹. Insofar as the activist-politician prices his/her regulatory

¹¹⁹⁷ The activist-politician does not necessarily have to implement their threat to ensure a beneficial rent extraction, rather the threat only has to be sufficiently credible to the other party.

¹¹⁹⁸ Peltzman (1976) at 213.

¹¹⁹⁹ Such rent-extraction by politicians is not limited to those who were party to the original regulation, but can engage future politicians who may also seek rents from the beneficiaries of regulation to prevent potentially adverse changes to the established regulatory regime (for example, partial and/or selective deregulation): McChesney (1987) at 102–104.

¹²⁰⁰ McChesney (1991) at 86.

¹²⁰¹ McChesney (1987) at 108.

action/inaction agenda on their knowledge of the capacity to pay of the targeted firm, industry or sector, the latter have greater incentive to conceal such information, motivating (what is for them a rational decision to engage in) less than fulsome and transparent corporate and financial reporting (for example, concealment of profits, and tax avoidance). Such hunting and avoidance behaviours come at a cost to economic efficiency and thus social welfare.

Not surprisingly, the Chicago theory of regulation has attracted criticisms ranging across its inability to explain: the incapacity of firms to prevent the creation, or ongoing operation, of regulatory agencies which are contrary to the former's interests; situations where the regulatory agency serves the interests of third parties ahead of those being directly regulated, such as consumers before firms by a competition regulator); cases where firms/industries are self-admittedly providing involuntarily goods and services in forms, means or ways (that is, other than what they would do in the absence of the regulation); where they are compliant with regulations which are directly contrary to the profit maximisation objectives of the enterprise, as distinct from actively seeking to have them at least modified, if not repealed; and, social, in contrast to its primary focus on economic, regulation¹²⁰².

¹²⁰² den Hertog (2000) at 235 -236, and at 241-243.

. The Regulation – Corruption Nexus

As noted earlier in this study, regulation is a covariate¹²⁰³ of corruption, which in turn raise the question of ‘which causes which’? Does corruption cause, or precede, regulation; or does regulation cause, or precede, corruption? In the former situation, corrupt actors both outside and within government use bribery and other forms of corruption to generate advantageous regulatory environments, for example in the form of anti-competitive or protective regulations which earn them economic rents. In the latter situation, those with regulatory powers, both of creation and/or of enforcement, solicit and obtain corrupt payments for the production and/or selective enforcement of targeted regulations.

Scholarly research generally indicates a bidirectional causal relationship between corruption and regulation: corruption drives regulation¹²⁰⁴, and regulation drives corruption¹²⁰⁵, with no definitive modelling of which may causally precede the other¹²⁰⁶. While a meta-analysis (study-of-studies) would suggest the weight of scholarly opinion may appear to favour the regulation-causes-corruption view, there are sufficient studies pointing in the other direction (corruption-causes-regulation) to say the matter still remains to be finally settled. Nevertheless, dedicated quantitative modelling

¹²⁰³ One of the factors which are potentially related to corruption.

¹²⁰⁴ Aidt and Dutta (2008) at 337; Kaufman and Wei (1999) at 12; Hellman and Schankerman (2000) at 571; Ogus (2004b) at 333.

¹²⁰⁵ Fredriksson (2000) at 459; Johnson et al (2000) at 504; Damania et al (2004) at 372; Dreher and Schneider (2006) at 10.

¹²⁰⁶ In effect, it is not possible to unpack the directionality: Guriev (2004) at 489.

on the corruption-regulation relationship¹²⁰⁷ has shone some useful light on some of the inter-relationships between corruption and regulation, including higher incidences of corruption tends to lower the level of regulatory compliance¹²⁰⁸ and involve the creation and enforcement of higher cost/lesser efficient regulatory regimes than would otherwise have been the case¹²⁰⁹.

Another dimension of the corruption-regulation nexus is the quantum of the bribe price which can be charged or the payment which can be offered, with the transaction amount generally being greater in situations where: the corrupt official has greater monopoly power in their regulatory domain and/or higher levels of discretion in regulatory enforcement¹²¹⁰; the cost of compliance by the impacted firm or industry with the regulation is higher and hence, their increased willingness-to-pay, presumably up to that cost, to avoid the regulation¹²¹¹; there is less competition in the sector or industry and as such greater monopoly rents available for extraction by the corrupt official and/or greater willingness-to-pay on the part of existing players to avoid pro-competitive regulations¹²¹²; the firms/industry are simply more

¹²⁰⁷ That is, scholarly studies using rigorous quantitative methods where the corruption-regulation nexus was a key, as distinct from an ancillary, research question.

¹²⁰⁸ Damania et al (2004) at 363.

¹²⁰⁹ Aidt and Dutta (2008) at 338.

¹²¹⁰ Goudie and Stasavage (1998) at 118; Ades and DiTella (1997a) at 504; Kaufman and Wei (1999) at 5; Wei (1999) at 17; Ogus (2004b) at 331.

¹²¹¹ Ades and DiTella (1997a) at 510.

¹²¹² Ibid.

profitable, and thus have a greater capacity-to-pay, as a result of inherent entrepreneurship and commercial endeavour¹²¹³; and, price regulation is involved such that the returns from laxer regulation, in terms of higher prices which can be charged by producers, are greater¹²¹⁴.

Summary and Conclusion

The law and economics of crime literature overwhelmingly, at least by volume, sits within the Rational Choice framework. Individuals engage in criminal conduct, either as a one-off, an occasional or a career activity, based on relative expected utilities: in essence, do/will the risks exceed the rewards from criminal behaviour. For society, criminal law enforcement will proceed up to the point where the marginal costs equal the marginal benefit after which enforcement is likely to be sub-optimal. Such estimations are made more complicated by the tendency for individuals to have different attitudes to risk, and for societies to have non-fixed marginal costs and benefits across space and time).

A related challenge for law enforcement policy-makers, and indeed agencies such as police and prosecutors, is whether to pursue maximal or optimal enforcement – the former being enforcement to the point of exhaustion, the latter to the point of greatest efficiency. Given criminal law enforcement is financed by limited taxpayer funds, in reality enforcement is likely to proceed to ‘constrained optimisation’¹²¹⁵.

¹²¹³ Kaufman and Wei (1999) at 7; Svensson (2005) at 32.

¹²¹⁴ Dreher and Schneider (2006) at 11.

¹²¹⁵ That is, within the opportunity costs of alternate uses of those enforcement resources.

An allied issue is maximal or optimal punishment: when sentencing for criminal offences, should the judiciary impose the maximum available penalty for the offence category; or should the punishment be optimal in the circumstances of the particular offence, taking into account the particularities of each case? But effectively imposing optimal punishment requires complete knowledge of the true risk/reward profile of the individual criminal, something which may be difficult to discern and/or subject to deliberate misrepresentation (in a game theory sense) by the felon, or creative representation by counsel, during the sentencing phase.

The law and economics of crime literature also usefully underscores the various actors in the criminal justice system – those who partake (actually or prospectively) in criminal behaviour, and those engaged in the law enforcement chain – are effectively participants in a ‘market for crime’. Criminals sit on one side of the transaction (the crime), and law enforcement agencies on the other side, with the market being in equilibrium when criminals (focusing on the net returns from crime) and law enforcement agencies (looking at net cost of crime) do not feel any need to adjust their conduct and thus alter the prevailing net price of crime.

The law and economics of crime has particular resonance in the interaction between regulation and corruption. Scholarship on this issue has largely run along two, not necessarily unrelated, paths: the theoretical course of the drivers of the creation of regulation, whether in the public or the private interest; and, the positivist course of whether regulations cause corruption,

or whether corruption causes regulation. Adopting a meta-analysis perspective would suggest the relative ascendancy of the private interest theory of regulation, and the causal linkages between regulation and corruption are most likely bi-directional (that is, each has a causal effect on the other)¹²¹⁶.

While the entry into force of a legal instrument may well create new law, these events, of themselves, do not necessarily alter the behaviour of persons, whether natural or legal. In short, the mere existence of a law does not automatically mean it has an impact, let alone that the law is effective. In practical terms, there may be little or no change in the behaviour of effected persons (impact) or any change in behaviour may be not be directly attributable to the change in the law but simply due to chance alone (effectiveness).

Chapter Six, following, applies a suite of rigorous leximetric¹²¹⁷ tests through the prism of Empirical Legal Studies to measure the impact and the effectiveness of an international legal instrument¹²¹⁸, the OECD Convention on the Bribery of Foreign Public Officials in International Business Transactions, on the incidence of corruption in sample of developed countries. This work will progress through three streams of data analysis and modelling: first, examining the broad pattern of corruption amongst a

¹²¹⁶ Also known in economics as “endogeneity”.

¹²¹⁷ The application of the toolkit of econometrics to the law.

¹²¹⁸ And, to question the ipso facto assumption of doctrinalists, and ‘black letter lawyers’, to the law.

cross-section of developed countries as a whole; second, focusing on three specific countries with varying incidences of corruption (Denmark, Italy and the United States of America); and, finally looking at some of the potential commercial, economic and legal drivers of corruption in those three countries. These modelling exercises will, in the wider sense, add to our capacity to better understand and to evaluate the effectiveness, or otherwise, of laws, and specifically of one legal instrument in particular – the OECD Convention.

Chapter 6: Modelling Corruption

“Transnational (anti)corruption (initiatives) involve efforts to overcome decades and even centuries of embedded patterns of conduct, power and economics. New concepts of behaviour and laws will not overcome longstanding barriers overnight.”¹²¹⁹

Introduction

Econometric modelling of corruption is not, per se, a new enterprise. Chapter 2, which examined the nature and extent, and the causes and consequences, of the corruption problem, reported an expansive scholarly and institutional literature on the matter. However, the literature, whether academic and public policy organisational, has been surprisingly silent on the impact of various legal interventions on the incidence of corruption even in developed countries, let alone more broadly (such as in developing and/or transitional economies)^{1220, 1221}. In short, scholars, legislators and policy makers have a fair body of information on the causes and

¹²¹⁹ Zagaris and Ohri (1999) at 99.

¹²²⁰ To the best of the authors' knowledge and researches, structural intervention econometric modelling has rarely been used in better studies of the applications of leximetrics to crime and criminal behaviour. In two of these cases (Harvey and Fernandes (1989), who studied compliance with seat-belt laws by truck drivers; and, Atkinson et al (1997), who looked at petty theft (of women's handbags in a municipal park), the primary focii of their studies was econometrics, with the crime data being incidental; used to illustrate the methodological point. In Koopman et al (2008) structural intervention methods were only considered as part of a range of analytical tools, while only Vujic et al (2012) made intensive use of structural intervention methods, and was published long after the modelling reported in this chapter had been completed, analysed and recorded,

consequences, but seemingly very little substantive knowledge of the effectiveness of laws¹²²² – and international economic law, in particular – and other legal instruments in tackling the problem, of corruption¹²²³. This chapter is intended to make a substantial contribution to our knowledge on the effectiveness of the law in dealing with corruption, using leximetric techniques (the application of the tools of econometrics to the law) by undertaking modelling to assess the impact of a key international legal instrument – the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions¹²²⁴ – on the incidence of corruption in a representative sample of developed countries, using a robust data set consistently available over a sufficient length of time. We will be asking, in effect: has a change in the legal framework caused a

and the thesis was being finalised. This study makes much broader and deeper use of structural intervention modelling techniques than either of the latter papers.

¹²²¹ One study (Cuervo-Cazurra, 2008a) looks at the effectiveness of international laws on corruption for their impact on the nature and flows of foreign direct investment. As such, it does not speak directly to the effectiveness of international law on corruption, as is the focus of this thesis.

¹²²² Recall the scarce literature on theoretical aspects of the effectiveness of laws discussed in the Institutional/Neo-Institutional, and the small amount of empirical work on the effectiveness of laws reviewed in the empirical, approaches to law and economics in Chapter 4 on the Theories of Law and Economics.

¹²²³ Another approach which could be taken would be to examine and model the effectiveness of the OECD Convention as a multi-stage process: the first stage being the ratification of the instrument; and, the second stage being the enactment at the municipal level by States Parties of implementing legislation. While this approach would have the advantage of taking into account the different dates for enacting the respective implementing legislation it would also bring with it a number of important disadvantages. Primary amongst them would be: introducing qualitative uncertainty into any modelling (not all implementing legislation, compliance obligations and enforcement arrangements by States Parties are necessarily identical); the difficulty in multi-stage modelling in apportioning effects across the different stages (for example, substantive legislative versus temporal effects); the difficulty of comparing parameter coefficients and diagnostics across the different models; and, dealing with the inherent ‘degrees of freedom’ constraint which attach to finite size data series. As such, a multi-stage modelling schema may well produce ‘more noise than signal’ (or ‘fog than clarity’).

¹²²⁴ 37 ILM 4 (1998).

significant shift in (corrupt) behaviour, and in the direction expected? Hopefully, the innovative leximetric modelling techniques used in this chapter to evaluate the effectiveness of the law in the situation at hand (corruption) will inspire other scholars to extend its use to other areas of the law, especially elsewhere at the interface of law and economics¹²²⁵.

Leximetric Modelling

Leximetrics essentially involves using the expansive methods, techniques and toolkit of econometrics to analyse and model a legal problem; the measurement, or the quantification, of law¹²²⁶. Leximetrics, like its cousins in other disciplines¹²²⁷, involves integrating data with theory to estimate quantitative relationships between them (the data and theory), and test hypotheses about them. This integration can be one-way (testing whether real-world data verifies a theory) or bi-directional (testing whether real-world data confirms a theory, with the outcome of the testing being used to refine the theory) or judgemental (using real-world data to test several potentially competing theories)¹²²⁸.

¹²²⁵ For example, corporations law, environmental law, intellectual property law, labour law, taxation law and trade law, to name just a few.

¹²²⁶ To paraphrase ‘*Leximetrics is the application of statistical methods to problems that are of concern to lawyers*’: Ashenfelter, Levine and Zimmerman (2003) at 1

¹²²⁷ Econometrics, which emerged as a stand-alone discipline in the 1930s, has spawned a number of other forms of ‘metrics across a range of disciplines: leximetrics (in the law), politimetrics (in political science and public policy), psychometrics (in psychology), sociometrics (in sociology), and even cliometrics (in history).

¹²²⁸ According to Miceli and Baker (2013) at 3: “... *good theory should always be developed with an eye toward making predictions that can be tested, for according to the scientific method, a model that fails the empirical test, no matter how elegant, should either be discarded as invalid, or revised.*”

Leximetrics can have three broad applications, as well as combinations between them: structural analysis; forecasting; and, policy evaluation¹²²⁹. Structural analysis focuses on estimating a model¹²³⁰ to quantify the relationships between the variables of interest¹²³¹; forecasting involves using the model to predict future values of the variables of interest based on the continuity of past relationships¹²³²; and, policy evaluation, primarily to assist in evaluating different policy options or to simulate the application of

¹²²⁹ For a more expansive discussion of these purposes, see Intrigilator, Bodkin and Hsaio (1996) at 4 – 5; Ashenfelter, Levine and Zimmerman (2003) at 1 – 3.

¹²³⁰ A quantitative representation of the ‘real world’: Pindyck and Rubenfield (1998) at xiv; some have, not unreasonably, called them ‘simplifications’ of the real world: Ashenfelter, Levine and Zimmerman (2003) at 3. In one view “*Without models, it would be impossible to disentangle the myriad causal relationships that characterise a complex social system like the marketplace or the legal system.*”: Miceli and Baker (2013) at 2.

¹²³¹ This can require the analyst and the policy maker to identify and think clearly about the main, important inter-relationships involved. For example, between inflation and burglary: is there a relationship between inflation and burglary, and if so is it positive (if inflation goes up, then burglary goes up), negative (if inflation goes up, then burglary goes down) or no relationship at all (movements in inflation have no impact on burglary). Interest is usually centred on what are called ‘elasticities’: if Variable X goes up by 1 per cent, then Variable Y will go up/down by Z per cent (Ashenfelter, Levine and Zimmerman (2003) at 2; Griffiths, Hills and Judge (1993) at 2), with analytical et al focusing on ‘up/down’, and the magnitude and statistical significance of Z.

¹²³² For example, if Police Commissioners are advised there is a strong relationship between unemployment and motor vehicle theft, then they would need to take into account macro-economic forecasts of rising unemployment: asking themselves, ‘if unemployment is forecast to rise by 2 per cent next year, then what does this portend for the number/type of motor vehicle thefts and what does this imply for my budgeting and human resourcing?’.

different policies¹²³³ (also known as ‘candidate futures’ analysis¹²³⁴). The three methods can also be used in combinations, such as structural analysis, which in turn drives forecasting and then has application with policy evaluation¹²³⁵.

Leximetrics broadly builds on three main types of modelling, namely time series, cross-sectional and pooled data; and, on one main method, namely regression modelling, although in a number of forms, primary single equation and multi-equation models. Time series modelling, as its nomenclature suggests, involves the use of data series across time, and is particularly useful in situations where the analyst/policy maker has little interest in causality but is more interested in short-term forecasting¹²³⁶. Cross-sectional data focus on a number of actors (individuals, firms, nations) at the same point in time, and has resonance in behavioural studies and undertaken and reported as probability models^{1237, 1238}. Panel (also known as

¹²³³ For example, an Attorney General may be considering a change to the criminal law. Officials may have developed and presented four credible alternatives for the government’s consideration. Leximetric modelling could be used to assess the linkages between sentencing for a crime and the incidence of the crime.

¹²³⁴ Intrigator, Bodkin and Hsaio (1996) at 4.

¹²³⁵ For example, the above-mentioned Attorney-General commissions the modelling of the linkages between sentencing and the incidence of a crime (the structural analysis). He/she then commissions forecasts of the incidence of the crime based on four sentencing law change scenarios (the forecasting), and then compares the forecasts to inform decision-making on which the sentencing law change options to progress (the policy evaluation).

¹²³⁶ Pindyck and Rubenfield (1998) at xv; Woodridge (2000) at 8 - 10.

¹²³⁷ For example, a law-/policy-maker may be interested in voter attitudes to ‘get tough on crime’ policies, so they commission a sample of, say, 2000 people on a given date. This data set is then analysed to profile voters ‘warm/neutral/cold’ on such policies. Repeated cross-sectional data collections, such as the World Competitiveness Yearbook data used in this study, are particularly useful in policy evaluation, most notably for assessing the effects of events when the data are collected before and after the event of interest, for example a change in law enforcement strategy and/or the legislation of a new statute or repeal of an old one. For a good general discussion see Woodridge (2000) at 6 - 8.

longitudinal) data combines cross-sectional and time series data, focusing on the same actors (individuals, firms, nations) at different points in time¹²³⁹. Leximetric modellers can generally be expected to default to regression methods when the objective is to determine and measure casuality¹²⁴⁰. Such models can be single equation (where a number of variables are used to explain a single outcome of interest) or multi-equation (where there are several outcomes of interest, which may or may not determine each other, with a broad suite of variables which can explain these outcomes)¹²⁴¹.

¹²³⁸ Pooled cross-sectional data are an extension of cross-sectional data. Essentially, it involves combining cross-sectional data. Following the above-mentioned ‘get tough on crime’ survey, rather than doing a single survey in a single location (say, Sydney), the survey taker may conduct two identical surveys in two different locations (say, Sydney and Perth) each of 1000 respondents, and then combine (pool) the results for analysis (it would have the added advantage of facilitating testing for geographic effects in attitudes). For a good general discussion see Woodridge (2000) at 10.

¹²³⁹ Following the ‘get tough on crime’ example, the survey taker might sample the SAME 400 people on each of five occasions, with any changes in results likely reflecting shifts in attitudes by respondents rather than changes in respondents per se (as can happen with repeated cross-sectional data). While analytically attractive, data collection can be especially costly and administratively demanding due to the need to contact and re-engage the same respondents in each wave. Again, for a good general discussion see Woodridge (2000) at 10 – 13.

¹²⁴⁰ One of the earliest (and few rigorous) leximetric models was that of Becker (1968), for which he won the Nobel Prize in Economics in 1992. In Becker’s schema, the amount of time spent on criminal activities was the outcome of ‘the wage of illegal activity’, the wage of legal activity, the probability of apprehension for criminal conduct, the probability of conviction if caught, expected sentence if convicted and age of the person.

¹²⁴¹ Such modelling can have superficial appeal to more simplistic law-/policy-makers, on the basis a more elaborate model must be ‘better’ than a simpler one, which is more often than not misguided. Multi-equation models can be particularly data, resource and technically demanding, and may not necessarily be the most efficient approach in all situations. More elaborate modelling may not be justifiable when considered against the time, cost, degree of precision and frequency of use.

Leximetrics is a multistage process involving, *inter alia*: the collection and suitability of the necessary data¹²⁴²; the identification of the relevant theories or hypotheses to be tested¹²⁴³; the selection and construction of a model to be estimated¹²⁴⁴; the estimation of the parameters¹²⁴⁵; and, what inferences can reasonably be drawn from the modelling work^{1246,1247}. However, influential educators in the area usefully remind that modelling can be as much about art as science (most notably in the judgements which have to be made at different stages of the modelling process)¹²⁴⁸. Like its econometric antecedent, leximetrics is not without its limitations.

¹²⁴² Which can involve challenges, such as simple availability (national data collection agencies may simply not collect or report such data, as can be the case in crimes such as kidnap or sexual offences against minors), while suitability can reflect the desire for monthly or quarterly data when only annual data is collected and reported.

¹²⁴³ Which can be undermined by the absence of suitable metrics, although this hurdle can often be overcome by the use of proxy indicators ('if we don't have the perfect metric, then we will have to make do with the 'next best' thing'). However, this in turn can generate debates over the adequacy of the proxy being used, with tests of robustness often involving the use of different metrics or proxies.

¹²⁴⁴ Which is informed by the purpose of the task at hand (whether testing theories/hypotheses; forecasting; or policy evaluation), and the nature of the data.

¹²⁴⁵ The coefficients and associated diagnostics of the modelling, which indicates the nature and the rigor of the relationships, and whether they align with the theoretical expectations. For example, when spending on policing was increased by the government, did the crime rate decline as expected, and/or as much as was expected?

¹²⁴⁶ Of particular importance in most modelling is 'how strong were the results?'. Where the results sufficiently unequivocal to allow law-/policy makers, amongst others, to make 'strong form' statements, or marginal such that the quantitative analysis only serves to confirm the intuitive pre-assessment of 'well, we can't really say one way or the other'.

¹²⁴⁷ Scholars have used other leximetric techniques of varying complexity, such as comparisons of coefficients across different conditions (Jonah and Lawson, 1984; Welsh, Carpentier and Hubbell, 2001), tests of equality of outcomes before and after a legislative change (Muller, 1982; Asch et al, 1991) and more rigorous breakpoint (also known as event/intervention) modelling methods (Garbacz, 1992; Gonzalez-Val and Marcen, 2012; Vujic et al 2012).

¹²⁴⁸ Pindyck and Rubenfield (1998) at xiii. For example, any effort to model the causal relationship between unemployment and, say, burglary, would require the modeller (and or those commissioning him/her) to define 'unemployment' (*inter alia*, the number; the rate; original or seasonally adjusted; male or female; full time or part time; 'blue collar' or 'white collar'; adult or youth; or, the various combinations thereof).

Amongst the most prominent of these are: simply the availability of suitable data¹²⁴⁹; the suitability of administrative data¹²⁵⁰; inherent features of the data being used¹²⁵¹; the directionality of data¹²⁵²; parameter stability¹²⁵³; and, the challenges associated with unobservable (also known as latent) variables^{1254, 1255}.

¹²⁴⁹ Not everything a law- or policy-maker may wish to have data on is either available *per se*, or readily available in the form needed. For example, individual's attitudes to risk (-averse; -neutral; -taking), which are fulcrum in, *inter alia*, the Rational Choice and the Behavioralist approaches to law and economics.

¹²⁵⁰ Data sets collected for administrative purposes often lack statistical rigor (for example, they are unlikely to be a random, or even a representative, sample), and can have key categories with very small sample sizes, which weaken their utility for data analysis: Griffiths, Hill and Judge (1993) at 8. However, administrative-sourced data sets are often superior to the alternative, which is nothing at all.

¹²⁵¹ Such as the need to take into account seasonality in time series data (for example, some crimes of violence may be more likely to occur in hotter than in colder weather), areality (what is the appropriate level of geographic aggregation of the data) and collinearity (relationships between the explanatory variables used in the modelling – for example, unemployment and personal income may both cause crime, but unemployment usually also causes personal income). One particularly important criticism is what has become known as the 'Lucas Critique' which argues, in essence, changes in policy settings almost inevitably result in changes in model parameters, thus undermining the utility of the model(s): discussed by Intrigilator, Bodkin and Hsaio (1996) at 10.

¹²⁵² Generally summarised as the endogeneity and the collinearity problems, where the direction of causality is not limited to the explanatory to the dependent variables, but can also flow the other way as well as between the explanatory variables: Griffiths, Hills and Judge (1993) at 5 – 6).

¹²⁵³ The parameters estimated in a model can change with time, which can be problematic in some time series analyses (although a boon in others) but an important dividend in repeated cross-sectional designs.

¹²⁵⁴ Contrary to the misconceptions of non-leximetricians, variables which are difficult or impossible to measure and are thus not specifically included in the model do not 'just go away' because of their non-inclusion. Rather, such variables default to the 'residual term' in the model – in effect, a catch-all for 'everything else not otherwise specified': Woodridge (2000) at 4. See following footnote for an illustrative list of potential latent variables with resonance for criminal leximetrics.

¹²⁵⁵ All too often the analyst, and the law-/policy-maker are interested in variables which simply cannot be measured. Prominent examples include 'criminal tendencies', 'family upbringing and values', 'contempt for the law', 'risk aversion', 'empathy with one's fellow citizens', 'remorse for one's wrongful conduct'. Leximetrics can, however, attempt to quantify such attributes for modelling purposes using techniques from the Structural Equation Modelling stream, most notably the data-demanding MIMIC (multiple indicators, multiple causes) models.

The data analysis and modelling undertaken for this study and reported in this Chapter will proceed on fairly conventional lines commencing with a review of the data set and some descriptive statistics on the incidence of corruption amongst the countries under review, before moving on to what in leximetrics is known as exploratory data analysis. This stage involves tests of equality for the means, medians and standard deviations, and analyses of variance (ANOVA) testing for changes in the incidence of corruption before and after the entry into force of the OECD Convention. The next stage of leximetric analysis will involve a more rigorous examination of the presence, nature and statistical significance of structural breaks in time series of the corruption metrics under review using mainstream breakpoint and parameter stability tests, with the final stage being still-more rigorous regime shift specification testing. This analytical approach will be undertaken in two sweeps, the first being for the selected OECD countries as a whole, and the second being a more intensive examination of three countries, namely Denmark, the United States and Italy¹²⁵⁶. The leximetric analyses will conclude with modelling examining some of the potential commercial, economic, public policy and regulatory causes of corruption¹²⁵⁷.

¹²⁵⁶ Denmark was selected as representing a 'low incidence of corruption' country, the United States as a 'mid incidence of corruption' country, and Italy as a 'high incidence of corruption' country.

¹²⁵⁷ Using comparable data series derived from the IMD-WCY reports to exploit greater comparabilities in the respective series, most notably common respondents within individual samples. Such modelling may be of value to anti-corruption campaigners, in identifying and prioritising policy levers of potentially greater impact.

The Data Set

The data set is compiled from the World Competitiveness Yearbook (WCY) over the period 1992 to 2006, produced annually by the International Institute for Management Development (IMD), based in Lausanne, Switzerland^{1258,1259}. The original data set is obtained by sample survey methods, based on around 1600 business respondents spread across some 50 countries (an average of 32 respondents per country), providing assessments of a range of commercial, legal, political and social factors which are considered to underpin the competitiveness of nations. The data sets used in this thesis are the primary results/ original data reported by the WCY for each country, generally in the form of averages of respondents by country by topic for each of the years' under review¹²⁶⁰. Performance indicators examined by the annual WCYs include: institutional framework (consistency of government policy, flexibility and transparency in government policy making, incidence of corruption, risk of political instability); the broader commercial environment (the prevalence of a 'black economy', the incidence of labour regulation, the relative treatment of foreign and local investors, and the presence of investment incentives); globalisation (national attitudes toward globalisation, and the degree of openness to foreign influences); and, management performance

¹²⁵⁸ For additional information on the IMD see <http://www.imd.ch/>.

¹²⁵⁹ For readers interested in replicating or extending the results reported in this thesis, the data set used in this Chapter can be found in Appendix 6.1.

¹²⁶⁰ That is, they have not been subject to further re-estimation, such as weighting or transformation (for example, normalisation or standardisation). They are simply the 'raw numbers' as reported by IMD in each of the annual World Competitiveness Yearbooks.

(adaptability, entrepreneurship, and attitudes to corporate social responsibility). The data are reported in a continuous form in the range of 0 to 10, where a low/high score reflects the perception of respondents the nation concerned performs poorly/well on the specific criteria¹²⁶¹. The scaling also allows analysts to undertake a relative rating of the nations concerned¹²⁶².

The nations' subject to assessment in the WCY's have varied across the 17 year period (1992 – 2006) under review¹²⁶³. Whilst there has been a fairly consistent core group of countries (largely western, industrialised nations) across the whole period, other countries have entered and exited the

¹²⁶¹ Perceptions of corruption are a good approximation for the incidence of corruption, and of the legal realities in nations: Kaufman, Kraay and Mastruzzi (2006) at 73. Foster, Horowitz and Mendez (2012) at 231 find a reasonably strong practical ($r =$ between 0.63 and 0.67) and statistically significant (in both cases, less than 0.05) correlation between perception and actual measures of the incidence of corruption. Olken (2006) comes to a similar conclusion, attributing any differences between actual and perceived corruption to reflect the effort put into concealment by the corrupt parties. For a considered discussion on the absolute and the relative merits of actual vs perception based metrics of corruption in applied research and analysis see Banerjee (2012) at 46-51, who generally conclude both metrics have advantages and disadvantages.

¹²⁶² While there are numerous proxy measures for corruption, many of which have appeared in the leximetric modelling literature, the use of a single integrated data set (in this case the annual WCY series) have the important advantage of building on the cognitive consistency of respondents.

¹²⁶³ The study adopts this time frame on the basis of access to the primary data, which was provided at no cost to the author by a most generous librarian in a public sector organisation who must necessarily remain anonymous, but without whom this chapter would not have been possible. While the WCY commences in 1992, it continues to be released annually, around October of each year. However, at a cost of some \$A 2000 per calendar year, the acquisition of additional data was prohibitively expensive. Given the generally stable pattern of the data after around 2001 it is most unlikely the addition of later years would have delivered any net marginal benefit to the data analysis.

sample. This study will focus on the 22 developed countries¹²⁶⁴ which have consistently appeared in the sample across the entire period. This approach will ensure the analysis remains tractable and is not confounded by the inclusion of two qualitatively different groups (namely, developed and developing countries) or rendered unstable by the entry and exit of new countries within the main groups¹²⁶⁵. Table 6.1 reports the three main country groupings: developed, developing, and those who appeared non-consistently in the sample. The latter two groupings have been excluded from this study.

¹²⁶⁴ This study adopts the categorical allocation made by the IMD between developed and developing countries. However, some may cavil with the allocation of countries such as Singapore and South Korea to the developing country list.

¹²⁶⁵ While a sample of 22 countries may be regarded as small, it is still a large and representative share of the relevant population. Further, given the time series cross sectional design and the high degree of sampling rigour involved in its collection, the modelling results should be considered robust.

Table 6.1: Categorical Allocation of Countries

Developed	Developing	Non-Consistent
Australia	Brazil	Argentina
Austria	Hong Kong	Chile
Belgium	Hungary	China
Canada	India	Colombia
Denmark	Indonesia	Czech Republic
Finland	Korea (Sth)	Estonia
France	Malaysia	Iceland
Germany	Mexico	Israel
Greece	Singapore	Luxembourg
Ireland	Taiwan	Philippines
Italy	Thailand	Poland
Japan	Turkey	Russia
Netherlands	Venezuela	Slovak Republic
New Zealand		Slovenia
Norway		
Portugal		
South Africa		
Spain		
Sweden		
Switzerland		
United Kingdom		
USA		

The need for tractability, and the availability of consistent data across time, also bounds the selection of the international legal instrument whose effectiveness we intend to study in more detail. Chapter 5 of this study analysed several major international legal instruments intended to eliminate corruption, or failing that at least reduce its incidence and impact. These instruments were: the Inter-American Convention Against Corruption

(adopted in 1996)¹²⁶⁶; the Organisation for Economic Co-operation (OECD) Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (1997)¹²⁶⁷; the Council of Europe's Criminal Law Convention on Corruption (1999)¹²⁶⁸; the United Nations Convention Against Corruption (2003)¹²⁶⁹; and, the African Union Convention on Combating and Preventing Corruption (2003)¹²⁷⁰. Examination of the effectiveness of the Inter-American Convention Against Corruption, and of the African Union Convention on Combating and Preventing Corruption are precluded by the absence of the necessary country-specific information in the various annual WCYs, while the United Nations Convention Against Corruption must be put aside from this study for want of sufficient observations¹²⁷¹. Of the two remaining instruments, this study will focus on the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions ahead of the European Union's Criminal Law Convention on Corruption for reasons of statistical rigor (the larger sample size of the OECD grouping ahead of EU member countries indicates the data analyses are likely to be more robust and more generalisable), and the greater breadth of coverage of the OECD countries (in particular, the inclusion of the United States) suggests the

¹²⁶⁶ 35 ILM 724 (1996).

¹²⁶⁷ 37 ILM 4 (1998).

¹²⁶⁸ 38 ILM 505 (1999).

¹²⁶⁹ 43 ILM 37 (2004).

¹²⁷⁰ 43 ILM 5 (2004).

¹²⁷¹ To ensure rigorous and robust statistical analysis of the UNCAC using the techniques applied in this study would require time series data covering the period 2004 to around 2018 – the collection of which extends well beyond the time frame for the submission of this thesis.

influence of this instrument is likely to be more pervasive. Hence, this study will go forward by applying a suite of leximetric tools to a data set of corruption indicators to a group of developed countries¹²⁷², testing the underlying question: *has the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions had a (statistically) significant impact on reducing corruption in developed countries in the aggregate?*

The Aggregate Model

The first section of this chapter will examine the general outline and attempt to develop an aggregate model of the broad pattern of corruption amongst the 22 developed countries under review. This initial ‘big picture’ will be both informative for itself (of the general patterns and relationships underpinning corruption)¹²⁷³, and provide wider context for the subsequent sections which will undertake focused modelling and analyses of more specific issues germane to our broader research question.

¹²⁷² The developed countries under review are largely, but not totally, members of the Organisation for Economic Co-operation and Development (OECD), the exceptions being: South Africa, which is included in the IMD-WCY list of developed countries, but is not a member of the OECD; and, South Korea, which is not included in the IMD-WCY list of developed countries, but is a member of the OECD. However, given the economic weight of the IMD-WCY list, it can be regarded as a reasonable proxy for the OECD, given it is not reasonably practicable to re-calculate all of the indicators used to remove South Africa and include South Korea in the data set.

¹²⁷³ Unfortunately, it has not been possible to consider, and expressly model, each and every variable which may possibly have some influence on corruption. Some broader indicators, such as institutional quality, are captured by variables such as government economic policy settings, labour and price regulation, and trade barriers.

Descriptive Statistics

The following two Figures provide a general overview of the burden of corruption in the 22 developed countries over the 17 year period under review¹²⁷⁴. The first Figure reports movements in the average and the standard deviation (the conventional measure of the variability of the data set) of corruption in the sample of countries, whilst the second Figure reports movements in the best and worst performers in the group¹²⁷⁵. Figure 6.1 shows a clear step down in the level of corruption¹²⁷⁶ amongst developed countries in the period 1992 – 2006, from an average of 6.9 index points in the six years from 1992 to 1997, to just under 6.4 index points in the 9 years from 1998 to 2006¹²⁷⁷. Similarly, there has been a general step down in the variability in the performance of developed countries in the period under review – from around 2.2 index points in the 1992 – 1997 period, to just under 2.1 index points in the 1998- 2006. Looked at another way, at the start of the time frame under review (1992), the developed countries being examined had an average corruption score of 6.9 index points, with

¹²⁷⁴ The higher the corruption index, the ‘more virtuous’ the nation is on corruption matters.

¹²⁷⁵ The full data set for these two Figures can be found in Appendix 6.2.

¹²⁷⁶ As the data set is a survey of respondent’s perceptions of the incidence of corruption in each country, analyses and commentary in this study implicitly refer to perceptions of corruption. But, as previously noted, perceptions of corruption are good approximations for the incidence of corruption (and legal realities) in individual nations: Kaufman, Kraay and Mastruzzi (2006) at 73.

¹²⁷⁷ Whether this constitutes a statistically significant shift will be examined in more detail later in this chapter.

a standard deviation of 2.2 index points; by the end of the time frame (2006) these figures had declined to 6.4 and 2.1 respectively, meaning both the incidence of corruption had increased¹²⁷⁸ and its variability declined, albeit modestly. By comparison, Figure 6.2 reports the average performance for the best (the maximum line) and the worst (minimum line) performers. The best ('cleanest') country performers (those scoring an average of 9 index points or better) over the 1992-2006 period were, in descending order, Denmark (9.3 index points), Finland (9.1) and New Zealand (9.0)¹²⁷⁹, whilst those at the other end of the range (the poorest/ least 'clean' performers) include South Africa (3.6 index points), Greece (3.3) and Italy (2.8). An interesting feature of Figure 6.2 is the seeming stability in the average score of the better performers, and the oscillation in that for the poor performers: the virtuous appear consistently so, the bad appear inconsistently so.

¹²⁷⁸ Recall: the corruption index measures 'cleanliness'/ absence of corruption. As such, a decline in the corruption index reflects a fall in 'cleanliness' or a rise in corruption.

¹²⁷⁹ Australia ranked fifth overall across the 17 year period, with an average corruption score of 8.3 index points.

Figure 6.1: Corruption in Developed Countries I

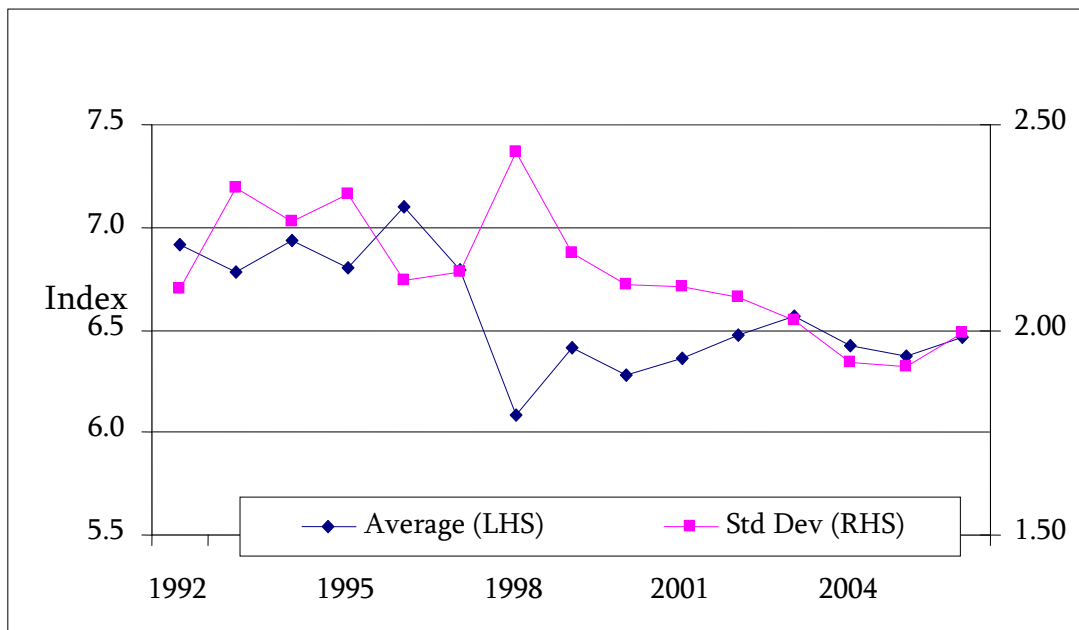
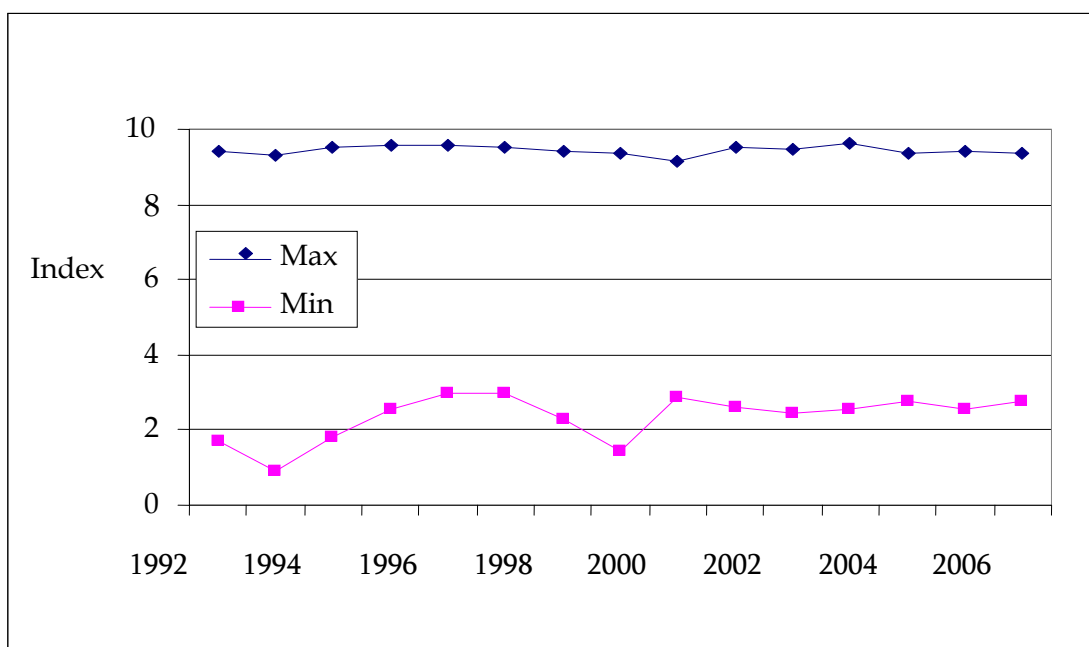


Figure 6.2: Corruption in Developed Countries II



. Tests of Equality

Insights into the stability of the data series can be gained from applying tests of equality – for the mean (average), the median and the variance – for two sub-series: the first covering the period 1992 to 1996; and, the second covering 2002 to 2006. In effect, dividing the overall data series into two components, ostensibly before and after the identified breakpoint (of 1998)¹²⁸⁰, allowing a little space either side thereof. Essentially, tests of equality assess whether the mean, the median and/or the variance for the two data sub-series are statistically significantly¹²⁸¹ different¹²⁸² from each other. The results of these tests are reported in Table 6.2.

¹²⁸⁰ Discussion of which is to come.

¹²⁸¹ Statistical significance will be reported in this chapter in terms of the p-value for the applicable statistical test, and represented in the text as p-value, and in tables and figures, where appropriate, as “p = (value)”.

¹²⁸² The null hypothesis is that the mean/median/variance, as the case may be, are equal between the two sub-series.

Table 6.2: Tests of Equality

	Mean	Median	Std Dev ¹²⁸³
1992 to 1996	6.51	7.84	2.17
2002 to 2006	6.96	6.78	1.95
1992 to 2006	6.73	7.21	2.07
Test	p =	p =	p =
t-Test	0.100	...	...
Welch F-Test	0.101	...	...
Med Chi-Sq	...	0.019	...
Siegel-Tukey	...	...	0.031

Using the conventional 5 per cent (0.05) threshold for testing for statistical significance, Table 6.2 reports: there is no statistically significant difference between the means of the two sub-series, with the conventional t-test producing a p-value of 10 per cent, and the Welch F-Test a p-value of 10.1 per cent; there is a statistically significant difference between the medians of the two sub-series, with the Median Chi-Square Test reporting a p-value of just 1.9 per cent (ie below the 5 per cent threshold); and, there is also a statistically significant difference between the variability of the two sub-series, with the Siegel-Tukey Test producing a p-value of 3.1 per cent (again,

¹²⁸³ Testing for the equality of the variance is reported, in the EViews software package, based on the standard deviation which is just the square root of the variance. As such, while the estimated values of the standard deviation for each sub-series may be numerically different from those for the variance (which can be easily obtained by just squaring the standard deviation), this form of reporting does not impact upon the relevant test statistics.

below the 5 per cent threshold). Statistical inference: while there is no statistically significant difference between the means (averages) of the two sub-series, such differences can be found for the medians and the variances. This suggests a statistically significant shift in corruption may have occurred in the developed countries under review between 1992 to 1996, and 2002 to 2006.

. Analysis of Variance

While such descriptive statistics provide a useful broad brush of the general pattern of the corruption data being examined, they provide only an initial glimpse into the nature of the movements in corruption performance. In particular, they do not, of themselves, provide information on whether any change in performance is greater within year groups, or between the years. Such an insight can be obtained from analysis of variance (ANOVA) techniques. In simple terms, ANOVA can be regarded as a ratio of the variance between two groups to the variance within the groups¹²⁸⁴. In statistical terms, where the ANOVA is statistically significant (conventionally measured by the outcome having a probability due to chance of 5 per cent or less; $p\text{-value} \leq 0.05$) the variance between the groups is substantially greater than that within the groups¹²⁸⁵. By way of example, an ANOVA of a pair of years (say 1992 and 1993) would compare the variance in the observations between those two years relative to the variance in the observations within each of the two years.

¹²⁸⁴ For good general overviews of pairwise, one-way ANOVA, as is used in this study, see Keller (2001) at 407–423; Dielman (2005) at 335–345.

¹²⁸⁵ In the current study, a group means an individual year.

The ANOVA technique can provide useful insights from which we can make objective inferences about the nature of the variances in our corruption data, and provide further guidance toward answering our core research question. Table 6.3, following, reports the p-values of 182 pairwise ANOVA estimates: the cell coinciding to 1992 and 1993 reports the p-value for the ANOVA for that pair of years, to 1992 and 1994 for that pair of years, and so on. For the purposes of this study, and our research question, we are looking for year-pairs with very low p-values, and in particular those whose p-values are 0.05 or less (that is, surmount the conventional threshold of statistical significance, and hence point to important differences between the relevant pair-years)¹²⁸⁶. As can be seen, none of the pair-years reaches the threshold for statistical significance – with a great many of the reported p-values being very high indeed – indicating the variance within the pair-years tends to be relatively greater than the variance between them. However, there is one set of pair-years – 1996 and 1998 – where the p-value stands out (bolded in Table 6.3 for ease of identification) as being relatively low (at 0.15), when compared with the

¹²⁸⁶ For a good overview of the concepts underpinning statistical significance, and the p-value in particular, see Keller (2001) at 263–266. As a general approach, the p-value is an indicator of whether the outcome of the statistical test is due to chance. Hence a p-value equal to, say, 0.023 would be interpreted as meaning the outcome being reviewed had a 2.3 per cent probability of being due to chance, which is less than the 5 per cent probability conventionally adopted in the social sciences (which includes law and economics).

other results. This result would appear to coincide with the sharp drop in the average score of the corruption index, reported in Figure 6.1. Statistical inference: ‘something happened in the 1996 to 1998 period’, although what this ‘something’ may be remains to be determined by additional quantitative analyses.

Table 6.3: Pairwise ANOVA

p =	1992	1993	1994	1995	1996	1997	1998	1999
1992	...							
1993	0.83	...						
1994	0.98	0.82	...					
1995	0.86	0.97	0.84	...				
1996	0.78	0.63	0.80	0.66	...			
1997	0.84	0.99	0.83	0.99	0.63	...		
1998	0.23	0.35	0.24	0.33	0.15	0.32	...	
1999	0.44	0.60	0.44	0.57	0.30	0.57	0.64	...
2000	0.32	0.47	0.33	0.44	0.21	0.43	0.78	0.84
2001	0.38	0.54	0.38	0.51	0.25	0.50	0.70	0.93
2002	0.49	0.66	0.49	0.63	0.33	0.63	0.57	0.92
2003	0.58	0.76	0.57	0.73	0.40	0.73	0.48	0.81
2004	0.42	0.59	0.43	0.57	0.28	0.56	0.61	0.98
2005	0.37	0.53	0.37	0.51	0.24	0.50	0.67	0.94
2006	0.46	0.63	0.46	0.61	0.31	0.60	0.58	0.94

p =	2000	2001	2002	2003	2004	2005	2006
2000	...						
2001	0.91	...					
2002	0.76	0.87	...				
2003	0.65	0.78	0.87	...			
2004	0.81	1.00	0.96	0.76	...		
2005	0.89	0.99	0.90	0.75	0.98	...	
2006	0.78	0.90	0.94	0.87	0.90	0.88	...

Structural Breaks

An important consideration in determining whether the OECD Convention had a statistically significant impact on the incidence of corruption in developed countries will be whether, when and how substantial was any structural break(s) in the data series¹²⁸⁷. The presence, the timing and the magnitude of any such breaks would provide further evidence in support of the research question being examined. Fortunately, econometrics and leximetrics, and other quantitative techniques, provide several tools from which the analyst can draw reliable inferences about the presence and the significance of structural breaks, some of which come from the regression and others from the time series suites of techniques¹²⁸⁸.

Although not an indicator of the presence, and the practical and the statistical significance, of any structural break, measures of autocorrelation and partial autocorrelation provide an insight into the processes by which the data is formed – in the current case, the ‘freshness’ of respondents’ perceptions of the incidence of corruption in the countries under review. In plain English, autocorrelation¹²⁸⁹ and partial autocorrelation¹²⁹⁰ refer to the

¹²⁸⁷ Also known as “intervention analysis”, “impulse functions” and “step functions”. Failure to look for, and when found take into account in the leximetric modelling, structural breaks can lead to mis-specified models from which inappropriate inferences are likely to be drawn: Clements and Hendry (1998) at 241.

¹²⁸⁸ For a good discussion of these methodologies, which rely on dummy (also known as instrumental) variables and are the workhorse approach for determining and measuring structural breaks, see for example Enders (1995) at 270 – 276; Pindyck and Rubenfield (1998) at 136 – 138; Patterson (2000) at 277 – 285; Bowerman et al (2005) at 551 – 557.

¹²⁸⁹ Autocorrelation reports correlations between data points, including the correlations for the intervening periods. For example, between 2 periods ago and 6 periods ago, taking into account all of the intervening correlations, such as those between 2 and 3, 3 and 4 periods ago, and so on.

correlation between observations at different points in time¹²⁹¹. The higher the coefficient for the different measure of correlation, the more correlated are the two data points. In the current context, high correlations would suggest past perceptions of corruption tend to be associated with current perceptions of corruption; respondents have long memories which are difficult to shift. Table 6.4, following, reports the correlogram, and the autocorrelation and partial autocorrelation coefficients, for the average of the corruption index. Looking particularly at the partial autocorrelation (PAC) coefficients, we can see perceptions of corruption are refreshed fairly regularly, by and large annually, and completely so not more than biennially (every two years)¹²⁹². Hence, we can progress our quantitative analyses in the knowledge any changes in perceptions of the incidence and impact of corruption, and thus impact of the OECD Convention, are likely to be picked up fairly quickly by our data set. Statistical inference: perceptions of the incidence and impact of corruption tend to be refreshed fairly regularly, probably annually or at most biennially.

¹²⁹⁰ Partial autocorrelation reports correlations between data points, taking out the correlations for the intervening periods. For example, between 2 periods ago and 6 periods ago, would not take into account the intervening correlations. Partial autocorrelation is conceptually closer to the more commonly understood usage of the term correlation.

¹²⁹¹ For a good overview of these concepts, their applications and estimation procedures, see: Pindyck and Rubenfield (1998) at 494–497, and 532–534, respectively; Dielman (2005) at 254–262; Maddala (2002) at 227–265.

¹²⁹² Based on the observation the PAC coefficient is 0.54 for adjacent years (that is, lag 1), and then 0.03 for those lag 2.

Table 6.4: Correlogram of Average Corruption

		Partial	Lag	AC	PAC
Autocorrelation	Correlation				
. |****|	. |****|	1	0.543	0.543	
. |** .|	. | .|	2	0.316	0.030	
. |* .|	. | .|	3	0.157	-0.036	
. | .|	. *| .|	4	-0.035	-0.162	
. *| .|	. *| .|	5	-0.143	-0.090	
. **| .|	. *| .|	6	-0.228	-0.112	
. *| .|	. |* .|	7	-0.115	0.142	
. **| .|	. **| .|	8	-0.217	-0.232	
. **| .|	. *| .|	9	-0.237	-0.085	
. *| .|	. | .|	10	-0.178	-0.034	
. *| .|	. | .|	11	-0.121	0.032	
. *| .|	. *| .|	12	-0.121	-0.116	

The ‘short memory’ (high refresh rate) of perceptions of the incidence and impact of corruption can also be seen in Table 6.5, which reports the results of two simple regressions, which examine the impact of perceptions of corruption one year ago on current perceptions of corruption (Equation 1), and of perceptions of corruption two years ago on current perceptions of corruption (Equation 2). The main indicators to note are: in Equation 1, the p-value for the variable mean (-1), that is perceptions of corruption last year, is statistically significant; while the p-values in Equation 2 for both mean (-1) and mean (-2), that is perceptions of corruption 1 and 2 years ago,

fail to reach the threshold for statistical significance. Statistical inference: perceptions of the incidence and impact of corruption tend to be refreshed fairly regularly - basically annually – and hence are responsive to new legal and policy developments, both of a positive and negative nature, effecting the corruption problem^{1293, 1294}.

Table 6.5: Lagged Perceptions of Corruption

Dep Var = Mean

	Eq 1 Coeff.	Eq 1 p =	Eq 2 Coeff.	Eq 2 p =
C	2.91	0.07	2.80	0.17
Mean (-1)	0.55	0.03	0.50	0.14
Mean (-2)	...	...	0.07	0.82
Adj R-sq		0.282		0.169
S.E. of regression		0.238		0.260
Prob(F-statistic)		0.03		0.16
AIC		0.10		0.34
SC		0.19		0.47

¹²⁹³ However, looking at the Adjusted R Squared diagnostic in Equation 1, past perceptions of corruption only explain around 28 per cent of the current perceptions of corruption, meaning other factors (still to be identified) explain the great bulk (some 72 per cent) thereof.

¹²⁹⁴ This result would suggest perceptions of corruption follow what is leximetrics would be considered a ‘random walk’ pattern. As such, the inclusion of leading and lagging variables in the modelling is not likely to produce practical or statistically significant results. At the same time, any such modelling would confront the ‘degrees of freedom’ constraint: that is, for a data series of finite size, the insertion of additional variables into a model increases the risk of getting erroneous results – known in leximetrics as the ‘Type 1/ Type 2 error trade-off’.

Breakpoint Tests

A commonly used statistical technique for identifying structural breaks in a data series is the Chow Breakpoint Test. The basic idea of this test is to fit the preferred equation separately for each sub-sample (that is, before and after an analyst-defined ‘breakpoint’) and to see whether there are statistically significant differences in the estimated equations. A statistically significant difference indicates a structural change in the relationship¹²⁹⁵. Table 6.6, following, reports the p-values for the dummy variable¹²⁹⁶ representing each of the designated years, using Equation 1 from Table 6.5 as the preferred model for testing¹²⁹⁷. To interpret Table 6.6 we would ask, using for example 1996 as our hypothetical breakpoint year, whether the average level of corruption before 1996 was statistically significantly different from that from 1996 and beyond (we can see the relevant p-value does not meet the conventional 0.05 per cent threshold of statistical significance, so 1996 does not appear to be a breakpoint year) Using the Chow Breakpoint Test, we can see (per the bolded p-values) it is possible any of the years 1997, 1998, 1999 or 2000 could be breakpoint years. Such an imprecise result, pointing to several possible breakpoint years, is not particularly surprising given the pattern of change presented in Figure 6.1 –

¹²⁹⁵ For a wider discussion, see Pindyck and Rubinfeld (1998) at 133–134. For a more technical exposition, see Johnston and DiNardo (1997) at 113–116; Quantitative Micro Systems (2007) at 165–166.

¹²⁹⁶ The conventional, workhorse procedure of econo-/lexi-metrics for such analyses: see, for example, Enders (1995) at 270 – 276; Bowerman et al (2005) at 551 – 557.

¹²⁹⁷ There were insufficient observations to perform this test on years prior to 1996, and after 2004. However, given the pattern of the data series, as reported in Figure 7.1, it is unlikely there would have been any breakpoints in these periods.

one of a period of instability over three or four years, rather than a clean-break (to which this test is better suited). Statistical inference: there was a statistically significant break in the average level of corruption in developed countries in the late 1990s and into the early 2000s, although we cannot precisely date the timing of the break.

Table 6.6: Chow Breakpoint Test

Year	F-stat	p =
1996	3.24	0.08
1997	29.95	0.00
1998	5.48	0.02
1999	6.31	0.02
2000	9.40	0.01
2001	1.36	0.32
2002	0.81	0.52
2003	0.33	0.80
2004	0.02	1.00

A partial solution to this problem may be found in the use of dummy variables to test for any statistically significant changes in the level of corruption for each of the individual years under review¹²⁹⁸. Where a statistically significant shift is found in the level of corruption, we may be able to use this outcome as an indicator of a structural break, especially if the year coincides with one of those identified in the Chow Breakpoint Test. Table 6.7 provides a summary of the p-values for each of the year dummy

¹²⁹⁸ For a wider discussion, see Pindyck and Rubinfeld (1998) at 139–141; Maddala (2002) at 301–341. For a more technical exposition, see Quantitative Micro Systems (2007) at 28–32.

variables used in the individual equations; the full results, from which this Table is extracted, can be found in Appendix 6.3.

Table 6.7: Year Dummy Variables

	Coeff.	p =
1993	-0.80	0.21
1994	0.14	0.58
1995	0.15	0.61
1996	0.59	0.06
1997	0.26	0.49
1998	-0.51	0.03
1999	0.13	0.63
2000	-0.24	0.44
2001	-0.41	0.11
2002	0.04	0.89
2003	0.20	0.53
2004	0.01	0.96

A review of Table 6.7 highlights several points: the first, a technical issue, is there are no estimates for 1992, or for 2005 and 2006, as there are insufficient observations in the data set to permit reliable estimation. However, this is not an important issue in the broader context of this study as these were not years of interest identified in the Chow Breakpoint Test. Only the year 1998 had a statistically significant dummy variable when applied to the conventional threshold of 5 per cent (or 0.05), and pointed to an 0.51 index point rise in the average level of corruption in the 22 developed countries under review. Statistical inference: using the year dummy variable technique it would appear the important structural break

in our data series most likely occurred in 1998¹²⁹⁹, when the average corruption ranking dropped by a statistically significant 0.5 index points or around 8 per cent of its then prevailing average, pointing to a deterioration in corruption conditions (or a more corruption-sensitive sampling frame).

The Chow Breakpoint Test and the use of year dummy variables each contain a number of disadvantages: in the former case, the possibility that application of the Test may well identify several potential breakpoints, which can occur when the data set contains a period of instability (as distinct from a ‘clear cut break’); and, in the latter, the technique is a somewhat crude, and second best, method for identifying structural breaks. In both cases, the analyst is required to ex ante form an opinion as to the likely, or the potential, location of any breakpoint(s). The Quandt-Andrews Breakpoint Test can be used in such situations, having the particularly desirable feature of being able to test for unknown structural breaks (that is, those which may be present, but not known to the analyst)¹³⁰⁰. Our application of the Quandt-Andrews Breakpoint Test¹³⁰¹ examines the data

¹²⁹⁹ This comment does not deny the rather curious case of the year 1996. While the p-value was only marginally non-statistically significant (at 6 per cent, compared to our threshold of 5 per cent), the level of practical significance (coefficient of +0.59) is rather difficult to rationalise in the broader context of our research question: perceived levels of freedom from corruption rose in anticipation of the OECD Convention. Without taking a major diversion down the complicated pathway of rational expectations models, perhaps the best we can say is the then potential of the OECD Convention raised awareness of corruption issues amongst IMD-WCY respondents in 1996. Testing whether this actually happened is beyond the scope of this study, and will have to await further scholarly work at some time in the future.

¹³⁰⁰ For a more technical exposition, see Quantitative Micro Systems (2007) at 166 – 168.

¹³⁰¹ For the specification: $\text{mean} = \text{constant} + b \cdot \text{mean}(\text{lag } 1) + \text{error}$.

set for 8 possible structural breaks (one each for the years 1995 to 2002, inclusive¹³⁰². The Test starts from the basic (null) hypothesis of no structural breaks.

Table 6.8: Quandt-Andrews Breakpoint Test

Statistic	Value	p =
Max. LR F-stat (1998)	17.91	0.003
Max. Wald F-stat (1998)	17.91	0.003

Table 6.8, above, reports the outcome from the Quandt-Andrews Breakpoint Test (for an unknown breakpoint) finding the most likely date for a breakpoint to have occurred was in 1998. This result is consistent with our findings from the use of the year dummy variable technique, and provides confirmation of the results of the iterative application of the Chow Breakpoint Test. Statistical inference: using the Quandt-Andrews test, the (most statistically significant) breakpoint in our data series is the year 1998.

. Parameter Stability

An important assumption underpinning any econometric/leximetric modelling, in particular that using regression-based techniques, is the stability of the parameter values (the coefficient for each of the variables used in the model). That is, ostensibly asking “does the effect of each the explanatory variables used in the model on the dependent variable remain

¹³⁰² The years 1992-1994 and 2003-2006 being omitted for technical estimation reasons.

fairly stable over the entire period under review?”. For data series across longer periods of time, where there are indications of variability and/or where there are structural shifts in the data, the assumption of parameter stability should be explicitly tested for its validity.

Econometrics/leximetrics generally offer the analyst two methods for assessing parameter stability: the CUSUM Test (which focuses on the mean/average of the residuals of the model specified); and, the CUSUM Squares Test (which deals with the variances of the residuals of the model specified)¹³⁰³. Reporting of the CUSUM Test, and the CUSUM Squares Test, however, does not take the form of a simple statistic, with associated measures of statistical significance, but rather the form of a graphical representation which traces out the pattern of the stability/instability across time. This desirable feature allows the analyst to more readily identify the timing, and the possible magnitude, of any structural changes but, unfortunately, not to make any definitive statement about their statistical significance. The evaluation process revolves around the visual examination of the graphical representations, and involves two elements: first, an assessment of the (horizontal) stability of the CUSUM/CUSUM Square line –

¹³⁰³ Examination of the residuals of a specified model is commonplace in better econometric/leximetric studies, being used as a method for assessing the validity of a model and whether, and possibly how, it might be improved upon. For a more technical exposition, see Johnston and DiNardo (1997) at 119-126 (although this discussion does include a worked example comprehensible to those not necessarily statistically inclined); and, Quantitative Micro Systems (2007) at 172–174.

in effect, asking “is the line consistently stable, or are there jagged movements and/or shifts in direction in the line?”; and, second, “how does the CUSUM/CUSUM Square line compare to the boundaries of the 5 per cent level of statistical significance – in particular, are there any places where the line breaches the boundaries of statistical significance?”. The results¹³⁰⁴ are reported for the CUSUM Test in Figure 6.3, and for the CUSUM Squares Test in Figure 6.4.

¹³⁰⁴ Using the model: $\text{mean} = \text{constant} + b * \text{mean}(\text{lag } 1) + \text{error}$, The vertical (y) axis represents the value of the parameter, while the horizontal (x) axis reports time.

Figure 6.3: CUSUM Test

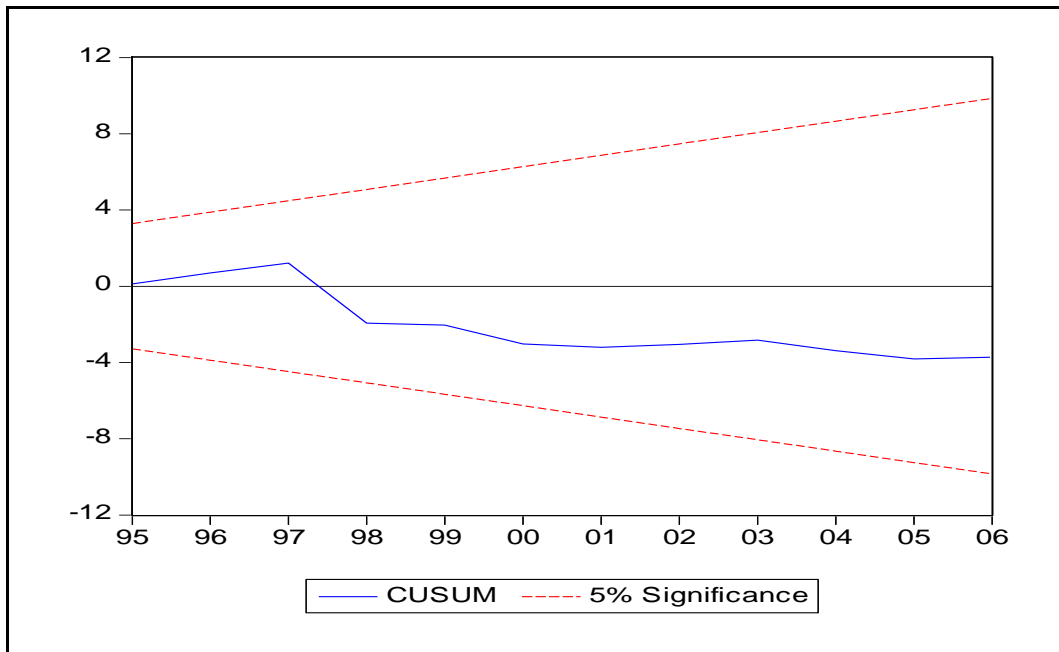
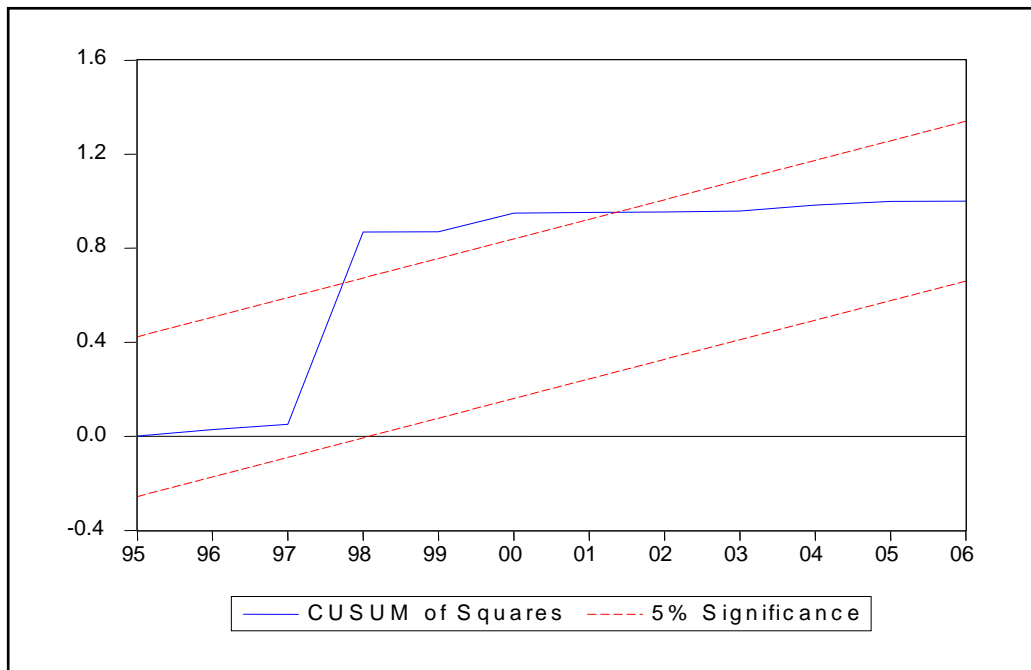


Figure 6.4: CUSUM Squares Test



Looking first at Figure 6.3, which reports the outcomes for the CUSUM Test, we can make several observations: the CUSUM line rises at a slight gradient up to year 1997, before turning down in year 1998, after which it remains fairly stable over the remainder of the period under review (that is out to 2006); the CUSUM line shifted from being positive to being negative, suggesting perceptions of corruption shifted from being upward-reinforcing, to downward-reinforcing¹³⁰⁵; and, movements in the CUSUM line did not breach the boundaries for statistical significance. A visual review of Figure 6.4 provides a somewhat similar message, with the shift year again appearing to be 1998 although the CUSUM Squares Test line does breach the threshold for statistical significance over the period 1998-2001. Statistical inference: taken together, the two estimates (CUSUM and CUSUM Squares) point to a substantial shift in the parameter stability of our model specification, reinforcing other findings of some form of structural change in the year 1998.

. Regime-Shift Specification

A conventional issue in econometric/leximetric modelling is generally to find the 'best available' model to explain a given research question. This chapter has examined several specifications not to explain corruption per se, but to examine the impact of a given legal-policy intervention (in this case, the OECD Convention) on the incidence of corruption amongst a group of developed countries (many of whom are OECD members).

¹³⁰⁵ In the current context, declining 'cleanliness'/ an increase in corruption.

An implicit finding of the specification and testing of a number of different models has been to discover that the simple linear design is not likely to constitute the best possible specification. Indeed, the presence of a practically and statistically significant break-point at year 1998 violates the underlying simple linearity (that is, a monotonic straight-line) of the specification being tested. Such a finding therefore raises the question ‘if not that specification, then what specification?’ In short, if not the straight-line specification, than what design better explains the relationship? A widely used technique for answering this question is the regime-shift model¹³⁰⁶, which enables the analyst to quantify: the shift in the intercept term resulting from the policy intervention; the shift in the slope of the model (that is, the marginal effects of the policy intervention); and, both the intercept and the slope shifts together, Table 6.9, following, reports the results of four models: the base model, which views corruption in developed countries as a function of corruption in those countries the previous year (variable: *devel* (-1)); an intercept model, which estimates the impact of the OECD Convention on corruption in those developed countries (variable: *oecd*); the slope model, which looks at the marginal impact of the OCED Convention on the incidence of corruption in the developed countries under review (the interaction term: *oecd*devel*(-1); and, the intercept and slope model which estimates both the slope and the intercept effects of the OECD Convention.

¹³⁰⁶ Sometimes also known as ‘piecewise’, ‘spline’ or ‘switching’ models. For a discussion of these modelling techniques see Pindyck and Rubenfeld (1998) at 136 – 138.

Table 6.9: Regime-Shift Specifications

	Base Model		Intercept Model		Slope Model		Intercept and Slope Model	
	Coeff	p =	Coeff	p =	Coeff	p =	Coeff	p =
C	1.91	0.15	6.23	0.00	5.81	0.00	12.37	0.00
DEVEL(-1)	0.71	0.00	0.09	0.71	0.15	0.52	-0.79	0.14
OECD	...	...	-0.42	0.01	...	...	-7.93	0.06
OECD*DEVEL(--)	...	...	...	...	-0.06	0.01	1.10	0.07
Adj R-sqd		0.507		0.712		0.702		0.774
S.E. of regression		0.187		0.143		0.145		0.126
Prob(F-statistic)		0.003		0.000		0.001		0.000
AIC		-0.385		-0.867		-0.834		-1.064
SBC		-0.294		-0.730		-0.698		-0.881

Several points from the four models warrant special mention. First, the improvement in the explanatory power of the models as the OECD Convention is taken into account, both singularly (as the variable *oecd*) and in combination (when interacted as *oecd*devel(-1)*). The addition of the OECD Convention variable in the intercept model raises the explanatory power of the latter model (over the base model) by a substantial 20.5 per centage points (from 0.507 to 0.712), while the inclusion of the interaction term (*oecd*devel(-1)*) in the intercept and slope model adds another 6.2 per cent points (from 0.712 to 0.774, or less than one-third of the OECD Convention variable on its own). The second point concerns the statistical significance of the three variables: when the OECD Convention variable is introduced into the modelling schema, the impact of past perceptions of corruption (*devel(-1)*) moves from being statistically significant to non-statistical significance; whilst both OECD Convention and the interaction variable (possibly under the influence of the OECD Convention component) are statistically significant in all three of the models in which they are used (albeit at the 10 per cent level in the intercept and slope model). Looking at the intercept, the slope and the combined models, one can infer the OECD Convention both caused a shift in the perception of corruption performance in 1998, and underpinned a sustained but downward direction in the corruption index, implying a deterioration in the corruption performance of the developed countries under review.

Summary and Conclusion

This section has focused on the research question: *has the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions had a (statistically) significant impact on reducing corruption in developed countries?* Although other questions may have been asked – for example, of the impact of other international legal instruments on different groups of countries, and/or of major multilateral instruments (like the much broader, in scope and membership, United Nations' Convention), we have been constrained by the need to keep the analysis both robust and tractable¹³⁰⁷, whilst working within the constraints of currently available data¹³⁰⁸.

In coming to a substantive answer to this research question, this chapter has analysed several pieces of statistical evidence: a visual examination of an index of the average level of corruption in the 22 countries under review points to a clear downward spike in the latter part of the 1990s; there was a statistically significant shift in corruption between the early part of the 1990s and the early

¹³⁰⁷ For example, while it may have been intellectually interesting to attempt to replicate the analyses undertaken in this thesis using different data sets and/or techniques, as an indicator of the robustness of the results, such modelling would likely generate more 'signal than noise'. This would likely reflect any differences in the results between modelling exercises could simply highlighting variations in the data collection frames/methods, in the definitions of the concepts, and/or the time frames in which the data were obtained.

¹³⁰⁸ While it may have been more interesting to examine the impact of the United Nations Convention Against Corruption, the instrument only entered into force in 2003, with ratification taking additional time in many UN member countries. As such to undertake dynamic econometric-leximetric modelling of the type reported in this study would have required the collection of any 8 or more years of data (pushing back formal submission of this study to around 2018), well outside the rules of the University of Sydney.

part of the 2000s; an analysis of variance of year-pairs over the 1992 to 2006 period indicates ‘something happened in the 1996 to 1998 period’, although we had to look further for clearer insights; perceptions of the incidence of corruption tend to be refreshed fairly regularly, probably annually, suggesting use of time series methods of statistical analysis are likely to prove fruitful; a Chow Breakpoint Test, a conventional tool used when looking for structural breaks in time series data, demonstrates there was a statistically significant break in the average level of corruption in the late 1990s and into the early 2000s, although we cannot precisely date the timing of the break; dummy variable techniques point toward a breakpoint occurring either in 1996 or more likely in 1998, when the average level of perceived corruption dropped by a statistically significant 0.5 index points or around 8 per cent of its then prevailing average; a superior technique, the Quandt-Andrews Test, indicates the most statistically significant breakpoint in our data series is likely to be for the year 1998; while tests of parameter stability (CUSUM and CUSUM Square) come to much the same conclusion. Taken as a whole, the evidence points to a structural break in corruption occurring in 1998, the year after the entry into force of the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions. Although the difference is statistically significant, its practical significance is likely to be more modest: a reduction in the corruption performance index of a mere 0.5 index points or around 8 per cent of its then prevailing average. Such an outcome suggests the

OECD Convention led to deterioration in the corruption performance of the 22 developed countries under review¹³⁰⁹. More likely, the advent of the OECD Convention had the effect of raising awareness amongst observers of the incidence and impact of corruption, who reacted negatively to what they saw/had not previously noticed.

Three Countries (Time Series)

The preceding section examined in some detail the implications of the OECD Convention for the average corruption performance of a group of 22 developed countries. The section applied, innovatively, a number of econo-/lexi- metric techniques to estimate the practical and statistical significance of the Convention on the group of countries as a whole. This section takes the analysis one step further, moving from the impact of the Convention on the average performance of the 22 developed countries to look at its impact, both in terms of practical and statistical significance, on a sub-sample of three nations – one high performer, one middle performer, and one low performer on the index of corruption performance¹³¹⁰.

¹³⁰⁹ Recall: the higher the corruption index, the ‘cleaner’ the nation is on corruption matters.

¹³¹⁰ The selection of a representative set of high, middle and low performers is common practice in econometric and leximetric modelling, not least of which to ensure the tractability of the analysis.

Descriptive Statistics

The high performer chosen was Denmark, which consistently topped the 'league table' with the highest median score (9.31 index points) and lowest variability (standard deviation = 0.16 index points) of all of the 22 developed countries examined over the 1992-2006 period¹³¹¹; the middle performer was the United States of America, which sat close to the centre of the sample, with a median score of 6.73 index points and a standard deviation of 0.57 index points¹³¹²; while the lowest performer was Italy, with a median score of 2.85 index points and a standard deviation of 0.69 index points¹³¹³. The annual results, in index point form, for each of the three countries, can be seen in Figure 6.5¹³¹⁴.

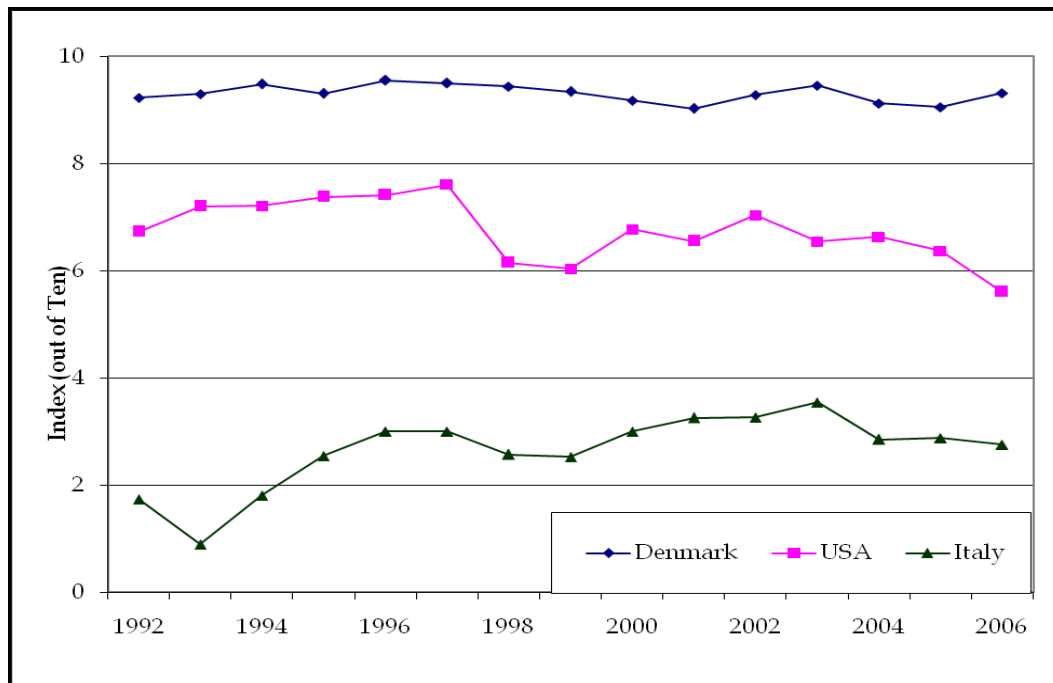
¹³¹¹ Denmark implemented the OECD Convention through amendments to its Criminal Code (per L 232 – 1998/99).

¹³¹² The United States implemented the OECD Convention via its International Anti-Bribery and Fair Competition Act of 1998 (Pub. L 105 - 366), which amended its Foreign Corrupt Practices Act (FCPA) of 1977 (15 U.S.C. §§ 78dd - 1).

¹³¹³ Italy implemented the OECD Convention through its law Act No. 300 of 29.9.2000.

¹³¹⁴ Readers should recall a 'high score' on the WCY scale of corruption indicate a low incidence of corruption, as the survey question asked whether the relevant country is largely free of corruption.

Figure 6.5: Corruption in Three Countries



A visual inspection of Figure 6.5 brings out a number of points: the very stable trend of Denmark, which exhibits virtually no real change over the 1992-2006 period (consistent with the very low standard deviation reported above); the two-period nature of the corruption index for the United States, improving modestly between 1992 and 1997, before dropping noticeably in 1998 and then remaining roughly flat before dipping in 2006; and, Italy, which demonstrated a general, but still modest, upward drift in its performance over the period under review (although still remaining at a level around one-third of the best performing Denmark and one-half that of the middle performing United States). The difference in patterns for the respective performances of the three

countries was echoed in the absence of any meaningful practical, and no statistically significant, correlations between them. For Denmark/United States, the correlation coefficient was 0.33, and the p-value for statistical significance was 0.24; for Denmark/Italy, the figures were – 0.06 and 0.84, respectively; and, for the United States/ Italy, they were -0.17 and 0.56, respectively.

. **Analysis of Variance, and Tests of Equality**

Analysis of Variance (ANOVA) testing found similar results, with between country variances being statistically significant at less than 1 per cent for all three countries as a group, and for each of the country pairs (Denmark/United States; Denmark/Italy; and, United States/Italy) in their corruption performances. That is, the differences between the three countries are statistically significantly greater than the differences within them over time, Tests of equality¹³¹⁵, of means, of medians, and of variances, of the three country pairs rejected the null hypotheses of equality of their means, medians, and variances for all three pairs, with the single exception of the variances of the United States/Italy pair. Statistical inference: the three countries really are separate and distinct from each other in their corruption performances.

¹³¹⁵ Using both ANOVA F-test, and Welch F-test for the equality of means; Median Chi-Square test for equality of medians; and, F-Test for equality of variances.

Auto-Correlation

Denmark, the United States and Italy also appear to have different memory profiles, in terms of the influence of past perceptions of the incidence of corruption on current perceptions thereof. Denmark and the United States appear to have at best a one-year past memory, although Italy would seem to have a longer memory, as can be deduced from Table 6.10 following, reporting estimated partial auto-correlations.

Table 6.10: Partial Auto-Correlations

Lags	Denmark Coeff.	Denmark p =	United States Coeff.	United States p =	Italy Coeff.	Italy p =
1	0.35	0.14	0.39	0.10	0.69	0.00
2	-0.25	0.30	-0.06	0.22	-0.45	0.01
3	0.22	0.49	-0.05	0.39	0.12	0.02
4	-0.14	0.65	-0.17	0.44	0.05	0.04
5	-0.04	0.73	0.15	0.59	0.13	0.08
6	-0.10	0.77	-0.07	0.71	-0.22	0.13

Table 6.10 indicates the partial auto-correlations for Denmark and the United States achieve their highest absolute values for year lag 1 (that is, ‘last year’), with coefficient values of 0.35 and 0.39 respectively, although in neither case are they statistically significant at the conventional 5 per cent threshold (p-values = 0.14 and 0.10, respectively). By comparison, Italy demonstrates both

practically and statistically significant partial auto-correlations for recent past years (lags 1 and 2, with coefficient values of 0.69 and -0.45 respectively), with both periods being statistically significant at the 1 per cent level. Also noteworthy, is while the values of the coefficients for Italy for lagged years 3 and 4 taper off, they continue to be statistically significant at the 5 per cent level (p-values = 0.02 and 0.04 respectively). Statistical inference: both Denmark and the United States demonstrate at best a fairly weak short term memory, 'remembering' corruption performances in the previous year only, while Italy has a much stronger memory in both practical and statistical significance terms stretching back at least 3 to 4 years. Looked at another way, Denmark and the United States refresh their perceptions of corruption annually, while Italy appears much slower to adjust.

. **Breakpoint Tests**

An important issue for this study is the impact of the OECD Convention on the incidence of corruption within the developed countries under review. This question was examined in the previous section for the group of countries as a whole using a number of approaches, such as: breakpoint tests (for example, the Quandt-Andrews Breakpoint Test); dummy variables for the OECD Convention (with the year 1998 being nominated as the year in which any structural shift in ratings attributable to the Convention would have been expected to have been seen); and, parameter stability tests (CUSUM and

CUSUM Squared) for a simple regression model (where corruption in a given year is driven by corruption in the preceding year). The results of simple regressions for each of the three countries – Denmark, the United States, and Italy – are reported in Table 6.11. In each model, the incidence of corruption for each country in a given year is deemed to be determined by the incidence of corruption for that country in the previous year. For example, corruption in Denmark ‘this year’ is caused by corruption in Denmark ‘last year’¹³¹⁶, and similarly for the United States and for Italy.

Table 6.11: Basic Regressions for Three Countries

Dep Var =	Denmark Coeff	Denmark p =	USA Coeff	USA p =	Italy Coeff	Italy p =
Constant	6.08	0.03	2.88	0.20	0.89	0.10
Dep Var (-1)	0.35	0.22	0.57	0.09	0.69	0.00
Adj R-sq	0.051		0.157		0.508	
AIC	-0.654		1.732		1.450	
SBC	-0.563		1.823		1.542	

As can be seen in Table 6.11, past experience tends to play differing roles in each of the three countries: not being statistically significant in Denmark (p-value for lagged value of the dependent variable = 0.22); barely statistically significant (at the 10 per cent level) for the United States (p-value = 0.09); and, strongly statistically significant for Italy (at much less than 1 per cent).

¹³¹⁶ Or in modelling syntax: $y = a + b \cdot y_{t-1} + e$.

The Quandt-Andrews Breakpoint Test was applied to each of these models to identify the most likely time-of-occurrence of any structural break in the time series of the incidence of corruption in each of the three countries under review. This Test found the most likely year for a breakpoint in the series for Denmark was 2000, for the United States it was 1998, and for Italy it was 1996. However, and particularly, noteworthy, none of the results came close to reaching statistical significance (p-values for the Wald F-Test being 0.91, 0.34 and 0.99 respectively).

. **Parameter Stability**

The results of the Quandt-Andrews Test are borne out by the CUSUM and CUSUM Squares Tests for each of these basic regression equations, which show: only modest movements in parameter values for Denmark, in all periods remaining within the bounds of the 5 per cent threshold for statistical significance (meaning none of the movements were statistically significant; Figures 7.6 and 7.7); a discernible movement in parameter values for the United States in the late 1990s, although at all times remaining within the 5 per cent threshold bounds (Figures 7.8 and 7.9); and, generally stable parameter values for Italy across the whole period under review, breaching the 5 per cent bound for statistical significance for both CUSUM and CUSUM Squared only in the mid-to-late 1990s, which coincided with its period of improvement in corruption performance (Figures 7.10 and 7.11)

Figure 6.6: CUSUM Results for Denmark

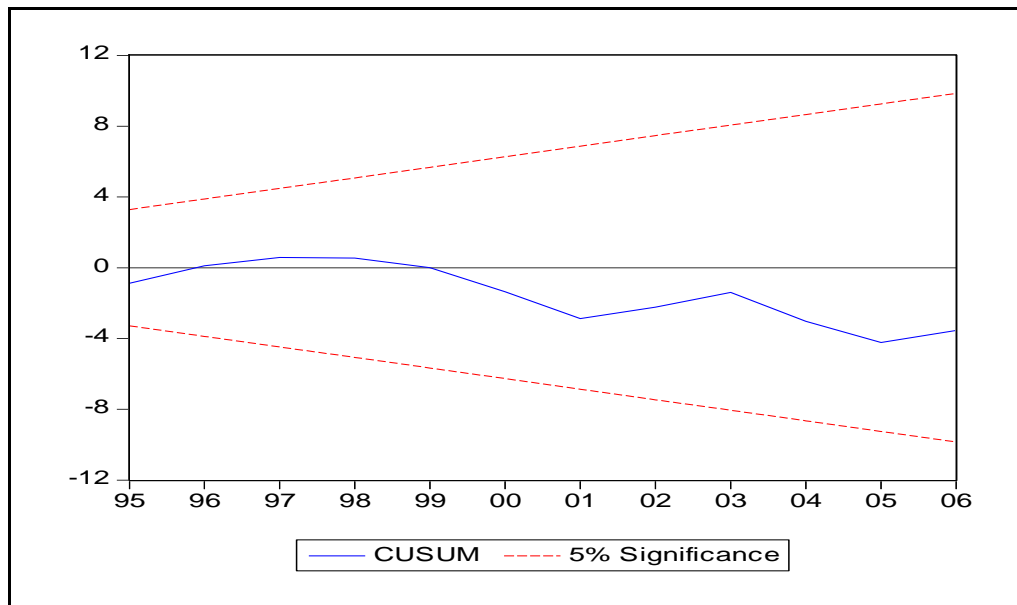


Figure 6.7: CUSUM Squared Results for Denmark

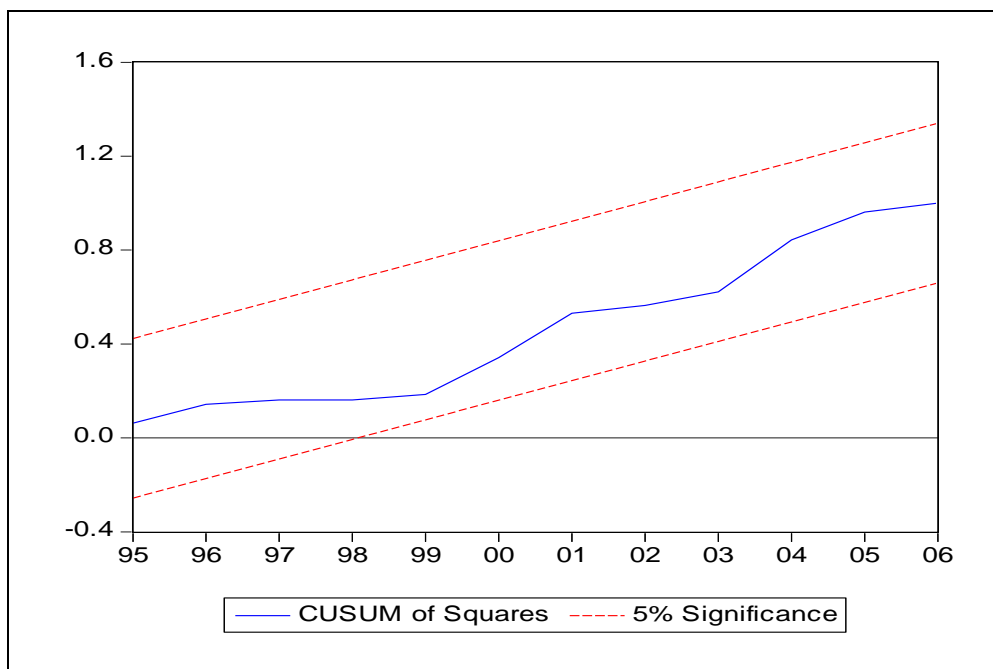


Figure 6.8: CUSUM Results for the United States

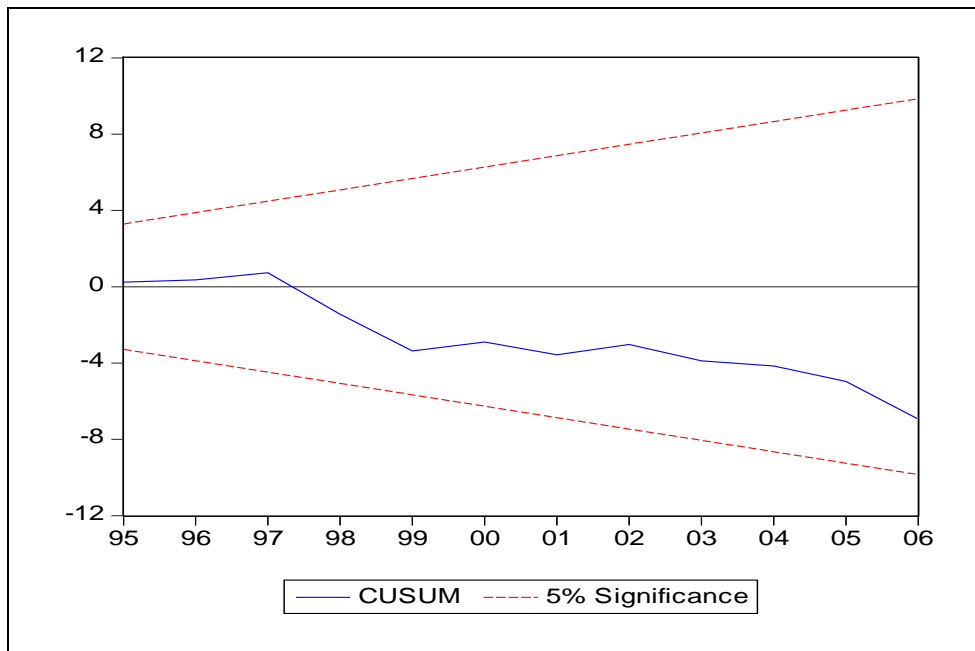


Figure 6.9: CUSUM Squared Results for the United States

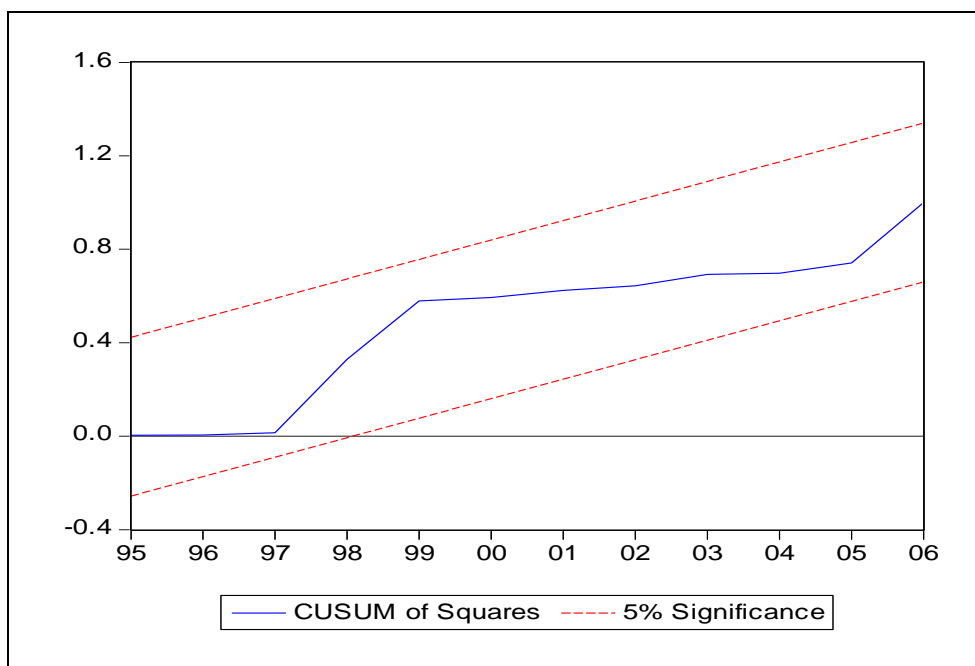


Figure 6.10: CUSUM Results for Italy

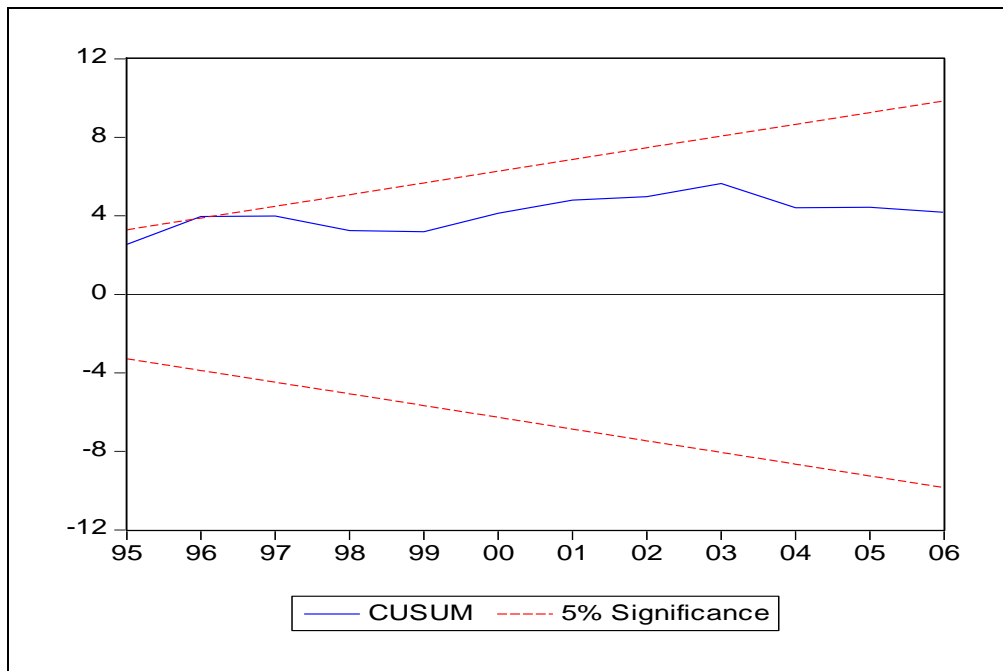
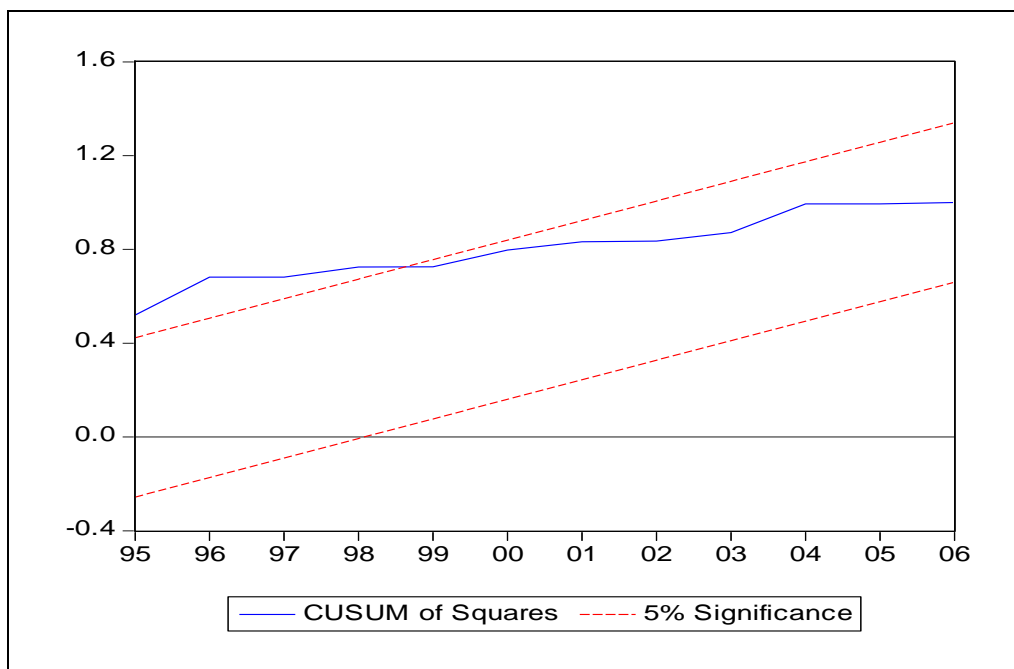


Figure 6.11: CUSUM Squared Results for Italy



. Dummy Variables

Another perspective on the practical and statistical significance of the OECD Convention for the three countries under review can be found by looking at expanded specifications of the basic models reported in Table 6.11. The expanded specifications involve including a dummy variable for the OECD Convention, being set at 1 for 1998 (as per the all-countries average modelling discussed in the previous section), and 0 otherwise. The results from the expanded models are reported in Table 6.12 following.

Table 6.12: The OECD Convention's Effect in Three Countries

Dep Var =	Den Coeff.	Den p =	USA Coeff.	USA p =	Italy Coeff.	Italy p =
Constant	6.43	0.04	0.52	0.79	0.86	0.11
Dep Var (-1)	0.31	0.31	0.93	0.01	0.71	0.00
OECD	0.07	0.70	-1.43	0.02	-0.43	0.41
R-sq	0.136		0.554		0.575	
Adj R-sq.	-0.021		0.473		0.498	
Pr (F-stat)	0.446		0.012		0.009	
AIC	-0.525		1.318		1.527	
SBC	-0.388		1.455		1.664	

As can be seen from Table 6.12, the OECD Convention dummy variable (OECD) failed to achieve statistical significance for either Denmark or Italy (with p-values of 0.70 and 0.41 respectively). However, it was both practically and statistically significant for the United States, indicating a fall of a sizeable 1.43 index points (p-value = 0.02) in that country's corruption rating (suggesting the OECD Convention caused a deterioration in the United States' international corruption rating)¹³¹⁷. Statistical inference: the OECD Convention did not appear to have any effect on the corruption performance of either Denmark or Italy, but had a substantial negative impact on that of the United States.

. Regime Shift Specification

Regrettably, it was not possible to further expand the models, to examine regime-shift specifications (through the inclusion of an interaction term between OECD and the dependent variable lagged one year) for each country model due to data limitations¹³¹⁸. However, we can reasonably presume any such interaction term was probably unlikely to be statistically significant for Denmark and Italy given previous findings about: the relative timing of the

¹³¹⁷ Possibly reflecting an increased awareness of corruption issues amongst respondents in the United States

¹³¹⁸ Insufficient degrees of freedom/ observations.

breakpoints identified by the Quandt-Andrews Test; and, the lack of statistical significance of the OECD Convention dummy variable. By contrast, such an interaction term may well have been statistically significant for the United States given the information derived from the Quandt-Andrews Test and the application of the OECD Convention dummy variable. Such questions await further research as additional data sets become available.

. **Summary and Conclusion**

The first section of this chapter examined the impact of the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions on the incidence of corruption in an aggregated group of 22 developed countries, which largely constitute the major members of the OECD itself. This section took the analysis one step further, looking at the impact of the Convention on three OECD member countries: Denmark, selected for its consistent performance as a low corruption country; the United States, which sat near the middle of the panel of countries for the incidence of corruption; and, Italy, which was selected for its consistent performance as a high incidence country. This 'three country' analysis was assisted by the absence of any statistically significant correlations between them, in their respective corruption performances. Additional statistical testing, using analyses of variance, and tests of equality, confirmed this apparent independence in corruption performances.

Of particular importance for the primary research question of this study has been our ability to construct econometric/leximetric models to rigorously test for the impact of the OECD Convention on the incidence of corruption in the selected developed countries, and in this section a sample of three nations (Denmark, the United States and Italy). Formal breakpoint tests found the most likely break-point years in the incidence of corruption were: for Denmark, the year 2000, well after the entry into force of the Convention; but for Italy, the year 1996, well before the time of the Convention; and, in neither cases were they statistically significant (that is, the measured breakpoints could have been a result of chance). By comparison, the formal breakpoint tests did find a breakpoint year of 1998 for the United States (coinciding with the OECD Convention), although it too failed tests of statistical significance. Parameter stability testing bore out these results; the OECD Convention did not appear to have a statistically significant impact on corruption in Denmark, the United States or Italy. An alternate technique, known as dummy variable modelling, to examine the same question, produced fairly similar results, albeit with one notable exception. While the dummy variable modelling method confirmed the absence of any statistically significant effect of the OECD Convention in either Denmark or Italy, it did identify a statistically significant fall in the United States' standing in the international anti-corruption league table: down by just over 1.4 index points. That is, the OECD Convention had a statistically significant, adverse, impact on the United State's anti-corruption status.

Three Countries (Regressions)

The previous sections of this chapter have examined and modelled two dimensions of the question of the effectiveness of an international legal instrument (the OECD Convention) on the incidence of corruption in a sample of developed countries. This section asks the complementary question of ‘what drives corruption in developed countries?’. Such an inquiry is, axiomatically, multi-faceted, with potentially an almost limitless range of cultural, economic, historical, political and social drivers, amongst others, of corruption, any or all of which may well differ across space and time. Any effort to ‘model everything’ which might possibly have a causal relationship with corruption would quickly become intractable. To maintain a degree of manageability, and hopefully clarity of exposition and findings, this section will bound the analysis to the three developed countries considered in the previous section (namely, Denmark, Italy and the United States), and use a suite of indicators which have appeared consistently in our primary data source (the WCY series 1992 to 2006). Inevitably, this decision rule means our research question in this subsection transforms to ‘what are the commercial, economic and political drivers of corruption in a representative sample of three developed countries, namely Denmark, Italy and the United States of America?’.

. Explanatory Variables

Having defined the variables we are interested in having explained (the incidence of corruption in each of the three countries under consideration), the challenge becomes to select the explanatory variables in our model(s). To a large degree, this selection is prescribed by the requirement for the consistent availability of usable indicators across the entire period under review (1992 – 2006). While the various WCYs have produced a broad sweep of possible indicators which could be used to explain corruption, not all were collected for all three countries in a consistent matter all of the time. Some indicators were collected for some years, and not for others, leading to difficult-to-overcome problems associated with missing variables. Putting aside those indicators where there were potential problems of missing items resulted in a set of thirteen potential explanators of corruption being available in the three countries under review.

These potential explanators were (in alphabetical order of their mnemonic): CB = cross border: cross border ventures can be negotiated with foreign partners without government intervention; CCP = cost of capital: the cost of capital does not hinder business development in that country; CCR = corporate credibility: company managers are trusted by the public; CI = country image: the image of your country abroad supports the development of business; CPT = capital and property taxes: such taxes as a percentage of national revenue; CR = country credit rating: as assessed by international institutional investors; ENT = entrepreneurship: managers generally have a sense of entrepreneurship; GEP =

government economic policies: the government adapts economic policies to changes in the economic environment; LR = labour regulation; labour regulations (hiring and firing regulations, minimum wages etc) are flexible enough; NC = national culture: national culture is open to foreign influence; PC = price controls: government price controls do not effect pricing of products in most industries; PTN: protectionism: national protectionism does not prevent foreign products and services from being imported; and, SR = social responsibility: managers do not neglect their responsibility towards society¹³¹⁹. Each of these variables (with the exception of capital and property taxes, which is a percentage of total revenue) are scores (out of 10), with a higher score for the variable being expected to be directly associated with a better score on the corruption variable (CRPT)¹³²⁰. For example, as the score for entrepreneurship (ENT) rises a country would be 'cleaner' on the corruption (CRPT) measure.

. Correlations

An insight into the relationships between the dependent variable (CRPT) and the 13 explanatory variables can be found in the practical and the statistical significance of the correlations, reported in Table 6.13 following. The mnemonics 'r' report the practical significance, and 'p' the statistical significance of the correlation between CRPT (corruption) and the variable nominated in the left-hand column.

¹³¹⁹ As fully defined and reported in toto in the primary sources.

¹³²⁰ Recall: the higher the corruption index, the 'more virtuous' the nation is on corruption matters.

Table 6.13: Correlations Between Corruption and 13 Explanatory Variables

		Denmark	Italy	USA
cpt	r =	0.06	0.21	0.53
	p =	0.82	0.44	0.04
ccp	r =	0.04	0.68	0.29
	p =	0.89	0.01	0.29
cr	r =	-0.37	0.44	-0.49
	p =	0.17	0.10	0.06
gep	r =	-0.31	0.42	-0.40
	p =	0.27	0.12	0.14
ptn	r =	0.31	-0.06	0.39
	p =	0.26	0.84	0.15

		Denmark	Italy	USA
pc	r =	0.53	0.71	0.63
	p =	0.04	0.00	0.01
lr	r =	0.07	0.29	0.32
	p =	0.80	0.30	0.25
cb	r =	0.22	-0.10	0.63
	p =	0.42	0.73	0.01
nc	r =	0.15	0.15	0.13
	p =	0.59	0.59	0.65
ci	r =	0.02	0.52	-0.10
	p =	0.95	0.05	0.74
ccr	r =	0.13	0.14	-0.04
	p =	0.65	0.63	0.90
ent	r =	-0.18	-0.07	0.10
	p =	0.52	0.81	0.71
sr	r =	-0.15	-0.08	-0.20
	p =	0.59	0.77	0.48

The most interesting finding from Table 6.13 is the small number of explanatory variables which appear to be statistically significantly correlated with corruption. Amongst the pair-wise correlations which find statistical significance (at the conventional 5 per cent (0.05) level) are: for Denmark, only PC (price controls); for Italy, CCP (cost of capital), PC (price controls), and CI

(country image); and, for the United States, CPT (capital and property taxes), PC (price controls) and CB (cross border ventures). However, correlation is only indicative of coincidence, and not necessarily a reliable guide of causality, such matters being better evaluated through regression modelling techniques (discussion of which is to come).

. **General-to-Specific Modelling**

The regression modelling approach was used to identify the practical and the statistical significance of the variables which best explain the incidence of corruption in each of the three countries under review. This approach was based on general-to-specific (also known as backward elimination) regression modelling, where all potential explanatory variables are included in the first specification, and then progressively deleted until a final model specification is achieved where all remaining explanatory variables are statistically significant. The decision rule for deletion is the variable with the least statistical significance (measured as the highest p-value) is dropped from the subsequent equation. This procedure is repeated using this decision rule until only statistically significant explanatory variables remain in the model. The sequence of deletion can provide information on the relative (lack of) statistical significance of the explanatory variables under consideration; the least important are dropped earliest in the process of elimination.

For Denmark, the elimination process involved specifying 8 sequential models, with the order of deletion being CB (cross border), CCP (cost of capital), PTN (protection), CPT (capital and property taxes), ENT (entrepreneurship), PC (price controls), and LR (labour regulation). For Italy, it involved 6 sequential models, with the order of elimination being CCP (cost of capital), NC (national culture), CCR (corporate credibility), GEP (government economic policies), and CPT (capital and property taxes). For the United States of America, the process involved 4 sequential models, with the order of exit of the explanatory variables being CCP (cost of capital), CCR (corporate credibility), and PTN (protectionism)¹³²¹. A summary of the final models for each of the three countries can be found in Table 6.14 (full reporting of all of the modelling sequences can be found in Appendices 6.5 to 6.7).

¹³²¹ Discussion of the reasons for the individual country sequences of elimination of the explanatory variables is outside of the scope of this study, and a major undertaking we leave for further research at another place and time.

Table 6.14: Summary of General-to-Specific Modelling Sequences

y = crpt	Denmark Coeff.	Denmark p =	Denmark Beta	Italy Coeff.	Italy p =	Italy Beta	USA Coeff.	USA p =	USA Beta
Cons	9.03	0.00	.	-12.11	0.02	.	27.11	0.03	.
CPT	...	...	...	...	...	...	3.39	0.02	1.00
CCP	...	...	...	...	...	...	...	...	...
CR	-0.34	0.00	-1.43	1.02	0.02	0.74	-3.16	0.02	-1.03
GEP	-0.31	0.00	-1.03	...	...	...	1.15	0.03	1.77
PTN	...	...	...	0.85	0.03	0.61	...	...	...
PC	...	...	...	1.02	0.05	0.38	0.83	0.02	0.81
LR	...	...	...	-1.65	0.01	-1.61	-0.91	0.03	-0.65
CB	...	...	...	1.09	0.01	0.59	-1.84	0.04	-0.91
NC	0.11	0.04	0.57	...	...	...	1.34	0.03	1.11
CI	-0.25	0.04	-0.66	2.14	0.01	1.31	-0.81	0.02	-1.92
CCR	0.43	0.01	0.77	...	...	...	...	...	...
ENT	...	...	...	-0.54	0.03	-0.58	1.75	0.01	2.34
SR	0.40	0.01	1.27	-3.29	0.00	-2.02	-1.83	0.02	-1.67
Adj R2		0.729			0.835			0.872	
Pr (F-Stat)		0.007			0.006			0.018	
AIC		-1.777			0.586			-0.213	
SBC		-1.446			1.011			0.306	

Several features stand out in Table 6.14. Firstly, the high values for the Adjusted R-Squared for each of the models (the proportion of the variation in the dependent variable, in this case corruption in each of the three countries under review, explained by the remaining, statistically significant, explanatory variables)¹³²². These figures range from just over 87 per cent for the United States to 83.5 per cent for Italy, and almost 73 per cent for Denmark, indicating these variables account for a sizeable share of the drivers of corruption in each of the three countries. The second is the use of Beta coefficients, which allow analysts to better compare the relative importance (and practical significance) of each of the explanatory variables. In short, a higher absolute Beta coefficient suggests a relatively more (practically significant) explanatory variable than one with a lower absolute Beta coefficient¹³²³. Using this facility allows researchers to gain an insight into the relative importance of the explanatory variables, with the three most important being: for Denmark, CR

¹³²² Some readers may be concerned about the presence and influence of multi-collinearity (high intercorrelations) between the explanatory variables used in this modelling. While there are methods available for addressing this issue (for example, the use of factor or principal components analyses) they come at the high cost of loss of information on the absolute and relative impact of the particular variables subsumed therein.

¹³²³ Care should be taken by those not familiar in attaching narrative explanations to Beta coefficients. They should be understood as ‘a one standard deviation increase in the relevant x variable, causes a (Beta coefficient) standard deviation increase/ decrease (as the prefix prescribes) in the dependent variable’. The Beta coefficient is essentially the conventional b-value coefficient adjusted for the relative standard deviations of the relevant x and the y variables. By way of example, the Beta = 1.27 for Denmark for social responsibility means a one standard deviation increase in social responsibility would be expected to cause a 1.27 standard deviation increase in Denmark’s corruption performance (recall: an increase in the measure suggests ‘a cleaner’/more virtuous performance).

(country credit rating; having a negative impact on corruption), SR (social responsibility; positive), and GEP (government economic policies; negative); for Italy, SR (social responsibility; negative), LR (labour regulation; negative), and CI (country image; positive); and, for the United States, ENT (entrepreneurship; positive), CI (country image; negative), and GEP (government economic policies; negative).

. **Parameter Stability**

Parameter stability is also an important issue in this section, just as it has been in the previous two sections of this study. Are the parameter/coefficient values estimated for the models for the three countries under review stable across time, do they fluctuate (and if so, when and by how much), and are any such variations statistically significant, or not ? These issues can be addressed by the application of the CUSUM and CUSUM Squares techniques to models for each of Denmark, Italy and the United States. The model specifications used in the parameter stability testing involve: as the dependent variable, perceptions of corruption in each of the three countries; and, as the independent variables, the three most important indicators identified using the Beta coefficient

selection criteria (reported above)¹³²⁴. In the latter case, this meant the explanatory variables were, for: Denmark, country credit rating, social responsibility, and government economic policies; Italy, social responsibility, labour regulation, and country image; and, the United States, entrepreneurship, country image, and government economic policies. The results for both CUSUM (parameter stability of the mean) and CUSUM Squares (parameter stability of the variance) for each of the three countries under review are reported in the following Figures.

¹³²⁴ Parameter stability testing using all of the variables which retained statistical significance in the original backward elimination process was not viable because of the limited degrees of freedom/ number of observations. Any results, at best, covered only a short time period from which few useful inferences could have been drawn, and/or were subject to relatively higher standard errors (and hence less precise estimation).

Figure 6.12: Denmark CUSUM

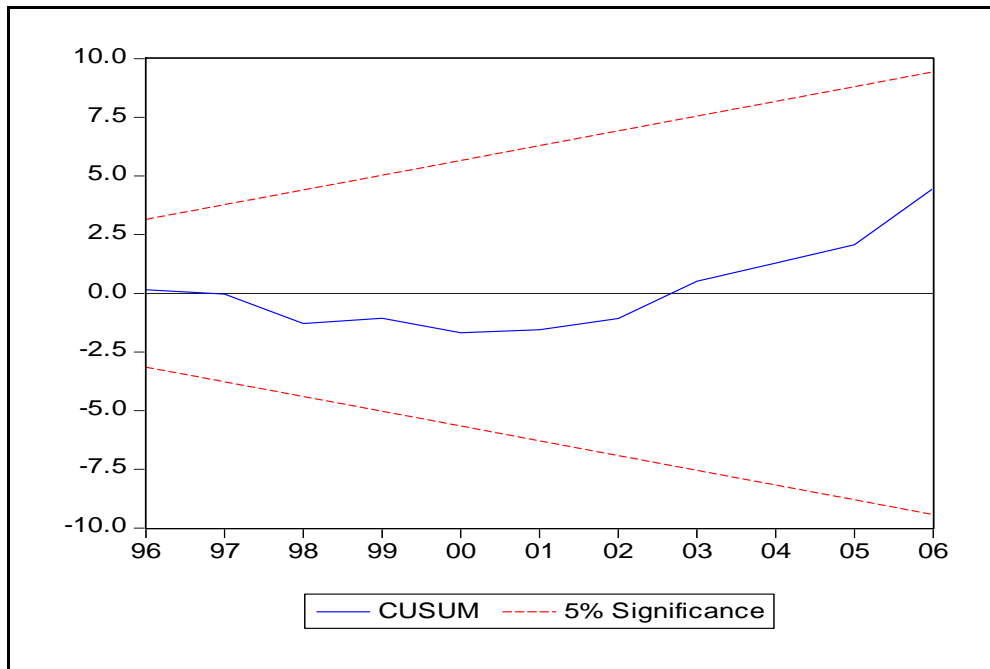


Figure 6.13: Denmark CUSUM Squares

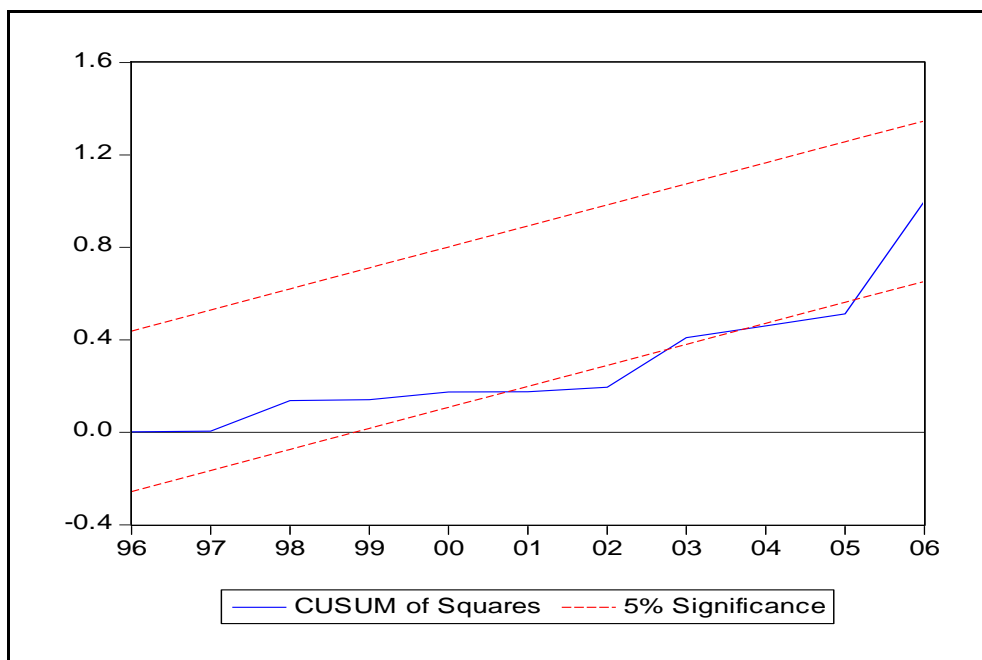


Figure 6.14: Italy CUSUM

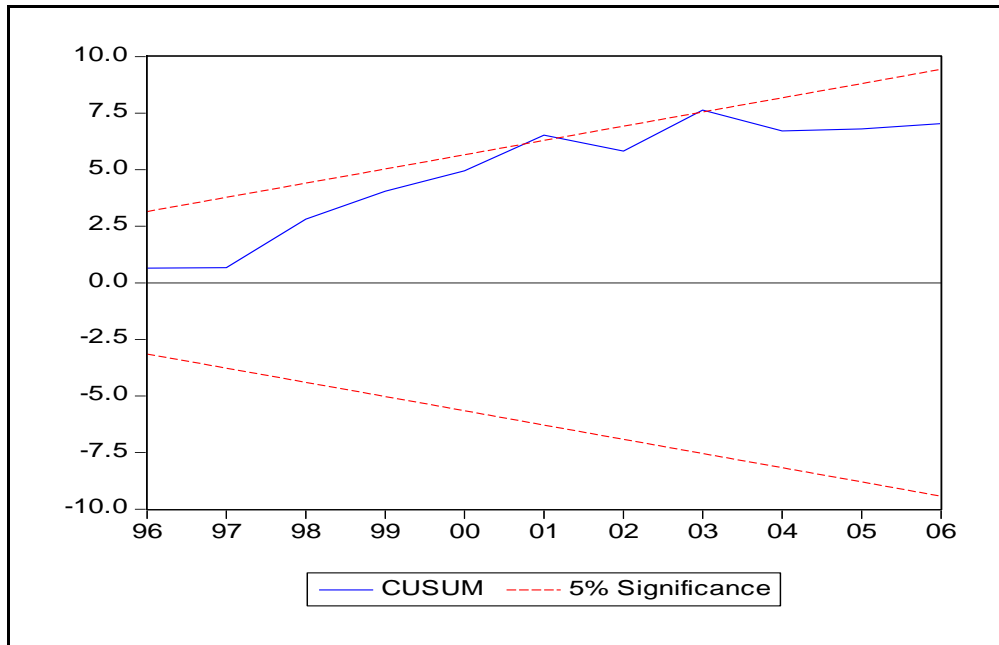


Figure 6.15: Italy CUSUM Squares

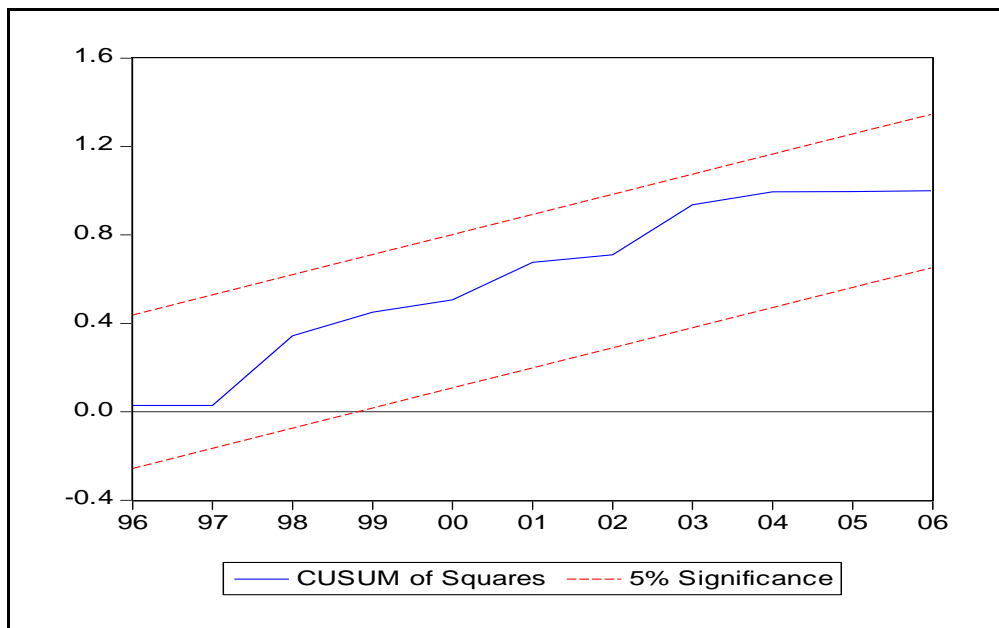


Figure 6.16: United States CUSUM

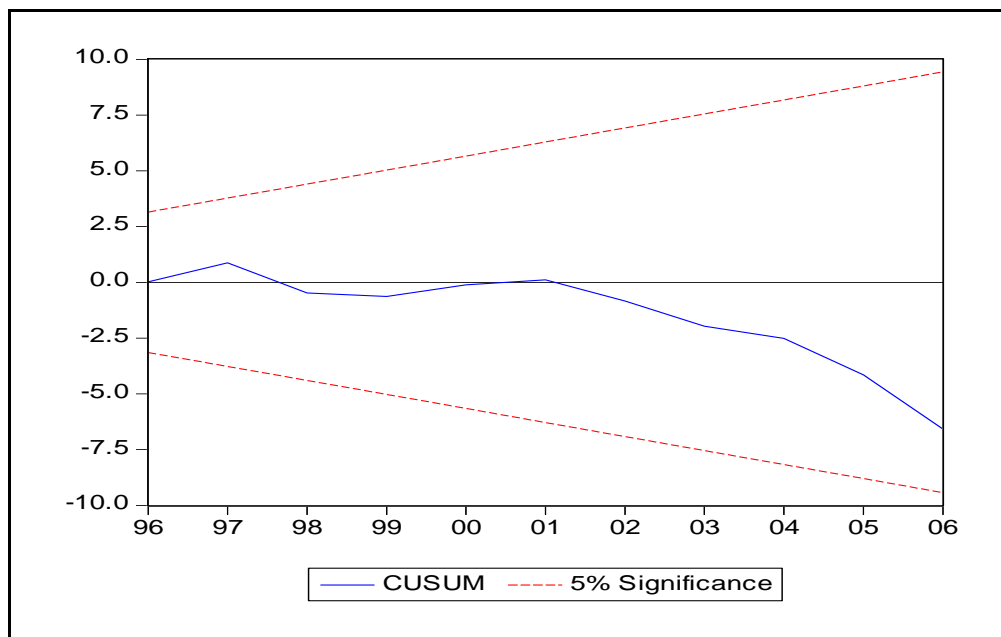
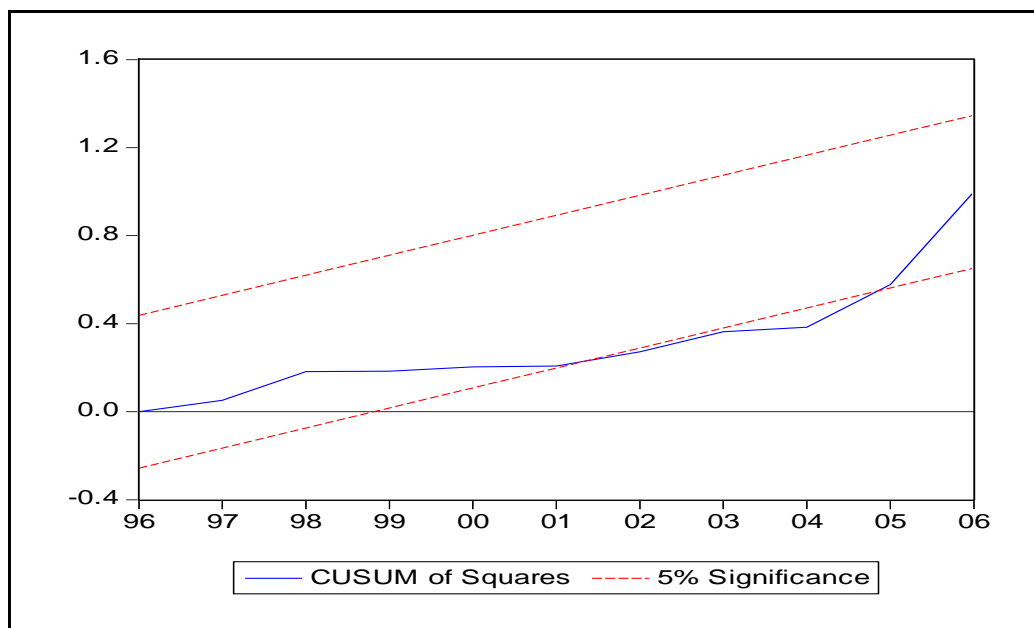


Figure 6.17: United States CUSUM Squares



A review of the parameter stability of the models for the three countries shows fairly similar patterns for the higher and middle performing countries (namely, Denmark and the United States), and notably different pattern for the lower performing Italy. In the former cases (Denmark and the United States), the CUSUM lines in both cases were fairly flat from the mid 1990s to around 2002, before rising in the case of Denmark, and falling in the case of the United States, although in neither case did the CUSUM line breach the 5 per cent boundary for statistical significance. That is, any movements in the parameter values measured by the CUSUM test were not statistically significant. However, the same could not be said for the CUSUM Squares test results, which breached the boundaries of statistical significance (at the 5 per cent threshold) for both Denmark and the United States between 2001 – 2005. By comparison, both the CUSUM and the CUSUM Squares indicators for Italy showed some degree of oscillation over the period under review, but did not reach statistical significance at any stage (although it was a close-run between 2001 and 2003 for the CUSUM test). Taken as a whole, the general stability of the CUSUM tests for the three countries suggests the models perform well in explaining corruption in the relevant countries, while the seemingly statistically significant movements in the CUSUM Squares test results for Denmark and for the United States in the early 2000s are likely to be explicable by factors relating to the selected explanatory variables rather than the effects of the OECD Convention, coming well after the 1998 breakpoint identified in the previous sections of this study.

Summary and Conclusion

This section examined the commercial, economic and political drivers of corruption in three representative developed countries: Denmark (ranked highly), the United States (middle ranked) and Italy (lowly ranked) in terms of their 'corruption cleanliness'. Exploratory data analysis, in the form of correlation (magnitude, direction and statistical significance) found only a small number of statistically significant correlations, with no consistent statistically significant correlations apparent except for price control measures, which were found to have a positive, reasonably strong and statistically significant impact on the incidence of corruption in each of the three countries under review. More rigorous testing of potential causal relationships through an iterative process of general-to-specific modelling (also known as backward elimination) identified a suite of potential explanatory variables which had a statistically significant effect in explaining perceptions of corruption. For all three countries, these variables included country credit rating, government economic policies, country image and corporate social responsibility. Only cost of capital was not statistically significant in any three countries; all other variables, in various combinations, appeared in at least one of the country-models. Tests of parameter stability showed fairly stable values for the CUSUM test for all three countries, and the breaching of statistical significance for the CUSUM Squares test for Denmark and for the United States between 2001 and 2005 were only marginal. Taken as a whole, the analysis demonstrates a degree of commonality, and a degree of difference, in the causal drivers of corruption in Denmark, Italy, and the United States of America.

Summary and Conclusion

This chapter set out to answer an important question which has received scant, if any substantive, attention in scholarly and public policy institutional analyses of corruption: “how effective is the law in tackling corruption?” Rather than answer such a general question in a narrative frame, this chapter (as part of this broader study) posed the more particular question of: “how effective was the OECD Convention on the Combating Bribery of Foreign Public Officials in reducing corruption in a sample of 22 developed (mostly OECD member) nations?”, using the analytical tools of econometrics and leximetrics. The question was investigated on three levels: first, looking at the impact of the OECD Convention on 22 developed countries in the aggregate; second, by a more detailed examination of the impact of the OECD Convention on a sub-sample of three specific nations (namely Denmark, the United States of America, and Italy); and, finally, (and slightly tangential to our core research question, but nevertheless of some practical importance for the wider campaign against corruption) an inquiry into some of the potential commercial, economic and political drivers of corruption in those three, representative, countries.

The results of the econometric/leximetric modelling used in this chapter are likely to be of substantial practical significance to those charged with designing and implementing laws intended to tackle corruption, and provide valuable insights for scholars and others interested in the analyses of such issues. However, they will offer only modest, at best, comfort to anti-corruption

campaigners and to anyone looking for ‘single shot, silver bullets’ to slay the corruption dragon. In the aggregate, the OECD Convention had a statistically significant impact on corruption in the 22 developed countries under review, but only a modest practical significance – a reduction of just 0.5 index points on the WCY’s global corruption index, signalling *deterioration* in corruption performance in the relevant developed countries as a group¹³²⁵. Paradoxically, for champions of the OECD Convention, it would appear the entry into force of the instrument may have raised awareness of corruption, leading observers to become more sensitive to the issue than they may otherwise have been (who then responded negatively to what they previously had not noticed).

The three-country modelling, which examined the impact of the OECD Convention on high-performing (more virtuous) Denmark, middle performing United States of America, and lowly performing Italy, found mixed results. Taken as a whole, across a suite of econometric/leximetric tests, the analyses indicate the OECD Convention had no statistically significant impact on corruption in Denmark or Italy, but did have a statistically significant impact on corruption in the United States where it caused a 1.4 index point decline in that country’s corruption performance index – that is, suggesting a deterioration in the United State’s corruption performance. Again, this finding probably is more indicative of greater observer awareness of the nature, incidence and impact of corruption in the United States, than a deterioration in corruption performance in that country explicitly caused by the OECD Convention per se.

¹³²⁵ Recall: a higher index score represents a ‘more virtuous’ nature in terms of corruption.

The causes-of-corruption modelling essentially concluded there was a degree of commonality, and a degree of difference, between the main commercial, economic and political drivers of corruption in the three nations. Through an econometric/leximetric process known as general-to-specific modelling, we identified a number of potential explanatory variables which had a statistically significant effect in explaining corruption. For all three countries under review, these variables included country credit rating, government economic policies, country image and corporate social responsibility. Only cost of capital was not statistically significant in any of the three countries; all other variables considered, in various combinations, produced statistically significant results in at least one of the three countries. In essence, most of the potential causes examined did matter, although in combinations and patterns not necessarily consistent across Denmark, the United States or Italy.

Distilled to its core messages, this chapter found: the OECD Convention would appear to have raised awareness of the nature, incidence and impact of corruption in the sample of 22 developed countries; this increased awareness led to a negative reaction amongst observers, producing both a statistical and practical significant 'marking down' of the performance of the 22 developed countries as a group; the impact of the OECD Convention was not uniform across the group, with the instrument having no impact in some countries (for example, high-performing Denmark, and low-performing Italy) but practically

and statistically significant impacts in others (for example, middle-performing United States of America); and, finally, there are both important commonalities and differences in the commercial, economic and political causes of corruption in the three countries. All of which leads to a general conclusion: broad scale international legal instruments are not uniformly effective in impacting corrupt behaviour in target countries; and, the causes of corruption are not uniform around the world. In short, to mix one's metaphors, 'no one size fits all', and 'there is no one, magic silver (legal) bullet' for tackling corruption.

Chapter 7: Summary and Conclusion

“...corruption distorts market forces, undermines the rule of law, erodes public trust, and ultimately, threatens political stability.”¹³²⁶

Introduction

Corruption is a continuing challenge for economies and societies, and the laws which govern them; one which has been with us for centuries, if not millennia¹³²⁷. Few would challenge the view corruption is a real problem wherever it is found¹³²⁸, although legitimate debate can turn on its magnitude, and the causes, consequences and potential policy tools to address corruption¹³²⁹. While many economies and societies can survive isolated instances of petty corruption with minimal adverse effects, the impact of grand corruption is likely more pervasive and costly to a nation's economic, legal, political and/or social

¹³²⁶ Boswell (1999) at 140.

¹³²⁷ As Plato observed (The Laws, at 349): *“The servants of the nation are to render their services without any taking of presents ...”*.

¹³²⁸ The exception being those in the ‘beneficial grease’ camp: inter alia, Leys (1965) at 220; Khan (1996) at 683. Colombatto (2003) at 375; Mendex and Sepulveda (2006) at 96, where there is government failure; Leff (1964) at 11; Leys (1965) at 223; Huntington (1968) at 386; Barreto (2000) at 37; Dutt and Traca (2010) at 857; Jong and Bogmans (2010) at 385, in situations of excessive or inefficient regulation; and, Braguinsky (1996) at 14; Cheung (1996) at 1, where corruption can help to accelerate the demise of totalitarian States.

¹³²⁹ Addressed at length in Chapter 2, “The Corruption Problem”, of this thesis.

institutions, performance and prospects, especially when it takes of the form of ‘state capture’ - that is, when the institutions of State are subverted for the narrow benefit of the corrupt actors¹³³⁰.

The Corruption Problem

The causes of corruption are many and varied across time and across space (and time and space interactively). Without attempting to be exhaustive, the main causal drivers of corruption include: poor economic governance, often reflected in excessive or poorly designed governmental interventions in the market sector¹³³¹; deficient political governance and institutions, evident in weaknesses in public sector accountability¹³³² and unwarranted limitations on the freedom of the press¹³³³; weak market institutions, typified by the absence of clear and transparent laws and regulations¹³³⁴; shortcomings in the design, nature and extent of public sector taxing and spending policies and practices, most notably taxation laws which involve a substantial degree of discretion by taxation

¹³³⁰ Hellman et al (2000b) at 2; Lambsdorff (2002b) at 104; for a good general discussion of the ‘state capture’ approach to corruption, see Kaufman and Vicente (2011).

¹³³¹ Wolf and Gurgun (2000) at 3; Aidt, Dutta and Sena (2008) at 196; Clausen, Kraay and Nyiri (2011) at 212.

¹³³² Peisakhin and Pinto (2010) at 278.

¹³³³ Lederman et al (2001) at 2; Treisman (2000) at 404; Gray and Kaufman (1998) at 10; Naim (1995) at 247; Frelie et al (2007) at 838; Bhattacharyya and Hodler (2012) at 3.

¹³³⁴ Boardman and Recanatini (2000) at 1; Cuervo-Cazurra (2008) at 21; Goel and Nelson (2010) at 444.

officials¹³³⁵; systemic inadequacies in the processes by which civil servants are appointed, promoted and remunerated, in particular where such decisions are based on nepotism and/or patronage¹³³⁶; and, the distorting and rent-seeking nature of discretionary, activist industry- and/or trade-policies, especially where licences, subsidies or other targetable benefits can be bought and sold by corrupt actors¹³³⁷.

The consequences of corruption manifest themselves in a range of forms, with the outcome for any nation or society dependent on its institutional structures, and its state of economic development and growth. At the very least, petty corruption can diminish and/or distort economic, legal, political and social outcomes, relative to what they would otherwise have been; at worst, grand corruption, especially where it takes the form of entrenched state capture, can lead to the breakdown of a nation's economic, legal and political systems – that is, State failure¹³³⁸. Amongst the main adverse economic and social effects of corruption is its tendency to: widen income and wealth inequality¹³³⁹, and increase poverty by undermining the effectiveness (even the existence) of

¹³³⁵ Tanzi (1998) at 11; Chand and Moene (1999) at 1138; Hindriks et al (1999) at 396–397.

¹³³⁶ Murphy et al (1991) at 521; Alam (1989) at 444; World Bank (1998) at 3; Robertson-Snape (1999) at 595; Wei (1999) at 18; Wamey (1999) at 1.

¹³³⁷ Ades and Di Tella (1997a) at 1023; Mauro (1998b) at 11; Khan (1996) at 685; Moran (1999) at 575; Sandholtz and Koetzle (2000) at 44; Harma (2000) at 33; Treisman (2000) at 435; Torrez (2002) at 387; Cheung et al (2011) at 5;

¹³³⁸ Tanzi and Davoodi (2000) at 3.

¹³³⁹ Gupta et al (1998) at 1; Li et al (2000) at 155; Mauro (1998a) at 263; Wei (1999) at 2; Olofsgaard and Zahran (2008) at 166; Hodge et al (2011) at 482.

social welfare systems, and impairing access for the children of the poor to the education system and hence the opportunity to build their own human capital¹³⁴⁰; introduce and then perpetuate biases with national taxation systems, by encouraging tax evasion, poor tax administration, and exemptions (legal and illegal) which disproportionately favour the politically well-connected¹³⁴¹; undermine the competitiveness and the efficiency of the business and market sectors, by sapping entrepreneurial endeavour, reducing investment, employment and productivity, with otherwise productive energies being re-directed away from wealth-creation activities¹³⁴²; twist the allocation of economic and social resources, with key infrastructure decisions (for example, spending on roads, bridges, schools or hospitals) made on the basis of their potential for corruption rather than optimal economic or social net benefit¹³⁴³; and, of particular importance for developing and/or transitional economies, distort foreign direct investment by encouraging greater investment in politically favoured and/or less efficient investment¹³⁴⁴, or skewing investment decisions toward debt-based financing which is more vulnerable to economically and socially destabilising 'capital-flight'¹³⁴⁵.

¹³⁴⁰ Mauro (1998a) at 263; Gupta et al (1998) at 29; Wei (1999) at 2; Olofsgaard and Zahran (2008) at 166; Hodge et al (2011) at 482.

¹³⁴¹ Gupta et al (1998) at 7; Freisdman et al (2000) at 461.

¹³⁴² Murphy et al (1991) at 522; Fisman and Svensson (2000) at 3; Tanzi and Davoodi (2000) at 13.

¹³⁴³ Mauro (1998a) at 263; Gupta et al (2001) at 767; Tanzi and Davoodi (1997) at 3.

¹³⁴⁴ Brunetti et al (1997a) at 23; Brouthers, Gao and McNicol (2008) at 673. The resources sector being more vulnerable because of factors such as licensing and the higher sunk costs associated with developing facilities such as mines, and oil and gas systems.

¹³⁴⁵ Rivera-Baitz (2001) at 727.

Any number of potential policy tools to address for corruption has been proposed across time and space, some with the bold and ambitious objective of completely eradicating corruption, others more modestly aiming to manage, limit or just reduce its incidence and impact. The longevity and spatial reach of corruption point to its resilience, and thus its capacity to survive the best designed and directed, and most intensive assaults upon it. While there is no ‘one size fits all’ solution to the problem of corruption, important options which warrant consideration by those committed to combating corruption include: destabilising corrupt relationships, by creating distrust between the parties to the corrupt transaction(s) and by promoting greater transparency in vulnerable environments¹³⁴⁶; clear demonstrations of principle-driven will from those in key governmental and other leadership positions¹³⁴⁷; acting promptly and decisively on nascent instances of corruption which have potential for wider contagion effects¹³⁴⁸; more effective legal penalties and processes for those on the supply and the demand sides of the corrupt transaction, ranging across pecuniary (for example, seizure of proceeds of crime) and custodial penalties¹³⁴⁹; and, expanded use of ‘social marketing strategies’¹³⁵⁰, which can

¹³⁴⁶ Naim (1995) at 251; Klitgaard (2000) at 5; Lambsdorff (2002a) at 221.

¹³⁴⁷ Gray and Kaufman (1998) at 9; Goudie and Stasavage (1998) at 133; Chand and Moene (1999) at 1130; Robertson-Snape (1999) at 590 – 592; Kingston (2008) at 90.

¹³⁴⁸ World Bank (1997) at 102; Chand and Moene (1999) at 1130; Goudie and Stasavage (1998) at 130.

¹³⁴⁹ Block and Lind (1975b) at 488; Witte (1980) at 80; Posner (1980) at 414; Polinsky and Shavell (1991) at 618; Bar-Ilan and Sacerdote (2004) at 2; Quah (2001) at 458;

¹³⁵⁰ Kindra and Stapenhurst (1998) for an extended discussion of the various options and strategies available and used. See also George and Lacey (2000) at 578 – 587.

take the form of effective engagement of civil society organisations such as business and consumer groups, labour unions and the free media, to highlight cases of corruption and create a culture in public life dissuasive of corruption¹³⁵¹. The instruments of international finance and governance, such as the lending policies and practices of global institutions such as the International Monetary Fund and the World Bank¹³⁵², and of international law, such as specific and general purpose treaties addressing corruption issues, can also be brought into play¹³⁵³.

International Law

The footprint of international law on corruption issues has, over time and space, been at best light, largely reflecting the design, nature and modalities of this legal vehicle. For much of its history, international law has been regarded primarily as a system for addressing the rights and obligations of States through which they can avoid or contain disputes between them¹³⁵⁴. However, more

¹³⁵¹ See Kindra and Stapenhurst (1998) for an extended discussion of the various options and strategies available and used. Bardhan (1997) at 1334, questions the sustained effectiveness of such interventions.

¹³⁵² World Bank (1997) at 101; Kaufman (1997) at 129; Wei (1999) at 22; Wolf and Gurgun (2000) at 4; Zagaris and Ohri (1999) at 78-83; Posadas (1999/2000) at 399-401; Harms (2000) at 204-207; Wallace-Bruce (2000) at 372-374; Shams (2001) at 95-99; Thornburgh (2003) at 139; Posadas (1999/2000) at 399-401.

¹³⁵³ Which was the main focus of Chapter 3 – “International Law and Corruption” – of this thesis.

¹³⁵⁴ Shearer (1994) at 4; Dixon and McCorquodale (2003) at 1; Blay (2003) at 2.

recently (mainly since the early part of the twentieth century) the scope of international law has expanded to include rules relating to, *inter alia*, the creation and functioning of international organisations, and their relationships with States-Parties, and between States and individuals. The topics of international law have also expanded considerably from their earlier foci on peace, security and comity between nations into ‘modern’ matters such as global banking and finance, economic and social development, intellectual property rights and, as we have seen in this study, combating corruption.

Despite the long history of corruption and of international law, they have operated largely on separate paths for much of their existences. Indeed, it is probably only in the last 25 or so years there has been effective engagement between international law and corruption, in the form of the emergence of a number of plurilateral and multilateral international legal instruments targeting corruption¹³⁵⁵. This potentially ‘new approach’ of using international

¹³⁵⁵ For a short history of co-ordinated international legal efforts to combat corruption over the past century see Anechiarica (1999) at 380–387.

law to deal with the scourge of corruption reflects factors such as the changed economic and political dynamics of international relations in the post-Cold War period¹³⁵⁶, the liberalisation of international commerce, industry and trade (reflected in the rise of globalisation)¹³⁵⁷, and the increased recognition of the costs of corruption by public policy makers, legislators, and the academic and business communities¹³⁵⁸.

Amongst the most prominent of the international legal instruments addressing corruption, which form the foundation for the legal analyses of this study, are the United Nations Convention Against Corruption¹³⁵⁹, the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions¹³⁶⁰, the Criminal Law Convention on Corruption of the Council of Europe¹³⁶¹, the Inter-American Convention Against Corruption¹³⁶², and the African Union Convention on Preventing and Combating Corruption¹³⁶³. Issues addressed within these legal instruments range across definitions of corruption and other key terms used, jurisdiction, public sector administration/functioning, application to the private sector, criminal offences and penalties, and enforcement and sanctions¹³⁶⁴. While these international

¹³⁵⁶ Webb (2005) at 193.

¹³⁵⁷ Nesbit (1998).

¹³⁵⁸ Shams (2001) at 92.

¹³⁵⁹ 43 ILM 37 (2004).

¹³⁶⁰ 37 ILM 4 (1998).

¹³⁶¹ 38 ILM 505 (1999).

¹³⁶² 38 ILM 505 (1999).

¹³⁶³ 43 ILM 5 (2004).

¹³⁶⁴ Considered at length in Chapter 3, “International Law and Corruption”, of this thesis.

legal instruments have attracted criticism from the commercial and the academic communities for their various shortcomings against normative expectations¹³⁶⁵, they are generally superior to what prevailed before their creation and what would be the situation in their absence – a vacuum.

Law and Economics

Another perspective on the role and the effectiveness of the law in addressing legal-economic issues, such as corruption, and indeed of corruption itself has come from the law and economics branch of legal scholarship. Corruption is economic because it involves the inefficient transfer of scarce resources (usually capital and entrepreneurship) from better to usually less advantageous uses, and legal because corruption is generally illegal in mature legal systems.

¹³⁶⁵ For example, over: the failure to prohibit improper payments to political parties, party officials and candidates - Brademas and Heimann (1998) at 19; Nesbit (1998) at 1305; Shams (2001) at 100; George et al (2000) at 516; Pierros and Hudson (1998) at 97; Corr and Lawler (1999) at 1305; Posadas (1999/2000) at 381; Webb (2005) at 196; the failure to address the role of the briber-taker/-solicitor - George et al (2000) at 518; Miller (2000) at 160; Loren (2001) at 328; Harms (2000) at 161; Pierros and Hudson (1998) at 99; Nesbit (1998) at 1305; the failure to cover family members of the applicable persons/groups - Posadas (1999/2000) at 381; and, the often wide grants of discretion to States Parties in designing and implementing their compliance arrangements - George et al (2000) at 517; Brademas and Heimann (1998) at 19; Miller (2000) at 140; Harma (2000) at 49.

The law and economics perspective on legal issues utilises the toolkit of microeconomics (the economics of the individual, the household, and/or the firm) and in particular the price mechanism to better understand the nature and the dynamics of corruption¹³⁶⁶. These price signals have been imported into the law, both explicitly and implicitly: the former, for example, as a pecuniary penalty for breaching the law; the latter, for example, in the consequences of the changed behaviour of those impacted by the new law or regulation (for example, a business ceasing to trade in the newly/more heavily regulated area of economic activity)¹³⁶⁷.

Theoretical perspectives from the law and economics movement germane to the corruption problem come from the: Chicago (libertarian) school of law and economics, which sees a maximal role for markets and for competition, and a minimal role for government and regulation, as well as giving priority to efficiency over distributional or equity considerations¹³⁶⁸; the Austrian school, where the individual is a pro-active player in the world around them, pursuing their preferred objectives¹³⁶⁹; New Haven school, which sees an important role for government in remedying market failure where it occurs¹³⁷⁰, with legislatures being responsible for balancing efficiency and distributional

¹³⁶⁶ Posner (1985a) at 92; Posner (1987b) at 5; Ulen (1992) at 114–118; Parisi (2004) at 5.

¹³⁶⁷ A number of case studies have sought to estimate explicit prices for different forms of corrupt activity: World Bank (1998) at 3; Alam (1989) at 444; Robertson-Snape (1999) at 590; Carrilla (2000) at 258–259.

¹³⁶⁸ Posner (1985) at 192; Posner (1987) at 5; Landes and Posner (1987); Posner (1992); Kaplow and Shavell (1994) at 675.

¹³⁶⁹ Sechrest (2004) at 19.

¹³⁷⁰ Rose-Ackerman (1992) at 6–9; Rose-Ackerman (1994) at 59.

issues¹³⁷¹; Virginia (Public Choice) school, which focuses on non-market decision-making by actors in complex activities which generate political outcomes¹³⁷², including the incentives which drive the creation of legislation and regulation¹³⁷³; Institutional school, who place institutions at the centre of analysis, being mechanisms of collective action used to control individual behaviour¹³⁷⁴; Neo-Institutional school, which extended their predecessors' emphasis on the role of institutions by stressing these mechanisms were initially created and remain in existence to assist society to continuously improve its wealth producing capacity through engaging in contracts and exchange¹³⁷⁵; Critical Legal Studies school, which challenged the libertarian arguments of the Chicagoans, seeing the law as a political and/or social, rather than an economic, mechanism¹³⁷⁶; Rational Choice school, which frames the interaction of law and economics in cost/benefit terms, with an individual, natural or legal, engaging in an activity when the benefits/rewards exceed the cost/risks¹³⁷⁷; Behaviouralists, who challenge the perfect rationalism in all situations of the Rational Choice school, stressing instead what they regard as the imperfect nature of human behaviour¹³⁷⁸; Game Theorists, who regard analyses in general, and law and economics in particular, as being founded on

¹³⁷¹ Rose-Ackerman (1994) at 54; Cooter (2005) at 222; see also Kaplow and Shavell (1994) at 667.

¹³⁷² Stigler (1971) and (1976), and Peltzman (1976) on regulation; Shughart and Tollison (1986), Faith and Tollison (1983), Stigler (1976), and Peltzman (1980) on legislatures; and, Tullock (1965) and Downs (1967) on bureaucracies.

¹³⁷³ In the law and economics context, see Parisi and Klick (2004) at 437.

¹³⁷⁴ Commons (1934); Hale (1952).

¹³⁷⁵ Eggertsson (1990) at 317; North (1993) at 245

¹³⁷⁶ Kornhauser (1984) at 365; Trubeck (1984) at 589; Hutchinson and Monahan (1984) at 213.

¹³⁷⁷ Veljanovski (1980) at 177; Hoffman and O'Shea (2002) at 342.

¹³⁷⁸ Jolls et al (1998a) at 1475 -1476; Jolls (2007) at 2; Rachlinksi (2011) at 1676,

rigorous quantitative modelling of the initial and sequential conduct of other actors in the legal-economic process¹³⁷⁹; and Legal Empiricists, whose primary interest is in the application of rigorous quantitative methods to legal issues¹³⁸⁰. Sadly, none of them expressly theorise corruption within their respective frameworks. While each has something to say on the issue of law and economics, any preferences must be normative in nature, with this study holding that each perspective has, to varying degrees, something useful to say on the corruption issue.

Where the law and economics movement has applied its conceptual and theoretical perspectives directly and specifically to crime and the criminal law – largely through the prisms of the Chicago and the Rational Choice schools – it regards criminal behaviour as emanating from fundamentally rational decisions. Essentially, a rational individual will engage in criminal activity where the rewards/benefits exceed the risks/costs of doing so, or more particularly where the marginal benefits exceed the marginal costs of crime to them personally¹³⁸¹. By comparison, society will pursue enforcement to the point where the marginal benefit from curtailment converges with the marginal costs of doing so¹³⁸². Quantification of these benefits and costs, for individuals and for societies, is made more challenging by the varying attitudes

¹³⁷⁹ Rosenberg and Shavell (1985) at 4; Cooter et al (1982) at 226; Ayres (1989) at 1297; Katz (1990b) at 233-238.

¹³⁸⁰ Heise (1998/99) at 815; Croson (2002) at 927 – 928.

¹³⁸¹ Becker (1968) at 176; Stigler (1970) at 529; Ehrlich (1972) at 262 and (1973) at 522; Bar-Ilan and Sacerdote (2004) at 15.

¹³⁸² Easterbrook (1983) at 292.

to risk across individuals and by societies as perceptions of the incidence and of the fear of crime shift across time. Ultimately, the law and economics approach to crime emphasises the various actors in the criminal justice system – whether as actual or prospective criminals, as policy-/law-makers, or as enforcement agencies – are essentially players in a ‘market for crime’. In this market, criminals sit on one, while law and enforcement agencies sit on the other, side of the transaction. The ‘crime market’ is in equilibrium when the criminals (who focus on the net personal return from crime) and the public law enforcement agencies (who focus on the net social welfare costs of crime) do not feel any need to adjust their conduct and thus alter the implicit prices of crime and criminal behaviour¹³⁸³.

While scholars from law, from economics, and from law and economics have developed a rich cornucopia of theories of law and economics, sadly their theorising has not extended to the treatment of corruption within their respective frameworks. Nevertheless, we can still speculate how the different schools/ movements of law and economics may have theorised: the Chicagoans, building on Coase’s Second Theorem, arguing corruption is simply the result of government and its growing interventions in the operation of markets; the Austrians, regarding corruption as merely another feature of the market place the entrepreneur has to confront; the New Haveners seeing corruption as an indicator of market failure, resulting in less efficient markets and diminished

¹³⁸³ Ehrlich (1996) at 44.

fairness; the Public Choice (Virginians) would likely see corruption as reflecting the prevalence of the self-interest of politicians and bureaucrats over that of the wider electorate; the Institutionalists, would see corruption as a metric of institutional failure, resulting in a weakening of economic, legal and political rules; to the Critical Legal Studies movement, corruption would likely reflect the inherent failures of the freer market, libertarian approach to law, economics, politics and society; both the Rational Choice and Behaviourialists regarding corruption as the outcome of a conscious and deliberate cost-benefit/risk-reward assessment by participants, although different in the cognitive processes involved in such decision-making; while the Game Theorists and Legal Empiricists would likely be normatively indifferent to corruption, focusing instead on quantitative analysis and modelling of the processes, the drivers and the outcomes of corrupt activity and behaviour.

Modelling Corruption

The incidence and impact of corruption around the world, but in developing and transitional economies in particular, suggests in many ‘corruption markets’ the rewards for existing and potential players exceed the costs and risks of participation. While scholarly studies have examined different legal and non-legal strategies for at least containing, if not reducing let alone eliminating,

corruption¹³⁸⁴, the legal instruments considered have generally been of a municipal legal nature (although some have extra-territorial reach¹³⁸⁵). By contrast, this study has broken new ground (and hopefully made a substantial contribution to scholarly knowledge and research) by applying rigorous leximetric methods to test the effectiveness of international laws in tackling corruption¹³⁸⁶. The leximetric analysis and modelling undertaken in this study progressed along a conventional, multi-stage path, commencing with the usual exploratory data analysis (taking the forms of visual inspections of graphs, tests of equality, and analyses of variance) before moving on to more rigorous methods (such as intervention analysis, which involved testing for structural breaks in the key data series; consideration of the presence and patterns of auto-correlation again in the key data series) and then moving further still with more intensive modelling techniques (such as breakpoint, parameter stability analyses and regime-shift modelling specifications).

The leximetric modelling and analysis found the international law (in this case, the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions¹³⁸⁷) had only a very small practical effect on corruption, seemingly only raising awareness of, and concern about, the incidence of corruption in the countries studied; it was not the extensive

¹³⁸⁴ As reviewed in Chapter 2, “The Corruption Problem”, of this thesis.

¹³⁸⁵ For example, OECD – FPO – Commentaries, Para 26; OECD – FPO, Article 4 (2); AUCPCC, Article 13 (1) (d).

¹³⁸⁶ This thesis may also have made a second, incidental, contribution to research: the macro-econo-/lexi-metric modelling undertaken in this thesis (as outlined and reported in Chapter 6, “Modelling Corruption”) could usefully help fill the gap in ‘law and (macro-) economics’ scholarship.

¹³⁸⁷ 37 ILM 4 (1998).

remedy for corruption for which some may have been hoping. A more detailed case study of three countries (one 'clean', one in between, and one 'infected' by corruption) reinforced this conclusion: the creation of new international legal obligations had no real effect on the best and the worst performers in terms of their incidences of corruption, although it did raise awareness of domestic corruption in the middle-performing nation. Taken as a whole, broad-scale international legal instruments do not appear to be consistently effective in tackling corruption in applicable countries. However, this does not mean international law should be discarded entirely in the fight against corruption, rather it should be considered as just one part of a broader suite of anti-corruption initiatives.

Analytical Challenges

Law and economics, and particular leximetric, studies such as this thesis (which apply the quantitative toolkit of econometrics to legal problems) are not without their own challenges. One of the most important is obtaining robust data on the key variable of interest: in the current context, corruption. In leximetric terms, corruption is, ostensibly, a subjective and intangible (sometimes known as latent) metric. Unlike other areas of law and economics, one cannot objectively measure the metric of interest. In labour law, the scholar may be interested in the impact of new industrial relations laws, so he/she can look at 'hard data' on, for instance, the actual number of industrial

disputes using data collected by the national statistical agency; in trade law, the scholar may want to assess the effectiveness of a bilateral free trade agreement, so he/she can look at subsequent changes in the levels or patterns of imports or exports across the national borders of the two participating nations. Scholars (and doctoral candidates) interested in the law and economics of corruption have been (and are likely to continue to be) limited to surveys which tap *perceptions* of the incidence and impact of corruption amongst both general and informed respondents. Fortunately, however, this reliance on ‘perceptions of corruption’ has become generally accepted practice amongst scholars¹³⁸⁸ active in the law and economics of corruption domain; for better or for worse, it is the best, often the only, available data.

Another important challenge involves the selection of the particular leximetric method for data modelling and analysis. To a large degree, this challenge can be addressed by identifying the most appropriate leximetric method for the research question at hand, and the treatment of inter-relationships between the metrics being used (in particular what econo-/lexi-metric modellers call endogeneity). In the current study, given the focus on the effectiveness of laws before and after a change in the law, the best approach was time series analysis (dynamic leximetrics) with particular attention to structural break-point

¹³⁸⁸ Studies have found perceptions of corruption to be a good approximation for the incidence of corruption, and of the legal realities in nations: Kaufman, Kraay and Mastruzzi (2006) at 73; Foster, Horowitz and Mendez (2012) at 231.

methods. While the leximetric methodology for such analyses is fairly well settled, it too is not without its own challenges, in particular the capacity of readily available methods to identify multiple (as distinct from single) structural breaks in a times series of data. At the the same time, there can often be plausible, alternate leximetric approaches, each with varying degrees of merit, which could be applied to the data series at hand to explore ‘interesting’ issues which arise during scholarly research. In the current context, these leximetric options include: latency methods (such as structural equation¹³⁸⁹, and state space, models); dynamic response techniques (such as vector auto-regression and error-correction models); spatial procedures (such as contagion models); multi-equation systems (such as multivariate regression, seemingly unrelated regression, and structural equation models); and, multivariate methods (such as cluster, dynamic factor and multivariate regression models); to name just a few.

The endogeneity issue (of inter-relationships between the variable used in the econo-/lexi-metric modelling) hangs like a cloud over all such exercises, in particular the question of the ‘direction of causality’. In the current context, for example: do lower civil service wages cause corruption, or does corruption cause lower civil service wages; does low respect for the law cause corruption, or does corruption diminish respect for the law? While the leximetric toolkit contains rigorous quantitative methods to examining, and addressing,

¹³⁸⁹ For an application of the Multiple Indicators, Multiple Causes (MIMIC) modelling approach in the law and economics of corruption see Bjornskov (2011).

endogeneity in modelling¹³⁹⁰, expansive use thereof has been rare and exceptional in better analyses of the law and economics of corruption¹³⁹¹. Inclusion of all such modelling in a single thesis would likely become little more than a demonstration of the author's proficiency in the various techniques, stretch the patience of the reader/ examiner (being subject to an avalanche of algorithms, graphs and diagnostic tables of figures), and undermine the tractability of the study; but, are worthy paths of inquiry for further, focused scholarly (hopefully, post-doctoral) research and publication.

¹³⁹⁰ Such as Granger-Causality tests, instrumental variables in regression (although these bring their own sets of challenges relating to relationships with other variables in the models), and systems equation modelling (which generally require much larger, robust data sets on corruption than are readily available at the current time).

¹³⁹¹ See, for example, Clausen, Kraay and Nyiri (2011) at 235-240.

Appendices

Appendix 6.1: Primary Data

1992	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.0	8.8	3.4	6.7	4.3	6.6	7.1	6.2	6.9	6.7	5.4	5.3	4.7	5.9
Austria	7.1	2.7	6.2	8.4	5.8	7.0	7.0	5.4	9.0	6.2	5.8	6.8	6.3	6.7
Belg/Lux	5.7	11.0	6.1	8.0	2.6	8.2	6.2	4.4	8.2	7.2	5.2	5.9	6.0	5.6
Canada	8.4	8.8	5.8	8.3	3.4	6.5	7.9	6.6	7.8	7.4	6.4	6.1	5.5	5.5
Denmark	9.2	4.3	7.3	7.2	6.2	8.7	8.2	8.4	9.4	5.6	6.9	7.2	6.4	6.6
Finland	9.2	3.9	1.5	7.6	5.5	5.4	6.9	4.9	8.3	3.6	5.3	6.4	6.2	5.2
France	5.8	5.0	3.9	8.7	2.7	6.0	7.8	4.2	6.5	4.7	5.1	5.7	5.2	6.2
Germany	7.8	3.1	6.1	9.0	7.4	8.0	7.3	4.9	8.9	6.1	6.2	6.8	6.8	6.1
Greece	3.1	3.4	1.3	4.7	3.3	8.1	6.5	3.8	6.5	5.8	5.0	4.7	5.5	4.6
Ireland	7.6	4.8	4.7	6.8	3.9	8.2	6.7	5.4	8.9	6.1	4.3	5.7	6.0	5.1
Italy	1.7	2.3	3.0	7.9	0.6	7.0	7.2	2.5	7.3	6.3	4.0	5.3	6.7	4.6
Japan	6.3	10.2	7.3	9.2	2.9	5.4	7.0	5.9	8.0	3.8	4.2	7.2	6.7	5.7
Netherlands	8.6	3.8	6.7	8.8	5.7	8.6	7.5	3.9	8.7	7.8	6.6	6.7	6.4	6.4
New Zealand	9.4	8.2	5.5	6.2	4.7	8.2	7.7	8.2	8.2	5.5	6.2	5.4	5.1	5.3
Norway	7.6	2.9	3.1	7.8	4.6	6.2	6.8	5.1	7.7	3.9	5.7	5.9	4.4	6.1
Portugal	4.5	1.5	1.2	6.3	6.3	7.6	7.3	3.3	7.0	6.4	5.0	5.7	4.5	3.9
South Africa	5.9	5.0	2.6	3.7	0.7	3.8	7.1	6.9	5.3	6.2	2.9	6.1	6.8	5.5
Spain	4.0	3.8	1.5	7.6	5.4	6.6	7.0	3.0	7.0	6.6	4.9	5.1	5.4	4.3
Sweden	8.7	3.3	4.5	7.8	5.8	7.5	7.1	4.8	8.0	5.8	6.1	7.4	6.6	5.9
Switzerland	8.5	8.6	6.5	9.2	4.3	5.7	8.0	7.8	8.6	6.7	5.7	7.0	6.6	6.4
UK	8.4	12.6	3.8	8.5	5.0	7.8	8.3	7.5	8.2	5.3	5.4	5.7	5.4	4.9
USA	6.7	10.3	6.3	8.8	4.7	7.2	...	6.9	7.8	7.2	4.7	5.5	6.0	5.3

1993	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.6	8.8	4.9	6.7	4.3	7.4	8.3	6.0	7.6	7.2	5.5	5.6	5.2	5.9
Austria	6.3	2.8	5.5	8.4	5.2	7.2	7.1	5.6	9.4	6.4	6.0	6.1	6.2	6.7
Belgium	6.7	9.8	6.1	8.0	4.3	8.8	6.0	4.8	8.9	7.8	4.9	6.4	6.2	5.6
Canada	8.4	8.5	5.7	8.2	4.4	6.2	7.9	6.4	7.9	7.5	6.5	5.9	5.5	5.5
Denmark	9.3	4.1	4.8	7.3	6.1	9.2	8.5	8.8	9.5	6.9	7.0	7.0	6.8	6.6
Finland	8.8	2.9	2.0	7.0	4.2	6.9	7.6	5.6	8.1	5.0	5.0	6.2	5.3	5.2
France	5.3	2.4	2.9	8.6	4.0	7.0	7.8	4.3	7	5.8	5.6	6.4	5.7	6.2
Germany	7.6	2.3	5.3	9.0	4.1	7.9	8.5	4.3	9.1	6.9	4.4	6.4	6.0	6.1
Greece	3.5	5.6	0.9	4.7	4.5	8.4	7.4	4.1	7.8	7.3	3.9	4.9	5.7	4.6
Ireland	8.3	4.4	3.0	6.9	4.9	8.8	8.0	5.5	8.7	7.4	4.4	6.0	5.5	5.1
Italy	0.9	1.3	1.4	7.6	3.5	7.1	6.3	2.7	7.6	7.2	3.5	5.4	6.2	4.6
Japan	5.0	9.0	7.8	9.1	5.5	4.9	6.7	6.7	8	5.1	4.3	7.3	6.7	5.7
Netherlands	8.3	2.3	6.7	8.8	4.8	8.2	8.3	3.4	9.2	8.2	6.6	6.7	5.9	6.4
New Zealand	9.3	1.3	6.2	6.2	6.2	8.5	9.4	8.6	8.7	7.0	6.6	5.9	5.7	5.3
Norway	8.4	2.7	3.1	7.6	3.9	6.4	6.8	4.6	7.7	5.7	5.8	4.9	4.5	6.1
Portugal	5.4	2.0	2.0	6.5	6.0	8.5	6.6	3.5	7.9	8.1	5.3	5.7	4.2	3.9
South Africa	4.0	5.8	3.2	4.0	3.6	3.0	6.3	6.8	4.6	5.7	3.2	6.4	5.9	5.5
Spain	2.7	5.0	1.5	7.6	3.9	7.6	7.2	2.2	7.7	7.1	5.0	5.1	4.9	4.3
Sweden	8.4	3.4	2.4	7.6	5.2	7.9	7.9	3.8	8.9	7.3	6.1	6.6	6.6	5.9
Switz	8.2	7.5	6.9	9.2	4.7	4.9	7.0	8.1	8.1	5.7	4.9	7.0	6.4	6.4
UK	8.5	8.1	5.8	8.5	3.9	8.0	8.7	7.7	8.5	6.0	5.3	5.8	5.2	4.9
USA	7.2	10.5	7.0	8.7	3.8	6.5	8.6	6.9	8.1	7.0	4.8	5.9	6.2	5.3

1994	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.6	9.8	5.6	6.8	5.6	8.0	7.6	6.0	8.0	8.2	6.0	6.2	6.2	5.9
Austria	7.1	2.7	6.5	8.5	5.5	7.6	7.3	5.4	9.0	6.5	6.9	6.4	6.2	7.0
Belgium	5.3	2.7	5.9	8.0	3.3	8.9	7.0	4.0	8.9	8.2	5.2	6.0	6.5	5.8
Canada	8.7	10.3	6.5	8.2	4.1	7.7	8.3	6.3	8.2	7.5	6.8	5.9	5.7	5.7
Denmark	9.5	4.0	7.1	7.7	5.8	8.9	8.2	8.1	9.3	7.3	7.4	7.2	6.2	6.8
Finland	8.9	2.6	6.2	6.9	5.4	7.8	8.3	4.4	8.8	6.2	5.2	7.0	6.2	5.7
France	6.9	6.0	4.2	8.8	4.9	7.2	7.6	4.3	7.8	6.2	5.6	6.4	6.0	5.5
Germany	7.6	2.7	6.8	9.0	5.2	8.3	8.8	4.5	9.2	6.8	5.2	6.0	5.7	5.9
Greece	3.3	6.5	1.2	4.9	2.8	8.6	7.4	4.7	8.1	7.8	3.9	6.0	6.6	4.5
Ireland	8.6	4.4	6.3	7.0	5.3	9.1	8.2	5.6	9.2	7.6	5.8	6.3	5.9	5.3
Italy	1.8	2.6	3.3	7.4	1.9	7.2	6.6	2.6	7.5	7.5	4.0	4.7	6.5	4.7
Japan	3.8	9.4	7.3	9.2	3.3	4.7	6.7	5.7	7.8	6.3	3.7	7.2	5.6	6.2
Netherlands	7.9	3.6	7.8	8.9	4.8	8.6	7.9	3.3	8.6	8.6	6.7	6.9	6.2	6.4
New Zealand	9.5	0.7	7.7	6.5	6.4	9.2	9.7	8.5	9.0	7.0	6.9	6.5	6.9	6.1
Norway	8.5	3.1	7.4	7.8	6.1	6.6	7.5	5.3	8.0	6.4	6.4	6.4	5.5	6.4
Portugal	5.6	2.0	1.9	6.7	6.3	8.6	7.4	3.5	8.2	8.0	5.3	5.7	4.3	4.4
South Africa	4.6	1.6	4.1	3.8	3.1	4.1	6.1	6.7	4.6	6.2	3.2	6.3	6.4	5.6
Spain	3.7	4.8	2.9	7.5	4.7	7.7	7.3	2.6	8.3	7.3	5.1	5.0	5.0	4.9
Sweden	9.1	3.4	5.8	7.4	5.0	8.2	8.4	4.0	8.6	7.5	6.3	7.0	7.0	6.5
Switzerland	8.4	7.0	8.2	9.2	5.3	6.3	7.2	8.0	8.6	6.3	6.5	7.6	6.7	6.5
UK	8.2	7.9	6.1	8.5	5.0	8.7	8.7	7.8	8.9	6.7	5.9	6.1	5.9	5.0
USA	7.2	11.2	7.9	8.9	4.9	7.3	8.3	7.5	8.3	6.8	5.2	6.3	7.0	5.5

1995	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.9	10.0	4.7	6.9	5.5	8.4	7.9	4.6	7.9	8.2	6.0	6.1	6.2	6.3
Austria	7.2	2.6	6.8	8.6	5.5	8.0	6.7	4.6	9.2	6.8	5.9	7.1	6.3	7.1
Belgium	4.8	2.8	5.9	7.8	4.1	8.6	7.0	3.5	9.0	8.0	5.3	6.3	6.6	6.1
Canada	8.5	11.3	5.4	8.1	4.6	7.5	8.5	6.1	8.4	7.9	6.6	6.4	6.0	6.1
Denmark	9.3	4.1	6.8	7.9	4.9	9.1	8.2	8.0	9.2	7.4	7.5	7.2	6.5	6.3
Finland	8.7	2.7	4.6	6.9	5.3	8.4	8.4	4.6	9.0	6.7	6.2	6.7	6.7	5.7
France	4.9	5.3	4.8	8.8	4.9	7.3	7.8	4.1	7.9	5.9	5.5	5.8	6.0	5.9
Germany	6.9	2.7	6.7	8.7	4.9	8.5	8.7	4.2	9.3	7.3	5.7	6.1	6.0	6.3
Greece	2.9	4.4	1.2	4.9	3.4	8.6	7.0	4.3	7.6	7.6	4.0	4.6	6.1	4.4
Ireland	8.6	4.2	5.9	7.1	5.6	8.7	7.9	5.2	8.8	8.0	5.5	6.3	6.3	5.5
Italy	2.6	2.4	3.0	7.2	3.1	7.1	6.4	2.8	8.0	7.5	4.0	5.5	6.2	4.5
Japan	5.5	10.5	6.9	9.1	3.8	4.5	6.0	5.9	7.5	5.7	4.1	6.9	5.3	6.0
Netherlands	8.2	3.7	7.4	8.8	5.4	8.5	8.0	3.7	8.9	8.6	7.0	6.9	6.5	6.2
New Zealand	9.6	6.1	6.6	6.7	7.5	8.8	9.5	7.1	9.2	7.3	7.2	6.4	6.6	5.8
Norway	8.5	2.6	7.4	7.9	6.0	6.8	7.8	4.7	8.2	6.9	6.6	6.4	5.8	6.3
Portugal	4.6	2.5	3.0	6.7	5.4	8.5	7.2	4.0	8.3	8.4	5.2	6.0	4.4	4.5
South Africa	4.0	1.6	3.6	4.0	5.0	4.7	6.5	5.2	4.1	6.1	4.7	6.3	6.3	5.4
Spain	2.7	4.8	2.7	7.4	3.8	8.0	7.1	2.9	8.5	7.3	5.3	5.3	5.1	5.1
Sweden	9.0	3.2	3.8	7.5	3.8	8.6	8.8	3.9	8.5	8.0	6.6	7.5	6.6	6.4
Switzerland	8.3	7.3	8.6	9.2	5.0	6.4	7.5	7.8	8.6	6.5	6.1	7.6	6.9	6.8
UK	8.4	7.7	6.0	8.7	4.9	8.2	8.9	7.3	8.9	6.2	5.5	5.6	6.0	5.2
USA	7.4	11.4	7.4	9.1	4.6	7.8	8.7	6.6	8.5	7.3	5.1	6.2	7.0	5.7

1996	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	9.0	3.0	4.9	7.1	4.5	7.4	7.7	3.0	7.6	8.1	6.2	6.1	5.6	6.0
Austria	7.2	0.7	7.9	8.6	4.9	7.5	8.1	4.2	9.3	5.9	7.0	6.6	5.8	7.0
Belgium	5.9	1.2	6.8	7.9	3.7	7.2	6.8	3.5	8.7	8.4	6.2	6.2	6.5	5.8
Canada	8.8	0.7	6.4	8.0	4.9	6.6	7.6	6.6	8.1	8.1	8.3	6.8	6.7	6.2
Denmark	9.6	1.9	7.0	8.0	5.1	8.6	8.7	8.1	9.3	7.5	7.9	7.3	6.6	6.5
Finland	9.2	1.2	6.0	7.1	4.6	7.7	8.6	3.4	8.9	6.1	6.4	7.5	6.8	6.1
France	6.0	2.3	4.5	8.9	3.9	6.3	8.0	4.0	7.7	6.0	6.2	5.6	6.1	5.7
Germany	7.3	1.1	7.6	9.1	3.3	7.3	8.9	3.4	9.0	7.1	7.3	6.2	5.7	5.8
Greece	3.0	1.2	2.6	5.0	3.3	6.9	6.9	4.9	8.0	8.0	4.0	5.3	5.9	4.8
Ireland	8.8	1.7	6.7	7.3	5.2	8.2	8.4	5.5	9.0	8.8	7.6	7.0	6.7	5.5
Italy	3.0	2.1	3.0	7.2	2.3	7.0	6.9	2.6	8.3	7.9	3.6	5.6	6.7	4.3
Japan	6.0	3.2	6.4	9.2	2.6	3.5	6.5	4.0	6.9	5.0	5.5	6.7	4.2	5.7
Netherlands	8.3	1.9	7.9	8.9	5.4	7.7	7.7	3.5	8.6	8.6	7.8	7.1	6.5	6.4
New Zealand	9.2	2.1	6.0	6.9	7.5	7.9	9.3	6.7	8.7	7.6	8.6	6.9	7.1	6.0
Norway	9.1	1.2	7.6	8.2	6.5	7.5	7.7	4.4	8.3	6.5	7.3	7.2	5.9	6.7
Portugal	5.1	0.8	2.4	6.8	4.2	7.5	6.9	3.3	8.1	8.3	4.9	5.6	3.9	4.2
South Africa	4.6	2.1	3.4	4.5	4.8	5.1	7.0	4.4	4.5	6.9	5.4	6.1	5.6	5.5
Spain	3.7	1.8	2.7	7.4	4.0	7.0	6.9	2.6	7.5	7.3	5.6	5.4	5.4	4.9
Sweden	8.8	1.5	3.7	7.4	3.3	8.0	8.1	3.9	8.8	7.6	7.4	7.0	6.8	6.4
Switzerland	8.0	2.5	8.2	9.2	3.6	5.1	7.3	7.4	8.0	6.1	7.3	7.3	6.1	6.6
UK	8.5	3.6	6.3	8.8	5.2	6.8	8.5	7.0	8.5	6.9	6.7	5.3	5.9	5.0
USA	7.4	3.2	7.9	9.1	4.9	6.3	8.7	6.8	7.9	7.6	8.3	5.8	7.2	5.6

1997	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.8	5.6	5.8	7.2	5.3	7.5	7.7	3.9	8.4	8.3	7.0	6.3	5.8	5.8
Austria	6.8	1.3	6.8	8.6	5.7	7.4	7.8	4.6	9.3	5.7	7.6	6.4	5.0	7.0
Belgium	4.0	2.4	6.6	8.0	3.8	8.5	6.8	2.8	8.7	8.1	6.1	5.7	5.7	5.4
Canada	8.0	4.5	8.0	7.9	6.1	8.0	8.5	6.5	8.6	8.0	8.2	7.2	6.9	6.3
Denmark	9.5	3.6	8.2	8.1	4.9	9.5	8.7	7.5	9.3	7.2	8.4	7.4	5.8	6.7
Finland	9.2	2.2	8.3	7.3	6.5	8.8	8.3	4.1	8.9	6.3	7.3	7.8	6.4	6.5
France	5.6	4.7	6.1	8.7	4.3	7.7	8.1	2.8	7.5	6.0	5.8	5.7	5.2	5.5
Germany	6.7	2.2	7.8	9.1	3.6	7.5	8.8	2.4	9.0	6.7	6.9	6.4	4.3	5.3
Greece	3.1	2.2	3.2	5.0	4.6	8.7	7.2	3.9	8.6	7.8	4.0	6.0	6.8	5.1
Ireland	8.1	3.3	7.5	7.5	6.7	8.8	8.7	6.1	9.2	8.5	8.2	7.0	6.1	5.5
Italy	3.0	4.4	3.6	7.2	3.1	7.1	6.6	2.1	7.3	7.4	3.5	4.5	6.5	4.1
Japan	4.4	6.6	7.7	9.1	2.2	4.2	6.5	5.3	7.2	5.1	6.3	6.7	4.3	5.4
Netherlands	8.0	3.8	7.8	8.9	7.0	8.3	8.1	4.2	8.7	8.7	8.1	7.9	6.1	6.5
New Zealand	9.4	4.0	6.0	7.2	7.6	9.3	9.3	8.6	9.1	7.3	8.7	6.5	7.4	6.2
Norway	8.6	2.4	9.0	8.3	6.3	7.6	8.3	5.2	8.7	6.2	7.6	7.4	5.5	7.0
Portugal	5.0	1.7	4.0	6.9	5.8	8.2	7.3	4.5	8.7	8.4	6.1	5.4	4.6	3.8
South Africa	3.6	4.2	2.1	4.6	4.5	5.6	7.4	2.9	5.4	6.6	3.9	6.2	5.7	5.5
Spain	5.4	3.6	5.4	7.4	6.2	7.5	7.3	3.4	8.2	7.3	6.4	5.9	5.6	4.7
Sweden	8.5	3.5	7.1	7.4	4.2	8.1	7.9	2.5	8.4	7.5	7.4	6.6	6.1	6.4
Switzerland	7.9	4.9	8.7	9.2	4.4	6.0	7.2	6.6	9.2	6.3	6.7	7.4	6.0	6.4
UK	8.2	7.3	7.2	8.8	6.2	8.4	8.8	8.3	8.2	7.0	6.8	6.2	5.6	4.8
USA	7.6	6.3	7.7	9.1	5.5	8.1	8.9	7.0	8.5	7.7	8.4	6.2	6.6	5.6

1998	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.1	2.6	6.9	7.3	5.5	7.3	8.4	3.8	8.0	8.5	6.2	6.1	5.4	6.2
Austria	5.9	0.6	7.1	8.7	5.1	7.5	8.0	2.9	8.7	5.5	7.0	6.4	5.5	6.4
Belgium	2.9	1.2	6.7	8.1	4.2	8.1	6.1	2.7	8.0	7.7	5.3	6.0	5.8	6.0
Canada	8.3	3.8	7.8	8.2	6.5	7.3	8.5	5.6	7.8	7.9	8.3	7.0	6.1	6.6
Denmark	9.4	1.7	8.3	8.3	5.4	8.5	8.4	7.6	8.6	6.9	8.0	7.4	5.9	7.4
Finland	9.2	1.1	8.1	7.7	7.0	8.3	8.6	4.6	8.6	6.4	6.8	7.6	6.7	7.3
France	4.7	2.3	6.5	8.8	2.9	6.9	7.9	2.0	7.1	6.0	5.2	5.7	5.4	6.0
Germany	5.8	1.1	7.4	9.1	2.8	8.1	8.4	2.3	8.9	6.3	6.6	6.4	5.4	5.6
Greece	2.3	1.1	2.7	5.3	4.7	8.1	6.4	3.5	8.0	7.6	3.9	5.2	6.4	4.5
Ireland	7.2	1.7	7.1	7.7	7.5	8.4	8.2	6.2	8.9	8.2	8.4	6.8	6.8	6.0
Italy	2.6	2.2	4.6	7.5	4.7	7.1	7.1	2.3	7.4	6.8	4.4	5.1	5.9	5.1
Japan	2.7	3.4	6.1	9.2	2.5	4.9	6.4	4.9	6.3	5.2	5.6	6.1	3.4	4.8
Netherlands	7.4	1.9	8.0	9.1	7.1	8.2	8.1	4.8	8.6	8.8	8.1	7.3	6.9	7.0
New Zealand	9.0	1.9	4.8	7.3	6.2	8.6	9.1	7.5	8.7	7.0	8.1	6.5	6.7	6.7
Norway	8.3	1.2	8.5	8.6	6.0	7.3	8.0	4.6	8.1	6.0	6.9	7.0	5.8	7.0
Portugal	4.0	0.8	5.1	7.1	5.6	8.2	7.5	4.0	8.3	8.6	5.9	5.9	5.0	4.6
South Africa	3.5	2.1	2.8	4.6	5.2	6.5	7.4	2.5	5.9	6.4	3.6	6.0	5.8	6.0
Spain	2.7	1.8	6.7	7.6	6.4	7.5	7.2	3.2	7.9	7.3	6.3	5.7	5.9	5.6
Sweden	4.3	1.9	7.2	7.6	3.7	8.3	8.4	2.4	8.2	7.4	7.4	6.9	6.4	7.1
Switzerland	8.7	2.4	8.6	9.2	4.6	6.6	7.6	7.2	8.7	6.5	6.6	7.4	6.6	6.4
UK	7.1	3.7	5.2	8.8	6.0	7.8	8.6	7.4	8.4	7.1	6.8	5.7	5.3	5.7
USA	6.2	3.1	7.8	9.2	6.3	7.3	8.5	6.9	8.0	7.8	8.1	6.5	6.6	6.1

1999	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	7.9	2.7	7.5	7.4	6.5	7.2	8.1	5.3	7.8	8.4	6.8	6.3	5.8	6.2
Austria	5.9	0.6	7.4	8.9	5.7	7.4	8.2	3.8	9.1	5.8	7.2	6.9	5.9	6.9
Belgium	4.2	1.3	7.8	8.4	4.9	8.3	7.1	3.2	8.5	8.0	5.1	6.5	6.1	6.2
Canada	8.4	3.8	7.0	8.5	6.2	6.9	8.3	5.9	7.9	7.8	8.3	7.0	6.4	6.9
Denmark	9.3	1.7	8.0	8.5	5.7	9.0	8.1	7.2	9.1	6.8	8.1	7.2	5.8	7.5
Finland	9.3	1.1	8.4	8.1	7.3	8.4	9.0	4.9	8.9	6.8	7.4	7.6	7.2	7.2
France	5.2	2.5	6.9	9.0	3.8	6.8	8.3	2.4	7.3	5.8	5.9	5.9	5.4	5.9
Germany	6.1	1.0	8.2	9.3	4.0	7.9	8.6	2.3	9.1	6.4	7.4	6.5	5.7	6.3
Greece	2.9	1.3	4.0	5.5	5.2	7.6	6.5	3.9	8.3	7.5	5.0	6.2	6.7	5.1
Ireland	6.5	2.0	7.8	8.0	7.2	8.6	8.3	6.2	9.0	8.2	8.5	6.9	6.2	6.4
Italy	2.5	2.3	6.7	7.9	4.0	7.3	6.8	2.1	7.7	7.0	4.3	5.5	5.9	5.3
Japan	4.6	3.2	5.9	8.8	3.7	4.9	7.0	5.2	7.1	5.6	5.3	6.1	3.5	5.7
Netherlands	7.6	2.0	8.5	9.2	7.1	7.9	8.0	5.1	8.9	8.9	8.3	7.0	6.9	7.0
New Zealand	9.0	2.1	5.9	7.4	6.5	8.9	9.2	7.2	9.1	7.2	8.0	6.7	6.4	6.8
Norway	8.3	0.9	4.5	8.8	5.1	6.7	8.1	4.4	8.0	6.2	6.8	6.7	5.7	7.1
Portugal	4.3	0.8	6.7	7.6	5.9	8.7	7.8	3.8	8.5	8.3	6.1	6.4	5.7	5.4
South Africa	2.3	1.9	2.0	4.7	4.8	6.1	7.5	1.6	6.6	6.1	3.4	5.9	5.7	5.8
Spain	5.9	2.0	7.9	8.0	7.2	7.9	7.7	4.2	8.4	7.0	6.2	6.7	6.2	6.0
Sweden	8.1	2.1	7.8	7.9	3.7	8.2	8.4	2.3	8.7	7.6	6.6	7.0	6.3	7.1
Switzerland	7.2	2.6	8.5	9.3	5.2	6.4	7.6	7.4	8.8	6.5	7.1	6.9	6.1	6.6
UK	6.9	3.7	4.7	9.1	6.0	7.6	8.1	6.6	7.9	7.0	6.4	5.7	5.2	5.6
USA	6.0	3.1	7.5	9.1	6.4	7.1	8.1	6.4	8.1	7.8	7.5	6.3	6.2	6.2

2000	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.2	2.7	7.6	7.6	7.0	7.3	7.6	5.1	8.2	8.3	7.4	6.1	6.1	6.5
Austria	6.7	0.6	7.4	8.9	5.5	7.6	8.1	3.7	9.1	6.2	6.7	7.2	6.4	7.6
Belgium	5.0	1.3	7.3	8.5	5.4	8.0	7.1	3.3	8.6	8.2	5.3	6.8	6.0	6.6
Canada	8.3	3.7	7.3	8.4	6.0	7.4	8.6	6.5	7.9	7.7	8.2	6.9	6.5	6.8
Denmark	9.2	1.8	7.6	8.5	5.9	8.9	7.8	7.4	9.0	6.8	8.0	7.2	5.8	7.7
Finland	9.2	1.1	8.7	8.4	7.5	8.7	9.0	5.5	9.2	7.3	7.7	7.6	7.1	7.6
France	9.5	2.4	7.3	9.1	4.5	6.8	8.3	2.8	7.7	5.7	6.0	5.5	5.7	6.0
Germany	5.0	0.9	8.1	9.2	4.7	8.0	8.4	2.9	9.1	6.5	7.4	6.1	6.1	6.4
Greece	5.4	1.3	4.0	5.9	5.5	7.7	6.9	4.4	8.5	7.4	5.4	6.1	5.5	4.9
Ireland	1.3	2.0	8.3	8.3	7.2	8.6	8.6	6.2	9.2	8.1	8.6	6.7	7.0	6.2
Italy	6.0	2.4	6.1	8.1	3.8	6.9	7.0	2.5	7.5	7.1	4.7	6.0	6.3	5.2
Japan	2.8	0.1	6.6	8.7	4.8	5.4	7.3	5.5	7.3	6.0	5.9	6.4	4.0	5.9
Netherlands	2.1	2.0	8.8	9.1	7.4	8.3	8.3	5.3	9.0	9.0	8.6	7.4	6.9	7.6
New Zealand	7.8	2.0	5.8	7.4	6.7	9.3	9.1	6.7	9.0	7.3	7.7	6.4	6.2	7.2
Norway	8.8	1.1	7.5	8.8	5.1	6.4	8.2	4.8	8.1	6.5	6.6	6.7	5.3	7.0
Portugal	2.9	1.0	6.5	7.8	5.4	8.3	7.1	4.1	7.8	8.0	6.2	6.2	5.2	5.5
South Africa	3.7	1.6	3.3	4.6	5.7	6.2	7.7	2.1	6.4	5.8	3.6	5.9	5.8	6.4
Spain	3.6	2.1	7.6	8.2	6.6	7.6	7.4	4.1	7.9	6.8	6.5	5.7	5.7	5.6
Sweden	2.7	1.9	8.1	8.1	4.8	8.3	8.6	3.4	8.7	7.9	7.4	7.1	6.5	7.0
Switzerland	5.3	2.9	8.5	9.3	5.7	6.8	7.8	7.5	8.8	6.5	7.0	6.8	6.7	6.7
UK	7.6	4.0	5.9	9.0	6.0	8.0	8.3	6.2	8.3	7.0	6.5	5.9	5.2	5.9
USA	6.8	3.0	8.3	9.1	6.6	6.7	8.3	6.9	8.0	7.7	7.9	6.6	7.1	6.6

2001	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.2	2.8	6.7	8.2	6.4	8.0	8.1	5.7	8.0	8.3	7.3	6.3	6.3	6.5
Austria	6.9	0.1	6.6	8.7	6.6	8.7	8.4	4.7	9.1	6.7	6.8	7.2	6.6	7.1
Belgium	5.2	1.5	6.5	8.3	6.0	8.3	6.8	3.0	8.1	7.9	4.7	6.3	6.7	6.1
Canada	7.8	3.7	6.8	9.0	6.4	7.3	8.0	6.2	8.5	8.2	7.8	7.1	6.7	6.6
Denmark	9.0	1.8	7.1	8.9	5.0	8.5	7.6	7.2	8.9	6.6	7.8	6.8	5.6	6.9
Finland	9.5	1.1	8.0	8.9	7.5	9.0	9.0	5.0	9.3	7.3	8.3	7.5	6.9	7.5
France	4.2	2.4	5.9	9.4	3.3	7.1	7.7	2.1	7.5	5.7	5.3	5.6	5.4	5.5
Germany	6.9	0.9	6.9	9.5	5.4	8.0	8.0	3.0	8.8	6.8	7.2	6.2	5.9	6.6
Greece	3.0	1.3	5.5	7.0	5.4	8.2	6.2	4.3	8.1	7.3	4.6	6.1	6.2	4.9
Ireland	5.5	2.0	7.9	8.9	7.5	8.6	8.1	6.4	9.1	7.9	8.4	6.5	6.9	6.1
Italy	3.3	2.4	5.5	8.4	4.0	7.7	6.8	2.6	7.1	7.2	4.5	5.6	6.2	5.1
Japan	4.3	3.0	6.5	8.8	2.8	5.8	7.2	4.3	7.7	5.8	5.4	5.7	3.9	5.8
Netherlands	8.0	2.0	7.8	9.5	6.5	8.6	7.7	4.9	9.0	8.8	8.0	7.0	6.9	7.2
New Zealand	8.8	2.0	4.7	7.9	4.2	8.8	9.3	4.4	8.3	7.5	6.0	6.3	6.0	6.3
Norway	8.1	1.1	5.5	9.0	4.0	5.2	7.1	3.9	7.0	6.4	6.1	6.0	5.2	6.3
Portugal	3.9	1.0	6.4	8.4	3.5	8.1	7.2	3.7	7.2	8.0	5.2	6.0	5.3	5.0
South Africa	2.6	2.9	3.4	5.5	5.1	7.1	7.3	2.4	6.8	6.1	2.7	5.8	5.1	6.4
Spain	5.6	2.0	6.3	8.6	6.3	7.2	7.1	3.6	7.3	6.8	6.4	5.9	5.8	5.5
Sweden	8.6	1.8	7.6	8.7	5.2	8.5	8.5	3.8	8.8	7.8	7.5	7.0	6.7	7.0
Switzerland	7.2	2.9	7.9	9.6	5.7	7.1	7.9	7.5	8.8	6.7	7.2	6.4	6.6	6.6
UK	6.8	3.9	5.2	8.9	5.0	8.0	7.8	7.6	7.8	6.8	6.2	5.7	5.2	5.7
USA	6.6	3.0	7.0	9.2	6.9	7.2	8.1	7.3	7.9	7.9	8.0	6.5	7.1	6.6

2002	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.0	3.0	6.5	8.0	6.2	7.5	8.0	5.4	8.1	8.4	6.5	6.2	6.9	6.3
Austria	7.5	0.6	6.7	8.8	5.0	8.0	7.9	4.3	9.3	7.3	7.0	7.5	6.2	7.4
Belgium	5.3	1.5	5.6	8.7	3.9	7.7	6.9	2.9	8.5	7.6	4.9	6.7	6.1	6.3
Canada	7.5	3.6	7.1	8.7	5.3	6.8	8.4	6.4	8.5	8.7	7.7	7.2	7.8	7.1
Denmark	9.3	1.6	6.7	8.8	5.8	8.5	7.9	6.9	8.9	6.4	7.7	7.6	5.6	7.9
Finland	9.5	1.2	7.8	8.6	6.5	8.9	8.6	5.4	9.5	7.4	8.2	8.1	6.1	7.7
France	5.1	3.0	6.0	9.2	2.9	7.0	7.6	1.8	7.6	5.7	5.0	5.7	5.1	6.2
Germany	6.6	0.9	6.4	9.3	2.7	7.2	7.5	1.9	8.7	7.0	6.8	6.5	5.2	6.9
Greece	2.5	1.9	6.1	7.1	4.0	6.8	7.1	3.8	8.1	7.3	4.4	5.7	6.6	4.8
Ireland	6.1	1.7	7.1	8.4	6.5	8.2	7.9	6.0	8.9	7.7	8.3	6.8	6.8	6.2
Italy	3.3	1.8	5.4	8.3	4.6	7.0	6.9	3.3	7.2	7.2	4.7	5.4	7.7	4.4
Japan	5.2	2.8	5.4	8.6	3.0	4.9	7.0	4.1	6.8	5.7	5.5	5.8	3.8	5.3
Netherlands	7.4	2.2	7.1	9.3	5.7	8.3	7.7	4.5	9.1	8.6	8.0	7.5	7.4	7.3
New Zealand	9.0	2.1	5.4	7.6	5.0	8.3	9.1	4.8	8.6	7.7	7.2	6.0	7.1	6.5
Norway	8.0	1.0	3.8	9.0	4.6	5.9	7.5	4.3	8.0	6.3	6.2	6.5	5.7	7.3
Portugal	3.9	1.1	6.0	8.0	2.9	7.5	7.1	2.5	8.1	8.0	4.8	5.4	4.9	4.6
South Africa	2.8	2.5	3.5	5.0	4.3	6.1	7.3	2.7	7.1	6.4	2.4	6.2	5.8	6.6
Spain	5.3	2.2	6.7	8.3	5.6	7.2	7.2	3.8	8.1	6.9	6.4	5.7	5.2	4.8
Sweden	8.6	1.9	6.4	8.6	4.5	8.5	8.5	4.0	8.8	7.8	7.2	7.1	6.1	7.5
Switzerland	7.7	3.2	8.0	9.4	4.6	6.2	7.3	7.8	8.8	6.9	7.3	6.2	6.8	6.7
UK	7.1	4.4	6.4	9.2	4.9	7.2	7.3	5.9	8.0	6.6	6.7	5.8	6.5	5.8
USA	7.0	3.0	8.2	9.2	6.2	6.5	8.1	7.9	8.6	8.0	8.0	7.3	9.1	6.8

2003	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.1	2.9	6.9	8.5	6.2	7.8	8.3	5.4	8.3	8.2	7.4	6.3	6.5	6.4
Austria	7.8	0.6	6.0	9.1	4.8	7.5	7.7	5.1	8.9	6.8	7.3	7.5	6.5	7.6
Belgium	5.7	1.5	5.6	9.0	3.7	7.6	6.7	3.2	8.2	7.8	5.6	6.7	5.5	6.0
Canada	7.8	3.5	6.6	8.9	5.2	6.2	8.2	6.3	8.1	8.5	7.5	7.0	6.6	6.8
Denmark	9.5	1.7	6.6	9.1	5.5	8.4	7.1	6.8	8.8	6.5	7.4	7.4	5.8	7.8
Finland	9.6	1.1	8.3	9.1	6.2	8.7	8.9	5.2	9.3	7.4	8.2	7.9	6.3	7.8
France	6.1	3.1	5.7	9.3	4.3	7.0	8.0	2.5	8.1	6.0	4.7	6.2	5.0	5.9
Germany	6.6	0.8	5.9	9.4	1.6	7.6	7.8	1.2	8.7	6.6	4.9	6.4	5.2	6.7
Greece	2.6	1.4	5.2	7.5	3.8	7.4	7.1	3.9	8.2	7.5	4.1	5.7	6.2	4.8
Ireland	5.0	1.8	7.5	8.9	5.4	8.3	7.2	6.0	9.1	7.6	8.0	6.8	6.3	5.7
Italy	3.5	1.7	5.2	8.6	3.8	7.2	6.8	3.6	7.6	7.4	4.5	5.7	5.8	4.6
Japan	5.6	2.8	5.5	8.3	2.5	5.5	7.3	4.6	7.1	5.9	5.4	5.9	3.6	5.5
Netherlands	7.2	2.1	6.7	9.5	4.1	7.6	7.4	3.9	8.8	8.0	7.5	6.7	6.1	6.8
New Zealand	9.2	1.9	5.1	8.1	4.6	8.5	9.3	5.1	9.1	7.8	7.3	6.2	6.5	6.3
Norway	7.7	1.0	2.4	9.3	3.9	6.7	7.6	5.0	8.3	6.7	5.8	6.3	5.2	7.4
Portugal	3.7	1.1	6.0	8.4	4.7	7.3	7.1	3.0	8.1	7.9	4.2	5.0	4.0	4.0
South Africa	3.2	2.5	3.5	5.3	5.0	6.1	6.9	3.0	6.5	6.1	4.0	6.1	5.2	6.5
Spain	5.8	2.2	7.0	8.7	5.4	6.7	7.0	3.7	8.1	6.6	6.1	5.5	5.6	4.9
Sweden	8.1	1.6	6.1	8.9	4.1	7.9	8.1	3.4	8.8	7.3	6.3	6.7	5.6	7.2
Switzerland	7.5	2.7	7.8	9.6	4.2	6.1	7.5	7.6	8.5	6.3	7.5	6.2	6.2	6.2
UK	7.6	4.3	5.7	9.4	4.1	7.7	7.4	5.5	7.9	6.5	6.5	5.3	4.9	5.1
USA	6.5	3.0	7.6	9.3	5.3	6.4	7.7	7.1	8.1	7.5	7.0	5.7	7.3	5.3

2004	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.4	2.6	6.8	8.4	6.6	8.0	8.2	5.0	8.2	8.5	8.2	6.6	6.6	6.7
Austria	8.2	0.6	6.8	9.0	5.3	7.9	8.0	5.3	8.9	6.9	8.0	7.6	6.5	7.4
Belgium	5.3	1.4	6.0	8.7	3.6	7.6	6.6	3.0	8.7	7.4	5.4	6.9	5.8	6.5
Canada	7.5	3.5	7.3	9.0	6.0	7.3	8.3	6.0	8.3	8.5	8.3	7.2	6.8	6.9
Denmark	9.1	1.7	7.6	9.1	6.1	8.3	7.5	7.8	9.1	7.2	8.2	7.6	5.9	7.7
Finland	9.4	1.1	8.0	9.1	4.9	8.3	8.1	5.3	8.9	6.8	8.2	7.9	5.6	6.8
France	6.2	3.1	5.9	9.2	3.3	7.0	7.9	2.6	7.9	5.4	4.9	6.3	5.6	6.3
Germany	6.4	0.8	6.2	8.7	2.6	7.3	7.7	1.9	8.6	6.3	6.5	5.7	4.9	5.8
Greece	2.7	1.6	5.4	7.3	3.7	6.0	6.1	3.7	7.7	7.0	4.7	5.9	5.8	5.0
Ireland	5.5	1.6	7.2	8.8	5.5	7.4	6.8	5.2	8.6	8.3	8.5	6.9	6.4	5.8
Italy	2.9	2.2	5.6	8.3	2.8	6.4	6.9	4.1	6.8	6.7	4.6	4.6	5.0	4.1
Japan	5.4	2.8	6.4	7.7	3.7	5.2	6.8	5.6	6.9	5.5	6.4	6.3	4.2	5.9
Netherlands	6.8	2.1	7.0	9.2	4.0	7.5	7.1	4.0	8.4	7.9	7.6	6.5	5.9	6.4
New Zealand	8.6	1.9	5.6	8.1	4.2	8.4	9.0	3.6	8.7	7.7	7.6	6.0	6.5	6.6
Norway	7.5	1.0	7.2	9.3	4.2	6.4	7.0	4.7	8.3	6.1	5.8	6.3	4.7	7.2
Portugal	4.0	1.2	6.5	8.0	4.1	7.1	7.4	3.4	8.3	7.6	4.7	5.2	4.6	4.3
South Africa	3.4	2.0	3.9	5.5	5.1	5.9	7.1	2.4	6.6	6.5	4.8	5.8	5.7	6.9
Spain	5.8	2.3	7.6	8.6	6.0	7.0	6.7	4.2	7.7	6.5	6.9	5.5	5.4	5.0
Sweden	7.5	1.6	6.9	8.9	3.7	7.8	7.5	4.0	8.7	7.4	7.4	6.0	5.6	7.1
Switzerland	7.5	2.7	6.8	9.4	4.0	5.2	6.5	7.7	8.0	5.6	8.0	6.4	5.6	5.8
UK	6.8	4.3	6.0	9.2	4.4	7.0	6.9	4.7	7.4	7.1	7.3	5.6	5.3	5.3
USA	6.6	3.0	7.9	9.3	5.6	6.2	7.6	6.4	7.9	6.9	6.8	6.4	7.5	5.8

2005	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	8.3	2.7	6.0	8.7	6.0	7.3	7.9	4.2	8.4	8.4	8.0	6.3	7.5	6.6
Austria	7.3	0.5	6.7	9.2	4.8	7.3	8.5	5.3	9.1	6.6	7.7	7.0	7.5	7.4
Belgium	6.2	1.5	6.4	8.9	2.6	7.3	6.7	2.7	8.5	6.9	5.1	6.2	7.1	6.1
Canada	7.0	3.4	7.4	9.2	5.2	7.1	8.2	6.5	7.9	8.3	8.0	7.1	7.4	6.6
Denmark	9.1	1.8	7.4	9.3	6.0	8.3	7.6	7.6	8.8	7.1	7.9	7.5	7.9	7.5
Finland	9.4	1.1	8.1	9.2	4.8	8.3	8.5	4.8	9.4	7.2	7.6	7.8	7.6	7.1
France	6.1	3.3	5.3	9.3	3.0	6.3	6.5	2.3	7.8	5.0	5.1	6.2	6.2	6.1
Germany	6.5	0.9	5.9	9.2	2.5	7.0	7.8	2.4	8.5	5.9	6.1	5.3	6.1	6.0
Greece	2.6	1.7	5.5	7.8	3.0	5.7	6.5	3.5	7.3	6.8	4.8	5.0	5.7	4.5
Ireland	5.7	0.6	7.3	9.1	5.9	7.0	7.2	5.0	8.5	8.3	8.7	7.0	6.5	5.9
Italy	2.9	3.5	5.3	8.5	2.8	5.9	6.7	3.9	7.3	6.4	4.5	4.7	5.0	4.3
Japan	5.6	2.8	6.4	8.3	3.9	5.6	6.9	5.8	7.0	5.8	6.2	6.4	7.9	6.0
Netherlands	7.0	2.0	6.9	9.3	4.0	7.4	7.5	3.7	9.0	8.0	7.1	6.4	6.5	6.6
New Zealand	8.5	1.9	4.2	8.3	4.7	8.1	9.0	4.3	8.9	7.6	7.9	5.8	7.2	6.7
Norway	6.9	1.0	7.7	9.4	4.3	6.3	7.5	4.4	8.1	6.3	6.4	6.3	6.4	6.8
Portugal	4.1	1.2	6.3	8.4	2.9	6.3	7.3	3.2	8.1	7.3	4.4	5.1	5.4	4.3
South Africa	2.9	1.5	3.9	5.9	4.5	6.5	6.8	2.5	6.3	6.5	5.6	6.1	5.5	6.8
Spain	5.4	2.6	7.3	8.8	3.5	6.4	6.7	3.3	7.5	6.5	5.7	5.5	5.9	4.6
Sweden	7.7	1.6	6.6	9.2	3.3	7.1	7.6	3.8	8.2	7.1	7.1	6.5	7.4	7.1
Switzerland	7.7	2.5	7.2	9.5	3.8	5.6	6.7	7.5	8.9	6.0	7.8	6.7	7.5	6.6
UK	6.8	4.2	5.3	9.4	3.9	6.8	6.4	5.0	7.2	6.6	6.9	5.5	6.1	5.2
USA	6.4	3.1	7.4	9.4	4.9	6.4	7.6	6.6	7.6	6.6	6.4	6.7	7.8	6.0

2006	CRPT	CPT	CCP	CR	GEP	PTN	PC	LR	CB	NC	CI	CCR	ENT	SR
Australia	7.9	2.8	6.5	8.7	6.4	7.6	8.2	6.0	8.5	8.2	7.9	7.2	6.2	6.5
Austria	7.8	0.6	7.3	9.1	5.5	7.9	8.5	5.8	9.3	7.3	8.0	8.0	7.1	7.5
Belgium	5.3	1.8	6.2	8.9	3.0	7.1	7.6	3.1	8.4	7.3	5.0	6.6	5.6	6.1
Canada	7.3	3.3	6.8	9.2	4.9	6.4	8.2	6.3	8.3	8.4	8.2	7.3	6.4	6.6
Denmark	9.3	1.8	8.0	9.3	6.8	8.1	7.9	8.2	9.3	7.4	7.3	8.1	6.6	7.8
Finland	9.4	1.1	7.7	9.3	4.9	8.3	8.7	4.4	9.4	7.2	7.8	8.3	6.1	7.0
France	7.3	3.3	5.6	9.2	2.9	6.6	7.5	3.1	7.5	5.2	5.6	7.1	5.6	6.0
Germany	6.6	0.9	6.6	9.1	3.0	7.0	7.4	2.5	8.3	6.1	6.5	6.5	5.3	5.7
Greece	2.9	1.6	5.9	7.5	3.8	6.2	6.8	3.6	7.7	6.9	4.9	6.2	6.0	5.0
Ireland	6.4	2.1	7.7	9.1	6.6	7.9	7.8	5.3	9.0	8.7	9.0	7.6	6.4	6.3
Italy	2.8	2.6	5.4	8.3	2.7	5.9	6.8	4.0	7.1	6.4	4.1	5.2	4.8	3.9
Japan	5.7	2.7	6.6	8.5	4.9	6.0	7.5	6.1	6.9	5.8	6.8	6.7	4.8	6.6
Netherlands	7.5	2.0	7.0	9.3	4.1	7.0	7.6	3.6	8.7	8.1	7.2	7.1	5.7	6.6
New Zealand	8.9	1.9	3.9	8.4	4.4	8.0	8.4	4.4	8.8	7.7	7.7	7.1	6.1	6.4
Norway	7.2	1.1	7.9	9.4	4.8	7.3	8.2	5.5	8.7	6.5	7.2	7.3	5.6	7.0
Portugal	3.8	1.4	6.1	8.1	3.9	6.3	6.7	3.4	7.9	7.3	4.4	5.4	4.2	4.6
South Africa	2.9	1.6	4.6	6.2	4.9	6.2	6.8	2.8	6.7	6.9	6.0	6.0	5.7	7.0
Spain	5.3	2.8	6.4	8.9	3.4	5.6	5.9	3.8	7.1	6.1	5.7	5.7	4.9	4.6
Sweden	8.0	1.6	6.9	9.3	3.6	7.1	7.6	3.5	8.1	7.6	7.7	7.3	5.7	7.0
Switzerland	7.7	2.5	7.7	9.4	4.7	6.0	7.0	7.4	8.3	6.5	7.9	6.8	6.3	6.6
UK	6.7	4.3	5.4	9.3	3.9	6.8	7.2	5.2	7.9	6.7	7.5	6.2	5.1	5.4
USA	5.6	3.0	6.9	9.3	5.3	6.2	7.4	6.8	7.8	6.8	6.6	6.9	6.8	5.6

Appendix 6.2: Descriptive Statistics on Corruption

	Mean	Median	Max	Min	Std Dev	Skewness	Kurtosis	J-B	p =	Count
1992	6.92	7.60	9.40	1.70	2.10	-0.94	3.05	3.23	0.20	22
1993	6.78	7.90	9.30	0.90	2.35	-1.00	2.99	3.64	0.16	22
1994	6.94	7.75	9.50	1.81	2.26	-0.81	2.43	2.72	0.26	22
1995	6.80	7.77	9.57	2.55	2.33	-0.61	1.91	2.46	0.29	22
1996	7.10	7.69	9.55	2.98	2.12	-0.71	2.21	2.43	0.30	22
1997	6.79	7.74	9.50	3.00	2.14	-0.51	1.84	2.17	0.34	22
1998	6.09	6.63	9.44	2.30	2.43	-0.27	1.66	1.93	0.38	22
1999	6.41	6.81	9.34	1.46	2.19	-0.80	2.80	2.36	0.31	22
2000	6.28	6.72	9.17	2.85	2.11	-0.32	1.83	1.62	0.44	22
2001	6.36	6.87	9.53	2.60	2.11	-0.32	1.88	1.53	0.46	22
2002	6.48	7.05	9.47	2.47	2.08	-0.46	2.20	1.37	0.50	22
2003	6.57	6.90	9.65	2.56	2.02	-0.42	2.31	1.10	0.58	22
2004	6.43	6.70	9.38	2.74	1.92	-0.46	2.38	1.14	0.57	22
2005	6.37	6.64	9.41	2.55	1.91	-0.57	2.67	1.28	0.53	22
2006	6.46	6.93	9.35	2.76	1.99	-0.56	2.39	1.48	0.48	22

Appendix 6.3: AR(1) MA (1) with structural break dummy variables

Dep Var	Eq 1	Eq 1	Eq 2	Eq 2	Eq 3	Eq 3	Eq 4	Eq 4	Eq 5	Eq 5
MD	Coefffic	p =	Coefffic	p =	Coefffic	p =	Coefffic	p =	Coefffic	p =
Intercept	NSM	...	6.36	0.00	6.12	0.00	6.33	0.00	6.36	0.00
ar(1)	NSM	...	0.62	0.00	0.90	0.00	0.88	0.00	0.64	0.00
ma(1)	NSM	...	-0.97	0.00	-2.34	0.01	-2.39	0.01	-0.96	0.00
y92	NSM	...	...	...	...	...	...	...	...	...
y93	...	...	-0.80	0.21	...	...	...	...	...	...
y94	...	...	...	...	0.14	0.58	...	...	...	...
y95	...	...	...	...	...	...	0.15	0.61	...	...
y96	...	...	...	...	...	...	...	...	0.59	0.06
y97	...	...	...	...	...	...	...	...	...	...
y98	...	...	...	...	...	...	...	...	...	...
y99	...	...	...	...	...	...	...	...	...	...
y00	...	...	...	...	...	...	...	...	...	...
y01	...	...	...	...	...	...	...	...	...	...
y02	...	...	...	...	...	...	...	...	...	...
y03	...	...	...	...	...	...	...	...	...	...
y04	...	...	...	...	...	...	...	...	...	...
y05	...	...	...	...	...	...	...	...	...	...
y06	...	...	...	...	...	...	...	...	...	...

		Eq 1	Eq 1	Eq 2	Eq 2	Eq 3	Eq 3	Eq 4	Eq 4	Eq 5	Eq 5
Adj R Sq					0.46		0.83		0.83		0.55
Std Err					0.23		0.13		0.13		0.21
Pr F-Stat					0.03		0.00		0.00		0.01
AIC					0.14		-1.02		-1.01		-0.05
SC					0.32		-0.84		-0.83		0.14
Inverted	AR Root				0.62		0.90		0.88		0.64
Inverted	MA Root				0.97		2.34		2.39		0.96

AR(1) MA (1) with structural break dummy variables

Dep Var	Eq 6	Eq 6	Eq 7	Eq 7	Eq 8	Eq 8	Eq 9	Eq 9	Eq 10	Eq 10
MD	Coefffic	p =	Coefffic	p =	Coefffic	p =	Coefffic	p =	Coefffic	p =
Intercept	6.35	0.00	6.49	0.00	6.60	0.00	6.40	0.00	6.39	0.00
Ar(1)	0.70	0.00	0.72	0.03	0.13	0.53	0.73	0.00	0.88	0.00
ma(1)	-0.96	0.00	-0.09	0.84	2.29	0.01	-1.00	0.00	-2.63	0.01
Y92	...	...	...	...	...	...	...	...	...	...
Y93	...	...	...	...	...	...	...	...	...	...
Y94	...	...	...	...	...	...	...	...	...	...
Y95	...	...	...	...	...	...	...	...	...	...
Y96	...	...	...	...	...	...	...	...	...	...
Y97	0.26	0.49	...	...	...	...	...	...	...	...
Y98	...	...	-0.51	0.03	...	...	...	...	...	...
y99	...	...	...	...	0.13	0.63	...	...	...	...
y00	...	...	...	...	...	...	-0.24	0.44	...	...
y01	...	...	...	...	...	...	...	...	-0.41	0.11
y02	...	...	...	...	...	...	...	...	...	...
y03	...	...	...	...	...	...	...	...	...	...
y04	...	...	...	...	...	...	...	...	...	...
y05	...	...	...	...	...	...	...	...	...	...
y06	...	...	...	...	...	...	...	...	...	...

		Eq 6	Eq 6	Eq 7	Eq 7	Eq 8	Eq 8	Eq 9	Eq 9	Eq 10	Eq 10
Adj R Sq		0.37			0.45		0.83		0.37		0.90
Std Err		0.25			0.23		0.13		0.25		0.10
Pr F-Stat		0.05			0.03		0.00		0.06		0.00
AIC		0.29			0.16		-1.01		0.30		-1.52
SC		0.48			0.35		-0.82		0.48		-1.33
Inverted	AR Root	0.70			0.72		0.13		0.73		0.88
Inverted	MA Root	0.96			0.09		-2.29		1.00		2.63

AR(1) MA (1) with structural break dummy variables

Dep Var	Eq 11	Eq 11	Eq 12	Eq 12	Eq 13	Eq 13	Eq 14	Eq 14	Eq 15	Eq 15
MD	Coefffic	p =	Coefffic	p =	Coefffic	p =	Coefffic	p =	Coefffic	p =
Intercept	6.35	0.00	6.32	0.00	6.39	0.00	NSM	...	NSM	...
ar(1)	0.73	0.00	0.75	0.00	0.74	0.00	NSM	...	NSM	...
ma(1)	-0.96	0.00	-0.95	0.00	-1.00	0.00	NSM	...	NSM	...
y92	...	...	...	...	...	...	...	...	...	...
y93	...	...	...	...	...	...	...	...	...	...
y94	...	...	...	...	...	...	...	...	...	...
y95	...	...	...	...	...	...	...	...	...	...
y96	...	...	...	...	...	...	...	...	...	...
y97	...	...	...	...	...	...	...	...	...	...
y98	...	...	...	...	...	...	...	...	...	...
y99	...	...	...	...	...	...	...	...	...	...
y00	...	...	...	...	...	...	...	...	...	...
y01	...	...	...	...	...	...	...	...	...	...
y02	0.04	0.89	...	...	...	...	...	...	...	...
y03	...	...	0.20	0.53	...	...	...	...	...	...
y04	...	...	...	...	0.01	0.96	...	...	...	...
y05	...	...	...	...	...	...	NSM	...	...	...
y06	...	...	...	...	...	...	...	...	NSM	...

		Eq 11	Eq 11	Eq 12	Eq 12	Eq 13	Eq 13	Eq 14	Eq 14	Eq 15	Eq 15
Adj R Sq			0.33		0.35		0.31				
Std Err			0.26		0.25		0.26				
Pr F-Stat			0.08		0.06		0.08				
AIC			0.37		0.33		0.39				
SC			0.55		0.51		0.57				
Inverted	AR Root		0.73		0.75		0.74				
Inverted	MA Root		0.96		0.95		1.00				

Note: NSM = near singular matrix, which indicates insufficient observations available to perform the statistical calculations

Appendix 6.4: Partial Autocorrelations for Three Countries

Lags	Denmark Coeff.	Denmark p =	USA Coeff.	USA p =	Italy Coeff.	Italy p =
1	0.35	0.14	0.39	0.10	0.69	0.00
2	-0.25	0.30	-0.06	0.22	-0.45	0.01
3	0.22	0.49	-0.05	0.39	0.12	0.02
4	-0.14	0.65	-0.17	0.44	0.05	0.04
5	-0.04	0.73	0.15	0.59	0.13	0.08
6	-0.10	0.77	-0.07	0.71	-0.22	0.13

Appendix 6.5: General-to-Specific Modelling: Denmark

Model 1	Model 1	Model 1	Model 1	Model 2	Model 2	Model 2	Model 2
CRPT	Coef.	p =	Beta	CRPT	Coef.	p =	Beta
CONS	11.13	0.37	.	CONS	11.28	0.07	.
CPT	-0.07	0.74	-0.44	CPT	-0.07	0.51	-0.45
CCP	0.00	0.97	0.02	CCP	0.00	0.96	0.02
CR	-0.70	0.34	-2.92	CR	-0.71	0.09	-2.95
GEP	-0.52	0.29	-1.75	GEP	-0.52	0.07	-1.74
PTN	-0.09	0.78	-0.20	PTN	-0.09	0.65	-0.20
PC	-0.33	0.51	-0.94	PC	-0.34	0.21	-0.95
LR	0.20	0.54	0.67	LR	0.20	0.32	0.67
CB	0.01	0.99	0.02	CB	...	...	...
NC	0.20	0.33	1.04	NC	0.20	0.09	1.05
CI	-0.29	0.39	-0.78	CI	-0.29	0.17	-0.77
CCR	0.57	0.41	1.02	CCR	0.58	0.09	1.04
ENT	0.10	0.45	0.37	ENT	0.10	0.23	0.37
SR	0.68	0.34	2.19	SR	0.68	0.09	2.17
R-sq		0.967				0.967	
Adj R Sq		0.544				0.772	
Pr (F-Stat)		0.480				0.180	
AIC		-2.402				-2.535	
SBC		-1.741				-1.922	
DW		2.680				2.685	

Appendix 6.5: General-to-Specific Modelling: Denmark (cont)

Model 3	Model 3	Model 3	Model 3	Model 4	Model 4	Model 4	Model 4
CRPT	Coef.	p =	Beta	CRPT	Coef.	p =	Beta
CONS	11.37	0.02	.	CONS	10.20	0.01	.
CPT	-0.07	0.40	-0.46	CPT	-0.08	0.30	-0.52
CCP	...	...	...	CCP	...	...	...
CR	-0.71	0.03	-2.97	CR	-0.65	0.01	-2.72
GEP	-0.51	0.02	-1.72	GEP	-0.53	0.01	-1.78
PTN	-0.09	0.46	-0.22	PTN	...	...	...
PC	-0.34	0.11	-0.96	PC	-0.33	0.09	-0.92
LR	0.19	0.16	0.66	LR	0.24	0.06	0.80
CB	...	...	...	CB	...	...	...
NC	0.20	0.03	1.05	NC	0.18	0.01	0.93
CI	-0.28	0.04	-0.76	CI	-0.31	0.02	-0.82
CCR	0.59	0.02	1.05	CCR	0.57	0.01	1.02
ENT	0.10	0.13	0.37	ENT	0.09	0.11	0.34
SR	0.67	0.02	2.15	SR	0.68	0.01	2.19
R-sq		0.967				0.957	
Adj R Sq		0.847				0.851	
Pr (F-Stat)		0.056				0.024	
AIC		-2.666				-2.533	
SBC		-2.100				-2.014	
DW		2.723				3.219	

Appendix 6.5: General-to-Specific Modelling: Denmark (cont)

Model 5	Model 5	Model 5	Model 5	Model 6	Model 6	Model 6	Model 6
CRPT	Coef.	p =	Beta	CRPT	Coef.	p =	Beta
CONS	8.23	0.00	.	CONS	7.92	0.00	.
CPT	...	...	...	CPT	...	...	...
CCP	...	...	...	CCP	...	...	...
CR	-0.53	0.01	-2.20	CR	-0.42	0.01	-1.76
GEP	-0.55	0.00	-1.86	GEP	-0.51	0.00	-1.72
PTN	...	...	...	PTN	...	...	...
PC	-0.21	0.12	-0.60	PC	-0.14	0.29	-0.39
LR	0.23	0.06	0.78	LR	0.25	0.06	0.85
CB	...	...	...	CB	...	...	...
NC	0.17	0.01	0.89	NC	0.14	0.02	0.74
CI	-0.29	0.01	-0.77	CI	-0.28	0.02	-0.75
CCR	0.49	0.01	0.88	CCR	0.45	0.01	0.81
ENT	0.07	0.16	0.27	ENT	...	...	...
SR	0.76	0.00	2.44	SR	0.67	0.00	2.14
R-sq		0.940				0.910	
Adj R Sq		0.832				0.791	
Pr (F-Stat)		0.014				0.012	
AIC		-2.328				-2.058	
SBC		-1.856				-1.633	
DW		3.151				3.178	

Appendix 6.5: General-to-Specific Modelling: Denmark (cont)

Model 7	Model 7	Model 7	Model 7	Model 8	Model 8	Model 8	Model 8
CRPT	Coef.	p =	Beta	CRPT	Coef.	p =	Beta
CONS	7.55	0.00	.	CONS	9.03	0.00	.
CPT	...	...	...	CPT	...	...	...
CCP	...	...	...	CCP	...	...	...
CR	-0.32	0.00	-1.35	CR	-0.34	0.00	-1.43
GEP	-0.46	0.00	-1.56	GEP	-0.31	0.00	-1.03
PTN	...	...	...	PTN	...	...	...
PC	...	...	...	PC	...	...	...
LR	0.19	0.09	0.65	LR	...	...	...
CB	...	...	...	CB	...	...	...
NC	0.12	0.02	0.60	NC	0.11	0.04	0.57
CI	-0.30	0.01	-0.80	CI	-0.25	0.04	-0.66
CCR	0.37	0.01	0.66	CCR	0.43	0.01	0.77
ENT	...	...	...	ENT	...	...	...
SR	0.61	0.00	1.95	SR	0.40	0.01	1.27
R-sq		0.891				0.845	
Adj R Sq		0.782				0.729	
Pr (F-Stat)		0.006				0.007	
AIC		-1.994				-1.777	
SBC		-1.616				-1.446	
DW		2.808				2.523	

Appendix 6.6: General-to-Specific Modelling: Italy

Model 1	Model 1	Model 1	Model 1	Model 2	Model 2	Model 2	Model 2
CRPT	Coef.	p =	Beta	CRPT	Coef.	p =	Beta
CONS	-11.27	0.16		CONS	-10.94	0.10	.
CPT	0.58	0.15	0.41	CPT	0.59	0.09	0.42
CCP	-0.12	0.35	-0.26	CCP	....	....	....
CR	1.33	0.11	0.97	CR	1.08	0.05	0.78
GEP	0.17	0.19	0.26	GEP	0.17	0.15	0.26
PTN	0.66	0.24	0.47	PTN	0.79	0.14	0.57
PC	0.66	0.24	0.24	PC	0.60	0.22	0.22
LR	-2.05	0.12	-2.00	LR	-1.62	0.05	-1.59
CB	0.69	0.17	0.37	CB	0.68	0.12	0.37
NC	0.46	0.30	0.32	NC	0.31	0.39	0.21
CI	2.19	0.12	1.35	CI	1.72	0.05	1.06
CCR	0.39	0.23	0.25	CCR	0.38	0.20	0.24
ENT	-0.61	0.15	-0.66	ENT	-0.46	0.09	-0.50
SR	-3.70	0.06	-2.27	SR	-3.33	0.01	-2.04
			.				
R-sq		0.998				0.993	
Adj R Sq		0.972				0.950	
Pr (F-Stat)		0.125				0.042	
AIC		-2.328				-1.171	
SBC		-1.667				-0.557	
DW		2.388				3.190	

Appendix 6.6: General-to-Specific Modelling: Italy (cont)

Model 3	Model 3	Model 3	Model 3	Model 4	Model 4	Model 4	Model 4
CRPT	Coef.	p =	Beta	CRPT	Coef.	p =	Beta
CONS	-13.28	0.03	.	CONS	-15.64	0.01	.
CPT	0.69	0.03	0.48	CPT	0.55	0.05	0.39
CCP	...	...	...	CCP	...	...	...
CR	0.98	0.02	0.71	CR	1.18	0.01	0.86
GEP	0.19	0.07	0.29	GEP	0.16	0.13	0.25
PTN	1.09	0.01	0.78	PTN	1.05	0.01	0.75
PC	0.83	0.06	0.30	PC	0.85	0.08	0.31
LR	-1.36	0.02	-1.33	LR	-1.37	0.02	-1.33
CB	0.78	0.05	0.43	CB	1.08	0.01	0.59
NC	...	...	...	NC	...	...	...
CI	1.49	0.03	0.91	CI	1.53	0.03	0.94
CCR	0.37	0.17	0.24	CCR	...	...	...
ENT	-0.38	0.06	-0.41	ENT	-0.35	0.09	-0.38
SR	-3.25	0.00	-2.00	SR	-3.09	0.00	-1.90
R-sq		0.989				0.976	
Adj R Sq		0.947				0.917	
Pr (F-Stat)		0.012				0.008	
AIC		-0.839				-0.235	
SBC		-0.273				0.285	
DW		3.060				2.522	

Appendix 6.6: General-to-Specific Modelling: Italy (cont)

Model 5	Model 5	Model 5	Model 5	Model 6	Model 6	Model 6	Model 6
CRPT	Coef.	p =	Beta	CRPT	Coef.	p =	Beta
CONS	-16.85	0.01	.	CONS	-12.11	0.02	.
CPT	0.36	0.16	0.25	CPT	...	...	...
CCP	...	...	...	CCP	...	...	...
CR	1.09	0.02	0.79	CR	1.02	0.02	0.74
GEP	...	...	...	GEP	...	...	...
PTN	1.06	0.01	0.76	PTN	0.85	0.03	0.61
PC	1.19	0.03	0.44	PC	1.02	0.05	0.38
LR	-1.33	0.03	-1.30	LR	-1.65	0.01	-1.61
CB	1.03	0.02	0.56	CB	1.09	0.01	0.59
NC	...	...	...	NC	...	...	...
CI	1.67	0.03	1.03	CI	2.14	0.01	1.31
CCR	...	...	...	CCR	...	...	...
ENT	-0.39	0.11	-0.42	ENT	-0.54	0.03	-0.58
SR	-3.00	0.00	-1.84	SR	-3.29	0.00	-2.02
R-sq		0.955				0.929	
Adj R Sq		0.873				0.835	
Pr (F-Stat)		0.007				0.006	
AIC		0.277				0.586	
SBC		0.749				1.011	
DW		2.581				1.786	

Appendix 6.7: General-to-Specific Modelling: United States of America

Model 1	Model 1	Model 1	Model 1	Model 2	Model 2	Model 2	Model 2
CRPT	Coef.	p-val	Beta	CRPT	Coef.	p-val	Beta
CONS	3.86	0.93		CONS	3.31	0.90	
CPT	7.06	0.31	2.08	CPT	7.10	0.11	2.09
CCP	0.02	0.97	0.02	CCP	...	...	...
CR	-1.58	0.66	-0.52	CR	-1.54	0.48	-0.50
GEP	1.90	0.36	2.91	GEP	1.94	0.09	2.97
PTN	-0.86	0.58	-0.90	PTN	-0.89	0.31	-0.93
PC	1.38	0.51	1.34	PC	1.42	0.16	1.39
LR	-0.85	0.32	-0.60	LR	-0.85	0.12	-0.60
CB	-2.77	0.27	-1.38	CB	-2.76	0.08	-1.37
NC	2.58	0.30	2.14	NC	2.57	0.10	2.13
CI	-1.71	0.32	-4.07	CI	-1.72	0.11	-4.09
CCR	0.01	0.86	0.19	CCR	0.01	0.67	0.21
ENT	1.95	0.19	2.62	ENT	1.97	0.04	2.63
SR	-2.27	0.25	-2.07	SR	-2.29	0.05	-2.09
R-sq		0.984				0.984	
Adj R Sq		0.770				0.885	
Pr (F-Stat)		0.351				0.095	
AIC		-0.615				-0.746	
SBC		0.046				-0.132	
DW		1.771				1.809	

Model 3 CRPT	Model 3 Coeff.	Model 3 p-val	Model 3 Beta	Model 4 CRPT	Model 4 Coef.	Model 4 p-val	Model 4 Beta
CONS	12.68	0.33		CONS	27.11	0.03	.
CPT	6.55	0.04	1.93	CPT	3.39	0.02	1.00
CCP	...	...	...	CCP	...	...	...
CR	-2.27	0.07	-0.74	CR	-3.16	0.02	-1.03
GEP	1.79	0.03	2.74	GEP	1.15	0.03	1.77
PTN	-0.65	0.18	-0.67	PTN	...	...	...
PC	1.14	0.02	1.12	PC	0.83	0.02	0.81
LR	-0.94	0.03	-0.66	LR	-0.91	0.03	-0.65
CB	-2.76	0.03	-1.37	CB	-1.84	0.04	-0.91
NC	2.52	0.05	2.08	NC	1.34	0.03	1.11
CI	-1.58	0.05	-3.74	CI	-0.81	0.02	-1.92
CCR	...	...	...	CCR	...	...	...
ENT	2.01	0.01	2.70	ENT	1.75	0.01	2.34
SR	-2.27	0.02	-2.07	SR	-1.83	0.02	-1.67
R-sq		0.982				0.963	
Adj R Sq		0.914				0.872	
Pr (F-Stat)		0.025				0.018	
AIC		-0.767				-0.213	
SBC		-0.200				0.306	
DW		2.158				2.343	

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