

**The Law and Economics of Bargaining: An Examination of the Bargaining
Model Employed by South Africa's Truth and Reconciliation Commission**

Submitted by Jerrob Duffy
To the University of Cape Town
Faculty of Law
Higher Degrees Committee
For the degree of Master of Laws by Dissertation

University of Cape Town

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Authors Note

This paper represents work that is solely my own. I benefited from discussions, encouragement, and editing help from Dr. Don Ross of the UCT Philosophy Department, Dr. Anne Case of the Princeton University Woodrow Wilson School, and Sheila Roquitte, a staff member of the TRC.

Because the University of Cape Town, Faculty of Law has no enumerated style guideline, this Dissertation relies on the University of Chicago Manual of Style, and the Harvard Law School Blue Book citation method. It was prepared using the resources of the University of Cape Town and UNISA libraries which during 1997 did not provide access to online legal research methods such as Lexis or Westlaw for graduate students.

The paper was originally submitted to the Faculty of Law using A4 paper and formatting, in January, 1998. This final edition, incorporating comments from external reviewers, was printed in the United States using 8 1/2 inch by 11 inch paper, in August, 1998.

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Abstract

Transitional justice methodology has emerged as an alternative to traditional retributive justice schemes when political transitions necessitate an accounting for human rights violations during prior regimes. As regimes move from illiberal to liberal, post-transition justice methodology has developed from the restorative justice model to engender truth and reconciliation. These normative concepts have evolved into a policy of creating truth and reconciliation commissions that trade civil and criminal amnesty with applicants in exchange for information. This bargained-for exchange can be analysed as an imperfect information game, where the commission attempts to maximise information(truth) while the applicant seeks amnesty for the lowest possible price. The game is similar to other bargaining games in law and economics, specifically plea-bargaining and bid-rigging during government auctions. Applying lessons learned from these problems, and employing game-theoretic analysis, this dissertation analyses the Truth-Amnesty game and puts it squarely within the law and economics framework. The analysis demonstrates that to maximise information gathering given the truth-reconciliation trade-off, lexicographic ordering leads to an optimal Commission strategy.

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The Law and Economics of Bargaining: An Examination of the Bargaining Model Employed by South Africa's Truth and Reconciliation Commission

Jerrob Duffy*

I. Introduction

The historic approach of the Truth and Reconciliation Commission in South Africa in utilising a restorative model of criminal justice provokes new thinking in the areas of behavioural economics and criminology. The application of criminal justice in periods of political change presents numerous problems for a fledgling democracy. Chief among these is how to employ just, fair and effective methods for dealing with past abuses and criminal acts carried out with political motivation. Is a victor-vanquished model one that should be pursued, in which those currently in power try and punish past perpetrators, seeking to discover what has occurred in the past? Or, rather, should blanket amnesty be employed to further political or reconciliatory goals, such that past acts carry no criminal or civil liability with them? An international trend toward the use of transitional justice methodology has emerged in recent years to bridge these two goals.

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Specifically, a “truth and reconciliation” model has evolved.¹ South Africa’s post-apartheid transition is an example of this effort at transitional justice, in which a Truth and Reconciliation Commission balances the victor-vanquished search for truth and accountability with the amnesty model characteristic of efforts toward political cohesiveness and unity. Beyond the context of the post-apartheid unification and reconciliation process in South Africa, is the model one that should be employed elsewhere? Would actors in Albania, the former Yugoslavia or the former Zaire be well served to study how the Truth and Reconciliation Commission treats present amnesty applicants? Must current and future war criminals take pause at how their colleagues were dealt with by the TRC; or may they take solace in how past acts of brutality were allowed to rest?

The advent of the Truth and Reconciliation Commission in South Africa cannot be analysed outside the context of the negotiated settlement that saw the end of apartheid, an interim constitution, and the installation of democracy for a government of national unity. The Truth and Reconciliation Commission (TRC) was given several mandates in its creation—some formal, some less so.² It was to investigate gross abuses of human rights. It was to provide some answers to questions of victims and their families. It was to promote some level of racial healing and even, as its name suggests, reconciliation—an amorphous proposition to be sure. Balancing the various roles created a difficult task.

¹ See MARTIN WRIGHT, *JUSTICE FOR VICTIM AND OFFENDERS* (1991).

² See *The Promotion of National Unity and Reconciliation Act 34 of 1995*.

Simultaneously, the TRC had to investigate apartheid-era wrongs, adjudicate in some measure those wrongs, and even provide compensation for victims. Adding complexity was the newness of its mission, the institutional infancy of the organisation itself, and contrasting if not conflicting agendas on the part of its members, staff, and political progenitors. Setting aside issues of political motives, remorse, and rehabilitation—issues that led tangibly or intangibly to the framework's adoption—the question remains whether the bargaining methodology, as employed, is intellectually sound.

The role of the government in implementing social change, through particular criminal justice policies, has long been debated. Questions that immediately come to mind within the rubric of an empirical examination of the Truth and Reconciliation Commission's restorative justice model revolve around the topic of incentives—the incentives of behaviour. In a traditional criminal justice model, a retributive criminal process exists for coping with criminal acts. When one commits a crime, one is, or at least has an expectation of being, punished. Furthermore, a civil process exists whereby a victim may seek indemnification from the perpetrator of a crime. In this concept of justice, the motivation or incentive structure is fairly clear. There is a disincentive to commit crime given the criminal and civil penalties that are expected to follow. Graphically, one could chart the deterrence equilibrium, whereby the rewards to crime were listed on the x-axis, and the expectation of punishment on the y-axis. In equilibrium, a slope of one would signify this trade-off: a potential criminal could choose, via indifference curves, the level of reward/punishment to which she was indifferent.

A. Rational Choice as a Construct

We are used to thinking of criminal law as a method for governments to proscribe criminal behaviour and punish criminals. Western culture has long taken for granted the distinction between private and public wrongs, separating the law of torts from that of the criminal law. Alternative models must account for the incentives to commit crime and the disincentives to 'good' social behaviour. While the Truth and Reconciliation framework challenges earlier models and calls for examination of these issues, rational choice theory is one tool that can be brought to bear to examine this problem. As a theoretical tool of analysis, rational choice theory serves as a useful lens for examining individual behaviour within a given set of laws or government policy. Rational choice theory proposes to justify moral, political and legal norms or institutions by ensuring that they meet the demands of rationality defined in terms of individual interest. As Gerald Postema has recently concluded,³ the law and economics literature has come to view this

³ Gerald Postema, *Risks, Wrongs, and Responsibility: Coleman's Liberal Theory of Comutative Justice* (Book Review), 103 YALE L.J. 861, 863 (1993) (citing JULES L. COLEMAN, *RISKS AND WRONGS* 18-21 (1992)). In synthesizing Coleman, Postema finds that Coleman "says that rational choice theory seeks a 'nonnormative' foundation for moral and political institutions, but the foundation is not outside all normative principle. Rather, [Coleman] seeks "a grounding outside of reality, yet within reason." 103 YALE L.J. at 863 n.6 (citing COLEMAN (1992), at 45).

interest-based notion of rationality within a two-pronged framework: (a) a norm is collectively rational if and only if it is Pareto optimal,⁴ enabling persons constrained by it to exploit the full welfare-enhancing potential of their interaction; and (b) a norm is collectively rational for any agent governed by it if and only if it is welfare-enhancing, or not welfare-decreasing, for that agent.⁵ Conversely, the traditional liberal principle, according to Postema, holds that norms or institutions that regulate individual conduct, or affect individual well-being, are valid only if they can be justified to each individual affected.⁶ In the context of a post-illiberal regime transition, where collective justice or group outcomes are raised above individual outcomes, a tension is created. Efforts to get individual actors to admit to commission of wrongs which would otherwise be punishable must overcome the welfare component of rational choice analysis. That is, an individual contemplating an application before the TRC must find (1) that such action is an efficient use of time, resources, etc; and (2) will either bring greater expected benefit or less harm to that individual than will any other alternative possibility. This analysis requires

⁴ Pareto optimality refers to the concept that resources are allocated such that no individual can be made better off without making another worse off.

⁵ See Jules L. Coleman, *Tort Law and the Demands of Corrective Justice*, 67 IND. L.J. 349, 351 (1992).

⁶ Gerald J. Postema, *Public Practical Reason: An Archaeology*, 41 SOC. PHIL. & POL. 1 (1995).

several assumptions, but it is possible to posit that rational choice analysis (a) only recognises arguments that are articulated in terms of promoting the interests of individuals, and (b) requires that the norm or institution work to the expected advantage of each individual affected. It can be seen from this brief sketch that rational choice provides several points of insight into the issues of pre-behaviour decision-making, i.e., the decision to commit illegal behaviour in the first place. So too can the theory be applied to the pre-amnesty application decision-making. This dissertation, however, will focus on the applicant's post-act (human rights violation) behaviour, where interaction with the Commission is contemplated once such violation has occurred, and once the rules of the strategic interaction have been put in place by political decision-makers. Because these incentive structure issues are directly related to the amount of information applicants will provide, analysing an applicant's incentives is useful to achieve the presumed goal of maximisation of information. Using some method of analysis is therefore required, and strategic bargaining methodology, which has been employed in other areas of legal decision making, provides a framework for analysis.

Embedded in the Truth and Reconciliation Commission agenda rests a question that has not been previously examined—how should the amnesty decision-making bargain take place? If the decision to grant criminal and civil indemnity to applicants for past crimes and acts involves a strategic bargain, how can the Commission ensure the interaction will capture as much truth as possible? This dissertation will examine these questions by employing economic and legal analysis in a fashion that has not before been used in the amnesty context—through the lens of bargaining methodology; specifically this dissertation shall employ game-theoretic concepts within a rational choice

framework. While the dissertation will examine certain elements of the South African Truth and Reconciliation Commission's interaction with applicants, it will not attempt an *ex post* analysis of the extent to which the TRC was successful in fulfilling its mandate. Rather, an examination of the model itself and the strategic methodology employed will occur, and this will attempt to put the South African experience within a context to which future governments may look. Furthermore, the dissertation will attempt to analyse the mechanics of bargaining games, which occur frequently in legal structures outside of the amnesty context, so as to elucidate the incentive structure issues that each player in the interaction faces. This post-regime transition interaction is one which countries besides South Africa have used, and may be expected to use in the future—following wars, the collapse of violent regimes, and other similar political watersheds. Therefore, these transitional frameworks occur where actions of individuals must be institutionally judged, but where the actions in question were not against formal law in place at the time of their commission. Mechanisms such as the TRC are legally peculiar, and hence interesting from a theoretical perspective, because they lie within the murky area between statutory and natural law. If a truth and reconciliation scheme is contemplated for future political transformations, policy makers must consider the mechanics of the information bargain. Finally, game theory is an economic tool that has not before been applied to the amnesty process, and the research design methodology contemplated here should be a useful starting point for further analysis.

B. Interaction as a Bargaining Game

The interaction between the Truth and Reconciliation Commission and applicants can be seen as a bargained-for exchange, or, in contemporary theoretical parlance, a game. In exchange for some quantity of truthful, usually politically and/or legally sensitive, information from an applicant, the Commission is prepared to trade amnesty. Information in this context must be thought of as a commodity which can be provided on a continuum which ranges from a level between no information, or zero percent, and complete information, or one hundred percent of the relevant information possessed by the applicant. The Commission would like to maximise truth, but so too does it desire to create reconciliation.⁷ Because the transitional criminal sanction is a fairly new phenomenon, it would be contrary to the Commission's mandate to strike too hard a bargain, resulting in large numbers of applicants being referred for criminal prosecution. Alternatively, it would be less than desirable to overemphasise reconciliation by requiring too little truth and moving toward a "blanket amnesty" scheme. Because of this truth/reconciliation trade off, the Commission will, as in South Africa's case, not wish to make the best the enemy of the good, and will therefore accept some level of information from the information continuum which yields less than one hundred percent yet greater than zero information. This threshold level, t , may be thought of as its 'reservation price,'

⁷ This, in the jargon of economics, means the Commission's utility function bounded by the requirement that its inquiry process generate at least some minimal level of reconciliation.

to use the parlance of economics. Thus for some threshold level of truth, t , amnesty will be given and below this level, amnesty will be denied.

The applicant is assumed to desire amnesty, but for the lowest 'information price' possible. This assumption can be made because information—in this sense—is assumed to be a commodity, and therefore applicants do not provide it for free. Factors such as an acceptable level of risk, the degree to which the act was politically motivated, and the applicant/commission incentive alignment all affect this determination. A distribution across all applicants would likely yield some who are completely willing to cooperate, and others who are unwilling to cooperate at all. But the analyses here will focus on those applicants who fall within the mid-range of the continuum, because it is their information offers which are most malleable. Within this range, the level of risk a given applicant assigns to a denial of amnesty will obviously vary, resulting in some applicants cooperating with the Commission more than others.⁸ In cases where applicants are willing to fully cooperate, or are not willing to cooperate at all, the Commission's strategy will not much effect the amount of information elicited. However, these differences can be set aside by assuming that all applicants desire amnesty, but wish to exchange for it as little information as possible. Therefore, the applicant will give information up to point t , but insofar as able, will give no more. The major factor in determining an applicant's strategy, on which this analysis will focus, is the amount of information the applicant has regarding the Commission's reservation price t . As the

⁸ *Id.* at 42-43.

degree of information required for amnesty becomes clearer, and information about the Commission's strategy not previously available to the applicant is factored into the game, the applicant will modify her information offer to get as close as possible to t . Movement of information through the dynamics of the game influences the set of equilibrium strategies available to both applicants and to the Commission.

Game-theoretic analysis of the truth-for-amnesty exchange is useful because it gives an upper bound on the truth-reconciliation trade-off. How much information can the Commission require before it begins losing reconciliation?⁹ By setting up the problem in this way, it is not necessary to assume that information and reconciliation are mutually exclusive. One of the basic political assumptions behind the establishment of the TRC was that information gathering might in and of itself bring reconciliation. The crucial issue here is that at some very high threshold of information required for amnesty, so few amnesties will be granted that the truth-for-amnesty model collapses into a victor-vanquished model. Therefore, the question that must be asked is how "high" can the truth bar be pushed? Or, put another way, how much truth are policy makers willing to demand before the goal of reconciliation is unacceptably compromised? In Chile, blanket amnesties were given to those who had committed atrocities during the pre-liberal regime—placing an overwhelming value on reconciliation.¹⁰ While, the Chilean

⁹ See *infra* section IV.

¹⁰ See HUMAN RIGHTS WATCH—AMERICAS, *UNSETTLED BUSINESS: HUMAN RIGHTS IN CHILE AT THE START OF THE FREI PRESIDENCY* (1994). The effort during 1997 at

government did not freely choose this valuation, the Chilean case differed from the South African one in that the former regime continued to possess a monopoly on the means of force following the transition, and could thus demand, and enforce, the policy of blanket amnesty grants. In the Nuremberg trials,¹¹ on the other hand, criminal prosecutions were used as a means of learning what had occurred and punishing perpetrators; truth was paramount and reconciliation, or at least the 1990's construction,¹² was not a relevant parameter.¹³ Instead, it was plausibly supposed that attributing blame for atrocities on

instituting a transitional justice mechanism in Rwanda demonstrates the difficulty of balancing these competing forces. *See, e.g.,* James C. McKinley, Jr., *New Rwanda Killings Defy Attempts at Ethnic Healing*, NY TIMES, Dec. 13, 1997, at A7. The Rwanda case demonstrates, among other things, the difficulty in healing ethnic and racial divisions. *See, James C. McKinley, Jr., At Least 231 Killed in Attack on Tutsi Refugee Camp*, NY TIMES, Dec. 12, 1997, at A3, *Massacre Trials in Rwanda Have Courts on Overload*, NY TIMES, Nov. 2, 1997, at A9.

¹¹ *See* TELFORD TAYLOR, THE ANATOMY OF THE NUREMBERG TRIALS (1992).

¹² The origins and merits of the transitional criminal sanction are discussed in depth by Ruti Teitel, *Transitional Jurisprudence: The Role of Law in Political Transformation*, 106 YALE L.J. 2009, 2048-49 (1997). *See generally* H.L.A. HART, PUNISHMENT AND RESPONSIBILITY 165-69 (1968).

¹³ One author has concluded that conflicting views of justice in South Africa must be

selected individuals among the vanquished could foster reconciliation between the victors and the vanquished population as a whole; thus the trade-off made in South Africa was avoided.

This dissertation will give background on the South African TRC and its political context, introduce the law and economics of bargaining, explain the use of game theory as a tool for understanding bargaining, and model the equilibrium strategies of the applicant and Commission. Part II of this dissertation will sketch the South African political context that gave rise to the transitional justice regime and the use of a Truth and Reconciliation Commission. It will then place the effort within the restorative and transitional justice methodology that has emerged during the last several decades. Part III will introduce and discuss the use of economics to analyse legal problems. After examining property and liability frameworks, it will examine plea bargaining and government auction problems to demonstrate their usefulness for examining the truth-for-amnesty bargain. Moreover, this part will break down game theory for the reader to provide necessary background for understanding modelling. Imperfect information games, strategies and equilibria will be examined. It will also cover the major

reconciled with truth, but that paramount is the need to uncover “buried history.”

Jeremy Sarkin, *The Trials and Tribulations of South Africa's Truth and Reconciliation Commission*, 12 S. AFRICAN J. HUM. RTS. 617, 640 (1996). For discussion of the relevant limitations of rights discourse on reconciliation, see Makau wa Mutua, *Hope and Despair for a New South Africa: The Limits of Rights*, 10 HARV. HUM. RTS. J. 63, 72 (1997).

assumptions of game theory, the concepts of ordinal, cardinal, expected utility, and sequential equilibria. Having provided this background, this part will then more formally define a game and its elements with the use of mathematics, following the standard game theory literature. Part III will conclude with a discussion of the problems of applying game theory to non-empirically testable phenomena and note some of the criticisms of the application of game theory that have been made in the past. Part IV will formally present the Truth-Amnesty game, with attention to the Commission and applicant payoff functions. This part will also give the extensive form of the game, and a mathematical representation of non-cooperative bargaining. Part IV will conclude with three case studies of applicants, or groups of applicants, and demonstrate how additional information could have been obtained by deploying these strategies. The dissertation will conclude with policy recommendations to be taken from game-theoretic analysis and suggest directions for further research.

II. South Africa's Negotiated Settlement: Transitional Justice and Creating the Truth and Reconciliation Commission

The formation of the Truth and Reconciliation Commission in South Africa represents a shift away from the traditional retributive justice methodology and instead embraces a restorative model of political transformation. This section will give historical background on the TRC amnesty process and place the TRC methodology into that theoretical framework.

A. Statutory and Historical Framework for the TRC Amnesty Process

South Africa's truth and reconciliation amnesty application process has its origins in the negotiated settlement that brought about the end of minority rule.¹⁴ For more than 40 years before this transition, South Africa had been governed by a repressive government in which a national policy of apartheid meant that non-whites could not vote, did not have full rights of citizenship and were subject to acts of brutality as the state engaged in armed struggle with the ANC and other anti-government forces. During the late 1980s and early 1990s international pressure, internal strife and changed political and

¹⁴ Its statutory roots can be found in the Provisional Constitution of 1993. Act 200 of 1993 [CONST.]. See *Certification of the Amended Text of the Constitution of the Republic of South Africa*, 1996 (4) AS 744 (CC) (Case 37/96, Dec. 4, 1996) (visited Feb. 20, 1997).

economic conditions made the situation increasingly untenable for the government. A series of negotiations between the ANC-led anti-government coalition, and the governing National Party took place leading to the first democratic elections in 1993.¹⁵ As the National Party prepared to relinquish power and to begin the process of democratisation by dismantling the apartheid state, and the ANC-led opposition prepared to assume leadership of the country, debate over the appropriate transitional justice framework developed into the proposed Truth and Reconciliation Commission to deal with past abuses and criminal acts.¹⁶ Accordingly, the Constitution contains an epilogue entitled "National Unity and Reconciliation," which provides in pertinent part:

In order to advance . . . reconciliation and reconstruction, amnesty shall be granted in respect of acts, omissions and offences associated with political objectives and committed in the course of the conflicts of the past. To this end, Parliament under this Constitution shall adopt a law determining a firm cut-off date . . . and providing for the mechanisms, criteria and procedures, including tribunals, if

¹⁵ See, ALISTAIR SPARKS, *TOMORROW IS ANOTHER COUNTRY* 168 (1996), NELSON MANDELA, *LONG WALK TO FREEDOM* 527-35 (1994). For a brief description of the history, purpose, structure, and mandate of the Truth Commission, see MINISTRY OF JUSTICE (JUSTICE IN TRANSITION), *ASSESSING THE TRUTH AND RECONCILIATION COMMISSION* (1995).

¹⁶ P. Gobodo-Madikizela, *On Reconciliation and Reflecting on the Truth Commission*, available electronically at [Http://www.truth.org.za](http://www.truth.org.za)

any, through which such amnesty shall be dealt with at any time after the law has been passed.¹⁷

The 1993 Constitution was an interim one.¹⁸ On December 4, 1996, the Constitutional Court certified the text of the new constitution.¹⁹ South Africa's new constitution took effect on February 4, 1997.²⁰

Pursuant to the epilogue of the Constitution, Parliament enacted the Promotion of National Unity and Reconciliation Act in 1995.²¹ The Act established the Truth and Reconciliation Commission to reach the goal of national unity by "establishing as complete a picture as possible of the causes, nature and extent of the gross violations of human rights" that occurred during the institution of apartheid.²² The enabling legislation required the Commission to facilitate "*the granting of amnesty to persons who make full disclosure of all the relevant facts relating to acts associated with a political objective.*"

¹⁷ Act 200 @ 3(1).

¹⁸ The 1993 Constitution was an interim one by design, and allowed for a Constitutional Assembly to be formed after the first general elections in 1994.

¹⁹ For text of the South Africa Constitutional Court opinion, see <http://sunsite.wits.ac.za>.

²⁰ See *South Africa's New Constitution Takes Effect Today*, Africa News Service, Feb. 4, 1997, available in Lexis, News Library.

²¹ Act at § 3(1).

²² *Id.*

²³ In service of this aim, the Act established the Committee on Amnesty, a group empowered to grant amnesty for any act, omission or offence, provided that an applicant (1) fully disclosed all relevant facts pertaining to a rights violation, and (2) that the transgression be found to have been associated with a political objective, as defined by the Act.²⁴ The language of section 20(7) of the Act provides for abrogation of liability:

No person who has been granted amnesty in respect of an act, omission or offence shall be criminally or civilly liable in respect of such act, omission or offence and no body or organisation or the State shall be liable, and no person shall be vicariously liable, for any such act, omission or offence.²⁵

Archbishop Desmond Tutu was selected to head the Commission,²⁶ and was given wide latitude in selecting commissioners and appointing staff of the newly created organisation.²⁷ Commissioners on the Amnesty Committee came from different ends of

²³ *Id.* @ 3(1)(b).

²⁴ Act @ 20(7). See, Andre Du Toit, *No Rest Without the Wicked: Assessing the Truth Commission*, 14 INDICATOR SOUTH AFRICA 1 (1997). Suzanne Daley, *Panel to Investigate Atrocities of the Apartheid Era*, N.Y. TIMES, Aug. 27, 1995, at A3.

²⁵ *Id.*

²⁶ *Id.* at § 3(1)(b).

²⁷ See P. Gobodo-Madikizela, *supra*; Suzanne Daley (Aug. 27, 1995), *supra*. The Commission held its first hearings in June, 1996. As of January, 1998, hearings

the political spectrum and had varied backgrounds.²⁸ The Commission held its first hearings in June, 1996.²⁹ Over 8,000 amnesty applications were received by the May, 1997 deadline.³⁰

B. Transitional Justice as Restorative Justice

The emergence of the transitional criminal sanction in periods of political change is illustrated in recent history, for example by the post-World War I trials,³¹ the post-

continued.

²⁸ See Andre Du Toit, *No Rest Without the Wicked: Assessing the Truth Commission*, 14 INDICATOR SOUTH AFRICA 1 (1997).

²⁹ See Reuters, *South Africa's Truth Commission Begins First Hearings*, April 15, 1996 (available in Lexis News file).

³⁰ See, *8,000 South Africans Apply for Amnesty*, REUTERS NEWS SERVICE, May 11, 1997 (available in Lexis/Nexis news file).

³¹ Post-World War I trials, which followed a retributive justice framework, took place in Turkey and Germany. As one author has concluded:

The post-World War I trials in Turkey, as well those in Germany, reveal the futility of trusting domestic processes to obtain retribution for state-sanctioned crimes against humanity. The courts martial in Turkey are notable in that they documented the crime of organized mass murder against the Armenians. These trials, however, resulted in only a small number of convictions under Turkish penal law. The political upheaval attending Turkey's response to military defeat impaired, and ultimately

World War II cases, the post-military trials of Southern Europe, as well as contemporary successor criminal justice in Latin America.³² The emergence of the transitional criminal sanction in periods of political flux presents an alternative to the complete waiver of punishment. South Africa's decision to employ an amnesty framework is characteristic of a paradigm shift away from traditional jurisprudence methodology in favour of a transitional criminal sanction. An analysis of the truth-for-amnesty exchange would be incomplete without some mention of the normative goals underlying this new methodology.³³ In the ordinary understanding of criminal justice, identifying and establishing wrongdoing and penalties are generally conceived as a unitary practice, but

destroyed, the judicial proceedings' effectiveness. The Kemalist regime that eventually gained power in post-[World War I] Turkey successfully relied on principles of national sovereignty to reject the authority of the European Powers to intervene in the trials.

Vahakn N. Dadrian, *Genocide as a Problem of National and International Law: The World War I Armenian Case and its Contemporary Legal Ramifications*, 14 YALE J. INT'L L. 221, 226-27 (1989).

³² See generally, Priscilla Hayner, *Fifteen Truth Commissions—1979 to 1994: A Comparative Study*, 16 HUM. RTS. Q. 597 (1994).

³³ See Hayner, *supra*. For additional presentation of the transitional sanction debate in the South African context, see Lourens du Plessis, *Amnesty and Transition in South Africa*, in *DEALING WITH THE PAST: TRUTH AND RECONCILIATION IN SOUTH AFRICA* 107 (Alex Boraine, Janet Levy & Ronel Scheffer, eds., 1994).

in the criminal sanction's transitional form these elements become detached from one another.³⁴ The partial criminal process, emphasising prosecution over punishment, distinguishes the transitional criminal sanction from more traditional justice frameworks.³⁵ The transitional criminal sanction prosecutes past wrongs but does not necessarily culminate in individual statutory punishment.³⁶ The concept of a "transitional sanction" has existed for some time, even if it has not been implemented until recently.³⁷ In South Africa, transitional justice methodology was explicitly acknowledged as an influential framework by TRC chairperson Tutu.³⁸

The effort to find an alternative to traditional justice can be placed within the "restorative justice" methodology that has evolved over the last several decades. The

³⁴ See Teitle, *supra*, at 2048-49.

³⁵ See Teitel, *supra*, at 2051 & n.172.

³⁶ See David Pion-Berlin, *To Prosecute or to Pardon? Human Rights Decisions in the Latin American Southern Cone*, 16 HUM. RTS. Q. 105 (1994).

³⁷ See Robert Wilson, *Manufacturing Legitimacy: The Truth and Reconciliation Commission and the Rule of Law*, 13 INDICATOR SOUTH AFRICA 1 (1995).

³⁸ Desmond Tutu, *Archbishop Tutu's Message*, TRUTH TALK (official newsletter of the Truth and Reconciliation Commission) Vol.1, No.1, Nov. 1996, at 1 (available electronically at <http://www.truth.org.za/>).

term “restorative justice” was seemingly coined by Albert Eglash,³⁹ who suggested that there are three types of criminal justice: retributive justice based on punishment, distributive justice based on therapeutic treatment of offenders, and restorative justice based on restitution.⁴⁰ Both the punishment and the treatment model, he noted, focus on the actions of offenders, deny victim participation in the justice process, and require merely passive participation by the offender.⁴¹ Restorative justice focuses instead on the harmful effects of offenders’ actions and actively involves victims and offenders in the process of reparation and rehabilitation.

Beyond post-illiberal regime transition, restorative justice methodology has been applied to various elements of criminal justice administration throughout the world. Victim-offender mediation, offender restitution schemes, reconciliation clinics and other alternatives to traditional methodology have supplanted traditional sentencing in New Zealand, Australia, and Scandinavia, among other nations.⁴² Underlying these efforts at moving away from retributive justice is the idea that “crime is a violation of people and relationships. It creates obligations to make things right. Justice involves the victim, the

³⁹ Albert Eglash, *Beyond Restitution*, in RESTITUTION IN CRIMINAL JUSTICE 91, 92 (Joe Hudson & Burt Galaway, eds., 1977).

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² See Conference Report, *Reform of the Criminal Law*, 1 CRIM. L.F. 91 (1989).

offender, and the community in search for solutions which promote repair, reconciliation, and reassurance.”⁴³ As influential criminologist Stanley Cohen has written, a restorative justice framework for confronting abuses in previous regimes requires attention be given to five elements: (1) truth: establishing and confronting the knowledge of what happened in the past; (2) justice: making offenders accountable for their past violations through three possible methods: punishment through the criminal law, compensation and restitution, and mass disqualification such as lustration; (3) impunity: giving amnesty to previous offenders; (4) expiation; and (5) reconciliation and reconstruction.⁴⁴

The effort at creating a transitional sanction mechanism, then, is an effort at fulfilling these five goals. It is one that, in South Africa, took place in the context of a

⁴³ Howard Zehr, *CHANGING LENSES: A NEW FOCUS FOR CRIME AND JUSTICE* 181 (1990).

Martin Wright, another influential criminologist, agrees, noting that the new model is one

in which the response to crime would be, not to add to the harm caused, by imposing further harm on the offender, but to do as much as possible to restore the situation. The community offers aid to the victim; the offender is held accountable and required to make reparation. Attention would be given not only to the outcome, but also to evolving a process that respected the feelings and humanity of both the victim and the offender.

MARTIN WRIGHT, *JUSTICE FOR VICTIMS AND OFFENDERS* 112 (1991).

⁴⁴ Stanley Cohen, *State Crimes of Previous Regimes: Knowledge, Accountability, and the Policing of the Past*, 20 *L. & SOC. INQUIRY* 7 (1995).

regime change, which itself was a negotiated settlement. Therefore, any critique of the theoretical shortcomings—to the extent they exist—of South Africa’s TRC must be made with these limitations in mind. Former opposition forces preparing to take power had to balance the ideal form of the transitional justice framework, with the reality of negotiating while still out of power. Thus the choice to embrace the truth and reconciliation model was an explicit choice to pursue a restorative justice model, even if the form of the model eventually agreed upon had theoretical shortcomings because it was a negotiated one.

While the philosophical and political motives underlying transitional sanction methodology are relatively clear, very little discussion of the efficacy of these processes has occurred in the jurisprudence literature. One question commonly asked in law is how does partial punishment lead to the common perception that justice was done even where the transitional criminal sanction is used? Ruti Teitel has addressed this question within the transitional justice framework.⁴⁵ According to Teitel, ordinarily, the criminal sanction is justified by identifying and punishing individual offenders, while the limited criminal sanction is largely justified by distinctly transitional purposes.⁴⁶ These transition-related purposes are both backward and forward looking in nature. In successor trials in periods of political change, the criminal process condemns past

⁴⁵ Ruti Teitel, *supra*, 2015-2022.

⁴⁶ *Id.* at 2019.

wrongdoing.⁴⁷ Formal criminal processes enable fact-finding about past wrongdoing at a high standard of certainty. In periods of substantial political change, the heuristic purposes of the criminal investigation relate to the prosecution of offences with a public dimension.⁴⁸ Such trials clarify the criminal actions perpetrated under the prior regime.⁴⁹ This knowledge about the past is often constructed for the first time in the context of the criminal trial. Identification and documentation of predecessor crimes, even where not fully individuated, enable the denunciation of the prior regime as the society has to understand what happened before it can condemn and delegitimize.⁵⁰ Furthermore, establishing knowledge of past actions committed under colour of law and its public

⁴⁷ *Id.*

⁴⁸ See generally the essays collected in *STATE CRIMES: PUNISHMENT OR PARDON* (Alice H. Henkin ed., 1989).

⁴⁹ On the transitional justice debate in South Africa, see I. Liebenberg, *Nation-Building and Community Reconciliation in an Embattled South African Society*, in *DEMOCRATIC NATION-BUILDING IN SOUTH AFRICA* (N. Rhodie and I. Liebenberg, eds., 1994).

⁵⁰ See Carlos S. Nino, *The Duty to Punish Past Abuses of Human Rights Put Into Context: The Case of Argentina*, 100 *YALE L.J.* 2619 (1991).

construction as wrongdoing is the necessary threshold to prospective normative uses of the criminal law.⁵¹

At the heart of the transitional justice process lies a philosophical genesis in the way in which one thinks about criminal justice, fairness, and the proper role of government in political transition. The use of a transitional justice mechanism to balance procedure with healing is characteristic of a normative shift in how societies think about justice generally, and policies of immunity, indemnity and amnesty specifically.⁵² South Africa's decision to employ an amnesty framework is characteristic of a paradigm shift away from traditional jurisprudence methodology in favour of the transitional criminal sanction. An analysis of the truth-for-amnesty exchange would be incomplete without some mention of the normative goals underlying this new methodology.⁵³ In the ordinary understanding of criminal justice, identifying and establishing wrongdoing and penalties

⁵¹ Teitel, *supra*, at 2050.

⁵² See Jose Zalaquett, *Balancing Ethical Imperatives and Political Constraints*, 43 HASTINGS L.J. 1425 (1992).

⁵³ See generally, Priscilla Hayner, *Fifteen Truth Commissions—1979 to 1994: A Comparative Study*, 16 HUM. RTS. Q. 597 (1994). For presentation of the transitional sanction debate in the South African context, see Lourens du Plessis, *Amnesty and Transition in South Africa*, in DEALING WITH THE PAST: TRUTH AND RECONCILIATION IN SOUTH AFRICA 107 (Alex Boraine, Janet Levy & Ronel Scheffer, eds., 1994).

are generally conceived as a unitary practice, but in the criminal sanction's transitional form these elements become detached from one another.⁵⁴ The partial criminal process, emphasising prosecution over punishment, distinguishes the transitional criminal sanction from more traditional justice frameworks.⁵⁵ The transitional criminal sanction prosecutes past regime wrongs but does not necessarily culminate in individual culpability and punishment.⁵⁶ The concept of a "transitional sanction" has been around for some time, even if it has not been implemented until recently.⁵⁷

While informing the decision whether to employ the transitional criminal sanction framework, very little in the literature discusses the efficacy of these processes. Details

⁵⁴ This question was so framed by Teitel, *supra*, at 2051. On the punishment/impunity debate in South Africa, see generally the essays collected in N. Rhodie and I. Liebenberg, eds., *DEMOCRATIC NATION-BUILDING IN SOUTH AFRICA* (1994).

⁵⁵ See Teitel, *supra*, at 2051 & n.172.

⁵⁶ See David Pion-Berlin, *To Prosecute or to Pardon? Human Rights Decisions in the Latin American Southern Cone*, 16 *HUM. RTS. Q.* 105 (1994).

⁵⁷ This is one construction of the TRC process in South Africa provided by Archbishop Desmond Tutu. Desmond Tutu, *Letter to the Editor*, *SUNDAY TIMES (SOUTH AFRICA)*, Dec. 4, 1996, at A18. Available electronically at <http://www.truth.org.za>. See also, Robert Wilson, *Manufacturing Legitimacy: The Truth and Reconciliation Commission and the Rule of Law*, 13 *INDICATOR SOUTH AFRICA* 1 (1995).

regarding implementation of transitional justice schemes have been given scant attention. While it is useful to acknowledge the integral relationship of the sanction and its philosophical underpinnings, it is important to realise that in South Africa, or any other state contemplating such deployment, the transitional justice methodology is only as good as it is implemented.⁵⁸

Because so many obstacles hinder effective implementation, including the newness of mission, disparate agendas of staff, and agency problems, to name but a few, some focus on implementation is warranted. These structural issues are important and deserve mention, but additional research would be required to adequately address them. Theoretical analysis of the bargained-for interaction would be strengthened through such an examination of the implementation scheme. Instead of doing this, however, this dissertation will endeavour to derive constraints on the strategy of a transitional sanction agency, as these follow purely from the logic of information flow within the game. Therefore, conclusions about the strategic interaction would apply even to a perfectly designed implementation scheme. The next section will begin the discussion of the use of economics to analyse legal problems.

⁵⁸ See generally H.L.A. Hart, PUNISHMENT AND RESPONSIBILITY (1968).

III. Use of Economics to Understand Legal Phenomena

This part and the next will outline the basic features of the theoretic approach most frequently used in law and economics to analyse bargaining. The survey is necessarily incomplete; however, a basic familiarity with the approach is a prerequisite for the specific discussions of Part IV.

A. Rational Choice Models in Law and Economics

Economic analysis of legal problems has existed for centuries. In the past two decades, it has become a widely accepted theoretical device for gaining a deeper understanding of legal rules, their consequences, and the relative merits of possible alternatives. In the economic approach to law, legal rights are presumed to be devised, in part, to overcome the conditions under which markets fail. In anticipating (or correcting for) market failure, economic analysis endorses two rules for assigning legal rights, both of which fall under the general umbrella of “rational choice.”⁵⁹ The first of these rules, according to the philosopher Jules Coleman, specifies the allocation of rights under conditions of rational cooperation, full information and zero transaction costs.⁶⁰ Provided that exchange is available and that obstacles to its exercise are insignificant, rational co-operators will negotiate around inefficiencies. Under these conditions, legal rights are

⁵⁹ See JULES COLEMAN, *MARKETS, MORALS, AND THE LAW* (1988), *supra*, at 28-29.

⁶⁰ *Id.*

not assigned in order to establish optimal levels of resource deployment directly; rather, they establish well-defined entitlements or negotiation points which create a framework in which mutually advantageous bargains leading to optimal outcomes can be realised.⁶¹ This role of legal rights in securing optimal outcomes is suggested by the Coase theorem, which is discussed, *infra*.

The second rule, according to Coleman, for assigning legal rights specifies the procedures to be followed in the event the conditions of full information, rational cooperation and zero transaction costs are inadequately satisfied. Where impediments to successful negotiations are substantial, inefficiencies in the initial allocation may not be overcome through mutually advantageous exchange. Unable to rely upon the exchange process to overcome inefficiencies, a court or decision-making body must allocate entitlements efficiently from the outset. In doing so, the court continues to rely upon the exchange process, though in a different manner. Instead of relying upon exchange to rectify inefficiencies, including inefficient judicial decisions, the court relies upon the market paradigm to help it identify the efficient outcome it seeks to replicate.⁶²

It is common to identify as a market a system in which actors' transactions are limited by their available resources, and by the legal rules that enforce deals once struck, and prevent them from having severe effects on third parties. It is therefore possible to

⁶¹ *Id.*

⁶² See Frank Easterbrook, *Criminal Procedure as a Market System*, 12 J. LEGAL STUD. 289, 291 (1983).

view the Truth and Reconciliation Commission's interaction with applicants in which truth is traded for amnesty, as a form of market system. Once the statute has been put in place, the level of truth required for amnesty sets the "price" for the crime (or act previously committed). When the applicant and the Commission fail to come to terms, that is, fail to reach a bargained-for exchange, "regulatory failure" occurs. Whereas in the commercial arena, "market failure" occurs when a merchant and a customer fail to reach a bargain over the purchase of a good. One example is a potential customer's decision whether to purchase a bottle of wine from a merchant. To illustrate, assume that prior to this potential sale, a customer enters the store with 100 rands in her pocket, and is willing to spend up to but no more than ninety of those rands for a particularly rare bottle on offer. Conversely the merchant is willing to sell the bottle for a minimum of eighty rands, but would like to get ninety or more. In the absence of other transaction costs, there are ten rands of potential surplus that can be divided between them. Various legal and regulatory policies can affect how that surplus is divided (how taxes are allocated, for example). Similarly, if an applicant before the Commission is willing to give up to, but no more than ninety percent of the total information she has available, and the Commission is willing to grant amnesty for eighty percent of what it (accurately) believes the applicant possesses, then in the absence of transaction costs a ten percent surplus can be divided between them. In this way, understanding the rules of bargaining can shed light on the truth-for-amnesty exchange. One seminal concept in the legal analysis of law is how different property or liability rules can govern this type of transaction.

1. Property Rules vs. Liability Rules

Many prominent contributions to the economic analysis of law suggest how substantive entitlements affect strategic behaviour. Calabresi and Melamed's distinction between liability and property rules is the classic illustration.⁶³ They observed that a particular legal entitlement, such as the right to undisturbed enjoyment of land, could be protected in at least two ways. If the entitlement is protected only by a liability rule, anyone has the legal power, if not the right, to violate it provided they pay damages in compensation.⁶⁴ Thus the wine customer in the above example could, if governed only by liability rules, walk in to the store and take the bottle without paying the list price so long as she were willing to pay damages subsequently. In contrast, when an entitlement is protected by a property rule, no one has the power to violate it without first obtaining the permission of the holder. Criminal or equitable sanctions, effectively requiring that permission to make use of the entitlement be obtained in a voluntary exchange might enforce such a rule. It follows that the wine customer would therefore not be able to simply walk in to the store, take the bottle, and await the compensatory judgment levied against her. Instead, facing possible criminal sanctions, she would be forced to either bargain with the merchant to consummate the sale or shop elsewhere.

⁶³ See, Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972).

⁶⁴ For further analysis, see Ian Ayres and Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade*, 104 YALE L.J. 1027, 1047 (1995).

Calabresi and Melamed argued that choice among these alternatives both influences and depends on private bargaining.⁶⁵ The different rules alter the threats and offers available to the parties. Under a liability rule, the potential infringer has the power to cut short the bargaining and force the question of the valuation of the entitlement before some public authority.⁶⁶ Under a property rule, the entitlement holder has the power to end the bargaining without an exchange taking place.⁶⁷ These possibilities may alter the outcome of any negotiation that occurs. Other determinants of bargaining can influence the relative efficiency or fairness of the alternative rules. For instance, if the institutional authority charged with enforcing entitlement has relatively poor information about the social costs and benefits of an infringement, a liability rule may be relatively inefficient. In such a situation it might be better to decentralise the allocative decision via a property rule, which allows the parties to establish the value of the entitlement by

⁶⁵ For this summation, I relied heavily on Richard Epstein's analysis recounting post-Cathedral developments in the law and economics movement. Richard Epstein, *A Clear View of The Cathedral: The Dominance of Property Rules*, 106 YALE L.J. 2091, 2096 (1997).

⁶⁶ Robert Cooter, Stephen Marks & Robert Mnookin, *Bargaining in the Shadow of the Law: A Testable Model of Strategic Behavior*, 11 J. LEGAL STUD. 225 (1982).

⁶⁷ *Id.*

private agreement.⁶⁸ According to Robert Cooter, this allocation of power most often results in the owner of a particular asset being able to choose from a large number of potential trading partners.⁶⁹ In those settings, the 'holdout' advantage conferred by a liability rule is relatively small. A potential buyer can play one seller off against another until a competitive price is reached. At this point, the exchange will usually occur without explicit legal intervention on terms that leave both parties satisfied with the outcome, taking into account both the market and subjective components of value that may inhere in specific assets. To inject liability rules into this setting, however, requires some level of state intervention in each and every transaction to set the appropriate value for the parties. In the TRC setting, we might suggest that a market failure has occurred whereby perpetrators of apartheid-era wrongs have failed to reach bargains with victims or their families. The creation of the TRC contemplates a regulatory scheme to allow such transaction to occur. The transaction may not be satisfactory to all concerned, and it may not be the most efficient possibility, as they contemplate some exchange of information for amnesty. The rules that govern the TRC interaction are simply a method of dividing the potential surplus between the parties. The scheme itself is contemplated in the face of that market breakdown.

a) The Free Market As a Means of Welfare Gains

⁶⁸ Robert Cooter, *Prices and Sanctions*, 84 COLUM. L. REV. 1523 (1984).

⁶⁹ *Id.*

The previous discussion is used here to show that it is crucial to examine fully the legal method used to govern bargaining, and such focus underpins law and economic analysis of many other fields of law. In the truth maximisation bargaining process, a jurisprudential discussion of legal rights and property rights is beneficial for several reasons. While both property and tort law have been analysed through the competing schemes of liability and property lenses, the truth amnesty scheme contemplates a hybrid use. A liability scheme where amnesty is given *ex post* has incentive consequences for future actors who are considering the perpetration of criminal or atrocious acts. And yet where amnesty has been denied, a property scheme becomes available—the disallowed act, *ex post*, must be handled through traditional civil and criminal redress. If a government contemplated a different methodology for information extraction, one where the private market, through property rules were allowed to govern, then a different efficiency equation could be calculated.

One scenario might allow victims to “purchase the truth” from a potential applicant, when the sale of the truth would also contain attendant immunity upon consummation of the transaction. In such a case, the transitional government might decide how much money, per case, it is prepared to spend on the truth commission as a whole. Then, on a weighted per case basis, using some set of discriminating factors, it could divide that money among victims, empowering victims rather than carrying out the truth divination process itself. The government would incur a minimum transaction cost for investigative resources, and give victims the “right” to sell amnesties. Thereafter, victims could decide whether or not the truth was “worth” the cost otherwise associated with it—if so, they could 'buy' the truth from perpetrators using either the amnesty and/or

money in a bargained-for exchange.⁷⁰ When combined with minimal government expenditures on investigatory infrastructure, the government would in this way maximise the welfare of all parties to the transaction. And this hypothetical, of course, assumes some budget for a formal TRC body that could be so diverted. The government would thus be seeking the maximum welfare gain possible, using the quantity of resources it was willing to spend.⁷¹

The infamous “40 acres and a mule” promise made to freed black slaves in the aftermath of the U.S. Civil War is probably only symbolic in its origins, but not wholly dissimilar as a welfare transfer. In an effort to right injustices in the aftermath of slavery, and to bring about reconciliation in the post-civil war American South, General Sherman proposed giving freed black slaves forty acres of land and a mule as compensation for helping in the march across Georgia and South Carolina in 1864-65.⁷² Sherman was authorised by the War Department to grant each head of family forty acres of land.⁷³

⁷⁰ Militating in favour of sale, and figured-in to the cost of such transactions would be amnesties that victims would be able to sell and potential applicants could purchase.

⁷¹ Such assets, if transferable, would be a direct welfare transfer. See CLAUDE F. OUBRE, FORTY ACRES AND A MULE 182-83 (1978).

⁷² *Id.*

⁷³ *Id.*

President Andrew Johnson for the most part, later revoked these grants.⁷⁴ Presumably, this welfare gain of saleable land and chattel would have empowered freed blacks to purchase other assets.⁷⁵

Whereas Easterbrook characterised criminal behaviour as a breakdown in the market in which the criminal law becomes a regulatory scheme for preventing or coping with this breakdown,⁷⁶ the law of truth extraction, and the scheme enacted to govern it, becomes a regulatory policy for helping to facilitate bargaining in the face of a similar breakdown. Rather than the wine merchant and customer, the participants are perpetrator of apartheid-era wrongs and the Commission. Rather than trading wine for money, the

⁷⁴ *Id.*

⁷⁵ See Vincene Verdun, *If the Shoe Fits, Wear It: An Analysis of Reparations to African Americans*, 67 TULANE L. REV. 597, 608 & n.32 (1993). The '40 acres' welfare transfer is similar to the "cash payment for violations" scenario in that victims under both regimes are given a welfare payment they are then able to utilise as they desire. Human rights victims could either buy property or could privately bargain with violators to learn information about the circumstances in any particular case. The point is that the government decides based on policy criteria how much it is willing to spend to make the victims whole, and then distributes that amount directly, rather than enacting a regulatory scheme to enforce private bargaining.

⁷⁶ Easterbrook (1983), *supra*, at 292.

exchange is amnesty for information. It is important, therefore, to put into schematic context any critique of the truth-amnesty game. Analysis must begin with the premise that a property right gives an individual the right to keep an entitlement unless and until he chooses to part with it voluntarily.⁷⁷ According to Newman, an entitlement is protected by a property rule to the extent that someone who wishes to remove the entitlement from its holder must buy it from him in a voluntary transaction in which the sale of the entitlement is agreed upon by the seller.⁷⁸ In the truth-amnesty context, this means that under a property scheme bodily integrity and inalienable rights could not be violated unless the potential victim decided to sell such rights. In a world where transaction costs were zero, where disputes could be resolved without cost, the choice between liability rules and property rules would be of little or no importance--hence the Coase Theorem.⁷⁹ If transaction costs could be eradicated, the Commission and potential applicant could exchange in a limitless number of offers and over a very large span of time could find an efficient truth-for-amnesty exchange rate. But transaction costs cannot

⁷⁷ Cooter, Marks, & Mnookin, *supra*, at 1092.

⁷⁸ KATHERINE S. NEWMAN, *LAW & ECONOMIC ORGANISATION: A COMPARATIVE STUDY OF PREINDUSTRIAL SOCIETIES* (1983).

⁷⁹ *See* Coase, *supra*. The concept of holdout was the major distinction when property and liability rules first came about in the seminal article by Calabresi & Melamed, *supra*.

be so eliminated. Moreover, in the non-cooperative bargaining framework, where parties are assumed to be at odds with one another, transaction costs can become the critical point of focus. Cooter has, again, provided the most accepted account of how such analysis should be framed: legal rules should be designed to minimise the cost incurred when cooperation fails.⁸⁰

It is important to have an understanding of the differences between liability and property rules for bargaining if one is to fully critique the TRC truth-amnesty model for precisely this reason: efficiency gains through liability methodology happen at the expense of incumbent transaction costs. Policy makers contemplating the implementation of legal systems must therefore choose some legal rule that minimises the transactional imperfections that occur in securing the transfer of assets⁸¹ from one person to another. The term *assets* as used in this context holds a broad definition: amnesty, for example, has consequences for both liberty and property interests. Information, too, is a tradable commodity possession of which constitutes an asset. It is virtually universal to all legal systems for property rules to assume dominance over liability rules, except under those circumstances where some serious holdout problem is created because each side is limited to a single trading partner. Such a holdout problem, does, indeed, exist in the truth-amnesty game and is the reason a hybrid-liability framework is employed. If

⁸⁰ Cooter (1982), *supra*, at 18.

⁸¹ For a thorough discussion of the economic use of the term “asset,” see THE NEW PALGRAVE DICTIONARY OF ECONOMICS (I 196).

private parties were allowed to interact in bargained-for exchange scenarios,⁸² a holdout could prevent many, if not all potential bargains unless buyers could purchase amnesties from many providers, at the lowest price possible. Because this holdout problem can prove enormous, the strong protection of a property rule is required. In a traditional civil takings scheme, one person may be allowed to take the property of another upon payment of compensation, but only in a constrained institutional setting that limits the cases in which that right can be exercised and supervises the payment of compensation for it. The truth-amnesty scheme is a similar constrained institutional setting, where past violations, or the taking of rights has occurred, and it is therefore a liability mechanism that the TRC framework contemplates, if but *ex post*.⁸³

In sum, whenever the law chooses between specially requiring a party to act, or levying financial judgement, it chooses between a property rule and a liability rule. Ought one be able to purchase the rights of another?⁸⁴ Should those considering criminally tortuous behaviour during an illiberal regime or otherwise, be able to buy the

⁸² *Id.*

⁸³ See Cooter (1984), *supra*.

⁸⁴ For what was probably the first law student-published economic analysis of this question, see James R. Atwood, Note, *An Economic Analysis of Land Use Conflicts*, 21 Stan. L. Rev. 293, 315 (1969).

right to commit such behaviour from a potential victim?⁸⁵ And as importantly, should that right be conferred during the successor regime that is attempting to create a new more democratic legal and regulatory marketplace? Beyond the value judgments associated with the answer to this question, it is important to consider the “cost to costing.”⁸⁶

Krier and Schwab have pointed out that we must always take into account how much it costs to define the amount of compensation to be given when devising an indemnification structure.⁸⁷ So a more complicated pricing structure effects the overall efficiency of the scheme. If, for example, uncertainty about the price at which a person will sell at can be replaced with a formula, the “cost to costing” is reduced.⁸⁸ This may well move away from an individualised determination of good vs. evil, of harm vs. benefit, in any one instance. Nonetheless, formulaic determinations have become increasingly common in regulatory policy.⁸⁹ As grotesque as it may be, to discuss

⁸⁵ Richard Posner famously framed this question in 1985. Richard Posner, *An Economic Theory of the Criminal Law*, 85 COLUM. L. REV. 1193 (1985).

⁸⁶ James E. Krier & Stewart J. Schwab, *Property Rules and Liability Rules: The Cathedral in Another Light*, 70 N.Y.U. L. REV. 440, 454-55 (1995).

⁸⁷ *Id.*

⁸⁸ Krier and Schwab term this “the cost of costing.” *Id.*

⁸⁹ See STEPHEN G. BREYER & RICHARD B. STEWART, ADMINISTRATIVE LAW AND

indemnity of a severed limb, lost sight, or deformation from politically motivated human rights abuses, we must think of a bargaining price from the seller's perspective, as well. To have a set scheduled price for each of these reduces the complexity of the analysis and allows for more efficient decision-making.

So in an amnesty process there are costs. Costs that must be considered fully; a cost to liability and any other way of shifting entitlements. The method of assessing costs is crucial here. As can be seen from the "free market" rehabilitation scenario (allowing applicants and victims to negotiate "out of court" settlements),⁹⁰ this methodological choice influences whether "extra" or punitive damages are to be assessed on violators if they do not pay the negotiated price, whether they are thrown in jail, or simply whether public shame is directed upon them.

Because many authors in the law and economics field have argued that substantive entitlements are the most important guideposts for determining strategic behaviour, legal scholars influenced by economists have sought to apply this concept to specific legal rules. Plea-bargaining and the interaction between prosecutors and defendants have been one well-researched area where this has occurred. Therefore, it is

REGULATORY POLICY 572-74 (3D ED. 1992). The progenitor to this new methodology of regulatory policy can be discerned from the discussion on mandatory minimum drug sentences and U.S. federal sentencing guidelines.

⁹⁰ See *supra* discussion of free market alternative.

useful to examine the relationship and developments as they relate to legal bargaining problems.

2. Plea-bargaining as a Helpful Roadmap

The prosecutor-defendant interaction has been modelled using microeconomic price theory. Plea-bargaining establishes the price for most crimes.⁹¹ It establishes price in a similar fashion that bargaining in a market for consumer goods does. A prosecutor will accept a plea that exceeds the punishment her office could obtain by investing an equal amount of prosecutorial resources on other cases.⁹² The defendant who buys the plea pays by surrendering the right to impose costs on the prosecutor by demanding trial and by surrendering the chance of acquittal. In this fashion, plea-bargaining has been modelled as an asymmetric information game and serves as a helpful example for understanding the truth-amnesty transaction. Because plea-bargaining is a prominent feature of the criminal justice system, where in the United States, according to Albert Alschuler, “it is commonly estimated that 90% of all criminal convictions are the result of guilty pleas,”⁹³ it has received extensive attention from legal scholars. Economists, too

⁹¹ Easterbrook (1983), *supra*.

⁹² *Id.* at 308.

⁹³ *See* Alschuler, *supra*, at 652

have modelled the interaction where the prosecutor's private information is the strength of the case and the defendant's is his guilt or innocence.⁹⁴

In equilibrium, some cases are dismissed because they are too likely to involve an innocent defendant. Furthermore, the probability of conviction differs for guilty and innocent defendants, and these probabilities are common knowledge since the prosecutor is generally required to provide to the defendant all the states' evidence against him, as well as a summary of what is necessary for conviction.⁹⁵ In the remaining cases, the prosecutor's sentence offer reveals the strength of the case. Under this construct, William Landes offered one early economics-based model of plea-bargaining.⁹⁶ Using the assumption that the prosecutorial (and social) objective is the maximisation of the sum of expected sentences subject to a resource constraint, Landes argued that the likelihood of disposition by negotiated plea should be higher the smaller is the sentence if convicted at trial, and the greater is the resource cost to the defendant of trial versus negotiated plea.

The analysis of plea bargaining here is useful because it explains the concept of dead weight loss as the unrealised potential surplus in the interaction. This is an important observation for understanding principle-agent interaction of which the truth-

⁹⁴ See Reinganum, *supra*, at 713.

⁹⁵ For discussion on this point, see Easterbrook (1983), *supra*, at 299.

⁹⁶ William Landes, *An Economic Analysis of the Courts*, 4 J. L. & ECON. 539 (1971).

amnesty game is reflective. First the prosecutor-defendant relationship is analogous to the Commission-applicant relationship. The prosecutor has an investigatory and charging decision. The prosecutor is faced with limited resources. And the prosecutor must adhere to political and external constraints that limit her discretion in some cases. Second, one of the main observations of Landes, that time-related costs to settle create an imperative to settle quickly, the more costly in financial terms is an alternative consequence, the more economically efficient is the plea bargain. Therefore, the costs of alternatives, or cost structure relationship in general, between the two parties, is nearly identical.

The more subtle point suggested by Landes and later explained by Reinganum is that because the court/prosecutor may be unable to systematically determine the truth, the key element need not be the guilt or innocence of the defendant, but rather the strength of the case against the defendant. When the case against a guilty defendant is very weak, or the case against an innocent defendant is very strong, the prosecutor will be less likely to make an “incorrect” or less desirable disposition and most able to maximise utility if she employs a *systematic* strategy for demanding pleas. This systematic strategy is called “lexicographic ordering” and is a method of ranking information sets based on various factors such as political importance of the crime and, more importantly, strength of case against the defendant.⁹⁷ By so doing the prosecutor can make tougher bargains against guilty/heinous criminals and be more lenient against innocent/mild offenders, over time,

⁹⁷ Reinganum, *supra*, at 715.

than she would have been able to do otherwise.⁹⁸ This research, then, sheds light on the TRC process because, as will be shown *infra*, utility can be increased through similar measures in the truth bargaining game.

3. Increasing Dead Weight Loss Problem: Bid Rigging and Government Prosecution as Guidance

The literature surrounding government auctions may at first be daunting to legal scholars not versed in economics, but it too deserves mention here for it sheds light on two elements of the truth-amnesty interchange that require further explanation: increasing dead weight loss and agent collusion. In the government auction scenario, firms that submit sealed tenders for a contract can profit from rigging their bids.⁹⁹ The auction-government exchange can be modelled as a game.¹⁰⁰ In the auction game, each buyer has private information about his willingness to pay for the object. A buyer cannot be excluded from the conspiracy, even if he could not have effectively competed at the auction. Such a conspiracy maximises expected surplus before the agents know their valuations for the object, and therefore its *ex ante* profits, in simple fashion: every buyer whose willingness to pay for the object exceeds the reserve price submits a bid exactly

⁹⁸ *Id.*

⁹⁹ George Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44-61 (1964).

¹⁰⁰ *Id.*

equal to the reserve price.¹⁰¹ The object is then assigned at random among the bidders.¹⁰² This co-ordination creates a problem for the legal authority as to whether it could uncover the conspiracy because the legal authority does not know whether a conspiracy has formed.¹⁰³ So, it tries to detect whether agents at the auction are cooperating by examining their bids. If the offers received carry some feature or hints at the presence of a conspiracy (or if a competitor registers a complaint) then the authority can initiate an investigation. Thus, agents decide whether to rig their bids by weighing, on the one hand, the benefits that could accrue from the conspiracy and, on the other hand, the costs associated with a potential prosecution. If the agents collude, they co-ordinate their offers and cooperation is rewarded through side payments.¹⁰⁴ The interesting questions about this game that are relevant here are (1) could the authority uncover such a conspiracy? (probably not at first but because of an increasing dead weight loss issue, chances improve over time), and (2) if, over time, chances of discovering the conspiracy increase, what can the authority do to minimise dead weight loss?¹⁰⁵ As McAfee and

¹⁰¹ R.P McAfee & John McMillan, *Bidding Rings*, 82 AM. ECON. REV. 579 (1992).

¹⁰² *Id.*

¹⁰³ See D. Fudenberg & J. Tirole, *Sequential Bargaining with Incomplete Information*, 50 REV. ECON. STUD. 221, 222-228 (1983).

¹⁰⁴ McAfee & McMillan, *supra*, at 582.

¹⁰⁵ See Chantale LaCasse, *Bid Rigging and the Threat of Government Prosecution*, 26

McMillan have shown, the probability that the authority will discover the collusion is at first relatively low, but over time the risk (likelihood) that defection will occur, that information will leak, or that evidence that bids are artificially low mounts, and thus the probability of discovery increases.¹⁰⁶ In the LaCasse model, moreover, the interaction between buyers at the auction and the legal authority is modelled as a one-shot game which is static.¹⁰⁷ A legal authority in charge of enforcing antitrust legislation has three tasks: detecting an infraction, investigating the offence, and prosecuting the offenders. In the case of bid rigging, unless one of the conspiracy members conveniently decides to defect, the presence of a conspiracy must be detected on the basis of the offers tendered. Communication among the parties and the increasing dead weight loss problem (the increasing chance of getting caught) makes the bid rigging more costly and less profitable for the colluders over time. In equilibrium, however, the authority never believes that a cartel is present.

RAND. J. ECON. 398 (1995).

¹⁰⁶ See McAfee & Mcmillian, *supra*.

¹⁰⁷ LaCasse, *supra*, at 400, and see, J.P. Benoit & V. Krishna, "Finitely Repeated Games," 53 *ECONOMETRICA* 905 (1985). Results from the literature on repeated games and on the maintenance of collusive agreements ensure that, in an appropriately specified repeated game, a strategy that enforces the conspiracy's coordination of bids exists.

This informs the truth-amnesty discussion on at least two fronts. The first is the problem of collusion among applicants—what if the applicants who jointly committed an act of atrocity decided initially to provide some artificially low quantity of information about the event? The Commission can learn from the auction literature that maintaining an investigatory function, even if it is not able to investigate every bid (or atrocity) and deploying that function at random, can increase the likelihood of discovering such collusion. The second significant lesson involves the increasing dead weight loss problem. This is a relatively uncommon phenomenon in microeconomic analysis. As will be discussed *infra*, the Commission faces an increasing dead weight loss problem because, over time, evidence becomes stale, applicants learn more about its reservation price, and survivors or witnesses die or forget. Therefore, over time, the amount of information the Commission can extract decreases. When the interaction is modelled as a one shot game, as with the auction authorities, the Commission will be hard pressed to detect collusion, absent some sort of defection. It is advantageous, therefore, to keep a static reserve price and choose not to bargain with those who make significantly suboptimal offers. This leads to the conclusion that Commission should not have a “relative” reserve price—a different threshold minimum for each applicant based on subjective criteria about that applicant. Put differently, it should not price discriminate. This is a fairly controversial assertion because the adage that the “punishment should fit the offender” might be taken to suggest that individual applicants before the Commission

should be treated differently based on non-information based factors such as previous governmental allegiance, heinousness of the crime, remorse, etc.¹⁰⁸ As with the auction authority, the Commission will not benefit in its information extraction mission by employing this strategy. Rather, it should choose not to “sell” (as with the governing authority in an auction) when offers are less than satisfactory. The existence of different prices in the same market for the same thing is price discrimination.¹⁰⁹ Price discrimination can be part of a system of optimal punishment in the criminal law because different criminals respond differently to punishment. However, because the distribution across all applicants in this analysis ignores the proportion who will not cooperate at all, and who will cooperate fully, the target segment is those who are willing to cooperate to some degree. The auction literature, therefore, allows for the conclusion that in the truth-for-amnesty exchange, across all information sets price discrimination will not aid the information extraction mission here.

¹⁰⁸ In the criminal law, sentencing discretion can produce outrage, whereas prosecutorial discretion and plea bargaining more often invoke grudging acceptance. *See Note, Daring the Courts: Trial and Bargaining Consequences of Minimum Penalties*, 90 YALE L.J. 597 (1981).

¹⁰⁹ *See Easterbrook (1983), supra* at 325.

B. Game-Theoretic Analysis in the Law and Economics Framework

Game theory can be summarised as the study of strategic behaviour.¹¹⁰ In games, the utility or 'payouts' to one player depend on the actions of other players. Most of the interesting applications of game theory to law involve non-cooperative games, those in which the players cannot make binding commitments, though they may be able to communicate, either expressly or by sending implicit signals. Using the minimal assumption that individual players of a game strive to maximise their own utility, non-cooperative game theory can be used to solve strategic interactions made more complex by one player's having private information or some trait which the other player cannot observe.¹¹¹ This is called asymmetric information.¹¹² Whereas an applicant before the TRC has private information regarding the extent of violence she engaged in during apartheid, the TRC may have private information regarding the quantity of truth it will accept or the degree of political relevance it will consider within the scope of amnesty. The equilibrium solution to a game occurs when two conditions are met: (1) neither party

¹¹⁰ Numerous texts exist on the foundations of game theory. John von Neumann & Oskar Morgenstern are credited with its discovery. JOHN VON NEUMANN & OSKAR MORGENSTERN, *THEORY OF GAMES AND ECONOMIC BEHAVIOUR* (1944).

¹¹¹ KEN BINMORE, *FUN AND GAMES: A TEXT ON GAME THEORY* (1990).

¹¹² *Id.* at 100-103.

has an incentive to change her strategy in response to the other party's strategy (this equates to a Nash-equilibrium and will be discussed *infra*); and (2) each party's beliefs about what action the other player will make are accurate (which equates to a Bayesian-equilibrium). Therefore, a solution meeting these two criteria is considered to be a Bayesian-Nash equilibrium and is the foundation of game theory. With this brief introduction in mind, the remainder of this part will discuss relevant developments in game theory and its application to legal scholarship.

As Robert Cooter has pointed out, whereas scholars of jurisprudence traditionally view law as a set of obligations backed by sanctions, economists tend to view law as a set of official prices.¹¹³ Among the paramount principles of law and economics is that legal rules cannot be understood properly without taking account of the incentive for private transactions.¹¹⁴ This incentive structure message is most famously represented in the well-known "Coase theorem," which claims that so long as the mechanisms of

¹¹³ Robert Cooter, *Prices and Sanctions*, 84 COLUM. L. REV. 1523 (1984). Cooter argues that the jurisprudential perspective is biased because lawyers cannot see that officials cannot regulate the economy efficiently by giving orders, and that the economic perspective is blind to the distinctively normative aspect of law, viewing a sanction for doing what is forbidden merely as the price of doing what is permitted. *Id.* at 1523-24.

¹¹⁴ See RICHARD POSNER, *LAW AND ECONOMICS* (1982).

private ordering are frictionless, legal rules will have no effect on the allocation of resources.¹¹⁵ Cooter's 1982 bargaining model is one of the most insightful explanations of bargaining under the social cost framework.¹¹⁶ Most formal economic accounts of bargaining conclude that when information is imperfect or communication costly, self-interested parties generally will fail to realise the full potential surplus from exchange.¹¹⁷

¹¹⁵ Ronald Coase, *The Problem of Social Cost*, 3 J. L. & ECON. 1 (1960).

¹¹⁶ Robert Cooter, *The Cost of Coase*, 11 J. LEGAL STUD. 1 (1982). *See also* RONALD COASE, *THE FIRM, THE MARKET, AND THE LAW* 157-58 (1988).

¹¹⁷ For formal discussion of bargaining methodology, see Farrell, *Information and the Coase Theorem*, 1 J. ECON. PERSP. 113 (1987), Myerson & Satterthwaite, *Efficient Mechanisms for Bilateral Trading*, 29 J. ECON. THEORY 265 (1983).

Economists have been applying game theory to various legal bargaining problems for some time. *See, e.g.*, Robert Wilson & David Kreps, *Sequential Equilibria*, 50 *ECONOMETRICA* 863 (1982), Steven Shavell, *Suit, Settlement and Trial: A Theoretical Analysis Under Alternative Methods for the Allocation of Legal Costs*, 11 J. LEGAL STUDIES 55 (1982), David Weimer, *Plea Bargaining and the Decision to go to Trial: The Application of a Rational Choice Model*, 10 *POLICY SCIENCES* 1 (1982), Gene Grossman & Michael Katz, *Plea Bargaining and Social Welfare*, 73 *AM. ECON. REV.* 749 (1983), Ivan P'ng, *Strategic Behaviour in Suit, Settlement, and Trial*, 14 *BELL J. ECON.* 539 (1983), Lucien Arye Bebchuk, *Litigation and Settlement Under Imperfect*

Different legal rules, once established, imply different institutional structures for contracting parties and may induce different forms of bargaining behaviour. Therefore, these legal rules have important consequences for the efficiency of exchange.¹¹⁸ It

Information, 15 RAND J. ECON. 404 (1984). There has been little cooperation between the disciplines. Compare, e.g., Jennifer F. Reinganum, *Plea Bargaining and Prosecutorial Discretion*, 78 AM. ECON. REV. 713, 718 (1988) with Daniel Richman, *Bargaining About Future Jeopardy*, 49 VAND. L. REV. 1181 (1995), but see Albert Alschuler, *The Changing Plea Bargaining Debate*, 69 CAL. L. REV. 652 (1981) (calling for interdisciplinary study).

Several authors have suggested that little attention has been given to analysing bargaining problems from the game theory framework because tools for such analysis have only recently been perfected by economists, and hence have been heretofore inaccessible to lawyers. See Ian Ayres, *Playing Games with the Law* (Book Review), 42 STAN. L. REV. 1291, 1297 (1990), and see, Avery Katz, *The Strategic Structure of Offer and Acceptance: Game Theory and the Law of Contract Formation*, 89 MICH. L. REV. 215, 217-18 (1990).

¹¹⁸ The property rules versus liability rules distinction can be applied to analysis of a wide range of entitlement enforcement schemes, of course. Criminal or equitable sanctions, effectively requiring that permission to make use of the entitlement be obtained in a voluntary exchange might enforce such a rule. For further analysis, see Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to*

follows that in order to assess how parties will react to rules of truth bargaining, it is necessary to consider the parties' individual incentives to engage in negotiation under various possible interpretative regimes.¹¹⁹ It is the premise of this dissertation, however, that bargaining theory and specifically game theory can provide an important guide to policy considerations. And it is for this reason that game theory will be employed as a tool for analysis.

The law and economics literature has only recently begun to explore the uses of game theory as a tool for analysis. The mechanical processes of truth bargaining have escaped extensive attention from legal scholars influenced by economics. One partial exception to this generalisation is the literature surrounding the economics of criminal behaviour and attendant issues relating to plea-bargaining. In 1969, Gary Becker described the criminal law as a simple pricing mechanism in which the penalty for a crime should be the value of a stolen good multiplied by the chances of not getting caught.¹²⁰ However, this relationship has not received extensive analysis. Frank

Facilitate Coasean Trade, 104 YALE L.J. 1027, 1047 (1995), and see Richard Epstein, *A Clear View of The Cathedral: The Dominance of Property Rules*, 106 YALE L.J. 2091, 2096 (1997).

¹¹⁹ *Id.*

¹²⁰ Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968).

Easterbrook has characterised criminal behaviour as a breakdown in the market in which the criminal law becomes a regulatory scheme for preventing or coping with this breakdown.¹²¹ In a thoughtful article, another prominent law and economics scholar, Ian Ayres, dissected additional uses of game theory and legal research, surmising that because most legal scholars lack a formidable economics background, uses of game theory have been highly primitive up to this point.¹²² Game theory analyses of antitrust, contract negotiation, mediation, and plea bargaining, have recently appeared in the legal literature. Dennis W. Carlton, Robert H. Gertner, & Andrew M. Rosenfield, have recently argued that product placement can equate to collusion among competitors, and game theory is one method for examining this phenomenon.¹²³ Eric A. Posner has examined the sanction mechanism and its interrelationship to labour disputes through a game-theoretic lens.¹²⁴ Jennifer Gerarda Brown and Ian Ayres have modelled group

¹²¹ Frank Easterbrook, *Criminal Law as a Market System*, 12 J. LEGAL STUD. 289, 292 (1983).

¹²² Ian Ayres, *Playing Games with the Law*, 47 STAN. L. REV. 1297, 1316 (1989).

¹²³ Dennis W. Carlton, Robert H. Gertner, & Andrew M. Rosenfield, *Product Differentiation: Communication Among Competitors: Game Theory and Antitrust*, 5 GEO. MASON L. REV. 423 (1997)

¹²⁴ Eric A. Posner, *The Legal Regulation of Groups: The Influence of Legal and Nonlegal Sanctions on Collective Action*, 63 U. CHI. L. REV. 133 (1996).

disputes through the theory of the firm, or microeconomic principles relating to firm dynamics.¹²⁵ Robert Ellickson conducted one of the first empirical analyses of land use and condemnation procedures in Northern California, in a widely acclaimed examination which used game theory to explain individual behaviour.¹²⁶ Investigating the lawyer-client relationship, Robert Condlin used game theory to explain the value of attorneys in reaching pre-trial settlement agreements by arguing for the use of the “prisoner’s dilemma” methodology as the best tool for analysing lawyer-client interaction.¹²⁷ John D. Hanson & Kyle D. Logue examined the cost structure of various insurance schemes by employing game theory to understand enterprise liability.¹²⁸ Alan Schwartz has examined financial institution lending practices, and the grouping of potential loan applicants into income groups through deploying a game-theoretic model.¹²⁹ Ian Ayres

¹²⁵ Jennifer Gerarda Brown & Ian Ayres, *Economic Rationales for Mediation*, 80 VA. L. REV. 323 (1994).

¹²⁶ ROBERT C. ELICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* (1993).

¹²⁷ Robert Condlin, *Bargaining in the Dark: The Normative Incoherence of Lawyer Dispute Bargaining Role*, 51 MARYLAND L. REV. 1 (1992).

¹²⁸ John D. Hanson & Kyle D. Logue, *The First-Party Insurance Externality: An Economic Justification For Enterprise Liability*, 76 CORNELL L. REV. 129 (1990).

¹²⁹ Alan Schwartz, *A Theory of Loan Priorities*, 18 J. LEGAL STUD. 209 (1989).

and Robert Gertner utilised game theory to explain contract avoidance behaviour and argue for optimal default rules,¹³⁰ and John Shepard Wiley examined anti-competitive behaviour, using game theory to argue that corporate “good deeds” can be discouraged through antitrust laws.¹³¹ More than anything else, this body of scholarship argues, rather convincingly, for the continued use of game theory to explain legal phenomenon.

For new institutions, such as transitional bodies seeking to provide some measure of peaceful political transition, a policy analysis of rival bargaining conventions may be of great practical importance. Such an understanding may help inform future legislation designed to create transitional political bodies in other contexts. Furthermore, while the use of one negotiation policy over another—i.e., the policy currently employed—may be difficult to change in society in general due to expense or other impediments. Where a legal regime is new, the implementation of modifications to that regime are typically less costly. While some scholars have argued against the use of game theory to examine social phenomenon, such as Hollis and Sugden¹³² who claimed that game theory requires normative assumptions which are false and dubious, its increasing appearance in law and

¹³⁰ Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L.J. 87 (1989).

¹³¹ John Shepard Wiley, *Reciprocal Altruism as a Felony: Antitrust and the Prisoner's Dilemma*, 86 MICH. L. REV. 1906 (1988).

¹³² M. Hollis and R. Sugden, *Rationality in Action*, 102 MIND 1 (1993).

economics scholarship seems to inveigle against this view.¹³³ Because history offers comparatively little instruction on how to design institutions for democratisation, game theory again provides a helpful tool because it requires no normative assumptions.¹³⁴

1. Costs to Efficiency Gains in Bargaining

The legacy of Coase, as many scholars have concluded,¹³⁵ was to focus attention on transaction costs—impediments to exchange which arise in particular institutional settings. As attention turns to the regulatory consequences of law, and as market policy is derived through an understanding of these consequences, attention to transaction costs and the institutional structure generating them is warranted. Cooter's work has strongly influenced the literature, through his important distinction between two sorts of transaction costs: costs of implementation and costs of strategic behaviour.¹³⁶

¹³³ See Ayres (book review) *supra* 17.

¹³⁴ This assertion is explained more fully in Chantale LaCasse & Don Ross, *The Microeconomic Interpretation of Games*, in ANNALS OF THE PHILOSOPHY OF SCIENCE ASSOCIATION 1994, (Vol. 1) 379 (R. Burian, M. Forbes and D. Hull, eds. 1994) (East Lansing, MI: Philosophy of Science Association).

¹³⁵ See Avery Katz, *Game Theory and Contract Formation*, 89 MICH. L. REV. 215, 225 (1990).

¹³⁶ Robert Cooter, *The Cost of Coase*, 11 J. LEGAL STUD. 1 (1982). Within law and

In the TRC context, prior to Coase, it might have been thought that the choice between different liability rules that distributed the costs of the failure to reach a bargain would almost certainly influence the information offer made by a potential applicant. The information offer would be different if, on the one hand, some higher level of utility were assigned to the Commission for granting amnesty in a given case over not granting amnesty, or, on the other hand, if Commission's function were divorced from any outcome-based criteria. Because the Commission has a legitimacy and institutional interest in granting amnesty to as many applicants as possible, such a distribution does, in

economics more generally, determination of strategic behaviour costs will typically determine one's basic normative stance. This has led to a critique of economic analysis of law as "casting an economic cloak around value-based judgments."

Discussing this possible blind adherence to the Coase theorem Cooter has compared what he calls the "normative Coase theorem," that the law should be structured to minimise the impediments to private bargaining, as the paradigm of a cooperative concept of utility. If non-cooperation were the rule, according to Cooter, the social harm that would arise from the prescriptions of the normative Coase theorem could be great. Hobbes' *LEVIATHAN*, on the other hand, provides a contrasting theory. Cooter suggests a "normative Hobbes theorem" as counterweight to the Coase theorem:

"since untrammelled selfishness will inevitably lead to a war of all against all in which life will be nasty, brutish, and short, legal rules should be designed to minimise the cost incurred when cooperation fails." *Id.* at 18. This comparison is more fully explained by Katz, *supra*, at 229.

fact, occur. By applying the Coase theorem it can be seen that the two players will, in the absence of transaction costs, take the optimal amount of care to reach a bargain under a victor-vanquished model because the stakes are absolute (and, alternatively, will take no care under a blanket-amnesty model because the stakes are negligible). When some combination of liability rests between the players, the applicant will be solely concerned with minimising the risk of failure and the quantity of information provided, and the Commission will seek to minimise the risk of failure, given the amount of information it is prepared to accept. Thus with this construct set out, it is possible to contrast the normative Coase theorem with the normative Hobbes theorem.¹³⁷ Unlike the normative Hobbes theorem, the normative Coase theorem assumes cooperative decision making, and, in particular, that bargaining parties will not forego potential surpluses from trade by acting strategically.¹³⁸ This is the view that we should “structure the law to remove the impediments to private agreements,” and, in particular, we should minimise the costs of the transactions that must take place to reallocate rights to the parties who value them most. In cooperative decision-making the efficiency problems associated with the

¹³⁷ See Cooter (1983), *supra*, for introduction to the normative Coase theorem.

¹³⁸ LAW AND ECONOMICS 101-09 (Robert Cooter & Thomas Ulen, eds., 1988). For comparison of the normative Coase theorem and the normative Hobbes theorem in the child liability context, see Jerrob Duffy, *Child-Support Laws and Contraceptive Care*, 8 PRINCETON J. PUB. & INT’L AFF’S 221 (1995).

incentive structure variance¹³⁹ are destroyed. Although this form of bargaining does not much take place in the amnesty context, considering ways to induce cooperation can increase efficiency in exchange.

a) Implementation Costs.

Implementation costs are the real resources expended in bringing bargaining parties to agreement. This includes execution and administration costs, enforcement, and post-agreement dispute resolution.¹⁴⁰ In the truth-amnesty game, these costs include the expense of facilitating communication between the parties, of acquiring information about the relevant costs and benefits, of investigating leads of potential information, of preparing for the hearing process, of detecting any violations of the bargain, and of conducting any renegotiations. If implementation costs exceed the surplus from an

¹³⁹ For explanation of the incentive structure variance in the cooperative vs. non-cooperative bargaining context, see Cooter (1983). For application in tort law, see SAUL LEVMORE, FOUNDATIONS OF TORT LAW 99 (1994). For discussion of the incentive structure variance concept in the marriage context, see Saul Levmore, -- *Love it or Leave It: Property Rules, Liability Rules, and Exclusivity of Remedies in Partnership and Marriage*, LAW & CONTEMP. PROBS., Spring 1995, at 221.

¹⁴⁰ See Katz, *supra*, at 232.

agreement, then no agreement can profitably occur. It may well be difficult to ascertain the surplus from a bargained-for truth transaction because of the subjective as well as objective nature of the costs involved.

If such a price were calculated, if N_i rands per case were spent, then it would also be useful to consider how information is valued by recipients—is there some proportional relation to its acquisition cost? Granted, implementation costs can be difficult to compare with values ascribed by the various recipients, but it is nonetheless important to consider lest there be a wide disparity between costs of acquiring information and its value. As this valuation is carried out, it is important to keep in mind that information may be useful to present and future governments, to victims and their families, and to innumerable other persons and entities.

The many potential beneficiaries of the information, then, make it difficult, but not impossible, to price. To illustrate: where certain details of two unrelated crimes are unknown, and survivors of crime A wish to learn nothing further, in contrast to survivors of crime B, and where all other possible beneficiaries of the information would benefit equally from the details of either, it is more efficient to use limited resources to investigate crime B. Even though such simple comparisons may not be available in the TRC framework, a more complex yet parallel lexicography is available and thus it is possible to formulate a set of decision rules to rank information sets.¹⁴¹ The appropriate

¹⁴¹ See, e.g., Holmstrom & Myerson, *Efficient and Durable Decision Rules with Incomplete Information*, 51 *ECONOMETRICA* 1799 (1983).

conception of efficiency becomes more complicated when not all information is shared and thus there exists a problem of asymmetric information. This observation was first made by Holmstrom & Myerson, who noted that the decision to extract a tough bargain, for example, is perhaps sensible when one does not know the opponent's reserve price, but the failure of the negotiation conveys new information initially not available.¹⁴² Willingness on the part of an applicant to provide additional truth, then, is dependent on information regarding the reserve price of the commission: at some point, the commission will reject the application and refer the applicant for criminal prosecution. Thus the reality of limited resources available to the transitional justice institution justifies an examination of efficiency.¹⁴³

b) Strategic Behaviour Costs.

Strategic behaviour costs, on the other hand, are the losses suffered because bargainers have the incentive to maximise their individual gains rather than the total surplus from exchange.¹⁴⁴ Since such surplus may be divided among the parties in many ways, the parties may have incentive to devote significant resources to altering the division to gain more for themselves. Or, they may act in ways that destroy some or all

¹⁴² *Id.*

¹⁴³ For in-depth discussion of efficiency, utility, and maximisation, see JULES L. COLEMAN, *MARKETS, MORALS AND THE LAW* 95-133 (1988).

¹⁴⁴ Cooter (1983), *supra*.

of the surplus. In the commercial arena such actions may include selling or buying a lesser quantity than one really wants in order to get a better price, misrepresenting or withholding information about cost or value, threats, or haggling, which consumes time and thereby diminishes the surplus from the bargain.¹⁴⁵ In the amnesty exchange, if the Commission is willing to grant amnesty for sixty percent of its estimate of I , the total information available to the applicant, and, conversely, the applicant desires amnesty to such an extent that she is willing to admit to eighty percent of I , there is a potential welfare gain of twenty percent of I that can be divided among them.¹⁴⁶ This simple example assumes all information regarding each crime is potentially available in principle, even if not in the actual strategic context, so that a simple percentage of total information can be derived. Delaying, or using one of the other strategic behaviours in order to learn more of the other party's reservation price, may tip the scales in favour of one party or the other, and hence the welfare gain may be increased by that party. Concealing information may undermine a mutually beneficial bargain or may alter the manner in which a mutually beneficial bargain is carried out.

Both implementation and strategic behaviour costs can result in increased resource expenditure and make the bargain more expensive. The loss of an exchange due to implementation costs is not usually described as inefficient unless the costs are

¹⁴⁵ COLEMAN, *supra*.

¹⁴⁶ *Id.*

exceptionally high.¹⁴⁷ For example, if the costs of investigating a gross human rights violation, where no witnesses or survivors remain, are so great that the investigation becomes misdirected or is not completed, and thus no information about the act is in the hands of the TRC regarding such, then little or no leverage may be brought to bear on the perpetrator to apply for amnesty, and a bargained-for truth-for-amnesty transaction will be unlikely.¹⁴⁸ This will depend on the potential applicants' utility function, of course: some applicants may derive utility from telling the truth or for reasons unrelated to amnesty, as discussed *infra*. In the truth maximisation transaction, strategic behaviour costs are crucial because they may be measured by the loss in potential surplus—the failure to reach a bargain. A full understanding of the transaction and accompanying strategic behaviour costs requires some theory of bargaining—one that predicts possible outcomes given initial circumstances and sets of utility functions.

2. Utility Functions

In order to apply the concept of a utility function, one must initially begin with the notion of a preference ordering. The concept of preference ordering and its relationship to utility was first set out by Paul Samuelson, who regarded preference-orderings as

¹⁴⁷ See Eric RASMUSEN, GAME THEORY 43-66 (1990).

¹⁴⁸ *Id.*

revealed by behaviour.¹⁴⁹ If each agent were presented with a set of bundles, or possible states of the world, and an opportunity to trade bundles with other agents, the agent would *reveal* her preferences among bundles by trading some for others. As evidence accumulates, an ordering of bundles can be created from the most to the least preferred. Where the agent is indifferent among bundles they are ranked as indifference sets. An ordinal utility function is the process of numbering indifference-sets with real numbers 1 to n .¹⁵⁰ This function is called *ordinal* because no properties of the numbers matter except their order.¹⁵¹ An ordinal utility function does not capture relative intensities among preferences. Intensities can be expressed by cardinalising these functions if the agent is presented with choices of gambles over lotteries among the elements in the preference ordering, where each gamble must be purchased in a uniform currency. If this occurs then it is possible to examine the ratios between the probabilities associated with maximising the acquisition of bundles high on the agent's ordinal utility function, and the amounts she is willing to pay for each gamble, and thus derive her cardinal utility

¹⁴⁹ This means of deriving preference-orderings was introduced and defended by Paul Samuelson, *The Numerical Representation of Ordered Classifications and the Concept of Utility*, REV. ECON. STUD. (1938), and *The Empirical Implications of Utility Analysis*, ECONOMETRICA (1938).

¹⁵⁰ *Id.*

¹⁵¹ See RASMUSEN, *supra*, at 155-56.

function from these ratios. In the truth maximisation game it is possible to describe preferences in ordinal fashion by listing all possible outcomes and rank-ordering them from highest to lowest utility. Once accomplished, it is possible to move on to an analysis of the strategic interaction itself. It is against this backdrop that further review of how the governing legal framework may affect transactions can now take place.

3. Games with Imperfect Information

Game Theory provides a formal way of representing the interaction between parties to a bargain. To do so, it is useful to look at the Cooter, Marks, and Mnookin illustration.¹⁵² This model uses the example of dividing a sum of money between two parties, where each would prefer more money to less, but neither will receive any money unless they agree on its division.¹⁵³ Suppose the parties are instructed simultaneously to submit a single, sealed demand. The demands of each party are satisfied if it is possible to do so. Otherwise, if the sum of the demands exceeds the total available, the parties get nothing. The parties understand the rules of play and assume that their opponents are not irrational (that is, have preference-orderings over outcomes that are complete, non-cyclical and continuous). In addition, each party has some personal characteristics—the two most important of which are their attitudes toward risk and the rate at which the

¹⁵² See Robert Cooter, Stephen Marks & Robert Mnookin, *Bargaining in the Shadow of the Law: A Testable Model of Strategic Behaviour*, 11 J. LEGAL STUD. 225 (1982).

¹⁵³ *Id.* at 226.

marginal utility of money diminishes—and the opponent cannot observe these characteristics, thus affecting the overall strategy. Therefore, neither party can predict the other's demand with certainty, but can do so with some degree of probability.

a) Modelling Imperfect Information Games.

As Cooter, Marks and Mnookin illustrate, the likely result is that each player must choose between a relatively high and relatively low demand, knowing the opponent faces the same dilemma.¹⁵⁴ A high demand is more likely to lead to failure, and so risks a higher probability of yielding no money. A lower demand lessens the risk of failure, but risks lowering the amount of money received. As a result, each player will balance the probability of reaching a settlement against the value of getting a better settlement. Unless each party is completely risk averse, there is at least some chance of disagreement. In equilibrium, each parties' beliefs about the 'hardness' of its opponent's bargaining strategy will be correct. As Chatterjee & Samuelson have pointed out, the

¹⁵⁴ *Id.*

outcome of this bargaining cannot be assumed to be Pareto-efficient *ex post*.¹⁵⁵ Expressed differently, many equilibria in the game will produce wasted rents.¹⁵⁶

Early models of the settlement process attributed the occurrence of litigation to the plaintiff's relative optimism about her prospects at trial. The Cooter, Marks & Mnookin model has been widely cited because it, by contrast, assumes that, in equilibrium, the parties' beliefs are not in error.¹⁵⁷ The most important predictions of the model are therefore at variance with those of the relative optimism model of settlement, and have proven useful in their application to other legal problems.¹⁵⁸ For example, the relative optimism model would assign a higher likelihood to trial in a litigation game if negotiation costs increase relative to trial costs, because the parties do not behave strategically but instead seek to minimise their joint costs. Consequently, in this model an increase in negotiation costs means that trial is more attractive. The 'pie-splitting' model, by contrast, assigns a lower likelihood to trial should negotiation costs increase.

¹⁵⁵ R. Chatterjee & P. Samuelson, *Bargaining Under Incomplete Information*, 31

OPERATIONS RES. 835 (1983). This example has been well analysed in the literature, and has become standard in introductory texts on game theory.

¹⁵⁶ Cooter, Marks & Mnookin, *supra*, at 246.

¹⁵⁷ See JOHN FREEDMAN, *GAME THEORY WITH APPLICATIONS TO ECONOMICS* (1986).

¹⁵⁸ *Id.* at 15. As with many introductory remarks on game theory, Freedman credits the Cooter, Marks & Mnookin model on this point.

If bargaining is costly, the parties become more conciliatory and they soften their bargaining strategies. By dispensing with the joint cost-minimisation assumption and focusing instead on the distributive aspect of settlement, the 'pie-splitting' model offers a better description of settlement bargaining and is more relevant to truth-amnesty bargaining, justifying its use in this dissertation.¹⁵⁹

In the Cooter, Marks & Mnookin model, a single and sealed offer is contemplated, with the assumption that each player lacks sufficient information to predict the other's optimal demands with certainty. It is a particularly useful example for conceptualising non-cooperative bargaining, of which the truth-amnesty game is an example, because it describes individually rational behaviour in situations where players recognise that their actions both affect and are affected by the actions of others. It is for this general reason that game theory provides the most powerful theoretical apparatus in the analysis of transactions.

¹⁵⁹ Freedman engages in a complete comparison of the two models; extrapolating from his analysis is a useful exercise for understanding the merits of alternative models of bargaining games. See FREEDMAN, 33-47.

b) Bayesian Equilibrium.

Classical economic models normally assume preferences of individuals are known only to themselves, and also to the other players in the game.¹⁶⁰ However, the degree of certainty to which one player knows another's preferences is a key element. A standard approach for modelling incomplete information games which takes account for this degree of uncertainty is to study the Bayesian equilibrium points of that game. A Bayesian equilibrium point of a game is an n -tuple of strategies, in which the private strategy of each type of each player is a best response for that type of the $(n-1)$ -tuple of strategies specified for the other players.¹⁶¹

c) Strategies and Equilibria.

A strategy for a player specifies the action (or randomised choice of action) to be taken by each potential player.¹⁶² The action specified for this type can be called the

¹⁶⁰ DAVID M. KREPS, GAME THEORY AND ECONOMIC MODELLING 88 (1990).

¹⁶¹ The definition directly generally refers to that of a Nash-equilibrium point for a game with complete information. *Id.*

¹⁶² *Id.*

expected action.¹⁶³ A distributional strategy for a player is a probability measure based on her preferences and allowed actions.¹⁶⁴

¹⁶³ *Id.*

¹⁶⁴ *Id.*

4. Assumptions in Game Theory

Most assumptions in game-theoretic models revolve around (a) how people select an action, (b) what motivates each player, and (c) what each assumes the other will do in a given circumstance.

a) Individual Action is Rational.

In game-theoretic terms, rationality means that players choose the strategy most likely to maximise their utility, given all strategies of the other players. Players also know the nature of the environment in which they operate. Rationality is thus often described in a “means-ends” framework; that is, what is the most appropriate means for achieving certain ends?¹⁶⁵ Players do not necessarily have information about every relevant aspect of the situation, but they are aware of the fact that their information is incomplete. Instrumental rationality is identified with the capacity to choose actions which best satisfy a person’s objectives. Although there is a tradition of instrumental thinking which goes back to the pre-Socratic philosophers, David Hume is often cited as the clearest philosophical progenitor.¹⁶⁶ Hume argued that “passions” motivate a person to act and “reason” is their servant. While this hypothesis has been influential in the

¹⁶⁵ See HEAP & VAROUFAKIS, *supra*, at 5-18.

¹⁶⁶ See DAVID HUME, TREATISE ON HUMAN NATURE (1888).

social sciences, it is the foundation of rationality as applied to the modern theory of incomplete information games.¹⁶⁷

¹⁶⁷ RASMUSEN, *supra*, at 21-27.

5. Utility Functions: Ordinal Utilities, Cardinal Utilities and Expected Utility.

Utility maximisation works by observing that each player gets x utility from her first choice, $x-1$ utility from her second choice, and so on.¹⁶⁸ If the first choice is more preferred than the second, then the first choice brings more utility to the player than the second. This is an ordinalisation of utility because no information beyond an ordinal ranking of them is made.¹⁶⁹ If, for example, player 1 can choose between (a) providing one hundred percent of the total information available and getting amnesty, (b) providing something between one hundred percent and the threshold minimum and getting amnesty, (c) providing the threshold minimum and getting amnesty, (d) providing some information and getting no amnesty, and (e) providing no information and getting no amnesty, a ranking can take place. If based on her “passions” and “reasons,” Player 1 prefers c, b, a, d and e , in that order, then her preferences have been placed in an ordinal utility ranking.

Preference-orderings, and hence utility functions, are derived from strategies and can be derived as follows. If additional information about strength of preferences were

¹⁶⁸ Because a preference ordering can be assumed, each player will rank possibilities

from most to least attractive.

¹⁶⁹ *Id.*

available, then it would be possible to cardinalise the data and create a cardinal order of preferences. A cardinal ranking can occur where each preference in an ordinal ranking can be weighted, based on its relative strength to that of the other available preferences.¹⁷⁰ This allows an examination of utility *on average* and can be very useful in examining *expected utility*. Expected utility is the utility gained by that player, on average, over many opportunities to make that choice.¹⁷¹ In a multi-play, multi-player game, expected utility is an important concept because it allows for comparison of preferences among players with different cardinal preference rankings. If, in the truth-maximisation game, a distribution of all players faced with the five preferences listed above (*a-e*) found some who always prefer choice *a* and the others in descending order, and others players who always preferred choice *e* and the remaining in ascending order; one could eliminate these players from the game and isolate those remaining (information sets) whose preferences centred around choice *c*. This would be particularly useful to a commission faced with some applicants who are completely willing to cooperate, and others completely unwilling to cooperate. The Commission could then devote little or no resources on these outliers and reduce its transaction costs to the minimum possible.

Game theory does not, as is sometimes thought, assume that all agents are narrowly self-interested, since utility functions rank preferences over complete states of the world, which can in principle include any possible distribution of welfare. One solves

¹⁷⁰ *Id.*

¹⁷¹ *Id.*

a game by discovering its Nash-equilibria;¹⁷² that is, those vectors of strategies such that no player has an incentive to change his or her strategy given the strategies of the other players. Typically, games have multiple equilibria (though this is not true of the well-known 'Prisoner's Dilemma' game, where the Pareto-dominated equilibrium is unique).¹⁷³

a) Sequential Equilibria.

In order to understand equilibrium strategies in the truth maximisation game, it is necessary to elucidate the concepts of dominance and best response. A strategy for player 1 is a best response to the strategy of player 2 if it gives player 1 the biggest pay-off given that player 2 has already made her move. Therefore, if the applicant makes an information offer somewhere below the threshold minimum allowed for amnesty, it is a best response by the Commission to give a no-amnesty response. In that case, the Commission has a higher pay-off than if it were to make any other move—i.e., make an amnesty decision for having received less than the threshold minimum. On the other hand, the Commission's strategy would be *dominated* if it is not a best response to the strategy of the applicant—if the Commission were to make a “wrong” choice, miscalculate the total amount of information available to the applicant and grant amnesty with a more than threshold information offer.

¹⁷² See John Nash, *Non-Cooperative Games*, 54 ANNALS OF MATHEMATICS 286 (1951).

¹⁷³ For a succinct definition of a game and its elements, see Don Ross, *Game Theory*, in STANFORD ENCYCLOPEDIA OF PHILOSOPHY (Edward N. Zalta, ed., 1996), available electronically at <http://plato.stanford.edu/>.

6. Defining a Game—Extensive and Strategic Representation

Games may be represented in extensive form—that is, using “tree” structures of the sort familiar to decision theorists, where each player’s strategy is a path through the tree—or in strategic form, where outcomes are represented in matrices.¹⁷⁴ The significance of this distinction will be discussed *infra*. A game in strategic form is a list:

$$G = \{N, S, \pi(S)\}$$

where

N is the set of players, and the index i designates a particular agent $i \in N = \{0, 1, 2, 3 \dots n\}$;

¹⁷⁴ For a complete explanation of the representation of games, see BINMORE, *supra*, 25-64 (1992). Binmore’s notation for indicating information sets is useful because this technique avoids the need to introduce variable subjective probability estimates by individual players. For further discussion of probability estimates in constructing game-theoretic models, see MARTIN SHUBIK, A GAME-THEORETIC APPROACH TO POLITICAL ECONOMY 30-57 (1987).

S is the strategy space for the agents $S = \prod_{i=0}^n S_i$ where S_i is the set of all possible strategies for i ;

$\pi(S)$ is a vector of payoff functions, one for each agent, excluding player 0.¹⁷⁵ Each payoff function specifies the consequences, for the agent in question, of the strategies specified for all agents:

$$\pi(S) = (\pi_1(S), \dots, \pi_n(S)); \pi: S \rightarrow \mathcal{R}^n$$

Given that game outcomes are determined by the agent's acts, and given that these acts are specified by their strategies, it follows that specification of a function $f(x)$ together with strategies implies the existence of the vector of payoff functions $\pi(S)$. The payoff functions provide, for each vector of strategies in S , a vector of n real numbers in \mathcal{R}^n representing the consequences for all players.¹⁷⁶

Most important questions analysed utilising game theory are not static; instead they have a dynamic nature and are thus expressed in extensive form. The most significant aspect of dynamics is information exchange: how much do particular players know about the strategies of other players? To incorporate imperfect information into a

¹⁷⁵ Player 0 represents 'Mother Nature', the set of stochastic influences on outcomes.

Player 0 is the only player not presumed to be rational.

¹⁷⁶ See Don Ross, *supra*.

game, one must represent it in extensive form. An extensive-form game looks like a tree diagram: branching structures through sets of nodes terminating in outcomes.¹⁷⁷ One has not fully specified a game in extensive form until one has completely identified each player's path through the tree, and indicated at which nodes subsets of players share information.¹⁷⁸ From an extensive-form representation of a game, a unique strategic-form representation follows. The chief difference, then, between strategic-form and extensive-form representations of games is that in the latter cases, but not the former, retrospective dynamics are indicated.¹⁷⁹

¹⁷⁷ The interpretation of the tree is quite different from that applied to a decision tree. In a game tree, nodes do not represent decision points, at which players estimate probabilities and then choose options; rather, they represent acts.

¹⁷⁸ Ken Binmore's *FUN AND GAMES* is an excellent manual on constructing extensive-form games. Following Binmore's technique, one isolates information-sets by drawing oblong boxes around the nodes where information is common. It is important to distinguish the incorporation of information sets from decision-trees used in decision theory. One has not specified a game until one has specified the set of strategies; and since to specify an agent's strategy determines her path through the tree, the game itself remains a static object.

¹⁷⁹ See Don Ross & Chantale LaCasse, *Towards a New Theory of Positive Economics*, 34 *DIALOGUE* 467 (1995).

Game theory has been widely used in microeconomic analysis, and especially in industrial organisation theory, the theory of the firm, and auction theory.¹⁸⁰ In law and economics, as has been noted, its use has been more controversial, but is growing. Scepticism arises because in many applications it is often difficult to establish that the specified game is in fact an accurate representation of the empirical phenomenon being modelled. This has mirrored developments in macroeconomics¹⁸¹ and political theory.¹⁸²

¹⁸⁰ See, FRONTIERS OF GAME THEORY (K. Binmore, A. Kirman & Piero Tani, eds. 1993).

¹⁸¹ See, e.g., LOUIS PHILIPS, COMPETITION POLICY: A GAME-THEORETIC PERSPECTIVE (1996), Finn Kydland & Edward Prescott, *Time to Build and Aggregate Fluctuations*, 45 ECONOMETRICA 1345 (1982), John Long & Charles Plosser, *Real Business Cycles*, 91 J. POL. ECON. 39 (1983), Robert Lucas, *Some International Evidence on Output-Inflation Tradeoffs*, 63 AM. ECON. REV. 326 (1973).

¹⁸² See, e.g., RUSSEL HARDEN, ONE FOR ALL (1995), Ken Binmore, PLAYING FAIR (1994), IAN BRADLEY & RONALD MEEK, MATRICES AND SOCIETY (1986), BRYAN SKYRMS, EVOLUTION OF THE SOCIAL CONTRACT (1996). Game theory has been fruitfully applied in other disciplines such as evolutionary biology, where species and/or genes are treated as players. See, e.g., JOHN MAYNARD SMITH, EVOLUTION AND THE THEORY OF GAMES (1982), JÜRGEN WEIBULL, EVOLUTIONARY GAME THEORY (1995).

Nonetheless, as more becomes known about game-theoretic modelling in the law and economics community its application is becoming increasingly widely accepted.

7. Problems with Applying Game Theory

It is important to address some of the deficiencies of using game theory and the theory of bargaining as a tool for modelling the TRC phenomena. One is a need for precise protocols; that is, economic theory makes fairly bold predictions about what will result from bargaining. In bargaining theory generally, if one does not come to agreement with one player it is possible to seek a bargain with another player. When markets are competitive, there are many 'as good' or almost as good alternative trading partners for each player, and the market prices which are known to establish the most anyone can get in those alternatives. Put simply, a player or trader can take her business elsewhere because competition exists. In the TRC framework, however, there is no alternative trading partner for either player. Kreps describes this problem by saying "game theoretic techniques require clear and distinct 'rules of the game.'"¹⁸³ The TRC applicant can go to no other body of inquiry with amnesty powers. Therefore, the model becomes somewhat 'stylised' as it requires reliance on assumptions about a competitive environment.

A second major criticism has to do with the concept of efficiency. In games where any feasible, efficient, and individually rational division is the outcome of a Nash-

¹⁸³ KREPS, *supra*, at 93-95

equilibrium, there can be too many equilibria and no way to choose among them.¹⁸⁴ However, this critique is most applicable in simultaneous-offer games in contrast to the offer and acceptance (or bargained-for exchange) truth-bargaining game. Essentially, as long as a pair of payoffs is feasible and leaves each player with enough at stake so that neither wishes to deviate and set off punishment (or markedly lower utility), then that pair of payoffs can be sustained as a Nash-equilibrium. Yet equilibrium strategy decisions by a player are based on some criteria. Game theory does little to explain the criteria that lead to this choice. Thus, when choosing an equilibrium strategy, formal mathematical game theory has said little or nothing about where the expectations come from, how and why they persist, or when and why we might expect them to arise.¹⁸⁵

Beyond the criticisms previously discussed—that game theory requires stylised assumptions and that it can be difficult to prove an empirical relationship between the elements in a game-theoretic model to the phenomenon being observed—a more general critique of expected utility theory deserves yet further explanation. Within mainstream economics, assumptions about choice because of uncertainty about another’s actions—that is, when it is highly uncertain what moves other players will take—make it difficult

¹⁸⁴ Kreps reiterates this critique by stating that game-theoretic techniques are hindered when “in some important sorts of games that have many equilibria, the theory is of no help in sorting out whether any one is the ‘solution’ and, if one is, which one is.”

KREPS, *supra*, at 97.

¹⁸⁵ KREPS, at 101

to apply expected utility theory¹⁸⁶ For example, some people value spontaneity which cannot be readily put in to a means-ends model. Other scholars have criticised the whole notion of a utility function because values (such as honour) cannot be easily compared to basic needs (such as human thirst and hunger).¹⁸⁷ Game theory has also been criticised as attempting to force a mechanical comparison between values that cannot be empirically tested. While these criticisms are perhaps valid about some, if not many uses of game theory, in the truth-maximisation game it is important to distinguish all potential applicants across their distribution. That is, those applicants who do not value truth as a valuable commodity (or do not so value amnesty and so are not willing to trade for it), are less valuable, intrinsically, to the Commission: it will not be able to much affect their information offer anyway.¹⁸⁸ It is the segment of the applicant population who will

¹⁸⁶ See, e.g., Amartya Sen, *Rational Fools*, 6 PHIL. & PUB. AFF'S 317 (1977).

¹⁸⁷ See, e.g., M. HOLLIS, *HONOUR AMONG THIEVES* (1991).

¹⁸⁸ On the asymmetric incentive end of this spectrum are potential applicants such as PW Botha or Winnie Madikizela-Mandela, discussed *infra*, who believe themselves above the criminal or civil liability “stick” and whose behavior cannot thereby be induced by the amnesty “carrot.” Alternatively, on the symmetric incentive end of this spectrum are potential applicants who will cooperate fully *regardless of the Commission’s actions or strategy*. These applicants either believe in the process sufficiently and will cooperate without inducement, or are so risk averse that even the potential possibility

meaningfully engage the Commission in the bargaining process that are of the most concern. They will see information as a valuable commodity and will therefore provide as little as possible. And it is with these people that the Commission can profit from a game-theoretic strategic bargaining scheme. The next section will apply these concepts to the truth amnesty game itself.

of not receiving amnesty and continuing to face civil and criminal liability is unpalatable. These could consist of philosophically aligned individuals on the one hand, or individuals already jailed for their deeds, on the other. If all applicants were distributed across a normal distribution curve, these would be the applicants at the extremes of the distribution and would not likely constitute a large proportion. They are less interesting strategically, because the Commission is not likely to affect their information offers regardless of its own strategy.

IV. The Truth-Amnesty Game

As has been discussed previously, the truth-amnesty game is one of asymmetric information. The first step in modelling the bargained-for interaction is to consider it as a set of sequential games, each involving two players: the Commission and an applicant. While the Commission must interact across many information sets (applicants), each amnesty decision it makes is individualised. This is an important factor to bear in mind for the purpose of modelling the sequential-equilibria. Applicants possess information (truth) and the Commission possesses both the power to grant amnesties and some information.

A. Utility Maximisation

The Commission's power is not unlimited. The Commission must answer to its political progenitors, to the public and to other interested parties—thus it has a legitimacy constraint. Because of the goals set out in the enabling statute, implicitly and explicitly, it can be assumed that the Commission derives utility from the grant of amnesty to an applicant, *and* deriving information from the applicant, *and* adhering to its aforementioned legitimacy constraint. It, therefore, seeks to maximise these functions. The preference ordering, *infra*, accounts for these goals. Applicants will typically not know precisely what information the Commission possesses, nor will applicants be able to make a very precise calculation of its legitimacy constraint. Therefore, it is in the Commission's interests to hide both its reservation price (the minimum it will accept for amnesty) and information about its legitimacy constraint from applicants prior to hearing

their testimony. A bargained-for exchange may take place if an exchange equilibrium exists in which the Commission gains sufficient information it does not have in the first place, to make the granting of amnesty profitable for it, given its reserve price. The information available to the Commission, therefore, is asymmetric, incomplete, and uncertain. The applicant is in possession of some quantity of information, l , but does not know what quantity of information is required to be granted amnesty. It is crucial to keep in mind that l represents only the information the applicant has in her possession and is therefore subjective, rather than accounting for all the information that exists in the universe. The Commission knows what level of information it will require for amnesty, t , but does not know, precisely, what quantity of information each player possesses—the size of l .

If it were feasible to collect empirical data, utility functions could be determined on the basis of revealed preferences derived from an empirical study of TRC proceedings. This would occur by dividing the group of applicants across the spectrum of incentive alignments. However, this cannot be profitably attempted here, for several reasons: First, it is likely that some applicants had guilty consciences, and may have derived utility from unburdening themselves before the Commission. However, we are never likely to have sufficient data about the psychologies of individual applicants to be able to factor this into the analysis.¹⁸⁹ Second, as has been shown from the literature of the polling of

¹⁸⁹ Gathering this information would require exhaustive studies of individual applicants.

Merely interviewing them would not suffice, since information obtained in this way

voters, when candidates are of mixed-race or black, racism can be one factor that inhibits accurate sampling. Both dishonesty and other reasons, then, mean that empirical statistical sampling would not be possible with any acceptably high level of efficacy. Doing so would, in any case, weaken the power of the analysis, because the focus is on seeking an optimal strategy for a transitional-sanction mechanism given the *worst* possible situation from its point of view: a situation in which all applicants wish to divulge as little information as possible. The general relevance of the model would be diminished if it factored in highly context-sensitive and idiosyncratic facts about the particular personalities involved in the South African experience. The empirical fact which *does* motivate the assignment of utility functions is the fact that higher-ranking applicants were, in general, less forthcoming before the TRC than lower-ranking ones, for whom concealment was more difficult since they were the visible boot of the apartheid regime. As incident/victim-specific investigations were undertaken by the TRC and independent information was stored in the TRC databank, the TRC successfully leveraged independent information against various low-levelled applicants, but was less successful against higher-ranking ones. Independent information regarding higher-

could not be trusted to be reliable. Revealed preference theory has sometimes been criticised for depending on data of this sort despite the fact that it can seldom be gathered. See, e.g. DANIEL HOUSEMAN, *THE INEXACT AND SEPARATE SCIENCE OF ECONOMICS* (1992), *THE ECONOMICS OF JOHN HICKS* 145-163 (Dieter Holm, ed. 1984). Such criticism rests on mistaking revealed preference theory for an empirical research method.

ranking applicants often focused on decision-making at a policy, rather than incident level, and accountability proved more difficult to pinpoint. The Commission decided, for example, to give ANC Deputy President Thabo Mbeki and 36 other top African National Congress leaders sweeping amnesties, even though their joint application was criticised for specifying few details about specific events.¹⁹⁰ In another widely-publicised case, the Commission chose not to subpoena former State President P.W. Botha to appear before the Commission after he had refused a request to do so.¹⁹¹ One notable exception to this pattern was the submission of Roelf Meyer, former Defence Minister, who provided a frank and detailed information offer to the Commission—in contrast to the majority of high officials of the previous era.¹⁹² Meyer may well have had a different political agenda for doing so, however, as he was then engaged in forming a multiracial coalition

¹⁹⁰ See Andrea Weiss, *Storm Over ANC Chief's Group Amnesty*, SUNDAY ARGUS (Cape Town), Nov. 30, 1997, at 1, *Panel Stands by 'Group Amnesty'* (South Africa Press Service), CAPE TIMES, (Cape Town) Dec. 3, 1997, at 6.

¹⁹¹ *Botha May Face Wrath of TRC*, (South African Press Service), THE STAR (Johannesburg), Nov. 9, 1997, at 3. While this issue was still unresolved at the time of this writing, it was clear that more preferential treatment was accorded P.W. Botha than lower-ranking former officials.

¹⁹² *South African Ex-Official to Aid Inquiry*, REUTERS NEWS SERVICE, April 23, 1997 (available in Lexis/Nexis news file).

party to compete against the ANC. This strong correlation of high rank to quantity of information offer, commented upon routinely in the South African press throughout the TRC proceedings, supports the assumption that, *ceteris paribus*, applicants preferred not to reveal more information than they thought necessary.¹⁹³

The utility function assigned to the Commission is derived from the straightforward assumption that the Commission attempted to sincerely fulfil its mandate to maximise both information gathering and the grant of amnesties. It also must include legitimacy issues, as discussed earlier, which consist of political acceptance—both present and future—and adherence to its various constituencies (victims and applicants from both sides of the previous struggle, current government officials, apartheid-era officials, and various publics opposed or supportive of its operation). Through observations of the Commission's work and records that have become available, no significant counter-examples that would disconfirm this assumption have come to light,

¹⁹³ This pattern emerged for applicants from both sides of the struggle. One example is illustrative. Former members of the apartheid-government death squad unit named Vlakplaas—Jack Cronje, Roelf Center, Willem Wouter Ments and Paul van Vuuren—jointly filed an amended application for amnesty encompassing 65 victims. These incidents were not mentioned in the original applications of the men. This additional submission came only after the Commission learned of these incidents through independent sources. See Vlakplaas case discussion *infra*. John Yield, *Apartheid Stormtroopers' Grim Tales*, THE ARGUS (Cape Town), March 15, 1997, at 22.

though it is not unreasonable to suppose that the Commission's reserve price was, in practice, lower for those associated with the new regime than for those associated with the old one. This criticism of price discrimination was frequently repeated by officials associated with the former regime.¹⁹⁴ Members of the National Party publicly accused the Commission of bias after appearing before it, and in one incident subsequently sought a public apology.¹⁹⁵ Several commentators pointed to the Commission's approach to Winnie Madikizela-Mandela, former wife of ANC leader Nelson Mandela, as perhaps the strongest example of this price discrimination.¹⁹⁶ The Commission granted her several special concessions given to no other applicant. During the Human Rights Committee hearings to examine the events surrounding the death of Stompei Saipei, in which Madikizela-Mandela had earlier been convicted of complicity, an elevated platform was built within the hearing room to allow Madikizela-Mandela a strategic view of opposing witnesses, she was granted numerous delays to accommodate her schedule, and closed-

¹⁹⁴ See, e.g., *Mandela Foes Accuse Truth Commission of Bias*, REUTERS NEWS SERVICE, May 19, 1997 (available in Lexis/Nexis news file).

¹⁹⁵ Suzanne Daley, *Head of Apartheid Inquiry Refuses to Apologise to DeKlerk*, NY TIMES, June 20, 1997, at A3.

¹⁹⁶ Pippa Green, *Pity The Truth Commission As It Tries To Peer Through A Fog Of Lies*, THE SUNDAY INDEPENDENT (Johannesburg), Nov. 30, 1997, at A4.

door and then open-door weekend hearings were held at her request.¹⁹⁷ After making these criticisms, it is important to point out that the hearings at issue were not Amnesty Committee hearings and the final decisions on amnesty for these and other applicants would have to be compared with other observable data. Nonetheless, the observation of price discrimination can be safely made, even if it can be attributed in part or in full to factors other than bias. This complication does not effect the analysis here, however, since the strategy that will be put forward as optimal is independent of the actual value of the reserve price, and does not depend on the assumption of a unitary reserve price for all applicants. The game methodology construct requires only the very weak assumption that reserve prices from one applicant to the next were not random.

B. Commission/Applicant Payoff Function.

For the Commission, utility increases with both truth (information) maximisation and reconciliation maximisation. As has been discussed earlier, the Commission is concerned with granting amnesties, receiving as much information as possible, legitimacy, victim-offender reconciliation, and political expediency. Thus, we may assume the following preference-ordering for the Commission:

¹⁹⁷ *Id.*

COMMISSION/APPLICANT PAYOFFS

Let l = total truth available to applicant

t = threshold minimum allowed for amnesty,

s = quantity of truth submitted,

$u(s)$ = utility to the Commission derived from information submitted,

$u(c)$ = utility to the Commission associated with reconciliation through the granting of amnesty,

α = minimum transaction costs,

β = total transaction costs,

dwl = dead-weight loss quotient, e.g., information which becomes unrecoverable given particular outcomes, where outcomes are functions of strategy vectors,

a = amnesty granted, and

$\sim a$ = no amnesty granted.

Commission Payoffs:

Grant of amnesty with full cooperation, total transaction costs equal minimum transaction costs. ($s=l, \beta=\alpha, dwl=0, \beta < u(s) + u(c), 0 < t < l$)
Payoff = +6

Grant of amnesty with full cooperation, total transaction costs greater than minimum transaction costs. ($s=l, \beta > \alpha, dwl=0, \beta < u(c) + u(c), 0 < t < l$)
Payoff = +5

Grant of amnesty eliciting more than minimum, but less than full cooperation, total transactions costs equal minimum transaction costs. ($l > s > t, \beta=\alpha, dwl=l-s, \beta < (u(s) + u(c)), 0 < t < l$) **Payoff = +4**

Grant of amnesty eliciting more than minimum, but less than full cooperation, total transaction costs greater than minimum transaction costs. ($l > s > t, \beta > \alpha, dwl=l-s, \beta < (u(s) + u(c)), 0 < t < l$) **Payoff = +3**

Grant of amnesty eliciting threshold cooperation, total transaction costs equal minimum transaction costs. ($s=t, \beta=\alpha, dwl=l-s, \beta < u(s) + u(c), 0 < t < l$)
Payoff = +2

Grant of amnesty eliciting threshold cooperation, total transaction costs greater than minimum transaction costs. ($s=t, \beta > \alpha, dwl=l-s, \beta < u(s) + u(c), 0 < t < l$) **Payoff = +1**

Denial of amnesty but full cooperation, total transaction costs equal minimum transaction costs. ($s=l, t > l, \beta=\alpha, dwl=0, \beta > u(s) + u(c)$) **Payoff = -1**

Denial of amnesty but full cooperation, total transaction costs greater than minimum transaction costs. ($s=l, t > l, \beta > \alpha, dwl=0, \beta > u(s) + u(c)$)
Payoff = -2

Denial of amnesty eliciting some cooperation, total transaction costs equal minimum transaction costs. ($s > 0, \beta=\alpha, dwl=l-s, \beta > u(s) + u(c), t > 0$)
Payoff = -3

Denial of amnesty eliciting some cooperation, total transaction costs greater than minimum transaction costs. ($s > 0, \beta > \alpha, dwl=l-s, \beta > u(s) + u(c), t > 0$)
Payoff = -4

Denial of amnesty eliciting no information, total transaction costs equal minimum transaction costs. ($s=0, \beta=\alpha, dwl=l, \beta > u(s) + u(c)$) **Payoff = -5**

Denial of amnesty eliciting no information, total transaction costs greater than minimum transaction costs. ($s=0, \beta > \alpha, dwl=l, \beta > u(s) + u(c)$) **Payoff =**
6

As has been discussed earlier, the potential applicant is faced with the dilemma: to be granted amnesty she must provide a sufficient amount of truth to meet the Commission's reserve price. That is, at the pre-set threshold, the applicant must provide $t^{+\epsilon}$ truth, or just enough to get past the threshold. While zero truth will inevitably bring no amnesty and likely provoke a referral for criminal prosecution, neither is 100% truth required. Only a threshold amount, plus one unit, must be given. An applicant's information-gathering problem consists of inferring the Commission's reserve price (which, as will be discussed below, must not remain constant as the sequence of games progresses) on the basis of its previous dispositions, and such knowledge as she possesses concerning the difference between l and t in previous cases.¹⁹⁸ It should be re-emphasised that information valuation across applicants will vary but the payoffs here encompass the segment of the applicant population the commission is most concerned with—those who wish to provide as little information as possible. Certain extraneous factors, such as whether or not the applicant has had a previous criminal disposition/conviction (and could therefore be applying from prison), or the degree to

¹⁹⁸ The applicants who sought amnesty in the killing of Amy Biehl, for example, faced a skewed incentive slope because of both their incarceration and the degree to which the crime was considered not politically motivated. See *infra* discussion of the Amy Biehl example.

which the act was not politically motivated (and therefore not relevant to bargaining for amnesty in the corner solution), will effect these payoff functions.

Applicant Payoff Functions:

Give minimum information, get amnesty. $(a, s=t)$ *Payoff* = +3

Give less than full, but more than threshold information, get amnesty. $(a, s=t+x, (t+x)<l)$ *Payoff* = +2

Give full information, get amnesty. $(a, s=l)$ *Payoff* = +1

Give no information, get no amnesty. $(\sim a, s=0)$ *Payoff* = -1

Give some information, no amnesty. $(\sim a, 0<s<t, x<l)$ *Payoff* = -2

Give full information, no amnesty. $(\sim a, s=l, t>1)$ *Payoff* = -3

1. The Partial-Model in Extensive Form

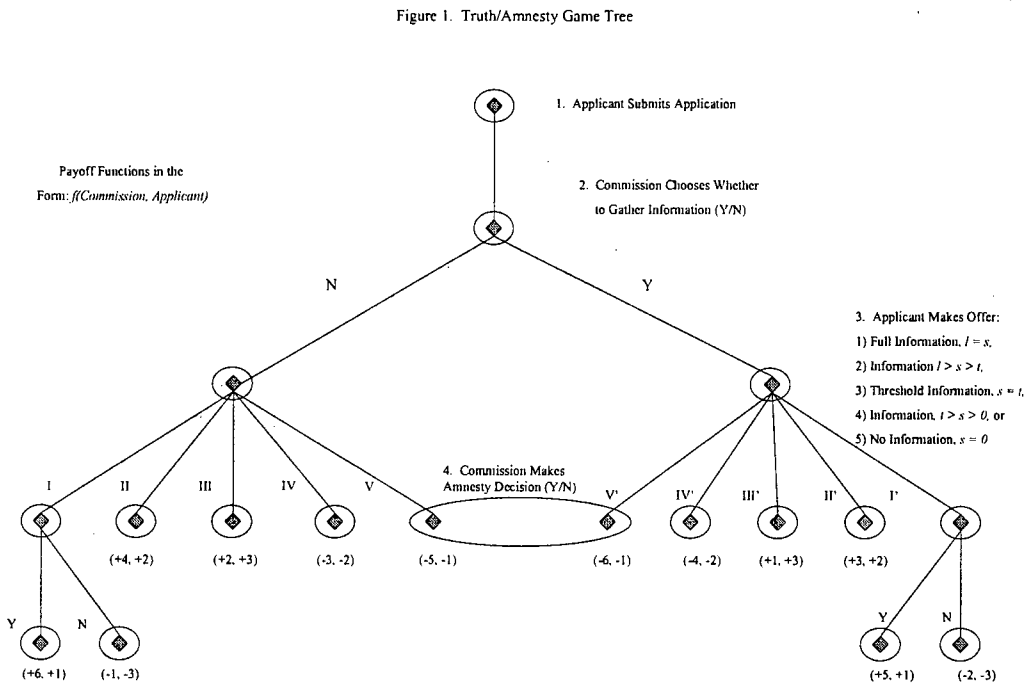
The model most frequently used in non-cooperative game theory is an extensive form game. In an extensive form game, attention is given to the timing of actions that players may take and the information they will have when they must take those actions.¹⁹⁹ This model deserves some explanation because it is easy to confuse a game tree (and game theory) with a *decision tree* and decision theory more generally. The picture is composed of nodes, which are called vectors of numbers.²⁰⁰ Each node is a

¹⁹⁹ See KREPS, *supra*, at 13-15.

²⁰⁰ *Id.*

'position' in the game; a point at which some player must choose some action. Nodes are *not* vectors of numbers; they are simply points at which strategies branch. Nor are they "choice-points." The first position in the game starts the game. In general it is not true that every strategy is an equilibrium strategy, although this does hold, unusually, in the truth-amnesty game. Thus, the moves themselves do not represent decisions.

Figure 1 displays the extensive form of the game:



Node 1 represents the applicant's submission, a necessary prerequisite to the opening of the game. If the applicant decides not to make any application (as opposed to an application that provides zero information) then the game does not occur and there will be either no disposition by the TRC or if events warrant, a referral for criminal prosecution. Node 2 represents the two possible commission strategies, with respect to the level of β . It can either investigate, using part of its limited resources on this case, or it can choose not to investigate. The payoff functions that are represented based on these two preferences reflect the quantity of resources expended. Node 3 represents the

possible information offers by applicants, where five strategies are possible. This folds the two (or more) possible offers that can occur in the game into one. When the applicant makes the initial application, some information is provided and it is possible for the disposition to be made based solely on this information offer. It is also possible that a hearing is held. In this case, a second offer in written form, or in oral testimony can be made. It is possible and in fact desirable to model these possibilities as one for the present analysis. As will be discussed *infra*, the additional offers that can be made create a larger extensive model but *do not* effect the recommendation of optimal strategies. These five possible offers that applicants can make are s , $l > s > t$, t , $t > s > 0$, or 0 . Node 4 represents possible commission responses to applicant's strategies. By definition of t , amnesty will be granted for strategies 2, 3, 2' and 3' and denied on applicant strategies 4, 5, 4' and 5'.

Only nodes 5 and 5' fall within a common information set, since if it is assumed that t must be greater than 0 both the applicants and the Commission possess full and common knowledge of the strategy of the other player at these nodes. The numbers assigned to each node represent the outcome payoffs given in the list preceding the tree. Based on this offer, the commission decides whether to grant amnesty. An offer below the threshold will be met with a no amnesty decision. This results in negative utility for both players. At threshold level or above, the offer is likely rewarded with amnesty. However, because it is possible for t to be greater than l , the model displays this additional no-amnesty possibility.

The Truth-Amnesty Game is unique and has not been heretofore analysed in the literature.²⁰¹ It is particularly appealing for analysis because (1) the direct commodity at stake is information, for which game theory is most effective, and (2) there exists an increasing dead weight loss problem, that is, the returns to information decrease over time.

2. Cooperative vs. Non-cooperative Decision making

Given the nature of the model created here, it appears to be an exclusive examination of the non-cooperative nature of the interaction. But in considering how truth

²⁰¹ Extensive representation of bargaining games in this fashion has taken place in various contexts. See, e.g., Lucien Arye Bechuk, *Litigation and Settlement Under Imperfect Information*, 15 RAND J. ECON. 404 (1984); Albert Alschuler, *The Changing Plea-Bargaining Debate*, 69 CAL. L. REV. 652 (1981); Frank Easterbrook, *Criminal Procedure as a Market System*, 12 J. LEGAL STUDIES 289 (1983); Gene Grossman & Michael Katz, *Plea Bargaining and Social Welfare*, 73 AM. ECON. REV. 749 (1983); Robert Wilson & David Kreps, *Sequential Equilibria*, 50 Econometrica 863 (1982); Ivan P'ng, *Strategic Behaviour in Suit, Settlement, and Trial*, 14 BELL J. ECON. 539 (1983); Jennifer Reinganum, *Plea Bargaining and Prosecutorial Discretion*, 78 AM. ECON. REV. 713 (1988); David Weimer, *Plea Bargaining and the Decision to go to Trial: The Application of a Rational Choice Model*, 10 POLICY SCIENCES 1 (1982).

bargaining actually takes place, it is useful to distinguish between two kinds of interaction—cooperative and non-cooperative engagements. The cooperative possibilities within the applicant-Commission interaction deserve additional explanation. Commissions employed to investigate human rights violations will not always engage in non-cooperative interaction with past-abusers. As has been mentioned earlier, some applicants will have sufficiently aligned incentives (aligned, that is, with the Commission) that will encourage them to seek a cooperative strategy. To analyse non-cooperative bargaining, it is possible to apply the aforementioned “normative Hobbes theorem,” which is the view that “the role of law is to minimise the inefficiency that results when bargaining fails” or, put differently, to maximise the value of the non-cooperative solution of the game being played.²⁰² In the non-cooperative game, the applicant’s welfare is, excepting corner solutions, maximised by setting t so that it satisfies

$$p((C_i), (A_i))L$$

The welfare gain between the Commission and the applicant would thus be:

$$u(s) = u(C_i) + u(A_i) + p(A_i, C_i) \beta L$$

²⁰² Steven Shavell, *Suit, Settlement and Trial: A Theoretical Analysis Under Alternative Methods for the Allocation of Legal Costs*, 11 J. LEGAL STUDIES 55 (1982).

where

$u(c_i) > 0$ and $u(c_i) > 0$, and

$u(s)$ = utility to the Commission derived from information submitted,

$u(c_i)$ = the utility of granting amnesty of the Commission.

$u(A_i)$ = the utility of granting amnesty of the applicant,

$p((C_i), (A_i))$ = the probability of the information offer being accepted

E = the chance of error

Because the two player's joint welfare is maximised by minimising the expected dead weight loss (information the applicant was prepared to offer for complete certainty of amnesty), this implies that the optimal level of information offer, t , satisfies $ML = u(C_i) + p((C_i), (A_i))\beta L$.

The two players could therefore make decisions about information and amnesty non-cooperatively or cooperatively, that is, independently or jointly. Although non-cooperative decision-making may be the more common case in the amnesty context, it is useful to consider the cooperative case because transaction costs and strategic behaviour mean that applicants and the Commission may not always act non-cooperatively. Suppose first that there are no transaction costs affecting cooperation between the applicant and the Commission and that strategic behaviour does not prevent cooperative solutions. What then are the effects of the different rules governing information submission before the commission (i.e., one offer or multiple offers)? Before Coase, it might have been thought that choice between these two possibilities was not so clear.

Now it is possible to demonstrate the benefits of the single-offer framework because of its relationship to transaction costs. Thus, in the cooperative framework, the I and I' , and V and V' strategies mapped in Figure 1 would be more likely to occur than they would in the non-cooperative game.²⁰³

C. Generalised Outcomes

A game-theoretic analysis of the truth-for-amnesty exchange will now take place. The game-tree as drawn in Figure 1 is a formal representation of the interaction, but it is incomplete in at least three respects. First, the game as a whole is in fact a series of games, which are not identical to one another due to the tendency of knowledge concerning t to increase among applicants as the sequence progresses. Assuming that some applicants whose cases are yet to be heard have more information about preceding cases than does the Commission, each time the Commission makes a disposition, it reveals information about the value of t . As the sequence of games progresses, the value

²⁰³ Thus far, it has been argued that the Commission should conceal information about the value of t in order to minimize dwl . Now, however, an inference attaches that the Commission should reveal information about t early in the game. This is not necessarily inconsistent: in cases heard early, and where the Commission knows a high proportion of l , it is indeed rational for it to signal a (misleadingly high) value for t . However, it should be made clear that this “signaling” is “misleading signaling,” as opposed to information-revelation.

of dwl can thus be expected to increase, unless the Commission progressively adjusts t upward to compensate. However, this strategy is ultimately self-defeating, for reasons to be discussed below. Second, the representation ignores the fact that the Commission may gather information at various points, and then call applicants back for further questioning. Each such step is a move in the game, and should appear as such. The result is a game-tree with over a hundred possible outcomes, since each procedural step by the Commission gambles over transaction costs. This resembles Figure 1, but with an additional level and thus is exponentially larger. Finally, in a full representation, all information sets must be specified, and payoff pairs assigned to each node. This is essential to formally solving the game, in the sense of specifying its equilibria. It is not possible to do this, however, because the extent to which l and t will be common knowledge varies from one game to another, and, more importantly, because t varies across an unrestricted range above its lower bound of 0, independently of l . This limits the extent to which equilibrium strategies can be identified. All applicant strategies are equilibrium strategies so long as t is unknown to them, since for each such strategy there is a Commission strategy such that the applicant would have no incentive to change hers. Parallel logic applies to the Commission's strategies, given its lack of knowledge of l prior to deciding whether to gather information. This means that no non-terminal nodes force outcomes. Put another way, there are no subgame-perfect equilibria, which implies that every vector of strategies is an equilibrium set. Formally solving the game would therefore yield a trivial result.

Although it is not possible to create an empirically testable model—and this perhaps recalls one of the often repeated criticisms of game theory, that it is too

assumption based—it is worthwhile to analyse the partial extensive model for several reasons. What has been done in this model is a display of the general structure of one game in the sequence, based on very weak, yet highly plausible assumptions. This makes it possible to now argue that certain implications with respect to the Commission's optimal strategy follow from this structure. Since all possible strategies are equilibrium strategies, it is possible to mount an argument for an optimal Commission strategy based on this partial representation. The following list of strategy elements should be considered by the Commission:

Double Interview. The Commission must decide whether or not to allow an applicant to “come back to the table” with more information when an initial offer of information is less than t . This occurred, for example, in the case of Jeff Benzien²⁰⁴ where the Commission required Benzien to return in two months with “names” of higher officials who ordered or who were complicit in his activities.²⁰⁵ Because this allows the applicant both additional time and information about t , the applicant is able to get closer to t than she would otherwise. In certain instances, it may be that the double interview results in additional information gleaned from the applicant in question. However, this ratchets the

²⁰⁴ See Benzien discussion, *infra*. The TRC must price discriminate, because t , the Commission’s reserve price, must vary as a result of the increasing dead-weight loss problem.

²⁰⁵ *Id.*

truth-bar lower by allowing the applicant who made an $s < t$ submission to get amnesty in this instance. Then, for subsequent applicants the knowledge about the level of t allows for a more informed guess regarding its level. Therefore, over the long-run, this is a poor strategy for the Commission if it is attempting to maximise information extraction. Because of the diminishing returns to truth, as applicants learn more about the threshold level, applicants will meet the threshold and provide no more truth than necessary.

Information Bleed—Delay to Investigate vs. Requiring Submission. Another important issue faced by the TRC is whether to use its investigative staff to obtain independent information about events, and then holding a later hearing, or instead choosing to make an earlier disposition based on information in the original application (and, perhaps, from an appearance and testimony). This is another way of saying that it must allocate its limited investigatory resources across many information sets. It follows that the transaction costs of each application limit the ability to devote resources to other applications. Applicants who are forced to submit a second time, and testify about events subsequently, may have a strategic advantage when the Commission had less independent information in its hands. The TRC may learn more with a longer research period, but it will bleed information, which inhibits its efforts to keep the truth bar from dropping precipitously. The returns to investigation can therefore be said to diminish.

Signalling behaviour/screening. Signalling behaviour is the reputation creating behaviour carried out in early plays of a game that affects the way other players play in

the future.²⁰⁶ Thus, the manner in which the TRC engages earlier players will effect how subsequent players play the game. The Commission can clarify the truth bar, t , so that Applicants have an idea in advance what will and will not bring amnesty. In the absence of any information, applicant submissions equate to gambles across lotteries. Furthermore, because the truth bar will diminish over time, the bar must be as high as possible at the beginning. Therefore, the Commission must use both screening and signalling behaviour to determine which cases can, at the outset, be heard in which a large percentage of the total information will be made available (i.e.: somewhere between where the Commission would prefer the eventual t level to be, and l itself). It is also important that the Commission “signal” by making dispositions of early applicants as soon as possible. The South African TRC made amnesty decisions available to the public,²⁰⁷ but did not clarify reasons for granting or not granting amnesty in these cases. By making clear dispositions, and making them early in the process rather than at the end, the game shifts from merely having applicants “flipping a coin” about how much information to provide to get to t , to providing some guidance—thus knowing the bar is set 'fairly high' at the outset.

²⁰⁶ See RASMUSEN, *supra*, 217-218.

²⁰⁷ These decisions were made electronically, and posted on the TRC world wide web site. They were made only sporadically before August, 1997, and at irregular intervals thereafter. These dispositional statements gave facts about each case but did not state reasons for granting or denying amnesty.

Pooling. The concept of pooling refers to grouping information sets based on criteria that allow for a more strategic bargaining position. By lexicographic ordering, the Commission ranks applicants based on their importance and independent verifiability. The Commission must realise that as time passes, it will be able to get less information from later applicants than earlier ones, all else being equal. Also, early decisions and hearings will greatly effect the quantity of information gleaned later on. Therefore, the Commission should be aware that by pooling applicants based on importance of the case and the quality of independent information available, more information, and more information of higher importance, can be recovered.

Reputation. Because the Commission is involved in a multi-play game, but applicants are involved in a single-shot game, the Commission must be careful in how it uses threats to glean information. A threat in the amnesty context might be to warn an applicant that she will be referred for criminal prosecution or denied amnesty as a consequence of not providing specific information. Threats can be an effective tool, but only when (1) there is a willingness to carry them out, and (2) there is, in fact, follow-through when information is not produced. For this strategy to be viable, the Commission must be prepared to not only inform applicants that submissions of less than t will bring a no-amnesty decision, but also to deny amnesty to applicants who give less than t information, rather than giving additional "bites at the apple." And, if a referral threat has been made the Commission must be prepared to follow through with the Justice Ministry. The crucial notion here is 'information bleed' and how threats are perceived by

subsequent applicants. Other applicants, who have not yet made their final submissions (testified) will watch the Commission's behaviour. Therefore, threats are an important tool but can lead to great 'information bleed' if misused.

Lexicographic Ordering. Where it is not known how much information is independently available or where the independent information available involving a subset of applicants is equal, the Commission should choose which cases to hear by randomising around that particular threshold. By randomising around the threshold of information, at least some highly risk averse—and thus more cooperative—applicants will be in the pool. Because they are prepared to give full/complete information for amnesty, they should be heard before less forthcoming applicants if at all possible. The strategy of lexicographic ordering will be discussed in depth, *infra*.

Utility Trade-off. The truth vs. utility trade-off is an important policy consideration. If the truth bar is set particularly high, fewer applicants will receive amnesty and less reconciliation will occur in the new regime. If the bar is set very low, more amnesties will be granted but less will be learned about past acts. This too will diminish the amount of reconciliation. Legislators and other actors who contemplate a truth commission must think about this issue. Graphically, where truth is on the x axis and reconciliation on the y axis, the Commission must try to get as far out into NE quadrant as possible given these political constraints.

Equilibrium Strategy. Considering the game as set out, the Commission has the following equilibrium strategy. To maximise information extraction, the Commission should first rank order information sets (cases) where it (a) uses importance of cases, and (b) analyses quantity of information not in its possession. Based on this rank ordering, it should decide which cases ought to get a hearing. Then, it should proceed first to hear, for each subset of information, (a) TRC-hostile witnesses, (b) applicants, and then (c) TRC-friendly witnesses. Then, the TRC should move on to the next subset. At some point, because of information bleed and diminishing returns (procedural delays, memory loss, etc.), a subsequent threshold, t^* will be met. At this point, the Commission's strategy shifts. At t^* the Commission should randomise and hear cases as they come along until eventually the information loss outweighs the information gain and the Commission shuts down operation. This strategy will be explained further, *infra*.

1. Justification of Payoff Assignments

The payoff outcomes used earlier deserve additional justification. It might be supposed that if these outcomes are inefficient, then strategy vectors leading to them cannot be equilibrium vectors. This is not the case, however. Although following a disposition an applicant may be in a position to infer that t exceeded l , the Commission is only in a position to make such an inference if its strategy carries the game down the right-hand side of the tree—and even this cannot be guaranteed, since information-gathering expenditures are not sure to produce l . There are thus equilibrium vectors leading to the uniquely inefficient outcome where t exceeds l , the applicant submits l , and transaction costs exceed α . Simply by holding a hearing, the Commission assumes a

certain base level of transaction costs, represented by α . Information gathering during hearings pushes these up to β . The possibility that the Commission may obtain information beyond t without interviewing witnesses, visiting grave-sites, etc., allows for differential payoffs on each final disposition; all else being equal, the Commission is better off the smaller the difference between α and β .

The relationship between t and l also merits attention. Only the Commission knows the value of t in any particular case, and reveals it through its dispositions. Commission strategies leading to disastrously inefficient outcomes are, as it were, 'honest mistakes' resulting from imperfect information. However, for political reasons, and because dwl will tend to increase as the sequence of games progresses, t 's value will fluctuate among applicants, along a non-smoothly declining curve. The value of l in any particular case is known only to the applicant.²⁰⁸ This allows for the possibility that the Commission may make costly errors, and, in some cases, set t higher than l . In such instances, payoffs for both the Commission and the applicant must be negative. Hence, the least efficient possible outcomes result in any game in which the applicant submits l , and the Commission sets t higher than l .

After mapping out the strategic interaction, it is possible to focus on an optimal strategy for the Commission. Since the policy focus of this analysis is on the

²⁰⁸ Because l is defined as the quantity of information known to the applicant, it can change over time due to memory loss, etc. One illustrative case where l changed is the "Vlakplaas 5," see discussion *infra*.

implementation of a transitional sanction mechanism, it is practical to narrow the concern here to focus on the optimal strategy of the Commission. It is certainly important to assume that applicants, as a group, pursue the entire range of available strategies. These will depend on such combinations of factors as incentive structure alignment, possible incarceration of the applicant, degree to which the act was not politically motivated, the damage to their reputations that would follow from revealing information, their subjective estimates concerning the likelihood that such information as they possess cannot be discovered unless they reveal it themselves, and their level of confidence that they have correctly estimated t .

A first problem faced by the Commission as it moves through the sequence of games is how to best deal with the tendency of dwl to increase. In principle, the Commission could attempt to compensate for this by progressively raising the value of t . This strategy, however, is self-defeating because at some threshold t 's value will exceed that of l , with consequences which are, as explained above, the most inefficient possible. Since the Commission does not generally know the value of l , it cannot act so as to remain below this threshold. Second, dwl also increases due to factors beyond the Commission's control, namely, deaths and losses of clarity of memory among applicants and witnesses. If the Commission must thus face the fact that dwl will increase as it proceeds through hearings, what is its optimal way of dealing with this? The technique that would benefit the commission most under these circumstances is lexicographic ordering, as has been discussed *supra*. But because of the central aspect of lexicographic ordering to the optimal strategy, it deserves additional explanation.

2. Lexicographic Ordering

The various human rights violations and other events investigated by the Commission and which relate directly to events mentioned in various applicant's applications will not be of equal political significance. The Commission should therefore act so as to maximise its likelihood of positive payoffs on applicants implicated in important events, at some cost to its probability of achieving positive outcomes in later games, as the value of dwl rises. The Commission can also minimise the *rate* of increase of dwl by using such information as it possesses to isolate sets of applicants and witnesses into clusters based on their common involvement in specific events, and hearing their testimony before considering other sets of applicants. By this method, the Commission reduces the level of signalling to future applicants concerning the relationship between t and l . Hearing applicants in random order, as the South African TRC did, will increase the rate of increase of dwl , since applicants who share information with previously heard ones will be able to guess the relationship between t and l more accurately than can the Commission.

However, transaction costs must be factored into consideration when the strategy suggested above is contemplated. The availability of witnesses hostile to the applicants is a crucial variable. If such witnesses are heard following the testimony of the applicants with whom they share information, then this acts as an inducement mechanism on applicants to be conservative in their estimates of the difference between t and l . Furthermore, the Commission has the option of subsequently recalling applicants if applicant-hostile testimony reveals that the difference between s and l is unacceptably

high. This was in fact done on several occasions by the South African TRC.²⁰⁹ Finally, if there are witnesses known to be sympathetic to the applicants, then their testimony should be heard first, since it provides the TRC with information concerning the probable strategies of the applicants in question. However, where witnesses are unavailable, the Commission increases the risk of a large difference between t and l , unless it engages in costly investigative work, thereby increasing the value of β .

3. Optimal Strategy

Based on this analysis, it is possible to recommend the following general strategy for transitional sanction mechanisms. A commission should first arrange applicants and witnesses into sets, based on such knowledge as it possesses concerning the extent to which they share information. It should then order these sets into a sequence of bargaining games. Earlier games should be played against applicants who are implicated in politically sensational events, and where witnesses are both available and readily identified. As noted above, the TRC did not incorporate these procedures into its strategy. However, the full strategy should be slightly more complicated.

Hearing testimony through a sequence of relatively informationally isolated sets of applicants and witnesses creates procedural delays. Since, as noted, the mere passage of time is one of the factors which pushes dwl upwards, at some threshold β will come to exceed $u(s) + u(c)$, and the Commission will earn negative payoffs unless it compensates by ratcheting t downwards, in violation of its mandate. Furthermore, there is a principled

²⁰⁹ The case of Jeff Benzien is illustrative. See discussion *infra*.

limit to this response, since the Commission cannot earn positive payoffs except where $t > 0$. The Commission cannot, of course, know exactly where this threshold lies, but since it can estimate β , and determines both t and $u(c_i)$, it can make a principled estimate of the point at which it should revert to the policy pursued by the South African TRC, and consider cases simultaneously and without regard for informational isolation. However, as long as the threshold is not reached too quickly, wasted rents to the Commission which result from use of this two-stage strategy will be minimal, since the cases heard during the second stage will either be those in which the upper bound of $u(c_i)$ is low due to their relative political insignificance, or where the value of β is high as a result of factors beyond the Commission's control. By following these strategies, the Commission will not only minimise the deadweight loss in the transaction, it will be strategically poised to capture as much information as possible given the statutory and policy constraints it faces.

D. Three Case Studies

Given these observations, it is useful to explore three cases in which the South African TRC engaged in strategic behaviour shown to be either underproductive or counterproductive by this analysis, and suggest some alternative approaches if the bargaining interaction were to be revisited.

1. Jeff Benzien

Jeff Benzien was the infamous “wet-bag torturer” of the Western Cape during the 1980s, a sergeant in the police force, and a specialist in extracting information from anti-

apartheid activists.²¹⁰ Benzien applied for amnesty by means of a vague application that by itself constituted a sub-threshold submission. The Commission held an initial hearing to consider Benzien's application in July, 1997.²¹¹ During the hearing, several of Benzien's former victims were present at the hearing, and after being prodded, Benzien demonstrated for the Commission some of the techniques he once used to extract information.²¹² During his testimony, Benzien bragged that "only one MK (ANC military-wing) soldier took longer than thirty minutes to break."²¹³ Benzien was unable to remember which of his commanding officers knew of his activities or gave permission for them, much to the dismay of the Commission. The Commission was dissatisfied with Benzien's initial information offer because of this claim not to remember the names of his superiors or cooperating officers. Because he had not "named names," he was instructed to submit additional information within 30 days.²¹⁴

²¹⁰ Roger Friedman, *Benzién 'Taking Blame for Bosses'—Victims say Torturer is Covering Up*, CAPE TIMES (SOUTH AFRICA), July 16, 1997, at A7.

²¹¹ Roger Friedman & Benny Gool, *Yengeni Reduces His Old Police Torturer To Tears*, CAPE TIMES (SOUTH AFRICA), July 15, 1997, at A2.

²¹² *Id.*

²¹³ *Id.*

²¹⁴ *Id.*

The Commission would have been well served to utilise lexicographic ordering, signalling, and screening behaviour in Benzien's case. First, by clearly indicating in advance where the threshold existed, what would and would not constitute a successful application, the applicant would move from gambling over lotteries to having some information regarding the threshold, t . Benzien's case demonstrates the problems of using multiple information offers and giving applicants the chance to have more than one "bite at the apple." The Commission allowed Benzien to make not just one or even two information offers, but in fact allowed him to get marginally closer to the t level in each subsequent information offer--by engaging in a dialogue regarding where t lies on the spectrum.²¹⁵ Certainly the Commission realised increased utility by not denying amnesty to Benzien, but the Commission lowered its strategic advantage in the information extraction by having him return a second time and inducing greater information bleed that subsequent applicants could witness.

2. Vlakplaas Captain Jacques Hechter

²¹⁵ The Commission should not play sequential games with individual applicants. In this case, by strict implication, t cannot 'move' since it is applied only once. It does not follow from the LaCasse result, presented earlier, which demands non-discriminatory pricing where multiple buyers are present. Here, there is only one buyer, and that agent is the Commission, not Benzien.

Vlakplaas refers to a farm in the Northern Transvaal that housed a special unit of the Northern Transvaal Security Police engaged in torture, abductions, intimidation, death squad activity, cross-border raids and training of turned anti-government cadres (or 'askaris').²¹⁶ Many members of this unit eventually applied for amnesty, but only after independent information came to light exposing their activities.²¹⁷ Of these, a unique case involving Northern Transvaal Security Police Captain, Jacques Hechter, emerged. Hechter oversaw the death squad assigned to the Northern Transvaal. In his original application to the TRC seeking amnesty, Hechter claimed that he suffered from amnesia and could not remember past events—going so far as to provide medical evidence to this effect. As independent evidence of Hechter's involvement in various murders came to light, Hechter filed amended amnesty applications on at least two occasions, seeking amnesty for these murders as well.²¹⁸ Hechter's amnesty application was first scheduled for hearing in April, 1997, fairly early in the process and before the final cutoff date for all amnesty applications. Assuming Hechter's claim to be correct, that he could not remember the events he was involved in, a unique mathematical problem arises: *l* is both

²¹⁶ JACQUES PAUW, INTO THE HEART OF DARKNESS ch. 13 (1997).

²¹⁷ This was a sensational event as the TRC investigation unfolded and caused considerable embarrassment to officials of the former regime. *Id.*

²¹⁸ *Id.*

infinity and zero.²¹⁹ It is certainly plausible that Hechter's memory claim is false. But even so, when the Commission is confronted by someone for whom *l* changes over time, then by definition there it more difficult to obtain independent information. By employing lexicographic ordering, Hechter's petition(s) could have been ranked lower and thus a later hearing date could have been set. By doing so, the Commission avoids the problem of attempting to guess at the level of *l* before other independent information is available. It can instead define the contours of *l* after the passage of time. It is the legitimacy interest and continued ability to carry out threats that is at stake; employing strategic behaviour would insure that these interests were not compromised to the same degree.

3. Amy Biehl's Killers

In the case of Mongezi Manqina, Ntobeko Peni, Easy Nofemela and Vusumzi Ntamo, who were convicted in 1993 of killing American student Amy Biehl, the applicants were serving jail sentences at the time of their amnesty petition, and it was uncertain whether the killing was politically motivated as defined by the statute.²²⁰

²¹⁹ This does not imply that the problem is non-existent. *L* could not possibly be 'infinite' since this would imply that, but for his amnesia, Hechter could reveal not only every scrap of information – about every case – desired by the Commission, but more information than exists in the universe.

²²⁰ Gaye Davis, *Past Flashes by in Death of a Golden Girl*, MAIL & GUARDIAN

During their criminal trial in 1993, the then-defendants denied any involvement in the slaying.²²¹ At the June, 1997, amnesty hearings, however, the applicants gave substantial details describing their own actions in Biehl's death.²²² The written petitions were detailed and particularised. This would be predictable from an incentive structure analysis: the men were in jail and because of the political motivation question, had strong incentives to provide a high percentage of *l*. Using lexicographic ordering, then, would militate in favour of an early application and decision. Even if a no-amnesty decision were made, the high percentage of *l* provided (by definition the offer was between *t* and *l*), would have helped slow the rate of increase of dead weight loss—the rate of decrease in the threshold for other information sets. Therefore, the Commission might have used an earlier hearing date, rather than the July, 1997, date which was approximately mid-way through the amnesty hearing process.

These three examples demonstrate the possible benefits of lexicographic ordering. The returns to information may in fact be small in any individual case, but given the political constraints handed down by its political progenitors, the Commission can realise increased utility across all information sets by deploying strategic behaviour

(Johannesburg), July 11-17, 1997, at 6.

²²¹ *Three Guilty in Cape Town in U.S. Woman's Slaying*, (Associated Press) NY TIMES, Oct. 26, 1994, at A6.

²²² *South Africans Apologise to Family of American Victim*, (Associated Press), NY Times, July 9, 1997, at A9.

methodology. Future commissions can therefore learn from the bargaining lessons that this game-theoretic analysis provides.

V. Conclusion

*“The truth is rarely pure, and never simple.”*²²³

Some scholars of law and economics have advanced a bold theory that transforms the study of law from a complex, hydra-headed investigation of fact and value into a straight-forward application of two “simple” hypothesis: (1) the law should be efficient (the normative claim) and (2) the law is in fact efficient (the descriptive claim).²²⁴ A wide variety of senses may be attributed to the term “efficiency.” The rules governing truth bargaining may be efficient (or inefficient) relative to only one of a diverse sets of alternative rules available.²²⁵ This dissertation has analysed the truth-for-reconciliation scheme within this law and economics tradition. By placing the truth for amnesty bargain squarely within the bargaining methodology framework employed in other areas of the law, an analyses of the relative efficiency of the scheme was made possible. As with bid-rigging or plea bargaining, the truth-for-amnesty exchange contains rich

²²³ OSCAR WILDE, *THE IMPORTANCE OF BEING EARNEST* ACT I (1895).

²²⁴ Lewis A. Kornhauser, *A Guide to the Perplexed Claims of Efficiency in the Law* 8 HOFSTRA L. REV. 591.

²²⁵ *Id.*

theoretical problems that can be unbundled through use of microeconomic principles generally, and game-theoretic analysis more specifically.

The Truth and Reconciliation Commission came into being after a complex series of negotiations in which antagonists sought to account for the past while engendering reconciliation that could propel South Africa into a new era. Shortly after its creation, the Commission set an application deadline and published information regarding the requirements for receiving amnesty—namely, the furnishing of “all information” relating to past criminal actions and the requirement of “political motivation.” The Commission was then faced with a delicate task of adjudicating the applications, ferreting out as much information as possible, and fostering reconciliation. The extent to which it was successful in these objectives will be the subject of much debate and analysis. This dissertation has argued, however, that reliance on some methodological construct is warranted when future Commissions are faced with a similar challenge of balancing many competing obligations—to the public, to former political combatants, to future decision makers, etc. In trying to meet these competing duties, game-theoretic analysis is useful because (1) it gives an upper bound for the truth-for-reconciliation trade-off, given the constraints decided upon by lawmakers, (2) there is some empirical result; and 3) policy recommendations can be handed down based on the analysis.

That transitional justice methodology has emerged to assuage ethnic and political conflict is not surprising. It serves as a paradigm for bridging the post-transition need for truth gathering, on the one hand, and reconciling differences between groups previously engaged in violent confrontation, on the other. New institutions, such as South Africa’s Truth and Reconciliation Commission have become the means to engender healing and

re-establish legitimacy of the rule of law. Policy makers choose the truth-for-reconciliation trade-off but its efficacy is only so good as the implementation scheme supporting it. Combining the statutory mandate to investigate atrocities, to examine the acts of perpetrators, and to console victims creates a delicate balancing act.

Given these constraints, an understanding of bargaining methodology will inform a future Commission's approach to applicants by allowing it to choose the strongest possible bargaining position. This will lead to capturing the greatest amount of information possible, all else being equal. Because the implementation of transitional justice is a new phenomenon, little examination of the intricacies of implementation has taken place. Such an understanding can inform future legislation designed to create transitional political bodies in other contexts.

This dissertation has taken a new and important bargaining problem and analysed it using game-theoretic tools. The analysis has put truth and reconciliation bargaining squarely into the law and economics framework. In so doing, it allows for an examination of the transaction through the lens of game theory. Furthermore, by modelling the interaction as an imperfect information game, it is possible to analyse the optimal strategy of the Commission within the statutory framework created. This optimal strategy would allow for additional information extraction if all other factors were held constant. The dissertation invites further work and refinement, particularly an effort to empirically analyse the distribution of applicants across preference orderings. Such empirical data could allow for the creation of a sample range of applicants who did and did not fit into the "truth as commodity" definition used in this dissertation. Then a formal analysis of these actual applicants could take place. However, even with this

additional research agenda, the argument here stands on its own. The general structure of the truth-for-amnesty game has important implications for the procedures which should be followed by future transitional sanction mechanisms, and which were not followed in the South African case. Whether the TRC in South Africa would have created more “reconciliation” by following these suggested principles is uncertain. Reconciliation, after all, does not have a universal definition. It is possible to argue, however, that following the lexicographic ordering strategy advocated here would have led to additional information extraction. But, because the value of truth and reconciliation, which together determine the acceptable upper bound on transaction costs, is normative, it is a trade-off that policy makers will have to decide upon in future transitions.

References

- Africa News Service, *South Africa's New Constitution Takes Effect Today*, (Feb. 4, 1997).
- Alschuler, Albert, *The Changing Plea Bargaining Debate*, 69 CAL. L. REV. 652 (1981).
- Associated Press, *Three Guilty in Cape Town in U.S. Woman's Slaying*, NY TIMES, at A9 (Oct. 26, 1994).
- South Africans Apologise to Family of American Victim*, NY TIMES, at A9 (July 9, 1997).
- Atwood, James R., *An Economic Analysis of Land Use Conflicts*, 21 STAN. L. REV. 293 (1969).
- Ayres, Ian, *Playing Games with the Law* (book review), 42 STAN. L. REV. 1291 (1990).
- Ayres, Ian & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L.J. 87 (1989).
- Ayres, Ian & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade*, 104 YALE L.J. 1027 (1995).
- Bebchuk, Lucien Arye, *Litigation and Settlement Under Imperfect Information*, 15 RAND J. ECON. 404 (1984).
- Benoit, J.P. & V. Krishna, *Finitely Repeated Games*, 53 ECONOMETRICA 905 (1985).
- Becker, Gary S., *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968).
- BINMORE, KEN PLAYING FAIR (1994).
- FUN AND GAMES (1992).
- BINMORE, K., A. KIRMAN & P. TANI, EDS., FRONTIERS OF GAME THEORY (1993).
- BORAINE, ALEX, JANET LEVY & RONEL SCHEFFER, EDS., DEALING WITH THE PAST: TRUTH AND RECONCILIATION IN SOUTH AFRICA (1994).
- BRADLEY, IAN & RONALD MEEK, MATRICES & SOCIETY (1986).

- STEPHEN G. BREYER & RICHARD B. STEWART, *ADMINISTRATIVE LAW AND REGULATORY POLICY* (3^D ED.1992).
- Brown, Jennifer Gerarda & Ian Ayres, *Economic Rationales For Mediation*, 80 VA. L. REV. 323 (1994).
- Calabresi, Guido & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One view of the Cathedral*, 85 HARV. L. REV. 1089 (1972).
- Carlton, Dennis W., Robert H. Gertner, & Andrew M. Rosenfield, *Product Differentiation: Communication Among Competitors: Game Theory and Antitrust*, 5 GEO. MASON L. REV. 423 (1997).
- Chatterjee & Samuelson, *Bargaining Under Incomplete Information*, 31 OPERATIONS RES. 835 (1983).
- COASE, RONALD, *THE FIRM, THE MARKET, AND THE LAW* (1988).
- The Problem of Social Cost*, 3 J. L. & ECON. 1 (1960).
- Cohen, Stanley, *State Crimes of Previous Regimes: Knowledge, Accountability, and the Policing of the Past*, 20 L. & SOC. INQUIRY 7 (1995).
- Coleman, Jules L., *Tort Law and the Demands of Corrective Justice*, 67 INDIANA L.J. (1992).
- MARKETS, MORALS AND THE LAW* (1988).
- Condlin, Robert, *Bargaining in the Dark: The Normative Incoherence of Lawyer Dispute Bargaining Role*, 51 MARYLAND L. REV. 1 (1992).
- Conference Report, *Reform of the Criminal Law*, 1 CRIM. L.F. 91 (1989).
- Cooter, Robert, *Prices and Sanctions*, 84 COLUM. L. REV. 1523 (1984).
- The Cost of Coase*, 11 J. LEGAL STUD. 1 (1982).
- Cooter, Robert, Stephen Marks & Robert Mnookin, *Bargaining in the Shadow of the Law: A Testable Model of Strategic Behaviour*, 11 J. LEGAL STUD. 225 (1982).
- COOTER, ROBERT & THOMAS ULEN, EDS., *LAW AND ECONOMICS* (1988).
- Daley, Suzanne, *Head of Apartheid Inquiry Refuses to Apologise to DeKlerk*, NY TIMES, at A3 (June 20, 1997).

- Panel to Investigate Atrocities of the Apartheid Era*, NY TIMES, at A7, Aug. 27, 1995).
- Daring the Courts: Trial and Bargaining Consequences of Minimum Penalties*, 90 YALE L.J. 597 (1981) (student-written note).
- Davis, Gaye, *Past Flashes by in Death of a Golden Girl*, MAIL & GUARDIAN (Johannesburg), at 6 (July 11-17, 1997).
- du Plessis, Laurens, *Amnesty and Transition in South Africa*, in A. BORAINÉ, J. LEVY & R. SCHEFFER, EDS., TRUTH AND RECONCILIATION IN SOUTH AFRICA (1994).
- Du Toit, Andre, *No Rest Without the Wicked: Assessing the Truth Commission*, 14 INDICATOR SOUTH AFRICA 1 (1996).
- Duffy, Jerrob, *Child-Support Laws and Contraceptive Care*, 8 J. PUB. & INT'L AFF'S 221 (1995).
- Easterbrook, Frank, *Criminal Procedure as a Market System*, 12 J. LEGAL STUD. 289 (1983).
- Eglash, Albert, *Beyond Restitution*, in J. HUDSON & B. GALAWAY, EDS., RESTITUTION IN CRIMINAL JUSTICE (1977).
- ELLICKSON, ROBERT C., ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES (1993).
- Epstein, Richard, *A Clear View of the Cathedral: The Dominance of Property Rules*, 106 YALE L.J. 2091 (1997).
- Farell, M., *Information and the Coase Theorem*, 1 J. ECON. PERSP. 113 (1987).
- FREEDMAN, JOHN, GAME THEORY WITH APPLICATIONS TO ECONOMICS (1986).
- Friedman, Roger, *'Taking Blame for Bosses'—Victims say Torturer is Covering Up*, CAPE-TIMES (Cape Town), at A7 (July 16, 1997).
- Friedman, Roger & Benny Gool, *Yengeni Reduces His Old Police Torturer to Tears*, CAPE TIMES (Cape Town), at A2 (July 15, 1997).
- Fudenberg D. & J. Ticole, *Sequential Bargaining with Incomplete Information*, 50 REV. ECON. STUD. 221 (1983).
- Gobodo-Madikizela, P., *On Reconciliation and Reflecting on the Truth Commission* (available electronically at <http://www.truth.org.za>) (1996).

- Green, Pippa, *Pity the Truth Commission as it tries to peer through a fog of Lies*, THE SUNDAY INDEPENDENT (Johannesburg), at A4 (Nov. 30, 1997).
- Grossman, Gene & Michael Katz, *Plea Bargaining and Social Welfare*, 73 AM. ECON. REV. 749 (1983).
- Hanson, John D. & Kyle D. Logue, *The First Party Insurance Externality: An Economic Justification for Enterprise Liability*, 76 CORNELL L. REV. 129 (1990).
- HARDEN, RUSSEL, ONE FOR ALL (1995).
- HARGREAVES-HEAP, SHAUN P. & YANIS VAROUFAKIS, GAME THEORY: A CRITICAL INTRODUCTION (1995).
- HART, H.L.A., PUNISHMENT AND RESPONSIBILITY (1968).
- Hayner, Priscilla, *Fifteen Truth Commissions—1979-1994: A Comparative Study*, 16 HUM. RTS. Q. 597 (1994).
- HENKIN, ALICE H., ED., STATE CRIMES: PUNISHMENT OR PARDON (1989).
- HOLM, DIETER, ED. THE ECONOMICS OF JOHN HICKS (1984).
- HOLLIS, MARK, HONOUR AMONG THIEVES (1991).
- Hollis, Mark & Roelf Sugden, *Rationality in Action*, 102 MIND 1 (1993).
- Holmstrom & Myerson, *Efficient and Durable Decision Rules with Incomplete Information*, 51 ECONOMETRICA 1799 (1983).
- HOUSEMAN, DANIEL, THE INEXACT AND SEPARATE SCIENCE OF ECONOMICS (1992).
- HUMAN RIGHTS WATCH—AMERICAS, UNSETTLED BUSINESS: HUMAN RIGHTS IN CHILE AT THE START OF THE FREI PRESIDENCY (1994).
- HUME, DAVID, TREATISE ON HUMAN NATURE (1888).
- Katz, Avery, *Game Theory and Contract Formation*, 89 Mich. L. Rev. 215 (1990).
- Lewis A. Kornhauser, *A Guide to the Perplexed Claims of Efficiency in the Law* 8 HOFSTRA L. REV. 591.
- KREPS, DAVID M., GAME THEORY AND ECONOMIC MODELLING (1990).

- Krier, James E. & Stewart J. Schwab, *Property Rules and Liability Rules: The Cathedral in Another Light*, 70 N.Y.U. L. REV. 440 (1995).
- Kydland, Finn & Edward Prescott, *Time to Build and Aggregate Fluctuations*, 45 ECONOMETRICA 1345 (1982).
- LaCasse, Chantale, *Bid Rigging and the Threat of Government Prosecution*, 26 RAND. J. ECON. 398 (1995).
- LaCasse, Chantale & Don Ross, *The Microeconomic Interpretation of Games*, in R. BURIAN, M. FORBES AND D. HULL, EDs., ANNALS OF THE PHILOSOPHY OF SCIENCE ASSOCIATION 1994 (1994).
- Landes, William, *An Economic Analysis of the Courts*, 14 J. L. & ECON. 61 (1971).
- LEVMORE, SAUL, FOUNDATIONS OF TORT LAW (1994).
- Love it or Leave It: Property Rules, Liability Rules, and Exclusivity of Remedies in Partnership and Marriage*, LAW & CONTEMP. PROBS., Spring 1995, at 221.
- Liebenberg, I., *Nation-Building and Community Reconciliation in an Embattled South African Society*, in N. RHOODIE & I. LIEBENBERG, EDs., DEMOCRATIC NATION-BUILDING IN SOUTH AFRICA (1994).
- Long, John & Charles Plosser, *Real Business Cycles*, 91 J. POL. ECON. 39 (1983).
- Lucas, Robert, *Some International Evidence on Output-Inflation Tradeoffs*, 63 AM. ECON. REV. 326 (1973).
- MANDELA, NELSON, LONG WALK TO FREEDOM (1994).
- MINISTRY OF JUSTICE (JUSTICE IN TRANSITION), ASSESSING THE TRUTH AND RECONCILIATION COMMISSION (1995).
- McAfee, R.P. & John McMillan, *Bidding Rings*, 82 AM. ECON. REV. 579 (1992).
- McKinley, James C., *At least 231 Killed in Attack on Tutsi Refugee Camp*, NY TIMES, at A3 (Dec. 12, 1995).
- Massacre Trials in Rwanda Have Courts on Overload*, NY TIMES, at A9 (Nov. 2, 1997).
- Myerson & Satterthwaite, *Efficient Mechanisms for Bilateral Trading*, 29 J. ECON. THEORY 265 (1983).

- Nash, John, *Non-Cooperative Games*, 54 ANNALS OF MATHEMATICS 286 (1951).
- NEWMAN, KATHERINE S., LAW & ECONOMIC ORGANISATION: A COMPARATIVE STUDY OF PREINDUSTRIAL SOCIETIES (1983).
- Nino, Carlos S., *The Duty to Punish Past Abuses of Human Rights Put Into Context: The Case of Argentina*, 100 YALE L.J. 2619 (1991).
- OUBRE, CLAUDE F., FORTY ACRES AND A MULE (1978).
- P'ng, Ivan, *Strategic Behaviour in Suit, Settlement, and Trial*, 14 BELL J. ECON. 539 (1983).
- PAUW, JACQUES, INTO THE HEART OF DARKNESS (1997).
- PHLIPS, LOUIS, COMPETITION POLICY: A GAME-THEORETIC PERSPECTIVE (1996).
- Pion-Berlin, David, *To Prosecute or to Pardon? Human Rights Decisions in the Latin American Southern Cone*, 16 HUM. RTS. Q. 105 (1994).
- Posner, Eric A., *The Legal Regulation of Groups: The Influence of Legal and Nonlegal Sanctions on Collective Action*, 63 U. CHI. L. REV. 133 (1996).
- Posner, Richard, *An Economic Theory of the Criminal Law*, 85 COLUM. L. REV. 1193 (1985).
- LAW AND ECONOMICS (1982).
- Postema, Gerald J., *Public Practical Reason: An Archaeology*, 41 SOC. PHIL. & POL. 1 (1995).
- RASMUSEN, ERIC, GAME THEORY (1990).
- Reinganum, Jennifer F., *Plea Bargaining and Prosecutorial Discretion*, 78 AM. ECON. REV. 713 (1988).
- Reuters, *South Africa's Truth Commission Begins First Hearings*, (April 15, 1996).
- South African Ex-Official to Aid Inquiry*, (April 23, 1997).
- 8,000 South Africans Apply for Amnesty* (May 11, 1997).
- Mandela Foes Accuse Commission of Bias* (May 19, 1997).
- Richman, Daniel, *Bargaining About Future Jeopardy*, 49 VAND. L. REV. 1181 (1995).

- Ross, Don, *Game Theory*, in EDWARD N. ZALTA, ED., STANFORD ENCYCLOPEDIA OF PHILOSOPHY (1996) (available electronically at <http://plato.stanford.edu/>).
- Ross, Don & Chantale LaCasse, *Towards a New Theory of Positive Economics*, 34 DIALOGUE 467 (1995).
- Samuelson, Paul, *The Numerical Representation of Ordered Classifications and the Concept of Utility*, REV. ECON. STUD. (1938).
- The Empirical Implications of Utility Analysis*, ECONOMETRICA (1938).
- Sarkin, Jeremy, *The Trials and Tribulations of South Africa's Truth and Reconciliation Commission*, 12 S. AFRICAN J. HUM. RTS. 617 (1996).
- Schwartz, Alan, *A Theory of Loan Priorities*, 18 J. LEG. STUD. 209 (1989).
- Sen, Amartya, *Rational Fools*, 6 PHIL. & PUB. AFFAIRS 317 (1977).
- Shavell, Steven, *Suit, Settlement and Trial: A Theoretical Analysis Under Alternative Methods for the Allocation of Legal Costs*, 11 J. LEGAL STUD. 55 (1982).
- SHUBIK, MARTIN, A GAME-THEORETIC APPROACH TO POLITICAL ECONOMY (1987).
- SKYRMS, BRYAN, EVOLUTION OF THE SOCIAL CONTRACT (1996).
- SMITH, JOHN MAYNARD, EVOLUTION AND THE THEORY OF GAMES (1982).
- South African Press Service, *Panel Stands by 'Group' Amnesty*, CAPE TIMES (Cape Town), at 6 (Dec. 3, 1997).
- Botha may face wrath of TRC*," THE STAR (Johannesburg), at 3 (Nov. 9, 1997).
- SPARKS, ALISTAIR, TOMORROW IS ANOTHER COUNTRY (1996).
- Stigler, George, *A Theory of Oligopoly*, 72 J. POL. ECON. 44 (1964).
- TAYLOR, TELFORD, THE ANATOMY OF THE NUREMBERG TRIALS (1992).
- Teitel, Ruti, *Transitional Jurisprudence: The Role of Law in Political Transformation*, 106 YALE L.J. 2009-2080(1997).
- Tutu, Desmond, *Letter to the Editor*, SUNDAY TIMES (South Africa), at A14 (Dec. 4, 1996).

—*Archbishop Tutu's Message*, 1 TRUTH TALK 1 (official newsletter of the Truth and Reconciliation Commission, available at <http://www.truth.org.za>) (Nov. 1996).

Verdun, Vincene, *If the Shoe Fits, Wear It: An Analysis of Reparations to African Americans*, 67 TULANE L. REV. 597 (1993).

wa Mutua, Makau, *Hope and Despair for a New South Africa: The Limits of Rights*, 10 HARV. HUM. RTS. J. 63 (1997).

WEIBULL, JURGEN, *EVOLUTIONARY GAME THEORY* (1995).

Weimer, David, *Plea Bargaining and the Decision to go to Trial: The Application of a Rational Choice Model*, 10 POLICY SCIENCES 1 (1982).

Weiss, Andrea, *Storm Over ANC Chief's Group Amnesty*, SUNDAY ARGUS (Cape Town), at 1 (Nov. 30, 1997).

WILDE, OSCAR, *THE IMPORTANCE OF BEING EARNEST ACT I* (1895).

Wiley, John Shepard, *Reciprocal Altruism as a Felony: Antitrust and the Prisoner's Dilemma*, 86 MICH. L. REV. 1906 (1988).

Wilson, Robert, *Manufacturing Legitimacy: The Truth and Reconciliation Commission and the Rule of Law*, 13 INDICATOR SOUTH AFRICA 1 (1995).

Wilson, Robert & David Kreps, *Sequential Equilibria*, 50 ECONOMETRICA 863 (1982).

WRIGHT, MARTIN, *JUSTICE FOR VICTIM AND OFFENDERS* (1991).

Yield, John, *Apartheid Stormtroopers Grim Tales*, THE ARGUS (Cape Town), at 22 (March 15, 1997).

Zalaquett, Jose, *Balancing Ethical Imperatives and Political Constraints*, 43 HASTINGS L.J. 1425 (1992).

ZEHR, HOWARD, *CHANGING LENSES: A NEW FOCUS FOR CRIME AND JUSTICE* (1990).

Statutes

CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA.

The Promotion of National Unity and Reconciliation Act 34 of 1995.

Cases

Certification of the Amended Text of the Constitution of the Republic of South Africa,
1996 (4) AS 744 (CC) (Case 37/96, Dec. 4, 1996) (visited Feb. 20, 1997).