

INTRODUCTION

# The Art and Science of Economic Explanation: Introduction to the Special Issue in Honor of Yoram Barzel

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## Abstract

This introduction to the special issue in honor of Professor Yoram Barzel provides an overview of his scholarship and a summary of the contributions to this special issue. Each contribution advances or elaborates upon major themes in Barzel's theoretical and applied work on property rights, transaction costs, and political economy. The contributions fall into three categories: an examination of the foundations and implications of the 'Barzelian' method for social scientific analysis; Barzel's economics of property rights and transaction costs to historical case studies; and advances to Barzel's theory of the state, which includes an analysis of the origins of democracy and the rule of law.

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The editors of the *Journal of Institutional Economics* have extended to us the great privilege to honor Professor Yoram Barzel, from whose work we have learned so much. Our goal has been to bring together fellow travelers of Professor Barzel's work to organize a special issue that applies and extends the unique contributions that Professor Barzel has made to the analysis of property rights, transactions costs, political economy, and economic history. We hope this special issue will exemplify the uniqueness of the Barzelian approach to economic analysis. Furthermore, we hope that it will inspire generations of economists to expand, apply, and develop his approach to economic analysis.<sup>1</sup>

Barzel's approach to economic and institutional analysis cannot be explained outside the context of the time and place he occupied (and still occupies). Born in 1931 in Jerusalem, Barzel began studying economics due to an interest in political economy that he had cultivated in his teenage years, stimulated by the experience of the British Mandate over Palestine. When Barzel enrolled at Hebrew University in 1950, no such courses were offered. Instead, he settled on studying "plain economics" (Barzel, 1995: xi) but among his teachers at Hebrew University were Don Patinkin and Abba Lerner. After completing his B.A. (1953) and M.A. (1956), Barzel enrolled at the University of Chicago in 1957, where he completed his Ph.D. under Arnold Harberger four years later.<sup>2</sup> His dissertation explained the source of productivity increases in the electric power industry due to extensive

<sup>1</sup>See Lueck (2018) for an overview of Professor Barzel's contribution to institutional analysis that also contains a brief overview of his intellectual evolution.

<sup>2</sup>Interestingly enough, Barzel's M.A. thesis, which had analyzed welfare losses associated with substitution of gasoline and diesel due to differential taxation, would presage his eventual study under Harberger (Barzel, 1995: xiii).

utilization of scale economies and intensive utilization of existing plants.<sup>3</sup> After joining the faculty at the University of Washington in Seattle in the fall of 1961, Professor Barzel became one of the leading scholars of the “University of Washington approach” to economic analysis (see North, 1990: 27, fn. 1). Professor Barzel is arguably the last member of this distinct tradition in the department it made great, where he has been an Emeritus Professor of Economics since 2014. The “Washington approach” explains how institutional arrangements arise to exploit gains from exchange and production in a world of positive transaction costs. The fact that individuals act to realize expected benefits net of costs, and that not all such costs can be directly priced into a good or service being exchanged, explains not only the diversity of institutional arrangements, but also their evolution across time and place. For his fundamental and sustained contribution to the field of New Institutional Economics, the Society for Institutional and Organizational Economics (SIOE) awarded Professor Barzel with the 2017 Elinor Ostrom Lifetime Achievement Award.

This special issue consists of eight contributions. Each one of them advances or elaborates upon major themes in Barzel’s own theoretical and applied work. These contributions fall into three categories. The first examines the foundations and implications of the Barzelian method for social scientific analysis. Leeson’s article (Leeson 2019) advances the argument that scholars in the property rights tradition (including Umbeck, Cheung, and particularly Barzel himself) have developed a consistent approach to the positive study of social phenomena.<sup>4</sup> Economic theory assumes that maximizing agents, well, maximize. “Individual maximization,” as Barzel puts it, “implies that whenever individuals perceive that certain actions will enhance the value of their rights, they will undertake such actions” (1997a: 10). Thus, social scientists who claim to believe in the economic way of thinking should study observed social processes as the result of the maximizing efforts of all individuals. This, Leeson argues, limits the ability of economists qua economists to make statements about the welfare properties of alternative institutional arrangements. All they can do is make predictions about what arrangements are more likely to emerge under what conditions. Everything is efficient, once constraints have been fully identified and accounted for. Any talk about the inefficiency of institutions or behavioral patterns is inconsistent with the assumptions of positive economics. However, many (most?) economists are reluctant to buy into this view, which some dub “everything is efficient”<sup>5</sup>. Leeson attributes this reluctance to the fact that economists entered the field to fulfill their idealistic dream of fixing society’s problems and helping its most vulnerable members. He suggests to these economists to let go of their reluctance and embrace wholeheartedly the implications of the positive economic method, without having to forfeit one’s aspiration to make the world a better place.

The second category consists of papers that extend Barzel’s economics of property rights and transaction costs to case studies from more or less remote human history. Barzel distinguishes between transformation costs (i.e. costs of production) and transaction costs, or the costs of enforcing and allocating claims over resources. Transformation costs may explain the potential volume and value of trade in an economy, given inputs and technological knowledge. However, only transaction costs can explain the way in which production and exchange are organized (Barzel, 2015). One important category of transaction costs are measurement costs or the costs of appraising all the characteristics of a commodity that matter to the parties involved. Measurement costs play an important role in determining an array of economic practices. As Barzel states, the “assessment of how long a machine will last, the quality of a particular performance of a long-running play, and the cost of preparing a site for construction are a few additional examples of commodities that are difficult to evaluate or to measure, and thus their measurements are subject to error” (1982: 29, fn. 4). Barzel’s scholarship can be seen as a long list of explanations of economic practices and institutions based on this intuition. The timing of

<sup>3</sup>In private correspondence, Doug Allen (a student and long-time friend of Professor Barzel’s) shared the following story: George Stigler (who sat in Barzel’s dissertation committee at the University of Chicago) commented on his dissertation that “there’s nothing wrong with it, other than it’s boring”.

<sup>4</sup>Recent contributions in this vein include Fuller (2019), Leeson et al. (2019), and Rouanet and Piano (2019). Allen (2018) discusses the methodology of the Barzelian approach to institutions.

<sup>5</sup>For example, see Koyama (2019).

innovation (Barzel, 1968), rationing by waiting (Barzel, 1974), slavery and manumission (Barzel, 1977), tie-in sales (Barzel, 1981), the existence of firms and share contracts (Barzel 1982), and the evolution of criminal law and police (Allen and Barzel, 2011) are just some examples.<sup>6</sup> However eclectic these topics may seem, they are unified by a common theme, based on three interrelated propositions. First, institutional arrangements arise to mitigate the problem of measurement costs. Second, considering measurement costs, violations of equalities between marginal rates of transformation in production and equalities in the marginal rates of substitution in consumption are not inconsistent with the conditions of Pareto optimality<sup>7</sup> (Barzel, 1995: xxii). Third, enforcement mechanisms are devised to prevent the dissipation of rents, since “individuals are expected to make a systematic and deliberate effort to eliminate waste, or dissipation”<sup>8</sup> (Barzel, 2002: 129).

Allen and Leonard (2019) build upon Barzel’s theory of the allocation of scarce resources by waiting to develop a model of “rationing by racing.” Barzel’s original idea was that resources left in the public domain will generate the effort of individual agents to capture their value. When resources are rationed by waiting, the length of the line will depend on the value of access to the marginal consumer. This approach predicts that a lower marginal cost of waiting in line (for example, a line that goes through at a faster pace) will lead to longer lines. Allen and Leonard argue that racing and waiting are analytically similar allocation mechanisms. When a resource is put in the public domain, individuals will race to capture it until all of its value has been dissipated at the margin. Consider the case of land. This model predicts that more valuable land in the public domain will be claimed before lower quality one and that lower quality land is more likely to be left unclaimed than higher quality one. This has implications for the pace of the race as well. Initially the availability of high-quality land justifies the cost of a faster pace. The authors test this theory against the historical evidence from the Oklahoma land rushes of the late 1800s. They employ georeferenced data on land quality and time of settlement to find that the model’s implications are consistent with the evidence. Settlers claimed higher quality land before the rest, and that some of the latter was indeed left unclaimed. They also find that the pace of the race was a positive function of the availability of higher quality allotments.

Piano and Rouanet (2019) develop an economic theory of desertion. They argue that desertion and the institutions historically associated with it are the result of the peculiar transaction costs of enforcing claims over the labor services of the soldiers. Human biology prevents the full alienation of labor services from the workers to their employers. This leaves room for the former to retain for themselves part of the value of the services that are contractually allocated to the employer, for example in the form of shirking. In the case of military services, one of the forms this shirking can take is desertion. Desertion is a de-facto appropriation of the residual value of labor services by the individual soldiers. From this framework, the authors derive several empirical predictions. Desertion will be more prevalent under conscription than within voluntary armies. The rate of desertion will depend on the differential value to the labor services between the ruler and the soldier. Desertion will be higher the costlier the enforcement of the ruler’s claim over the soldier’s labor services, for example, when environmental factors make escaping and hiding from the ruler’s grip easier. The framework also illuminates a wide array of policies that regimes introduce to reduce the value of external options to wannabe-deserters. To test these predictions, they use an original dataset on desertion rates across jurisdictional units in Napoleonic France between 1799 and 1805. Their empirical analysis is consistent with the framework:

<sup>6</sup>Lueck (2018) includes a bibliography of Barzel’s published work. Many of his articles are collected in Barzel (1995).

<sup>7</sup>Demsetz also similarly makes this point as follows: “We then turn to the competitive model and observe that market prices will often bring about the equalities required for produced commodities and services. But, we ask, what if some goods produce side effects which are not exchanged over a market? We answer that the market fails to provide us with incentives which will guide behavior to take account of the side effects and that, therefore, the required equalities will be absent. The allegation is that even perfectly competitive markets fail to achieve efficiency. But, this reasoning generally fails to take account of the fact that the provision of a market (for the side effect) is itself a valuable and costly service” (1964: 13). See also Cheung (1986 [1982]: 30–32; 1998: 517).

<sup>8</sup>These insights have been applied more recently to the economic analysis of lighthouses and lightships (see Candela and Geloso, 2018a, b; 2019).

conscription rates, environmental characteristics, measures of administrative capacity, and wages in the agricultural sector all predict desertion rates across jurisdictions in the expected direction. Qualitative evidence about the institutional details of the Napoleonic military regime also confirm that the regime adopted a wide array of strategies aimed at reducing the value of desertion to its soldiers.

The third contribution to this category is Lueck's and Torrens' (2019) article on the property rights origins of the domestication of species by human beings. The authors combine an analysis of archeological and anthropological evidence on the history of domestication with a formal model of the domestication process. They frame this as the result of an optimal investment decision on the part of early human groups aimed at the reduction of the costs of enforcing their control over the services of wild species. On one side of the domestication calculus are a large array of benefits, including an overall increase in productivity and a fall in the variation of output of the local economy. On the other side of the calculus are the costs of domestication. These include the resources that must go into the capture, confinement, and selection of the 'subjects' of domestication. From these basic assumptions they develop a formal model of domestication, from which, in turn, they derive a set of comparative statics to be tested against the historical evidence. First, they predict that the domestication process will take longer the higher the proportion of aggressive individual members of the total population (which increase the cost of capture and confinement). Second, they predict that domestication will be more prominent with the introduction of technologies that reduce the costs of confinement. Third, they predict that the nature of property rights over the original hunting territory will predict the domestication strategy of the relevant groups. Non-exclusive hunting grounds will favor domestication compared to exclusive ones, since challenge to a groups' claim over the services of an undomesticated species are safer in the latter than in the former. Although they acknowledge the limitations of the historical evidence on domestication, the authors find that the current state of knowledge on this process is broadly consistent with the model's predictions.

The third and final category of contributions builds upon Barzel's theory of the state. Though Barzel's initial interests in economics arose from questions in political economy, such interests were later recaptured through work with Tim Sass on the constitutional structure of economic and political organizations, particularly of condominium homeowner associations (Barzel and Sass, 1990). In the course of this project, Professor Barzel developed a property-rights approach to understanding the evolution of the state (Barzel, 2000, 2002) and the origins of democracy and the rule of law (Kiser and Barzel 1991; Barzel 1997b; [Barzel and Kiser 1997, 2002]). "This body of work," Barzel states, has been "difficult to 'sell'" (Barzel, 1995: xxiii), but in the last decade, the application of Barzel's work on political economy to historical episodes pertaining to political and economic transition has attracted increasing interest.<sup>9</sup>

Boettke (2019) combines elements of public choice and property rights analysis to discuss the political economy of the socialist experiment in Soviet Russia. To Boettke, the fundamental nature of the Soviet experience was that of a 'shortage economy'. Because nominal prices of commodities were kept artificially low by the only official supplier (the Soviet state), the economy experienced economy-wide shortages, taking the form of interminable lines and waiting lists for everything from bread to cars and housing. While this system frustrated the wants of consumers, it transferred wealth to those in charge of the distribution of consumer goods to the public. Price ceilings of this type generate competition for the control over consumer surplus. The Soviet system allocated residual claimancy over this surplus to the distributors, who could exchange access to their commodities in exchange for side payments, whether monetary or not. From this starting point, Boettke discusses a variety of issues from the evolution of the Soviet system, including the collapse of the regime in the 1980s, to the troubled transition to a market economy in the following decade. The key to understanding this latter experience, he

<sup>9</sup>See, for example, Wanchek (2009), Horpedahl (2011), Piano and Rouanet (2018), Piano (2019), Murtazashvili and Murtazashvili (2019a,b), and Boettke and Candela (2019).

argues, is in the inability of the Soviet state to credibly commit to the protection of property and the enforcement of contracts.

Extending Barzel's property-rights approach to understanding the evolution of the state and its empirical application to understanding the origins of the rule of law and democracy in England, Candela (2019) applies and extends Barzel's framework to understand the origins of the divergence in political and economic performance between northern and southern Italy today. Specifically, Candela addresses the conclusion that the relative poverty of modern Sicily, compared to northern Italy, can be explained by a path dependence created by an authoritarian medieval heritage. In doing so, he challenges two premises upon which this conclusion is based. First, rather than taking northern Italy as the relevant comparative benchmark from which to assess the political and economic conditions of the Kingdom of Sicily (1130–1816), Candela challenges this premise by arguing that the relative comparative benchmark for the Kingdom of Sicily is medieval England. Given that England and Sicily shared a contemporaneous initial condition, specifically Norman conquest in latter part of the 11<sup>th</sup> century, Candela challenges the inference that the rule of law and democracy functions poorly in Sicily today because medieval Sicily lacked the institutional preconditions for the rule of law and democracy. Like Barzel, Candela turns the premise of this inference on its head, specifically by regarding the authoritarian nature of Norman rule as an analytic starting point from which an evolution toward the rule of law can be explained. In Sicily, Parliament and other constitutional arrangements emerged as a set of constraints against the arbitrary confiscation of wealth by the king. The Sicilian Parliament emerged as a collective action mechanism to check against the discretion of the king. In effect, the Sicilian Parliament and other constitutional arrangements were a means by which the king of Sicily could increase its monetary wealth by establishing a credible commitment not to confiscate the resources of his subjects. The by-product of this mutually beneficial constitutional exchange was the establishment of a political framework within which property rights, voting rights, and other preconditions for democracy could evolve, particularly the rule of law. By undermining the conventional wisdom on the political economy of medieval Sicily, Candela also extends Barzel's framework to explain a setback in the path towards the rule of law in Sicily during the 19<sup>th</sup> century. He argues that the failure to establish and enforce property rights in Sicily can be traced back to the early stages of the political unification of Italy, which had failed to establish a credible commitment to the rule of law, and therefore generated uncertainty in the security and enforcement of property rights. This lack of credible commitment manifested itself in the abolition of previously existing parliamentary institutions as an independent collective action mechanism, as well as prior constitutional agreements that existed in the Kingdom of Sicily. What resulted thereafter was increasing uncertainty over the security and legal definition of property rights over land, generating the conditions for regulatory capture and the Sicilian Mafia as alternative sets of means to enforce economic property rights.

Cai, Murtazashvili, and Murtazashvili (2019) build upon Barzel's theory of the state to develop a framework to study the politics of property rights over land. They identify four fundamental characteristics a state must have to be able to provide an effective system of ownership over land. First, the political regime must experience a reasonable degree of domestic stability. Second, it must command sufficient administrative capacity to identify and collect claims over land. Third, the state must credibly commit to this enforcement, especially against the threat of expropriation of the wealth of its citizenship. Finally, the political and legal institutions in place must be inclusive. To illustrate their framework, they provide a comparative analysis of the historical development of the land ownership regimes in the United States, China, and Afghanistan. They argue that the early United States presented all four characteristics associated with an effective land ownership regime. From the Revolutionary War to the Civil War, the United States experienced relatively stable domestic politics. Its administrative capacity was quite limited until the second half of the 19<sup>th</sup> century. However, after the Civil War the federal government introduced a series of reforms that made the United States a leader in the attribution, recording, and enforcement of land claims. Its federal constitutional structure also allowed the federal government to credibly commit to protect the property rights of its citizens. Finally, while the political institutions of the United States were far from fully inclusive, a large share of

its populations enjoyed many political and legal rights that were absent in the rest of the world. In communist China, before the reforms of the 1980s, political institutions were far from inclusive and the regime lacked a credible commitment to enforce property. However, Deng Xiaoping's reform of the Chinese economic system, with the introduction of the Household Responsibility System, created the right set of incentives for effective land use in China. Finally, Cai, Murtazashvili, and Murtazashvili (2019) provide a case of a regime on the opposite end of the spectrum. Historically, Afghanistan has lacked each one of the four characteristics required for the creation of a functional land ownership regime. The modern history of that country has been (and to a large extent still is) one of weak central government, civil war and foreign invasions, and extractive political institutions. Unsurprisingly, attempts to introduce a formal legal titling regime in Afghanistan have been unsuccessful.

In the last article of this special issue, Karceski and Kiser (2019) provide an account of the growth of the role of the state in society in the 20<sup>th</sup> century as a test of Wagner's law, which posits that the share of a country's wealth controlled by the state increases faster than the growth rate of its economy. Their contribution is twofold. First, they test Wagner's law against a comprehensive dataset on the size of the state over the period between 1950 and 2011. They find that the law as stated fails to account for the relationship between the size of the economy and that of the state across countries. As countries approach middle-income status, the relationship between the share of the economy controlled by the state and the size of the economy turns negative. The authors' theory for the failure of Wagner's law to predict the growth rate of the state over the past few decades is as follows. In order to exercise its control over an ever-larger share of the economy, the state must also increase taxes over its subjects. The latter may very well be ok with a tax increase at low levels of public expenditure, when the marginal benefit of public investment is relatively high. But as public expenditure grows, its marginal benefit goes down and citizens and interest groups will find it more advantageous to introduce restriction to the state's ability to tax, thus preventing it from increasing expenditures.

Reading Professor Barzel's work, one can't miss his dedication to the idea of economics as a positive science, an intellectual enterprise with the ultimate goal of explaining the causes and consequences of the varied nature of social reality. However, his work exemplifies the craft-like properties of economics as a social scientific tradition. Professor Barzel is a true craftsman, an artist of economic explanation.<sup>10</sup> His contributions always carefully balance theory and evidence. The smallest possible amount of historical information is leveraged to provide the testing grounds to his hypotheses, which are themselves derived from the simplest of (mostly informal) models built on the basic intuition at the heart of the property rights approach. His assumptions are economical, the theory surprisingly simple, and the predictions carefully designed to explain as much as possible about the world. May Professor Barzel's contribution to economics inspire the rest of the profession to follow Merlin's advice to the Wart: "Learn why the world wags and what wags it."<sup>11</sup> And try to never be boring.

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<sup>10</sup>In private correspondence, Doug Allen attributes Professor Barzel's ability as a craftsman of economic explanations to his 'gut feeling'. In this, he is the ultimate armchair economist.

<sup>11</sup>From T.H. White's novel, *The Once and Future King* (1987: 183).

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