

Democracy v. Capitalism: An Inquiry into the Role of Government in the Economy

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Abstract

Our modern social contract is mired in conflict between two opposing ideological views and systems: one that believes the optimal path to prosperity requires minimalist government involvement and the other which believes that government should guarantee social and economic welfare for society. Ideologically based arguments on each side drive a further wedge between the 'haves' and the 'have-nots.' The challenge of resolving these conflicting views is perhaps the most fundamental issue facing the world. The conflicts that have arisen in our societies in recent years such as the backlash over globalization, the financial crisis, the European debt crisis, and many others have parallels in history that led to global conflagration. The lack of a reasoned consensus on our governments' role in the economy, whether for matters of health and safety or in response to systemic risks, threatens to undermine legitimate expectations and aspirations of the people. This article proposes a mode of inquiry into the role of government by developing a system model as a proxy for democracy based on the dynamic process of rule of law interacting with the real and imperfect market economy. The system of system interaction is approached via deviations from the underlying assumptions regarding market efficiency and how government action of any kind acts as an externality in this depiction. This reality based perspective provides a framework for a constructive dialog and narrative mediation on the appropriate role of government.

Introduction

I stand in awe before you; my thanks to the Athens Institute for Education and Research for the opportunity to present these ideas. It is most fitting that we meet here in Athens, the birth place of modern democracy; and here in Greece, arguably the front line of the conflict between the role of government in the economy and the capitalist economic system itself. We are all affected by how the system of government and the economic system interact. Like drops of foam in the surf, we are all buffeted by forces far greater than ourselves. This paper attempts to frame those forces in a novel way to expose their inherent conflicts and our need to keep the two systems in balance. It is merely the introduction of what I hope to craft into a longer manuscript, and what I hope will lead to a more fruitful path toward dialog across the sectors of society now at odds through the action of those forces.

The sanctity of individual liberty is at the heart of western ideals and democracy. Many people can recite Thomas Jefferson verbatim: *‘We hold these truths to be self-evident: that all men are created equal: that they are endowed by their creator with certain unalienable rights; that among these are life, liberty, and the pursuit of happiness.’* Fewer persons can recite the next sentence of the Declaration in which the government’s power is expressly derived from the people and its performance *‘to effect their safety and happiness’* gives rise to the people’s right *‘to alter or abolish it.’* Nor can they quote Madison from the Federalist Number 51:

‘If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary. In framing a government which is to be administered by men over men, the great difficulty lies in this: You must first enable the government to control the governed, and in the next place oblige it to control itself.’

The case for democracy is clear in a society where all men are created equal, where the *‘blessings of liberty’* grant maximum autonomy and rights to individuals by preserving the freedom to think and decide for oneself, by protecting the freedom to express oneself, to own and earn property, and to contract and engage others freely in the trade of goods and services. Democracy’s protection of these freedoms has done as much to advance mankind as any other development in modern history. By unleashing human creativity, freedom of expression and freedom of association, we convert trade from a zero sum game to one that fuels growth through innovation and productivity, lifting the well-being of all. At the same time, our collective cooperation has allowed government to spawn immense positive externalities that benefit all in society through the preservation of peace, law and order, judicial rules and recourse, and a variety of public goods like courts, transportation, and the launch of services too capital intensive and risky for the private sector alone, including things like the development of the internet. Freedom, democracy and the rule of law create the stage upon which all other positive economic forces are possible.

The case for free markets and capitalism is one of efficiency. Anything that interferes with the blessings of liberty embedded in property rights and the freedom to contract would distort the value of goods and services, inhibit trade, and inherently raise all costs to everyone. When we let people trade and exchange value freely with an open system based on price, the welfare of all society is enhanced. Without that efficiency, capital cannot be applied efficiently, price signals are distorted, resources misallocated, and the waste to society diminishes everyone’s wealth. The more we fund government and allow its intervention, the more inefficient we become.

Before buying these arguments wholesale, let’s start with a little candor. First, all men are not created equal; neither are their societies, nor their forms of government. The context of Jefferson’s expression (insincere on its face in

light of his ownership of slaves) was natural law. Democracy's preservation of basic human rights (life, liberty, freedom of expression, religion, etc.) is its most precious value and highest contribution to the evolution of society. These principles address equity issues regardless of initial endowments and ensure the primary role of government is that of preserving freedom to the individual. In the context of democracy's intersection with the economy, these principles also represent the highest value externality and public good. They are democracy's finest expression of the role of government. But whether one believes in natural selection and evolution or believes that each man is endowed by his Creator, no one can deny that we are born into different circumstances, and each of us has unique skills, talents, capabilities and personality traits. Some are born into luxury and privilege while others die of malnutrition in infancy; some experience fame and riches while others rot in prison or live in destitute circumstances; some are born in rural areas, others in urban areas where opportunities and resources can be more concentrated. We are all dealt a hand at birth. The richness of communal society is derived from that diversity. Men are neither equal nor angels, nor do angels govern. A starting point in an inquiry into the role of government is the question of man's role in leveling and correcting for these inequities, a role for government whose cost is borne by us all, but a value not shared by everyone.

Second, the '*efficient market hypothesis*' and the notion that the free negotiation of price in the market allows supply and demand to equate in equilibrium is premised on the notion that '*all other things [are] equal.*' All other things are never equal; never. Economic principles are often explained through simplification. Equilibrium concepts and the notion that free market determination of price is the optimal and most efficient clearing mechanism to allocate resources in society are intellectual constructs to help simplify processes statically for ease of comprehension. The underlying assumptions to these models are so divorced from reality that they act as exceptions that swallow the rule, leaving the conclusions suspect.

Of all the market imperfections and assumptions that do not hold in reality, we will focus on two here because they drive the role of government and the dynamic interactions between the public and private sectors. Those are questions of initial endowments, or equity, and the presence of externalities.

Investopedia defines an externality as '*[a] consequence of an economic activity that is experienced by unrelated third parties. An externality can be either positive or negative.*' Government activity, including laws and regulations are economic activities. Their impact on private individuals and groups acts as an externality. Real behavior of economic actors and the role of government in addressing market failures is about leveling society for equity reasons, creating positive externalities (like investing in education and innovation), protecting against negative externalities (by influencing and punishing behavior to avoid threats to public health and safety), or responding to natural externalities (by providing relief to victims of floods, earthquakes and other natural disasters). But government and society act at different levels, and different groups are affected by the actions of others. In this sense,

the roles and actions by government are externalities because they have systemic impacts on the allocation of benefits and burdens in society that may not be captured in transactions consummated before their appearance.

As with any externality, these actions induce dynamic responses by other economic actors. Those actors operate under different constraints, time horizons, and performance measures than the government. All actors, from the different levels of government to the private sector respondents act at different geographic levels. An American politician once famously said, '*all politics is local.*' Intertwined with the political system we have an economic system that is global. These dynamic and boundary interactions between the two systems open up gaming opportunities for actors to internalize benefits and externalize costs which can then lead to systemic failures such as the recent financial crisis. Understanding these mechanisms is a first step in identifying opportunities for improvement in the evolution toward an optimally performing social contract.

Government intervention in the real economy to correct for inequities, to address market failures, to create positive externalities via public goods, and to regulate negative externalities are pervasive realities. These measures are taken at different jurisdictional boundaries and in response to different temporal problems. Their promulgation induces responses by all economic actors that act to move ownership and transaction boundaries, demonstrating that regulation itself acts as an externality. This places the government directly within the system boundaries and quickly elevates the problem to one of game theory and mechanism design. Their dynamic interaction exposes systemic risks, a recent preoccupation of the world's monetary authorities. But that preoccupation promulgates a new set of rules and boundaries which the affected actors influence and to which they then respond. This dynamic interaction is akin to the '*Heisenberg Uncertainty Principle*' in science whereby as soon as you measure something you change its nature. Nonetheless, these roles for government in the real economy are here to stay. No modern person would rationally argue that regulation itself is inherently wrong and misguided. No one wants to return to the days of Upton Sinclair's *Jungle*. '*We the people*' want and expect a government that will protect us from '*invisible hands*' that can harm us.

Resolving Conflicts Using a System of Systems Perspective

In a democracy we write our own social contract. We must accept responsibility for the consequences of systemic forces when we control the means that control those forces. We want the best we can get; not some unreal and idealized version that doesn't exist in reality. A properly modeled systems' perspective can illuminate how the system of government and the economic interact, highlighting consequences and opportunities for improvement. The study of optimal decision making is a science, based on systems modeling and a wide range of optimization techniques. Borrowing an

analogy from a 1980's optimization article (author's name forgotten), the search for optimal results from complex systems is like dropping thousands of blind-folded parachutists into hilly terrain with the command of finding either the peak or valley. They trudge along either uphill or downhill, feeling their way until the slope changes direction, at which point they assume they have reached the peak or valley. Until the parachutist removes his blindfold and all the parachutists are surveyed, it is impossible to determine how close the individual maximum or minimum is to the global maximum or minimum. The rule of law evolves in much the same way.

Systems' modeling seeks to achieve a level of generalization that allows one to see underlying patterns but is not consumed in intricate detail that obscures those patterns. Throughout this discussion, a systems model based on representative democracy and democratic values is a proxy for "democracy." A proxy for capitalism is the "free market." But a systems view of the real economy must recognize the absence of conditions and underlying assumptions which underpin the notion of free markets. The ultimate aim of characterizing these systems is to highlight the dynamic mechanisms of interaction between capitalism and democracy because therein lies the rub. Each system acts as a dynamic externality to the other. The model borrows from the field of thermodynamics by describing political system boundaries in terms of their jurisdictional control, and the dynamic interaction with economic forces in terms of initial and boundary conditions, modeled as externalities.

Democracy and the Rule of Law

Is the combination of democracy and capitalism as good as it gets, is it the best we can do? Optimization science from a systems perspective looks at any system as it is, and attempts to compare its output against a theoretical optimal yield in order to understand and devise possible system improvements. So the first thing to clarify is what we wish to measure; what are the values that we wish to advance? These create purpose for the government. It is against these measures that we determine the systems impact and performance of individual laws and regulations promulgated by our representative form of democracy.

This systems conception of democracy and rule of law illustrates how government interacts with the economic system in a real versus idealized way. Defining the law as an instrument of society designed to influence, govern and/or punish behavior, the heart of jurisprudence is decision making: decisions made by individuals, legal persons, and institutions about their behavior, decisions by legislators and regulators in drafting rules, decisions by law enforcement officials, parties, and officers of the court about whether and how to proceed with a prosecution or civil case, and finally, decisions by courts to solve cases before them. These decisions have impacts that extend beyond the direct parties involved.

Figure 1 represents the democratic process of creating the law as a system. The language of optimization permeates democratic decision making while

reflecting the complexity of multiple goals and paths to a result. The figure uses a dynamic programming representation complete with objective functions for the goals surrounding individual rights and freedoms, fairness, truth, equality, efficiency, protection of privacy and property rights, and freedom of contract. Not shown but embedded would be process descriptions and rules like those of procedure and evidence; and constraints or restraints like constitutional authority as the “supreme law of the land,” balance of powers, legislative deference, and principles such as stare decisis. The model depicted in Figure 1 is offered for its descriptive ability to frame democracy as a system of legal decision making and as a means to assess the marginal impact against broader social objectives such justice, fairness, equality, and efficiency.

A key concept illustrated by Figure 1 is that ultimately facts and evidentiary conclusions evolve into a form of mediated truth. This process transforms reality into something capable for ‘the law’ to handle. It transforms ‘existence’ into language. That language is interpreted and used by legislators, policy makers, regulators, jurists and jurors. It informs all legal analysis and decisions. The performance of the system at this stage predetermines the output potential of subsequent stages. These mediated truths and influences are mapped by the system that forms the law, as depicted at the top of Figure 1. This intersection between reality and “the law” opens up the question as to whether jurisprudence delivers against a series of objective functions or goals, as illustrated in the center of Figure 1, and as posed by the question of how the formation of law in democratic society interacts with the real economy. Finally, the lower portion of Figure 1 puts these concepts into an overall system depiction of the stages of the law in a dynamic programming context. This model allows us to explore the question of system optimality vis-à-vis the interaction with the economy.

The model depicted in Figure 1 is a simplified view of the development of federal law in the United States based on its democratic institutions. It breaks ‘the law’ into four distinct stages, each of which is an elaborate decision making process: stage 0 is the mediation of reality, stage 1 is the formation of law in the political and legislative process, stage 2 is the implementation of legislation through the regulatory and rulemaking process usually performed as an executive function, and finally, stage 3 is the adjudication process, where individual cases or controversies are resolved in a series of state and federal courts, ultimately in some cases leading to the U.S. Supreme Court. The process is interlinked and interdependent. The nuance of each stage could be captured in elaborate process and substantive descriptions, but that effort would be beyond the scope of this article.

One key area of overlap with economic performance is how the law preserves the right to own and enjoy property. That right is a prime motivator for humans to create positive externalities. It is fundamental to capitalism and is deeply rooted in liberal democratic societies. The benefits in terms of motivation and innovation need little defense, especially since communism collapsed. The ‘*tragedy of the commons*’ occurs when public ownership of productive resources removes this individual incentive for improvement and

innovation and leads to underutilization. Yet even in the most capitalistic societies, property rights are derived from the rule of law and are not absolute. Had these curbs on the absolute rights of property owners not been put in place, we might still be living in feudal societies. Again, evolution toward optimal outcomes results from a dynamic search for the best.

Similarly, the pursuit of happiness could not long endure if we could not enter into contracts for the exchange of goods and services. This right is both fundamental to the meaning of capitalism and ranks among the reserved rights to the people in society. While its value needs no defense, the law also places limits on legal contracts and trade. Indeed the impact of law upon trade is a major focus of this inquiry because law operates as an externality in an economic sense, and this market imperfection is the essence of this system of systems perspective and analysis. Borrowing a page from contract law, the doctrine of unequal bargaining power plays a major role in how different groups in society “negotiate” the contours of specific legislation and regulations in order to internalize benefits for their constituencies and socialize costs, creating externalities through the mechanism of the law. One sub area worthy of further analysis is how the creation of the legal fiction of a corporate person, and then endowing that person with same rights to freedom of speech as a natural person, affects the balance of bargaining power between individuals and institutions in society.

Capitalism: Free Market Exceptions That Swallow the Rule

Our modern economic system is premised upon several economic principles and arguments developed over time to demonstrate the benefits of a free market. Theoretical foundations which ‘prove’ the merits of capitalism are embedded in the principle of Pareto optimality which says that trading among economic actors is optimal if no further trades will improve their utility. Economists use the Edgeworth Box, shown in Figure 2, to prove that price and the freedom to contract yield the most efficient means of allocating resources in the economy. As shown in Figure 2, the parties are given initial endowments of goods before the proof is set in motion, emphasizing the point that a free market can never correct for inequities in society. Beyond that, the long list of assumptions to the derivation act like exceptions that swallow the rule. These include things like rational behavior by economic actors, the absence of market power by those actors, the absence of externalities, and availability and assimilation of perfect information in the process of arriving at the price, equal bargaining power, no taxes, etc. Volumes have been written on each of these market imperfections. Implicit in the analysis are facets of human behavior such as moral hazard, adverse selection, game theory, herding effects, and several other real phenomena whose impact affects trading outcomes and the process of price setting.

The creation of money as a means of exchange in society links the prices for everything. A violation of any of the assumptions on trading between any pair

of goods or services sets off a chain of cause and effect that affects other economic activity and trade prices. Allowing markets to set price may be shown theoretically to permit optimal exchange of goods and services and therefore optimal resource allocation and welfare, but it is manifestly not the reality of how democracy and capitalism interact.

Enter the Role of Government in the Economy and Let the Games Begin

Society values many things that governments do precisely because they create positive externalities for which we benefit: police protection, the protection of human rights, roads and other public infrastructure, a judicial system to resolve disputes, defense against foreign enemies, research and development to spur innovation, systems to protect the welfare of those who cannot protect themselves like children, the insane and some elderly, etc. Many call these public goods because the private sector will not provide them. The list is long.

There is also a long list of regulatory activities at different levels of government that exist to counter otherwise negative externalities or social costs. The quintessential example of a negative externality is pollution. If a polluter doesn't have to pay the consequences of his contamination of air, water or land, then others pay the price and the polluter benefits. Modern society expects the government to intervene in these situations. Hence, a major role of government in society is to pass and enforce laws and rules to prevent man-made negative externalities. The examples are as numerous as legislation itself: zoning, labor laws, health and safety laws, highway and traffic safety, securities laws, banking regulations, economic and trade regulation.

The cost of this expanded role of government is high. As Madison warned, a key concern in democratic societies is that once a government is created to protect the people, the people need to protect themselves from the government. The cost of government that protects against negative externalities has two unintended yet predictable consequences. First, once established, the bureaucratic institutions never want to go away without a fight, creating a long term cost whose benefits may have diminished. Second, the deterrence of bad actors raises the cost to all economic actors, including those who need no regulatory deterrence.

Once involved, the government becomes a player in the economy through a democratic process that invites affected parties to influence the rule sets. This sets economic actors against each other, in a zero sum game of dynamic influence and adjustments to internalize benefits and externalize costs. Regulators are captured by lobbyists and industry players affected by the government's participation. This system of systems interaction can lead to significant imbalances and price distortions. The long term dynamic cycles that drive recession and even depression are sometimes caused by these mechanisms. Recent examples of this include the erosion of banking regulations and prophylactic separation of depository institutions from investment banking that culminated in the financial crisis of 2008, the heralded

rise of the military industrial complex in the decades following World War II, the collapse of electricity sector in California following deregulation of the electricity sector, and the innumerable dislocations of labor on a global scale incident to the phenomenon known as globalization, fueled by free trade legislation.

Many of the actions of government to control the behavior of companies to avoid or mitigate the societal effect of negative externalities fall directly on those with wealth. Furthermore, to fund these activities, tax systems are normally progressive, meaning that the rich are asked to pay for the very government they least value. An irony here is that the wealthy often are those who most benefit from stability and positive health effects of this same legislation and regulation. Government action then puts in motion a dynamic reaction. For instance, the recent financial crisis, induced by a relaxation of prophylactic measures in banking, pushed banks to merge to compete, creating excessive systemic risk known as *'too big to fail'* and ushering a host of regulatory responses, raising moral hazards likely to return with a vengeance.

Why Does Any of This Matter? Stylized Facts and Conclusions

First, the governmental and nongovernmental actors that interact in the economy all mediate reality into facts and analytical conclusions as the premise for statutes, regulations and adjudicated controversies that form and shape the law. They are all internal to the game. The associated gaming and dynamic consequences are unavoidable, if not predictable.

Second, the democratic social system for developing the law plays out at different geographic levels and layers of government whose focus changes but whose boundary interactions have real economic consequences that can be modeled as externalities. All these affect the economy, but as a cost in the form of direct expenses to support the institutions and personnel for operational enforcement as well as indirectly as externalities and constraints on all economic actors.

Third, when raised and aggregated to the regional and international levels, the impact of these boundary effects and externalities constrain local freedom of action and independence. Temporally, these systems are not synchronized. Legislative and regulatory cycles are measured from weeks to generations while capital flows in seconds. Spatially, the political system is a local phenomenon and it is cliché now to characterize financial markets as global. Jurisdictional *'races to the bottom'* to attract capital and *'regulatory arbitrage'* are games with real cash flow and property implications to economic participants. Their dynamic response influences and interacts with government performance in ways that affect prices, efficiency; supply and demand. These dynamic forces are themselves externalities which trigger changes in property boundaries and transaction costs. They raise the cost of governance across society, at times creating economic burdens that are not captured in classic quasi static economic models.

Fourth, the capitalist origins of economic systems are deeply rooted in liberal democratic societies through principled protection of private property rights and the freedom to contract. These enduring icons of liberty, freedom, and the pursuit of happiness drive innovation and stimulate economic performance in manifest ways that are non-zero sum and have lifted millions from abject poverty and disease over generations. But capitalism is far from perfect and we have learned the hard way that there is a proper role for government in regulating markets and economic actors for the benefit of society. Just as these rights are not absolute, so their impact cannot go completely unregulated or we would return to days of societal suffering from which we have evolved. The tension we face to avoid moving backwards is one of recognizing the proper role of government in addressing the imperfections of our economic system without undermining the incentives and positive externalities created by reasonable property and contracting rights.

Fifth, the real market system is based not on the premise that all men are created equal, but rather its opposite: that men are born into certain endowments, bequeathed by prior generations of their family tree and other accidents of birth, and that overcoming or exploiting these differences in native endowments is the essence of a free market and competitive society. A key role of government is to draw the line on extreme application of this principle, to determine the point to which government should be responsible for correcting these inequities of birth. What results is a hierarchy of values constrained by financial resources. Is it the role of government to care for the sick and elderly, to provide for the handicapped, to ensure services are available in remote and rural areas, etc.? Recognizing that each of these measures comes with a cost, and that cost is paid by the otherwise “productive” members of society, at what point is it fair to relocate wealth to address these market imperfections? For instance, is it governments’ role and responsibility to guarantee jobs to those willing to work? Can and should government be responsible for making people whole from the consequences of naturally caused and negative externalities such as earthquakes, floods, or other disasters? Can society afford such an expensive government?

Sixth, the distorting effect of these externalities is pervasive to the point of undermining claims that the free market optimally allocates resources. Man-made externalities and the response of government is where the entire system turns in on itself. Regulatory responses to environmental pollution and other social costs are the most accessible examples but there many others, such as the role of government in regulating financial institutions to avoid systemic risk or managing interest and exchange rates via monetary policy. Moreover, legislative and regulatory reactions to negative externalities are mediated and manipulated by the very actors they purport to control. Through property rights and freedom to contract, affected parties begin their inexorable efforts to internalize benefits and externalize costs. This cyclical pattern plays itself out repeatedly. There is no end in sight and no short cut for eternal vigilance.

Figure 1. The Democratic System of Law
 (Source: Boyle, *Greenspan's Lament*, 2009)

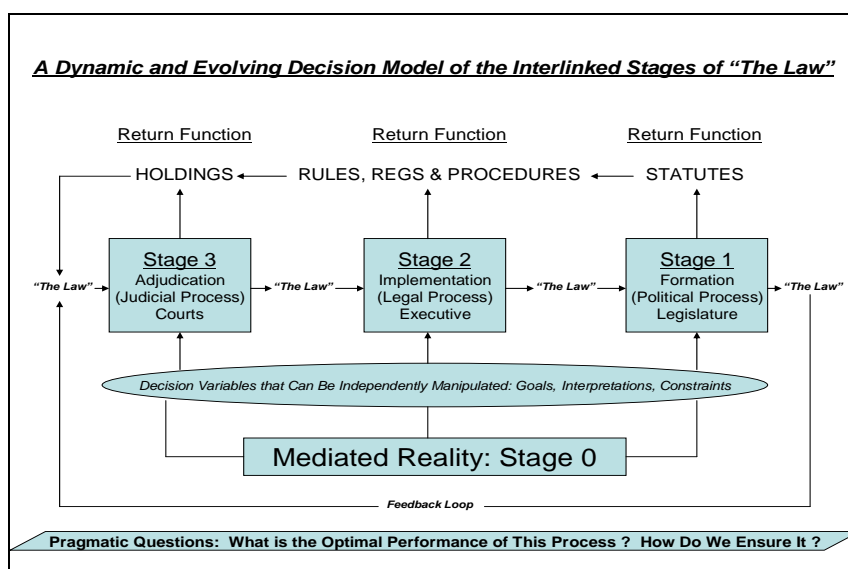
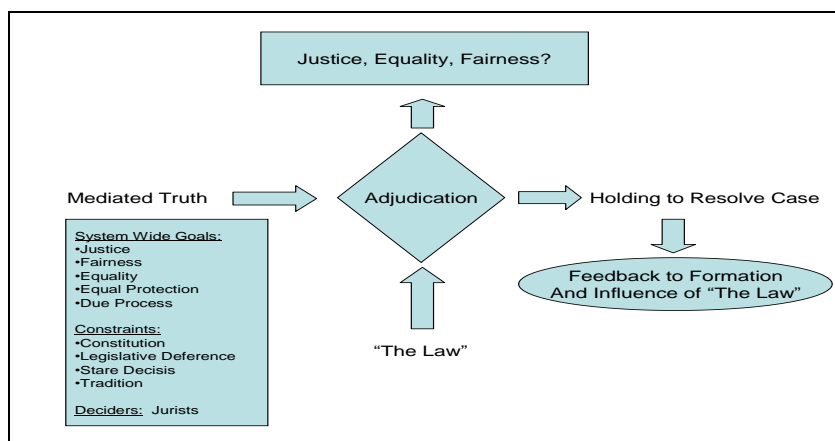
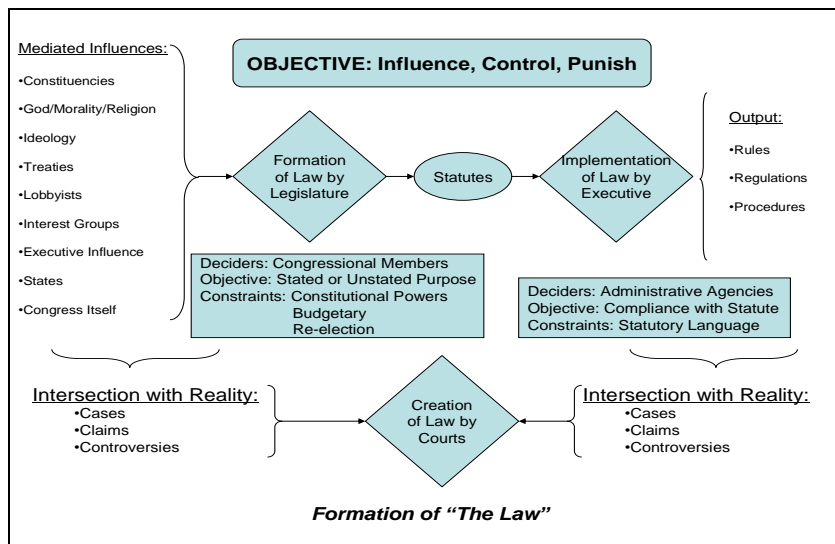
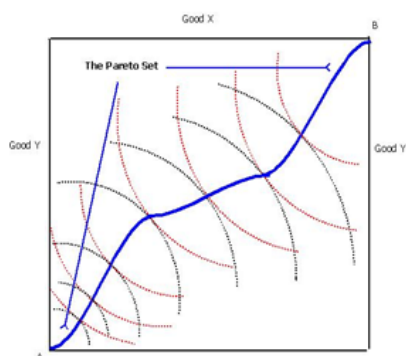


Figure 2. Free Market Assumptions That Swallow the Rule

The Edgeworth Box “Proof” that Free Market Pricing Leads to Optimal Resource Allocation in Society (Sources Indicated Below):



Pareto Optimal Edgeworth Box Model Assumptions

“The assumptions underlying the perfect market economy model are often not made explicit. The following presents a list of the general assumptions. Additional assumptions follow.

1. Utility maximization (opportunism).
2. Perfect rationality (Strong-form rationality).
3. Firms maximize profit (Strong-form efficiency).
4. Preferences are transitive and stable.
5. Perfect competition (Price-taking agents).
6. Perfect information.
7. Certainty.
8. No externalities (e.g. no pollution, no network externalities, no lock-ins).
9. No asset specificity i.e. no quasi rents.
10. No public goods.
11. Separability of production.
12. No economics of scale and scope.
13. No connectedness of exchange.
14. No distortions (e.g. taxes).
15. Homogeneous goods.
16. No direct transaction cost.
17. All property is privately held.
18. Human capital can be sold (Slavery is legal).
19. All assets are priced and traded in markets.
20. All utility can be measured in pecuniary terms.
21. No measurement problems.
22. No crime or war and litigation does not cost anything.
23. Time is static.
24. All exchange is voluntary.”

Demsetz Revisited:

“A primary function of property rights is that of guiding incentives to achieve a greater internalization of externalities. Every cost and benefit associated with social interdependencies is a potential externality. One condition is necessary to make costs and benefits externalities. The cost of a transaction in the rights between the parties (internalization) must exceed the gains from internalization. In general, transacting cost can be large relative to gains because of “natural” difficulties in trading or they can be large because of legal reasons. . . . property rights develop to internalize externalities when the gains of internalization become larger than the cost of internalization. Increased internalization, in the main, results from changes in economic values, changes which stem from the development of new technology and opening of new markets, changes to which old property rights are poorly attuned. . . . At each step of this adjustment process, it is unlikely that externalities per se were consciously related to the issue being resolved. . . . [T]heir viability in the long run will depend on how well they modify behavior to accommodate to the externalities associated with important changes in technology or market values.”

From Theory to Reality:

- Initial allocations are a given before this model and proof are invoked. The inequities of birth and situation such as handicaps, race, ethnic group, historic precedent affecting property rights, and natural endowments of talent and wealth, rural versus urban and other circumstances of access to opportunity are completely ignored. A “free market” can never address or solve those problems, creating a primary role for government or some other non market actor to fulfill society’s aspirations to address inequities.
- Externalities are pervasive and dynamic, therefore price is never a static intersection of supply of demand. The real market intersection based on a long list of free market distortions whose presence ‘swallow the rule.’ A realistic view would consider when and where government should intervene, or how the role of government generates benefits and costs to society—the essence of the social contract.

Sources: (Upper Left) <http://dismaldocket.wordpress.com/2013/02/10/the-pareto-set-and-the-contract-curve/>
 (Upper Right) http://e.viaminvest.com/B10CompetitionInProductMarkets/App10PerfectMarketModel/Exhib_Perf_market_econ.asp
 (Lower Left) Harold Demsetz, “Toward a Theory of Property Rights,” *The American Economic Review*, May 1967, pp. 347-359, http://www.econ.ucsb.edu/~tedb/Courses/Ec100C/Readings/Demsetz_Property_Rights.pdf.