GOVERNMENT REGULATION
PROPERTY RIGHTS
AND
THE INFORMAL ECONOMY

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This dissertation is dedicated

to the memory of my Grandparents

John and Catherine Fitzmaurice

and

Thomas and Mary Reynolds

TABLE OF CONTENTS

Chapter I

Introduction

This paper will show that informal black market activity negatively impacts upon a nation's potential economic growth. However, the informal economy is not the cause of restricted growth, but merely a manifestation of the underlying problem of excessive governmental regulation over private property rights and interests. Such interference mis - allocates limited resources by forcing producers and consumers to channel economic activities into the black market away from the formal economy in order to avoid the excessive regulatory scheme and the resulting associated excessive costs of operating legally.

The proper remedy for the negative effects of the informal economy requires a proper diagnosis of the problem. The solution to achieve full economic potential is not to attack the symptom of the illness with more regulation in a self - defeating attempt to reign in the informal activity. Rather, the cancerous illness itself of excessive governmental regulation must be attacked. This requires the state to limit its authority through constitutional reforms resulting in limited and balance government, with private property rights protected so that the people, both producers and consumers, may make economic decisions based on market considerations freed from the distorted effects of excessive regulations and government influences.

A system of well - defined property rights freed from excessive governmental

regulations is the best method for a country to achieve sustainable, long - term economic growth.

The countries with the highest per capita income and consistent economic growth are those with legal systems based on the rule of law. They have clearly articulated laws that guarantee the rights and obligations of the private sector and independent judicial systems that provide private sector parties an uncompromised forum in which they can seek to enforce those rights and obligations.

The countries with the lowest per capita income and stagnant economic growth are those that lack personal property rights. This leads to the misallocation and the inefficient use of limited resources.

For example, the formerly separate nations of West Germany and East Germany had comparable natural resources, geography, climate, educated work forces, cultural histories, etc, yet their level of economic output were drastically different. West Germany was a democracy based on the rule of law with the role of private property respected in a market economy. East Germany, however, was a communist state with the means of production controlled by the state in a planned command economy. Eventually, the East German state withered away and its territory and people peacefully absorbed and united into the Federal Republic of Germany.

The protection of private property, however, does not alone guarantee a country's economic growth. Private individuals and businesses must be able to timely employ their assets as they see fit to realize their economic objectives without undue governmental interference. Excessive regulations interfere with natural market forces, distorting the decision making process of buyers and sellers, consumers and producers.

Oppressive regulatory schemes discourage the entrepreneurial risk - taking through the creation of businesses within the formal official economy that is required for a country to realize its full economic potential measured by GDP, job creation and other traditional measures of economic performance. Entrepreneurial risk - taking may continue, but with far fewer entrepreneur and at a greatly decreased level of economic activity as entrepreneur are scarred away by the excessive complexities of starting and operating a business, corrupt officials demanding bribes in order to accomplish the most basic activities, etc. All of this results in diminished revenue to the state, revenue which could be redistributed to the benefit of the general public good.

Only in countries that protect property rights free of intrusive regulations can individuals and businesses make informed decisions regarding production, investment and savings based on an economic analysis rather than upon non - market forces that distort the market economy.

This paper will show that countries with intrusive regulatory schemes tend to have

large, informal, underground, black market economies operating alongside inefficient stagnant official economies. While the informal economy, nevertheless, contributes to a nation's industrial output, a nations wealth could be substantially greater if these actors felt able to participate in the formal official economy through an ease in the regulatory scheme and the protection of property rights.

Where the regulatory scheme is complimentary to market forces rather than oppressive and contradictory, producers and consumers universally have shown a preference for official economic activity, rather than continued participation in the informal, illegal economy. Investments that they previously withheld from making are now made. Any new entrepreneurial producers feel encouraged to enter the market for the first time as the financial cost, etc, to formerly establish a business are eased. As a result, countries which respect property rights and are free of excessive regulations have negligible informal economies.

Chapter II

Theories of Regulation

Government regulation is the imposing of economic controls on the private sector through controls or limitations on prices, quantity produced and entrance or exit requirements for specific industries.

Mercantile System, that is **Mercantilism**, was the term used by Adam Smith to describe the economic system practiced in Europe during the 17th and 18th centuries. Mercantilism proposed the notion that a nation became wealthier by stimulating exports and expanding trade and limiting imports and so nations followed policies to effect this result. It was also characterized by a close relationship between the government and the wealthy elite which resulted in the awarding of monopoly rights to the privileged few. In Adam Smiths 1776 *The Wealth of Nations,* he criticizes this coziness and instead introduces the idea of a competitive private enterprise price system. He also advocates freedom of entry into the market place.

> " The laudable motive of all these regulations, is to extend our own manufactures, not by their own improvement, but by the depression of those of all our neighbours, and by putting an end, as much as possible, to the troublesome competition of such odious and disagreeable rivals. [1]

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[1]Smith, Adam, 1776, The Wealth of Nations, Chicago, The University of Chicago Press, 1976, p179

Although never mentioning the term "**Capitalism**", Smith's idea of the "Invisible Hand" in which an individual acting in self-interest to promote one's own economic welfare simultaneously promotes society's common economic interest evolved into it. As Ronald Coase stated in the lecture he delivered in Stockholm, Sweden, December 9,1991, when he received the Nobel Prize,

> "A principal theme of the *Wealth of Nations* was that government regulation or centralized planning were not necessary to make an economic system function in an orderly way. The economy could be coordinated by a system of prices (the "invisible hand") and, furthermore, with beneficial results."[2]

Adam Smith and the other classical economists instead put forward a policy of **"Laissez-faire"** first developed in France by the Physiocrates in the 18th century. It calls for the least amount of government interference in the economic affairs of their country. A government should refuse to promote the affairs of one group of citizenry over another. It dictates that the primary goal of a government's economic policy should be the promotion of free competition in both the labor and production markets. It was only through this protection of free competition that one would be rightfully and fully rewarded for his or her efforts. As Harold Demsetz has often been credited with stating,

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[2]Coase, Ronald H., 1992, "The Institutional Structure of Production", American Economic Review, Vol. 82, No.4, 713-719

Laissez - faire it is a system of extreme decentralization.

The **Public Interest Theory** was presented by Arthur C. Pigou in *The Economics of Welfare*. In it, he explains that market failures, such as natural monopolies, high transaction costs and externalities can be corrected by governmental intervention. He insisted that a government needs to use its extensive power and influence to protect the naive public against these inevitable market failures.

> " In any industry, where there is reason to believe that the free play of self-interest will cause an amount of resources to be invested different from the amount that is required in the best interest of the national dividend, there is a prima facie case for public intervention." [3]

Pertaining to market entry, Pigou believed it was necessary for the government to screen all new entrants to insure that the would be sellers were providing quality goods and services that resulted in no one being left worse off. He saw the benefit to be that the government would see that new companies meet minimum standards and that no rogue producer would take the unsuspecting consumer's money and run. He held that government regulation was costless and that the consumer wanted this protection. This supervision of the market would also decrease social costs to the overall economy.

One of the flaws Pigou's fellow economists see in this argument is it assumes the

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[3]Pigou, Arthur C., 1938, The Economics of Welfare, 4th ed, London, Macmillan

government and/or the regulator as an agent of the government, has aligned his goals with those of the populace. This **Public Interest Theory** presumes that what is best for the citizenry is best for the government. It has been severely criticized for this benevolent government assumption.

The **Public Choice Theory** was introduced by James Buchanan and Gordon Tullock in their 1962 book, *Calculus of Consent*. The theory is based on how government does work as opposed to how it should work. The authors agree that the pursuit of self interest in economics promotes overall economic welfare but suggest that the pursuit of self interest in achieving political power leads to turmoil. As opposed to Arthur Pigou and his followers, these two see government as less benevolent and regulation as wasteful.

> " Public Choice theory essentially takes the tools and methods of approach that have been developed to quite sophisticated analytical levels in economic theory and applies these tools and methods to the political or governmental sector, to politics, to the public economy. As with economic theory, the analysis attempts to relate the behavior of persons in their various capacities as voters, as candidates for office, as elected representatives, as leaders or members of political parties, as bureaucrats to the composite of outcomes that we observe or might observe." [4]

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[4] Buchanan, James M., 1984, The Theory of Public Choice-II, Ann Arbor, The University of Michigan Press, 13

The **Tollbooth Theory** believes politicians support the regulation process as it allows them to extort exorbitant campaign contributions and bribes. Regulations, permits and licencing requirements exist not to protect the uninformed public, but to allow officials to refuse to issue these necessary items unless a "fee" is paid. Market entry is controlled, not to improve the social welfare of the naive public, but to improve the social welfare of the regulator.

The **Capture Theory** hypothesizes that the regulator whose job is to control a specific industry instead becomes "captured" by said industry and subsequently acts in the interest of the regulated industry instead of the public. Those already inside the industry enact regulations to keep new comers out so as to maximize the profits to those already inside, be it workers or investors, by keeping competition out. Adam Smith alluded to this theory when he said:

> "The interest of the dealers...in any particular branch of trade or manufactures, is always in some respects different from, and even opposite to, that of the publick. To widen the market and to narrow the competition, is always the interest of the dealers. To widen the market may frequently be agreeable enough to the interest of the publick; but to narrow the competition must always be against it." [5]

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[5] Smith, Adam, 1776, The Wealth of Nations, Chicago, The University of Chicago Press, 1976

Although the **Tollbooth Theory** and **Capture Theory** are closely correlated, their emphasis is different. The **Tollbooth Theory** stresses the benefit of government regulation to the regulator, while the **Capture Theory** stresses the benefit to the regulated industry.

The **Economic Theory of Regulation** was introduced by George J. Stigler in 1971 and it expands on the **Capture Theory**.

> " We propose the general hypothesis: every industry or occupation that has enough political power to utilize the state will seek to control entry. In addition, the regulatory policy will often be so fashioned as to retard the rate of growth of new firms."[6]

Stigler argued that politicians are also motivated by self-interest and would respond to the pressure of voting blocks of the electorate in an effort to continually be re-elected. Politicians would vote for protection and regulations of industries that were in their districts and/or contributed to their campaign war chests, not because it was in the interest of the publics' economic greater good, but because it was in the interest of the specific industry's greater good and therefore, the politician's greater good. Coalitions of similar firms seek special privileges from the government in the form of favorable legislation to their industry, be it in the form of tax breaks, tariffs, subsidies, etc.. And so instead of

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Stigler, George J., 1975, The Citizen and the State, Chicago, The University of Chicago Press, p118

government regulation protecting infant industries with these tax breaks, tariffs and subsidies, it instead isolates and protects already established industries from competition. Who gets regulated is a function of who exercises their political power and wealth, not who needs the aid. Naturally, the public is left worse of from this lack of competition

> "Regulation may be actively sought by an industry, or it may be thrust upon it. A central thesis of this paper is that, as a rule, regulation is acquired by the industry and it is designed and operated primarily for its benefit."[7]

At the same time Stigler published his theory, Richard Posner offered that regulation not only paid off producers with excessive profits, it also redistributed rents among consumers.

> " Much regulation may be the product of coalitions between the regulated industry and consumer groups, the former obtaining some monopoly profits from regulation, the latter obtaining lower prices (or better service) than they would in an unregulated market - all at the expense of unorganized, mostly consumer groups."[8]

In 1976, Sam Peltzman combined the Stigler and Posner theories into the **Political**

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Stigler, George J., "The Theory of Economic Regulation" The Bell Journal of Economics and Management Science, Vol 2, No. 1, 3-21

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Posner, Richard A., 1974, "Theories of Economic Regulation" The Bell Journal of Economics and Management Science, Vol 5, No.2, 335-338

Support Theory. Peltzman took a more benign view of regulators and politicians. The basic idea is that a regulator/politician would tweak the variables which he has some control over and mis-direct economic resources only if it was necessary to maintain his influence and power. Peltzman's theory was expanded on by Gary Becker (1976, 1983). He believed there was a limit to how much economic inefficiency a regulator would tolerate, regardless of his personal gain.

Richard B. Ekelund, Jr.of Auburn University and Richard S. Higgins of the Federal Trade Commission, in their 1982 paper titled, "Capital Fixity, Innovations, and Long-Term Contracting: An Intertemporal Economic Theory of Regulation" offer this synopsis of the above mentioned theories.

> "The **Capture Theory** of regulation is based on a competitive supply of and demand for regulation by coalitions of producers, consumers, and politicians. In Stigler's specifications, agencies are created by the rent creating supply of regulation by politicians in return for political 'favors' (votes, money, influence, etc.) on the part of demanding firms. Peltzman's generalization of the model emphasized the supply side phenomena of agencies and politicians in examining vote margins through use of the regulatory process to effect redistribution. In the Stigler - Peltzman hypothesis, effective coalitions of producers and

politician - regulators are the principal beneficiaries of regulation.[9]

There a several concepts known together as the **Political Process Theories of Regulation**. The first evolved from Kenneth J. Arrow's Social Choice Theory introduced in 1951. It held that political systems, including the regulations stemming from them, are intrinsically unstable because majority voting leads to constantly changing wants. The goal of regulation then, is to counteract this inherent instability and maintain economic order. The **Regulatory Capture Theory** added to the debate with the question, "Is the goal of government regulation to protect the public from the interest of a powerful few or is the goal of government regulation to protect the powerful from competition at the expense of the public?

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[9]Ekelund, Robert B, and Higgins, Richard S., 1982, "Capital Fixity, Innovations, And Long - Term Contracting: An Intertemporal Economic Theory of Regulation", American Economic Review, Vol. 72, No. 1, 32-46

Chapter III

Theories on Economic Growth and Property Rights

Whereas Plato strongly argued for communal ownership of property, Aristotle argued as strongly against it. His argument was based on efficiency. Aristotle did not believe one would take the best care or use to its fullest potential something which was not solely his.

According to John Locke, in the beginning, all property was communal, but it was not intended that property stay communal.

> " God, who hath given the world to men in common, hath also given them reason to make use of it to the best advantage of life and convenience. God gave the world to men in common, but since he gave it them for their benefit and the greatest conveniences of life they were capable to draw from it, it cannot be supposed he meant it should always remain common and uncultivated. He gave it to the use of the industrious and rational."[10]

John Locke advanced the notion that ones ownership of property protected one against the power of others, be it the government or the elites.

> " To understand political power as a right, and derive it from its original, we must consider, what state all men are naturally in, and that is, a state of perfect freedom to order their actions, and dispose of their possessions and persons, as they think fit, with the bounds of the

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[10] Ibid

possessions and persons, as they think fit, with the bounds of the law of nature, without asking leave, or depending upon the will of any other man. [11]

According to Locke, the purpose of government is to protect peoples property. If the government infringes on peoples property, it is not fulfilling its raison d'etre, and its citizens would be within their rights to revolt.

" The reason why men enter into society is the preservation of their property... since it can never be supposed to be the will of the society that the legislature should have a power to destroy that which every one designs to secure by entering into society...whenever the legislators endeavor to take away and destroy the property of people, they put themselves into a state of war with the people. [12]

In his Discourse on Political Economy, Jean - Jacques Rousseau weighs in with his views on the citizen, the state and property.

" Certainly the right to property is the most sacred of all the citizens' rights, and more important in certain respects than liberty itself...property is the true foundation of civil society and the true guarantee of the citizens' commitments."[13]

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[11] Ibid

[12] Ibid

[13] Rousseau, Jean - Jacques, " Discourse on Political Economy, 1755

John Stuart Mill believed that the aim of a society should not be to eliminate private property, but rather, to ensure that every member of the society owned property. In this way, each member of society would have a motivation to be productive. The ensuing result would be that all participate in the gains from capitalism, not just the rich and powerful.

Sir William Blackstone argued for the enforcement of property rights. He believed the recognition of property rights essential if one was to be guaranteed one would benefit from their efforts. Property rights are crucial as the grant legal endorsement to the efforts of the owner and protect the owner from someone just laying claim to their work, thereby encouraging utilization of the property to its maximum potential.

> " It was clear that the earth would not produce her fruits in sufficient quantities without the assistance of tillage: but who would be at the pains of tilling it, if another might watch an opportunity to seize upon and enjoy the product of his industry, art and labour?"[14]

Jeremy Bentham, the founder of Utilitarianism, saw attacks on property as attacks on industry.

> " Destruction of Industry: If I despair of enjoying the fruits of my labour, I shall think of living from day to day: I shall not undertake labours

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Blackstone, Sir William, Commentaries on the Laws of England, (Portland, T.B. Waite & Co., 1807)

which only benefit my enemies."[15]

Bentham saw 'self - interest' as a good thing as it benefitted the individual and society as a whole. The development of property:

" ...accrue both to persons of wealth and to those living at the margin of existence."

Angus Maddisson, the economic historian and growth specialist, found economic growth to be very slow and low in the first ten centuries. He believes real growth did not begin until the start of the modern capitalistic period as people were able to convert their property into wealth.

Simon Kuznets, the Father of the quantitative study of economic growth, traces the origins of modern economic growth to the Industrial Revolution and the further development of property rights as people moved from the farms into the new, developing cities and towns.

Douglass C. North , winner of the 1993 Nobel Prize, stressed that the legal and institutional definition of property rights was central to the emergence of modern economic growth in Europe.

"The nature of existing economic institutions channels the behavior of

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Bentham, Jeremy, The Works of Jeremy Bentham, (New York, Russell & Russell, 1962)

the aggregate result is to be economic growth, stagnation, or decay."[16]

On regulation, he wrote:

> "Institutional arrangements may also be created, either by voluntary groups or by the government, which are designed to capture gains for individual groups at the expense of others. We may conceive of any group which is organized to control supply effectively as being able to redistribute income in its favor."[17]

Harold Dementz offered this definition of the concept and role of property rights.

> " In the world of Robinson Crusoe, property rights play no role. Property rights are an instrument of society and derive their significance from the fact that they help a man form those expectations which he can reasonably hold in his dealings with others. These expectations find expression in the laws, customs, and mores of a society. An owner of property rights possesses the consent of fellowmen to allow him to act in particular ways. An owner expects the community to prevent others from interfering with his actions."[18]

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North, Douglass C. & Thomas, Robert Hall, 1970, "An Economic Theory of the Growth of the Western World" The Economic History Review, second series, volume XXIII, No. 1, 1-17

17 Ibid

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Dementz, Harold, 1967, "Toward a Theory of Property Rights", American Economic Review, Vol. 57, Issue 2, 347-359

Following the logic of these esteemed jurists, if an owner expects the community to prevent others from interfering with his actions, one can reasonably demand that the community, that is the government itself not, interfere with his actions. If the cost of market entry is so prohibitive so as to render it impossible, then one might as well have no property. Anderson and McChesney assert in their 2003 book Property Rights:Cooperation, Conflict and Law:

> "By definition, ownership of a thing must include the right to use that thing and to retain the gains from that use."[19]

Mr. Dementz comments on the cost of government regulations on transactions.

> " The cost of a transaction in the rights between the parties must exceed the gains. In general, transaction cost can be large relative to gains because of 'natural' difficulties in trading or they can be large because of legal reasons. In a lawful society the prohibition of voluntary negotiations makes the cost of transacting infinite.[20]

Edward F. Denison, in a Brookings Institute study "Accounting for Slower Economic Growth", credited regulations with reducing per capita growth in the United States by

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Anderson,Terry L., and McChesney, Fred S., Property Rights:Cooperation, Conflict and Law, (Princeton, NJ, Princeton University Press, 2003)

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Dementz, Harold, 1967, "Toward a Theory of Property Rights", American Economic Review, Vol. 57, Issue 2, 347-359

0.2% in the period 1973-1982.

Gerald Scully finds that economic growth is affected by the political institutions of the country in question. His research shows that growth has been highest in countries that are politically open and protect the rights of private property.

> "Societies that subscribe to private property rights and a market allocation of resources grew at a 2.76 percent rate compared to a 1.10 percent rate in nations in which private property rights are circumscribed and the state intervenes in resource allocation. Thus the institutional framework is not only a statistically significant explanation of intercountry variation in the growth rate of real per capita gross domestic product but also a phenomenon of considerable magnitude."[21]

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[21] Scully, Gerald W., 1988, "The Institutional Framework and Economic Development" Journal of Political Economy, volume 96, no.3, 652-662

Chapter IV

Theories on the Informal Economy

Before one can measure the informal economy, one must first define it. One definition is:

> "All economic activities that contribute to the officially calculated (or observed) gross national product but are currently unregistered."[22]

A second one is:

> " Market based production of goods and services, whether legal or illegal, that escapes detection in the official estimates of GDP."[23]

Regardless of the definition one uses, one thing is certain: whoever is participating in the informal economy is trying to evade detection. This makes achieving factual estimates almost impossible. Any conclusions reached by studies done on the informal economy must bear this in mind.

Albert O. Hirschman claims :

> " A growing shadow economy can be seen as the reaction of individuals who feel overburdened by the state and who choose the 'exit option'

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[22]Schneider, Friedrich, Ensts, Dominick H., 2000, "Shadow economies: Size, Causes, and Consequences", Journal of Economic Literature

[23] Ibid

rather than the 'voice option'."[24]

Many people of the world do not live in practicing democracies. The possibility of changing the existing regulations does not exist. Their only option is to work outside the law.

The informal economy does have a positive effect on the formal economy. Through a survey conducted by Schneider and Enste, they showed that "two -thirds of the value added produced in the shadow economy would not be produced in the official economy without the activities in the shadow economy."[25] They also found , in some LDCs, (Less Developed Countries) the level of the informal sector to be "nearly three quarters the size of the officially recorded GDP".[26]

> "These findings demonstrate that governments should put more emphasis on reducing the density of regulations instead of increasing the number of regulations. Some governments, however, opt for more regulation and laws in trying to reduce the shadow economy, mostly because it leads to increased power for bureaucrats and to higher employment in the public sector. Some politicians may not have a sincere interest in substantially

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24 Hirschman, Albert O., Exit, Voice and Loyalty, (Cambridge, MA; Harvard University Press, 1970)

25 Schneider, Friedrich, Ensts, Dominick H., 2000, "Shadow economies: Size, Causes, and Consequences", Journal of Economic Literature, 77-144

26 Ibid

reducing the shadow economy, since many voters gain from unofficial activities." [27]

People need to provide for their families, and if the formal economy fails them, they set up shop in the informal economy. To prevent their enterprise from being found out, or to prevent it from being closed down when it eventually is, bribes will be paid. Corruption, as defined by Vito Tanzi is,

"The abuse of public power for private benefit".[28]

" The causes or factors that promote corruption are those that effect the demand, (by the public) for corrupt acts and those that affect the supply (by public officials) of acts of corruption. One of the most important factors affecting the demand is regulations and authorizations." [29]

Schneider and Ensts found corruption to be involved in "satisfying regulations and obtaining licenses."[30]

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[27] Ibid

[28] Tanzi, Vito, 1998, "Corruption Around the World: Causes, Consequences, Scope, and Cures", IMF Working Paper 63, 1-30

[29] Ibid

[30] Schneider, Friedrich, Ensts, Dominick H., 2000, "Shadow economies: Size, Causes, and Consequences", Journal of Economic Literature, 77-144

They suggest:

> " Policies that remove entry barriers for industry promote competition and reduce corruption. Such reforms will also encourage firms to move from the shadow economy into the official economy."[31]

Douglas Marcouiller and Leslie Young report that informal employment accounts for 30 percent of all jobs in Latin America and 60 percent in Africa. They find the informal economy " to be viewed as the solution to economic stagnation rather than as one of its symptoms".[32] They also suppose , "...tolerance of the informal economy may be part of its (the predatory state) strategy to maximize graft".[33]

A study on 49 governments in transition was conducted by Simon Johnson, Daniel Kaufman and Pablo Zoido - Lobaton.

> " Politicization of economic activity means the exercise of control rights over firms by politicians and bureaucrats. These control rights may have served an ideological agenda in the past, but they are often used to further the private agenda of politicians and bureaucrats. The usual presumption in the economic literature is that a predatory government simply leads to lower total economic activity, but for Eastern Europe and the former

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[31] Ibid

[32] Marcouiller, Douglas, Young, Leslie, 1995, "The Black Hole of Graft: The Predatory State and the Informal Economy", American Economic Review, Vol.85, No.3, 630-646

[33] Ibid

Soviet Union since 1989, businesses have responded to politicization by going underground." [34]

They concluded that, "..the extent of regulatory and bureaucratic discretion is a key determinant of underground activity".[35]

In his 1999 study, H. D. Vinod found corruption to have significant effects on the economies of developing nations. In his report, Dr. Vinod considered corruption to be an illegal tax. He concluded that

" a dollar's worth of corruption causes a $1.67 worth of burden on the economy.....which compounds over time to become very large."[36]

His number one recommendation to eliminate this drain was to "reduce red tape."

" To reduce red tape one requires elimination of all unnecessary regulations, government licenses, and permits." [37]

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[34] Johnson, Simon; Kaufman, Daniel; Zoido - Lobaton, Pablo, 1998, "Regulatory Discretion and the Unofficial Economy", American Economic Review, Vol.88, No.2, 387-392

[35] Ibid

[36] Vinoid, H. D., 1999, "Statistical analysis of corruption data and using the Internet to reduce corruption", Journal of Asian Economics

[37] Ibid

Chapter V

Literature Review

There are some economic arguments in support of regulation. As previously mentioned, Mr. Pigou saw it as necessary to correct for market failures. According to Neal S. Zank of George Washington University, in his 1996 book, Measuring the Employment Effects of Regulation: where did the jobs go?, regulation can be justified in the following instances:

1. curbing natural monopolies such as utilities.
2. protecting public safety as in providing for national defense and police and fire protection.
3. controlling exorbitant profits
4. mitigating negative externalities as in the case of pollution.
5. informational deficiencies of the public regarding certain products such as drugs.[38]

Another reason he gives is to enhance the potential for improving the efficient use of limited resources and maximize production output. It is possible, if economies of scale exist, that one firm would produce more efficiently and conserve scarce resources than several competing firms.

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[38] Zank, Neal S., 1996, Measuring the Employment Effects of Regulation: where did the jobs go, Westport, CT., Quorum Books

Mr. Zank also believes, however, contrary to what Mr. Pigou though, that regulation is not costless. There are direct and indirect costs. The direct costs are the actual costs incurred by the producer associated with complying with these regulations. Rather than internalizing these costs, the producer will pass it on to the consumer by charging a higher price and/or pass it on to the employee by paying a lower wage. Both have a direct and negative effect on overall demand and employment which therefore stunts economic growth. He lists the many ways regulation can affect productivity, growth and output as:

1. reducing the returns to entrepreneurship by structuring markets and transactions to preclude innovation and the development of new technologies, manufacturing processes and products.
2. reducing the amount of labor and capital that are employed in an economy.
3. reducing savings, investment, and capital formation within the domestic economy.
4. reducing foreign investment.
5. causing firms to use different and less efficient combinations of labor and capital in the production process.[39]

Murray Weidenbaum, Chairman of the President's Council of Economic Advisors from 1981 through 1982, lists the costs arising from government regulation as:

1. the cost to the taxpayer for supporting a galaxy of government regulators.
2. the cost to the consumer in the form of higher prices to cover the added

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[39] Ibid

expense of producing goods and services under government regulations.

3. the cost to the worker in the form of jobs eliminated by government regulation.
4. the cost to the economy resulting from the loss of smaller enterprises which cannot afford to meet the onerous burdens of government regulations.
5. the cost to society as a whole as a result of a reduced flow of new and better products and a less rapid rise in the standard of living.[40]

He finds "government regulation affects the prospects for economic growth and productivity by levying a claim for a rising share of new investments in an industry". Entrepreneurs delay and/or cancel new capital formation because they need to use these funds instead to meet government ordered mandates.

Mr. Weidenbaum finds the ultimate costs to be:

1. the factories that do not get built.
2. the jobs that do not get created.
3. the goods and services that do not get produced.
4. the incomes that are not generated. [41]

William W. Beach and Gerald P. O'Driscoll, Jr. explain in the 2003 Heritage Foundation Index of Economic Freedom the role regulation plays in computing a

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[40]Weidenbaum, Murray L., 1979, The Future of Business Regulation: Private Action and Public Demand, New York, AMACOM

[41]Ibid

country's Economic freedom score.

> "Regulations and restrictions make it difficult for entrepreneurs to create new businesses. Although many regulations hinder business, the most important are associated with licensing new companies and businesses. The more regulation is imposed on business, the harder it is to establish one." [42]

In the Heritage Foundation 2002 study, Lee Hoskins and Anna I. Eiras report:

> " The more government policy facilitates the use of private property, the more prosperity it helps bring. In contrast, when governments infringe on citizens' property rights by implementing policies that restrict access to markets and interfere with the use of private property, they bring poverty to their countries."
>
> " When government policy interferes with economic activity, the economy suffers and people's living standards decrease. Government can infringe on property rights directly by...enacting burdensome regulation. Government infringement of property rights subtly confiscates wealth, decreases the value of economic activity, and prevents resources from

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[42] Beach, William W. & O'Driscoll, Gerald P., "Explaining the Factors of the Index of Economic Freedom", *Heritage Foundation 2003 Index of Economic Freedom*, 65

flowing to their most valuable use.[43]

A study reported in 1997 conducted by Timothy Frye, Department of Political Science - Columbia University, and Andrei Shleifer, Department of Economics - Harvard University, bears this out. They compared the development of small businesses in the transition economies of Poland and Russia. The establishing and growth of small businesses in Poland was more formidable.

> "According to the European Bank for Reconstruction and Development (EBRD, 1996), in 1995 Poland had about 2 million small private businesses, whereas Russia had only 1 million with a population almost 4 times larger. Even if we allow, as the EBRD does, that Russia had another 2 million unregistered private businesses, small-business formation is still more lethargic in Russia."[44]

They found the reason why the entrepreneurial spirit more lethargic in Russia, in spite of the similarity in the transition process with Poland, to be the difference in the regulatory circumstances. Relating to market entry, it took 2.7 months for Moscow businesspeople to register their establishments vs. the 0.7 months in Warsaw ($t = 5.02$).

> "The regulatory evidence in particular shows that Polish local governments are more supportive of business. This evidence is consistent with the greater

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[43] Hoskins, Lee & Eiras, Anna I., "Property Rights: The Key to Economic Growth", *Heritage Foundation 2002 Index of Economic Freedom*, 37-46

[44] Frye, Timothy, and Shleifer, Andrei, 1997, "The Invisible Hand and The Grabbing Hand", American Economic Review, Vol.87, No. 2, 354-358

energy shown by small business in Poland than in Russia despite similar economic reforms.[45]

Ronald Coase is credited with bring the idea of transaction costs into the understanding of economic activity.

> "Businessmen in deciding on their ways of doing business and on what to produce have to take into account transaction costs. If the costs of making an exchange are greater than the gains which that exchange would bring, that exchange would not take place and the greater production that would flow from specialization would not be realized."[46]

If the transaction cost associated with the establishment of a small business are so great so as to make the actual cost, as well as the opportunity costs of doing so, so prohibitive so as to prevent its establishment, how would one begin to calculate the number of loss jobs and economic activity and growth?

Robert B. Ekelund, Jr. and Richard S. Higgins examine the effect of government regulations on innovation in their 1982 study presented in the American Economic Review. They reported:

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[45] Ibid

[46] Coase, Ronald H., 1992, "The Institutional Structure of Production", American Economic Review, Vol. 82, No.4, 713-719

"In short, regulation is not in the consumer's interest. Instead, regulation is viewed as a way of foreclosing markets to future competition. The cost of regulation is related to the foregone value of anticipated future innovation. It is clearly in the interests of incumbents - who, by assumption, do not expect to be innovators - to have the market foreclosed permanently. The cost - benefit test we suggest is that entry is allowed whenever the value of the innovation exceeds the incumbents' capital losses and entry is denied when capital losses exceed the value of the innovation."[47]

James M. Buchanan points out the irrationality of government intervention in a democratic society which traditionally advocates that all citizens be treated equally under the law.

"Any effort on the part of a legislative majority rule to tax, subsidize or regulate differentially a group of persons classified by personal characteristics, such as gender, race, ethnicity, religion or geography would be judged unconstitutional. By dramatic contrast, almost any action by a legislative majority tax or subsidize or regulate differentially a group of persons classified by economic characteristics, such as amount and type of wealth and income, occupational status, profession, industry,

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[47]Eklund, Robert B., and Higgins, Richard S., 1982, "Capital Fixity, Innovations, and Long - Term Contracting: An Intertemporal Economic Theory of Regulation", American Economic Review, Vol. 72, No. 1, 32-46

product category, form of organization and size of association, would be left constitutionally unchallenged."[48]

Janos Kornai studied his own country, Hungry, after the fall of the Soviet Union. Hungry's transition to a market economy was underway. Although Hungry was doing better than other former soviet satellites, the process was not all smooth sailing. Mr. Kornai commented on the politicians and bureaucrats.

" We are dealing neither with the philosopher - statesman of Plato, who rise above all selfish criteria, nor with the expert, law abiding punctilious bureaucracy of Max Weber. Nor are we dealing with the political decision makers described in studies of welfare economies, who exclusively serve the public interest. Therefore, any economist arguing that market forces should be curtailed must soberly consider that *this* is the kind of state to which he now wishes to assign a function, and this is the kind of state it will remain for some time to come."[49]

48

Buchanan, James M., 1997, Post-Socialist Political Economy, Lyme, NH., Edward Elgar Publishing Company

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Kornai, Janos, 1992, "The Postsocialist Transition and the State: Reflections in the Light of Hungarian Fiscal Problems", American Economic Review, Vol 82, No.2, 1-21

Chapter VI

Methodology and Results

The purpose of this dissertation is to determine if a relationship exists between government regulation of market entry, recognition and enforcement of property rights and the informal economy. The effect the informal economy has on per capita GDP will be examined. This chapter outlines the steps and procedures employed. The tests utilized in this study will examine 72 countries for the year 2000. Obviously, 2000 was prior to the attacks of 9/11/01, and so the massive effects the attacks had on the world economy will not skew the results. The data pertaining to the macroeconomic areas were accumulated from the World Bank Development Report 2003. The data specific to market entry and the percentage of informal economy was acquired from a 2001 World Bank study titled, "The Regulation of Entry."[47] The data pertaining to the recognition and protection of property rights was obtained from the Frazier Institute.[48]

Dr. Dominick Salvatore did a study in 1983 titled, "A Simultaneous Equations Model of Trade and Development with Dynamic Policy Simulations."[49] He examined the

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[47]Djankov, Simeon, LaPorta, Rafael, de Silanes, Florencio Lopez, Shleifer, Andrei, 2001, "The Regulation of Entry", World Bank

[48]Frazier Institute, 2001, "Economic Freedom of the World, 2001 Annual Report

[49]Salvatore, Dominick, 1983, "A Simultaneous Equations Model of Trade and Development with Dynamic Policy Simulations" KYKLOS, Vol.36

Dr. Dominick Salvatore did a study in 1983 titled, "A Simultaneous Equations Model of Trade and Development with Dynamic Policy Simulations."[52] He examined the correlation between international trade, industrialization and economic development for 52 developing nations from 1961 thru 1978. Using that model, I will examine how the recognition and the enforcement of property rights as well as government regulation of market entry, effect the level of the informal economy. The impact the informal economy has on investment, output and per capita income will also be examined.

I begin by stating the null and alternative hypothesis:

Ho: There is no relationship between property rights and government regulation of market entry on the informal economy and per capita income.

Ha: A relationship does exist between property rights and government regulation of market entry on the informal economy and per capita income.

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Salvatore, Dominick, 1983, "A Simultaneous Equations Model of Trade and Development with Dynamic Policy Simulations" KYKLOS, Vol.36

Table 1

Using the simultaneous equations model developed by Dr. Salvatore, the model takes the following form:

$$N = a_0 + a_1 M + a_2 S + a_3 I$$

$$I = b_0 + b_1 Y + b_2 DY + b_3 N + b_4 F$$

$$R = c_0 + c_1 DY + c_2 N + c_3 O$$

$$Y = d_0 + d_1 I + d_2 R + d_3 N + d_4 F$$

where:

N = informal economy as percentage of GNP

I = gross fixed capital formation as a percentage of GNP

R = industry value added as a percentage of GNP - 2000

Y = GNP per capita income in current US dollars

M= percentage of per capita income required to fulfill market entry procedural requirements.

S = legal recognition and protection of property rights

DY = growth of per capita income

F = net foreign direct investment as a percentage of GNP

O = industry value added as a percentage of GNP - 1999

TABLE II

Definitions of Variables

N: Informal Economy - size of shadow economy as a percentage of GNP

I : Investment - Gross fixed capital formation as a percentage of GNP

Gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements, plants, machinery equipment purchases, construction of roads, railways, schools, offices, hospitals, private residential dwellings, commercial and industrial buildings.

R: Industry - Value added as a percentage of GNP (year 2000)

Comprises value added in mining, manufacturing, construction, electricity, water and gas. It is the net output of a sector after adding up all outputs and subtracting intermediate inputs.

Y: GNP per capita - Atlas method (current US$) Formerly GNP per capita

The gross national income, converted to US$ using the World Bank Atlas method, divided by the mid-year population.

M: Cost of obtaining legal status to operate a firm as a share of per capita income.

It includes all identifiable official expenses(fees, costs of procedures legal and notary charges). These costs do not include bribes, which Hernando de Soto [1990] has shown to be significant for registration. It does not include the opportunity cost of the entrepreneur's time and the foregone profits associated with bureaucratic delay.

S: Security of Property Rights.

DY: Annual percentage of GNP per capita growth.

F: Foreign direct investment as a percentage of GNP

The sum of equity capital, reinvestment of earnings, other long - term capital and short - term capital as shown in the balance of payments.

O:Industry - Value added as a percentage of GNP (year 1999)

A simultaneous equation model was used as the size of the informal sector impacts several areas of the economy concurrently.

The first equation:

$$\mathbf{N = a_0 + a_1 M + a_2 S + a_3 I}$$

measures the effect

M: the percentage of per capita income required to fulfill market entry procedural requirements

S: legal recognition and protection of property rights

I: capital formation

have on the magnitude of the informal economy. As stated, this paper intends to show that as the cost of registering a new enterprise increases, the size of the informal economy would increase. Therefore, cost (M) would have a positive relationship to the informal economy (N). In the Frazier Institute measure of legal recognition and protection of property rights, a higher score, on a level of 1 to 10 means a more competent rating. One would surmise then, that the protection and enforcement of property rights (S) would have an inverse effect on the size of the informal economy (N). Therefore, S would show an inverse relationship to N. Investment (I) should have an inverse effect on the informal sector (N), as the higher the level of investment, the more jobs would be available. One reason someone starts their own business is there is no other available employment. If the cost (M) of starting this new business in the recognized economy is prohibitive and the degree of recognition and protection of your production is not guaranteed, you will enter

the informal sector. It is logical. therefore, to assume that as investment (I) increases and the number of jobs available increases, this would have a negative effect upon thus decreasing informal activity.

The second equation:

$$\mathbf{I = b_0 + b_1\, Y + b_2\, DY + b_3\, N + b_4 F}$$

demonstrates the influence of

Y = per capita income

DY = growth in real per capita income

N = the informal economy

F = net foreign capital inflow

have on investment. Investment has always been recognized as a main source of continued economic growth. Adam Smith wrote:

> " The quantity of industry not only increases in every country with increase of the stock (capital) which employs it, but, in consequence of that increase, the same quantity of industry produces a much greater quantity of work."[53]

It would seem logical that the informal economy would have a negative effect upon investment. They are several reasons for this. First, informal sector enterprises tend to be labor intensive, rather than capital intensive. Informal business owners cannot invest in

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[53] Smith, Adam, The Wealth of Nations, 1776

capital equipment as it would raise to many flags and make them susceptible to discovery. Second, taxes are not paid on informal economy profits. These revenues are then not able to be converted into roads, hospitals and schools. Third, micro - financing is not available to informal enterprises, due to their illegal nature. Lastly, one can assume funds, which could be used for investment, are instead being diverted to pay bribes.

Per capita income, (Y), should have a direct effect upon Investment. In theory, the informal economy has a negative effect upon per capita income. If there is not even enough income to provide for one's family, there is certainly not enough income to put towards capital formation. Growth in per capita income, (DY), which represents that the level of investment also depends upon growth in the domestic economy, symbolized by growth in per capita income, should also have a direct effect upon investment as would direct foreign investment.

The third equation:

$$\mathbf{R = c_0 + c_1\, DY + c_2\, N + c_3\, O}$$

establishes the effect:

DY = growth of real per capita income

N = the informal economy

O = industrial output in the previous year,

(in this case, 1999)

have on industrial output. Moving away from being an agricultural society and increasing the percentage of GDP realized from industrial output is considered necessary for

continued economic growth. Industrial output for a given year is a function of the level of industrial output in the previous year (O) and the level of growth the economy has experienced (DY) and a positive relationship would be expected. It is reasonable, therefore, to conclude that a negative relationship exists between industrial output and the informal economy. Informal sectors are more than likely not producing at their peak potential. Investment in capital is limited for the already stated reasons. Second, effort goes into remaining hidden, and funds (bribes) go into staying in business once detected, as opposed to going into methods which would maximize production. Also, economies of scale cannot be realized, as these businesses must remain small scale enterprises. Therefore, these informal enterprises are no challenge to the formal firms. There is therefore no incentive for these established firms to stay competitive. This would negatively impact industrial output. However, in less developed countries, their formal economies are not well established either, so any source of output, be it from the formal or informal sector, would have a positive effect. Therefore, I would anticipate the developed economies and less developed economies cancelling each other out as to the effect the informal economy has on industrial output. When testing is done on each group separately, I would expect the effect to be positive for less developed countries and negative for more developed countries.

The fourth equation:

$$\mathbf{Y = d_0 + d_1 I + d_2 R + d_3 N + d_4 F}$$

brings it all together. Per capita income is measured as a function of

I = investment

R = industrial output

N = informal economy

F = net foreign capital inflow

One would expect investment { I }, industrial output { R) and foreign direct investment { F } to have a positive relationship to per capita income {Y}. The informal economy should have an inverse relationship to per capita income { Y}.

Test results are based upon 72 observations with 68 degrees of freedom. A 2 tailed test is used, as either a positive or negative relationship is being investigated. A level of significance a = .05 and a = .10 is being applied. Under these parameters, the critical t values are 1.96 and 1.68 respectively. A **J test** was performed to certify that all variables were properly identified and a value of 5.4581 was realized. As there are 4 independent variables to be examined, (N,I,R,Y), 5 exogenous variables (DY, F, M, O, S) used in the determination and 18 parameters to be considered, identification was tested at two degrees of freedom { 4 independent variables x 5 instruments - 18 parameters }. At the a = 0.050 level, the critical value for the x squared distribution was 5.99146. Therefore, it was concluded that all variables were properly identified. The ITGMM (iterated generalized method of moments estimation) was used.

The results are listed below.

TABLE III

Summary of Results for All Countries

N = Informal Economy as a percent of GDP				
Variable	Parameter	S.E.	t value	Pr > [t]
M	0 .144477	0.0400	3.62	0.0006
S	-2.536330	0.6854	- 3.70	0.0004
I	-0.130080	0.5284	- 0.25	0.8063
I = Investment as a percent of GDP				
Variable	Parameter	S.E.	t value	Pr > [t]
Y	-0.00032	0.000295	-1.08	0.2832
DY	0.654315	0.2061	3.17	0.0023
N	-0.3226	0.1682	-1.92	0.0593
F	0.299654	0.2910	1.03	0.3068
R = Industrial Output as a percent of GDP				
Variable	Parameter	S.E.	t value	Pr > [t]
DY	0.089614	0.0889	1.01	0.3169
N	0.044661	0.0443	1.01	0.3165
O	1.084701	0.0619	17.53	<.0001
Y = Per capita Income				
Variable	Parameter	S.E.	t value	Pr > [t]
I	452.6996	487.0	0.93	0.3559
R	- 423.445	154.1	- 2.75	0.0077
N	- 707.207	164.7	- 4.29	<.0001
F	437.3886	324.2	1.35	0.1818

$$N = a_0 + a_1 M + a_2 S + a_3 I$$

The regression results are as follows for the dependent variable N (Informal Economy % of GNP). At the .05 percent level of significance, cost (M) with a 3.62 t-ratio and a p(t) of 0.0006 proved to have a significant and direct relationship. Property rights (S) also proved to have a significant but, as expected, an inverse relationship with a t-ratio of -3.70 and a p(t) of 0.0004. The effect of Investment (I) was statistically equal to zero, having a t value of -1.03 and a p(t) value of 0.3125.

$$I = b_0 + b_1 Y + b_2 DY + b_3 N + b_4 F$$

As expected, N (informal economy) has a significant and inverse affect on I (capital formation) with a t-ratio of -1.92 and a p(t) value of 0.0593 at the a = .10 level. Growth of per capita income (DY) had a significant and positive effect at the a = 5 level, as expected, with a t value of 3.17, p(t) = 0.0023. The effects of per capita income (Y) and foreign investment (F) were statistically equal to zero.

$$R = c_0 + c_1 DY + c_2 N + c_3 O$$

The effects of the informal economy (N) and growth in per capita income (DY) were statistically equal to zero. For the above stated reasons, this was the anticipated result. The previous year's output (O) had , as expected, a positive and direct effect.

$$\mathbf{Y = d_0 + d_1 I + d_2 R + d_3 N + d_4 F}$$

As predicted, the effect of the informal economy (N) on per capita income (Y) was significant and inverse at the a = .05 level, with a t-ratio of -4.29, a p(t) of <.0001. The effect of industrial output (R) was significant and inverse with a t ratio of -2.75, p(t) = 0.0077. Investment (I) and foreign investment (F) were statistically equal to zero.

These results lead to a **rejection** of the null hypothesis, as all results for the cost of starting a business (M), protection and enforcement of property rights (S) and the informal economy (N) tested as expected.

The 72 countries were then separated according to the 2000 World Bank classification of countries by per capita income. Two groups were formed. The first group consisted of 44 countries with per capita income of less than $3,000.00. The World Bank classifies these countries as low and middle income. The second group consisted of countries with per capita income greater than $3,000.00.

It is anticipated that M (cost) would have a significant and inverse effect for both groups and in fact this was the case , with a t - ratio of 2.86, p(t) value of 0.0082 for the less developed group and a t -ratio of 2.91, p(t) value of 0.0068 for the more developed group.

Respect for property rights and enforcement of contracts was found to be statistically equal to zero for the less developed group with a t - value of 0.11 and p(t) value of 0.9159 while it still proved to have a significant and inverse effect upon the more developed group with a t - value of -2.19, p(t) = 0.0394. This result is not as surprising as it seems at first. There is no recognition, protection and enforcement of property rights in less developed countries. Therefore, it is impossible to measure what the effect of a change would be. The fact that a decline in protection of property rights has such an effect in more developed countries only proves their importance in achieving and sustaining continuous levels of growth in a modern market economy.

The informal economy accounts for 39.25% of GDP in the less developed countries, but only 26.82% in developed countries. Accordingly, I would anticipate N (informal

economy) having a significant and inverse effect upon I (investment) in the less developed group of nations, while having an insignificant effect in the more developed group. The analysis corroborates this. The informal sector (N) was found to have a significant and inverse relationship to investment in the less developed group with a t - value of -3.29, p(t) = 0.0021, whereas, it was statistically equal to zero, (t value = -0.58, p(t) = 0.5664), in the more developed countries.

The informal sector (N) was found to have a negative and significant effect upon per capita income for both groups, with a t - ratio of -3.33, p(t) = 0.0019 for the less developed group and a t - ratio of -3.24, p(t) = 0.0039 for the more developed. But, as the effect was equally significant, the magnitude was not. A one percent decrease in the level of the informal economy would result in an addition of $126.67 to the per capita income for the poorer countries, or an increase of **11.79%**. A one percent decrease in richer countries would result in a $803.52 increase in per capita income , or **6.3%**

TABLE IV

Summary of Results for Less Developed Countries

N = Informal Economy as a percent of GDP				
Variable	Parameter	S.E.	t value	Pr > [t]
M	0 .041335	0.0145	2.86	0.0068
S	0.130848	1.2317	0.11	0.9159
I	-0.59807	0.4655	- 1.28	0.2062
I = Investment as a percent of GDP				
Variable	Parameter	S.E.	t value	Pr > [t]
Y	-0.00967	0.00378	-2.56	0.0145
DY	0.669552	0.4110	1.63	0.1114
N	-1.22846	0.3730	-3.29	0.0021
F	1.785838	0.7265	2.46	0.0185
R = Industrial Output as a percent of GDP				
Variable	Parameter	S.E.	t value	Pr > [t]
DY	- 0.11049	0.1148	- 0.96	0.3417
N	0.061758	0.0740	0.83	0.4089
O	1.1910971	0.0474	25.11	<.0001
Y = Per capita Income				
Variable	Parameter	S.E.	t value	Pr > [t]
I	- 23.17	73.3685	- 0.32	0.7538
R	- 23.1332	20.6861	- 0.54	0.5935
N	-126.666	38.0866	-3.33	0.0019
F	111.483	71.1170	1.57	0.1251

TABLE V

Summary of Results for Developed Countries

N = Informal Economy as a percent of GDP				
Variable	Parameter	S.E.	t value	Pr > [t]
M	0 .479948	0.1651	2.91	0.0082
S	-2.14581	0.9796	- 2.19	0.0394
I	-0.61641	0.5964	- 1.03	0.3125
I = Investment as a percent of GDP				
Variable	Parameter	S.E.	t value	Pr > [t]
Y	-0.00014	0.000152	-0.91	0.3754
DY	1.220196	0.3543	3.44	0.0024
N	-0.06888	0.1183	-0.58	0.5664
F	0.215838	0.2104	1.03	0.3166
R = Industrial Output as a percent of GDP				
Variable	Parameter	S.E.	t value	Pr > [t]
DY	0.037411	0.1802	0.21	0.8375
N	- 0.03221	0.0478	- 0.67	0.5074
O	1.062551	0.0741	14.34	<.0001
Y = Per capita Income				
Variable	Parameter	S.E.	t value	Pr > [t]
I	- 115.103	652.8	- 0.18	0.8617
R	- 525.13	378.7	- 1.39	0.1779
N	- 803.524	248.0	- 3.24	0.0039
F	445.1788	398.4	1.12	0.2764

Table VI

The following correlation coefficient matrix of the 72 countries tested also shows that the only possible source of multicollinearity would be the overall close correlation between [R] and [O] , which is higher than the general criteria of 0.8%. This is unavoidable as the are the lead and lag series of the same variable.

	DY	*I*	*R*	*Y*	*F*	*M*	*N*	*O*	*S*
DY	1								
I	0.4587	1							
R	0.2975	0.4097	1						
Y	0.1918	0.1039	0.1375	1					
F	0.1462	0.2965	-0.054	0.4918	1				
M	-0.394	-0.161	-0.465	-0.341	-0.09	1			
N	-0.259	-0.247	-0.323	-0.56	-0.24	0.4519	1		
O	0.3339	0.4696	**0.9731**	0.1421	-0.01	-0.523	-0.399	1	
S	0.248	0.2	0.0925	0.7388	0.415	-0.358	-0.662	0.1495	1

Auxiliary Regression - Klein's rule of thumb - affirms if
R -squared Auxiliary > R -squared model than
multicollinearity exists.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.691076
R Square	0.477586
Adjusted R Square	0.446397
Standard Error	6288.553
Observations	72

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	2422212491	605553122.8	15.3126663	6.08044E-09
Residual	67	2649575096	39545896.96		
Total	71	5071787588			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	14907.11	4829.349029	3.086773439	0.00294176	5267.682645	24546.52998	5267.682645	24546.52998
F	1069.015	226.3487965	4.722864434	1.2313E-05	617.2204672	1520.808894	617.2204672	1520.808894
N	-300.2844	63.36147636	-4.7392267	1.1592E-05	-426.754471	-173.814329	-426.754471	-173.814329
I	-259.1068	160.9875374	-1.60948338	0.11221276	-580.439325	62.22579168	-580.439325	62.22579168
R	70.62004	96.27350345	0.733535602	0.46579087	-121.542728	262.7828125	-121.542728	262.7828125

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.48879
R Square	0.238915
Adjusted R Square	0.193478
Standard Error	4.682564
Observations	72

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	461.1618999	115.290475	5.2580665	0.000960334
Residual	67	1469.068873	21.92640109		
Total	71	1930.230773			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	14.94459	3.381843516	4.419066799	3.7137E-05	8.194402628	21.69478218	8.194402628	21.69478218
Y	-0.000144	8.92603E-05	-1.60948338	0.11221276	-0.00032183	3.45014E-05	-0.00032183	3.45014E-05
F	0.560503	0.182139793	3.077321924	0.00302457	0.19695013	0.924055428	0.19695013	0.924055428
N	-0.052168	0.054143682	-0.96351502	0.3387539	-0.16023952	0.05590302	-0.16023952	0.05590302
R	0.213893	0.067062982	3.189431848	0.0021688	0.080034501	0.347751119	0.080034501	0.347751119

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.490407
R Square	0.240499
Adjusted R Square	0.195155
Standard Error	7.948215
Observations	72

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	1340.288793	335.0721984	5.3039472	0.000900896
Residual	67	4232.66606	63.17412029		
Total	71	5572.954853			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	24.72404	5.782085333	4.275973348	6.1727E-05	13.18294897	36.26513659	13.18294897	36.26513659
I	0.616266	0.19322117	3.189431848	0.0021688	0.230594578	1.001936932	0.230594578	1.001936932
Y	0.000113	0.000153796	0.733535602	0.46579087	-0.00019416	0.000419793	-0.00019416	0.000419793
F	-0.671667	0.319937071	-2.09937139	0.03955449	-1.31026398	-0.03306949	-1.31026398	-0.03306949
N	-0.173286	0.090084254	-1.92359621	0.05865537	-0.3530947	0.006523244	-0.3530947	0.006523244

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.603728
R Square	0.364488
Adjusted R Square	0.326547
Standard Error	2.939907
Observations	72

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	332.1244928	83.03112321	9.60669091	3.35402E-06
Residual	67	579.0844432	8.643051391		
Total	71	911.208936			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.013006	2.412929294	-0.00539027	0.99571523	-4.8292347	4.803222018	-4.8292347	4.803222018
N	0.020572	0.034135943	0.602650522	0.54877562	-0.0475636	0.088707691	-0.0475636	0.088707691
R	-0.091893	0.043771604	-2.09937139	0.03955449	-0.17926136	-0.00452434	-0.17926136	-0.00452434
I	0.220942	0.071796716	3.077321924	0.00302457	0.077634724	0.364248493	0.077634724	0.364248493
Y	0.000234	4.94702E-05	4.722864434	1.2313E-05	0.000134898	0.000332384	0.000134898	0.000332384

Table VII

Countries Included

Albania
Algeria
Argentina
Bangladesh
Belgium
Benin
Bolivia
Brazil
Bulgaria
Cameroon
Chile
China
Colombia
Costa Rica
Cote d'Ivorie
Croatia
Czech Republic
Denmark
Dominican Republic
Ecuador
Egypt
Finland
France
Germany
Ghana
Guatemala
Honduras
India
Indonesia
Iran
Italy
Jamaica
Jordan
Kenya
Latvia
Lithuania
Madagascar
Malaysia
Mali
Mexico
Morocco
Nicaraqua
Niger
Nigeria
Norway
Pakistan
Panama
Peru
Phillippines
Poland
Portugal
Romania
Russian Federation
Senegal
Singapore
Slovak Republic
Slovenia
South Africa
Spain
Sri Lanka
Syria
Tanzania
Thailand
Tunisia
Turkey
Uganda
Ukraine
United Kingdom
Uraguay
Venezuela
Zambia

Table VIII

Excluded Countries

COUNTRY	Informal Economy	Per Capita Income
Armenia	46%	$520.00
Azerbaijan	60%	$600.00
Belarus	48%	$2,870.00
Bosnia and Herzegovina	34%	$1,230.00
Botswana	33%	$3,300.00
Burkina Faso	38%	$210.00
Canada	3%	$21,130.00
Ethiopia	40%	$100.00
Georgia	67%	$630.00
Greece	29%	$11,960.00
Hong Kong, China	17%	$25,920.00
Hungary	25%	$4,710.00
Ireland	16%	$22,660.00
Israel	22%	$16,710.00
Japan	11%	$35,620.00
Kazakhstan	43%	$1,260.00
Korea, Rep.	27%	$8,910.00
Kyrgyz Republic	40%	$270.00
Lebanon	34%	$4,010.00
Moldova	45%	$400.00
Mongolia	18%	$390.00
Morocco	36%	$1,180.00
Mozambique	40%	$210.00
Nepal	38%	$240.00
Netherlands	13%	$24,970.00
New Zealand	13%	$12,990.00
Saudi Arabia	18%	$7,230.00
Sweden	19%	$27,140.00
Switzerland	9%	$38,140.00
United States	9%	$34,100.00
Uzbekistan	34%	$360.00
Vietnam	16%	$390.00
Yemen, Rep.	27%	$370.00
Zimbabwe	60%	$460.00
MEAN	**30%**	**$ 9,152.65**

Chapter VII

Summary and Conclusions

The purpose of this dissertation was to examine the relationship between the recognition and enforcement of property rights, government regulation of the economy as represented by the cost involved in establishing a business, and the size of the informal economy. It was then to examine if the size of the informal sector has an effect upon per capita income.

This dissertation has shown that the recognition and enforcement of property rights has a significant and negative effect upon the size of the informal sector. Many countries have strongly articulated and documented recognition and protection of property rights in their constitutions, legal codes and government publications. Yet, in practice, this recognition and protection is non - existent. There is no independent governance as the government exerts strong influence over the judicial system. Corruption is rampant in the judiciary and there is no commercial code governing contracts. The fact that the importance of enforceable property rights was proven to be so significant in the richest countries only demonstrates the critical need for them in the poorest. One purpose of this dissertation was to show that only in countries that protect property rights can individuals and businesses make informed decisions regarding production, investment and savings based on an economic analysis rather than upon non - market forces that distort the allocation of already limited resources.

This dissertation has shown that as government regulation increases, so does the size of the informal sector. Private individuals and businesses must be able to timely employ their assets to realize their economic objectives without undue governmental interference. Excessive regulations interfere with natural market forces and distort the decision making of consumers and producers. Oppressive regulatory requirements regarding market entry discourages the creation of new businesses within the formal economy. New business creation has been recognized as required for a country to reach its full economic potential.

This dissertation has shown that the informal economy has an inverse relationship on the level of investment and therefore, industrialization. Moving from an agricultural economy to an industrial one has long been a goal of developing countries, yet, they are the ones with the largest informal sector. Businesses in the informal sector are reluctant to make large capital investments and improvements as they fear that by doing so, their activities could be discovered and their assets seized.

The economic output of the informal economy is extra - legal and so not subject to taxation of the profits of the business, the income of the workers and the purchases of the consumer. All of this potential tax income for the state, therefore, is lost from the state's treasury, where it could be redistributed to the benefit of all through improved roads, schools, public services, etc. While the taxes received by the government from a particular business in an open economy with property rights and limited regulations may be less than the taxes that business would have paid had it operated legally under an excessive regulatory regime, the government's overall tax collections would be

substantially greater as so many more businesses than before chose to operate open and legally as so begin to pay their taxes.

The larger the size of the informal sector. the less the economy responds to monetary and fiscal policies. As a result, governments loose control over their economies.

This dissertation has shown that the informal sector has a negative effect upon per capita income. The lack of property rights and presence of burdensome regulatory requirements result in businesses that do not get started and/or operate at their full potential, jobs that do not get created and therefore, incomes that are not produced. Foreign direct investment is believed to be a determinant of long term economic growth.. Yet, it was found to have a appreciable impact only on economies with per capita income greater than $10000.00.

Why does this matter? Economic growth depends upon stability. Money flows to where it is rewarded. It favors a sturdy a sound environment. Political scientists Adam Przeworski and Fernando Limongi examined each country in existence between 1950 and 1990. A regime in a country with per capita income of less than $1500.00 (measured in year 2000 dollars) lasted under 8 years. With per capita income between $1500.00 and $3000.00, the regimes lasted 18 years. A regime in a country with per capita income above $6000.00 had a 1 in 500 chance of not being overthrown. Governments with per capita income levels above $9000.00 were the most enduring.

Welfare economists promote regulation as necessary to protect the people from the inevitable market failures. The already mentioned Mr. Kormai, even while

acknowledging the difficulties the Hungarian people were experiencing with the transition from a planned to a market economy, offered this piece of advise, "...if I am in doubt about which to leave the decision to, an ill operating market or an ill operating state, my instincts tell me to choose the market."

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Government Regulation, Property Rights and the Informal Economy

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This paper will show that the informal black market activity negatively impacts upon a nation's potential economic growth. However, the informal economy is not the cause of restricted growth, but merely a manifestation of the underlying problem of excessive governmental regulation over private property rights and interests. Such interference misallocates limited resources by forcing producers and consumers to channel economic activities into the black market away from the formal economy in order to avoid the excessive regulatory scheme and the resulting associated excessive costs of operating legally.

Where the regulatory scheme is complimentary to market forces rather than oppressive and contradictory, producers and consumers universally have shown a preference for official economic activity, rather than continued participation in the informal, illegal economy. New entrepreneurial producers feel encouraged to enter the market for the first time as the cost, both money and time, to establish a business are eased. As a result, countries which respect property rights an are free of excessive regulations have negligible informal economies.

VITA

Patricia C. Fitzmaurice was born on November 18, 1953 in Jackson Heights, New York. She graduated from Maria Regina High School in Hartsdale, New York in 1971. In 1975, she received a Bachelor of Arts degree from Fordham University, majoring in Economics. She returned to Fordham University in September of 1992, and earned her Masters of Arts degree in Economics in 1996. In April, 1996, she became a member of the International Economic Honor Society, Omicron Delta Epsilon.