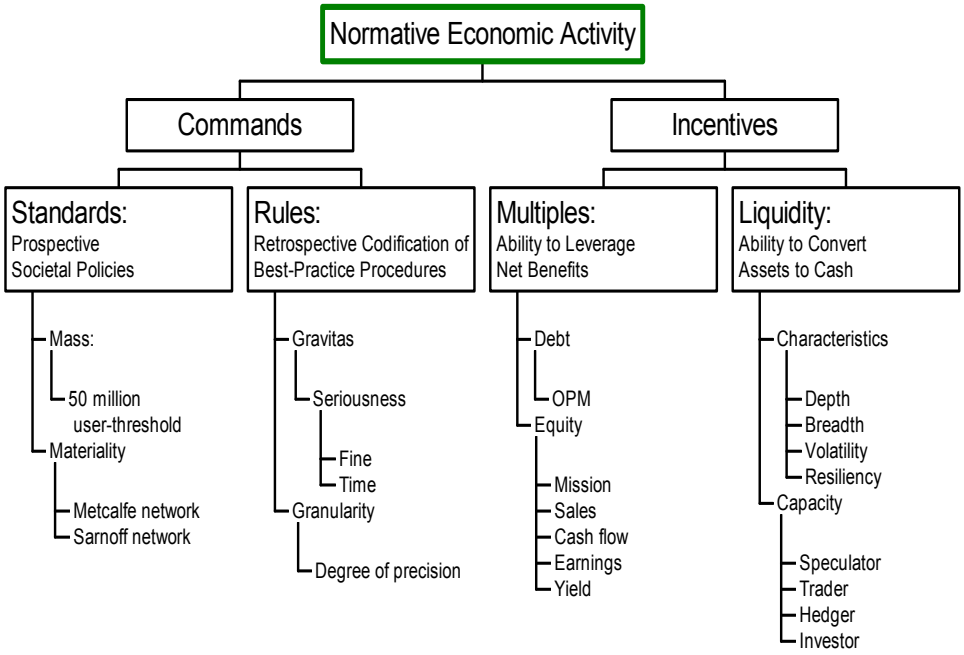
GAAMA Metrics

Introduction

Economic activity is divided into normative and non-normative categories. Normative economic activity is a near-equilibrium condition that is driven by incentives and commands. Incentives are motivationally related rewards attendant to profit objectives. Commands are a composite of rules and standards. The Danish philosopher, Soren Kierkegaard, stated that life is lived by looking forward, but learned by looking backwards—similarly with the command components of standards and rules. Standards are prospective societal policies. They are systemic prescriptions that enable the realization of industry norms relative to cultural values. Standards are defined in terms of "mass" indicating the number of people effected by the command and "materiality" indicating the relative importance of the command. Rules, on the other hand, are the retrospective codification of best-practice procedures that define operational efficiency. They are systemic proscriptions that explicitly delineate organizational limits in terms of gravitas (the seriousness of a violation as measured in terms of the amount of a fine and/or duration of a sentence) and granularity (the degree of precision required to ensure compliance). Rules are societal tests that validate a standard's end-condition.

International Journal of Economic Development,
4(2), 2002: pp. 128-148.



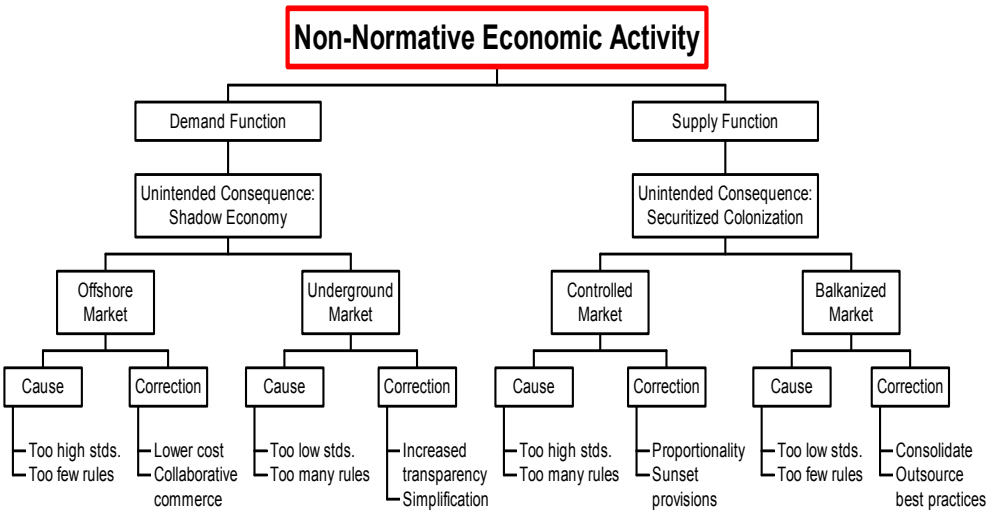
The FLITE Model illustrates the integration of standards and rules in emerging economies. If capital markets are to contribute to the "culture of confident expectations" that enhances economic development, they adhere to the standards of: Fairness, Liquidity, Integration, Transparency, and Efficiency ("FLITE"). These standards are further defined by the related rules.

Standards	Rules
Fairness of a market refers to whether all participants are treated equally and reasonably to ensure that investors, issuers, and broker/dealers are able to conduct their market activities in accordance with high standards of commercial honor, and just and equitable principles of trade. Market rules provide for the equitable allocation of fees among all participants. Fair markets are characterized by:	
Non-discrimination: the consummation of the transaction exclusively depends on the terms of the trade rather than the profile of the trader.	NASD 2420 (Non-members) NASD 2110 (Free Riding)
Equitable treatment • Anti-fraud provisions • Order processing • Recommendations • *Starre decisis* enforcement for consistency	 NASD 2120 (Practices) NASD 2110 (Best Execution) NASD 2310 (Suitability) NASD Code of Procedures
Transaction prices reasonably related to market prices to limit excessive transactional costs, which create structural market inefficiencies. • Undue compensation where brokers are rewarded for assuming both broker (order-processing) and dealer (inventory and adverse information) risks. • Unrelated-compensation where fees are in the form of a commission (competitive reward) rather than a fixed per trade rate.	 NASD 2430 (Service Charges) NASD 2440 (Markup) NASD 2110 (Best Execution) • Parking • Interpositioning
Liquidity indicates sufficient buyers and sellers are available to purchase and sell securities at prices that are reasonably related to quoted prices Liquidity is a function of time and volatility. It is by depth, breadth, volatility, and resiliency.	SEC Rule15c3-1 (Net Capital) NASD 3320 (Firm Prices) Liquidity measurements • Amivest Liquidity Ratio • BETA Volatility Measure

Integration with the world financial community to enable capital to flow unencumbered pursuant to the International Organization of Securities Commissions' recommendations. International portfolio investors require that the post-trade infrastructure provide a dependable process for settlement of securities trades and safekeeping of securities and monies.	NASDAQ International NASD 5104 – NASD 5109 SEC Rule17a-3 (Records) SEC Rule17a-4 (Maintenance) SEC Rule15c3-3 (Customer Protection)
Transparency ensures that full disclosure of all material financial information is readily available to investors, issuers, and broker-dealers.	NASD 2230 (Confirms) NASD 2240 (Control) NASD 2250 (Interests)
Efficiency is a function of the time, effort, and cost required to change ownership. Time is measured from order entry to order execution, to order processing, and to transaction clearance and settlement. Effort to consummate a transaction is a function of the number of financial intermediaries with whom the principals to the transaction must deal. Cost is related to the broker's reservation spread, which covers the marginal cost of carrying out the next transaction. It consists of order-processing and inventory expenses.	NASD 6600: OATS—order audit trail system and ACT—automated confirmation transaction Full-Service Capabilities SEC Rule15c3-1 (Net Capital)

GAAMA

Economic development is a reflexive process. Governance structures such as markets and firms define each other as they evolve. However, unless commands are proportionate to the current level of commercial activity, conducting business in the normative economy is not cost effective. Furthermore, unless incentives are relevant to their cultural experience, entrepreneurs lack sufficient motivation to "buy-in" to the development process. Core competencies become mismatched with comparative advantages as technical expertise is substituted for relevant business experience. The misdiagnosis of the initial condition of the Soviet Union as being an inefficient market and the subsequent implementation of market remedies for firm maladies created far-from-equilibrium conditions and unintended consequences for the both the supply and demand functions of the normative economy that resulted in GAAMA Markets.



To better manage these far-from equilibrium conditions, the GAAMA Model is introduced to analyze non-normative economic activity. GAAMA is an acronym for:

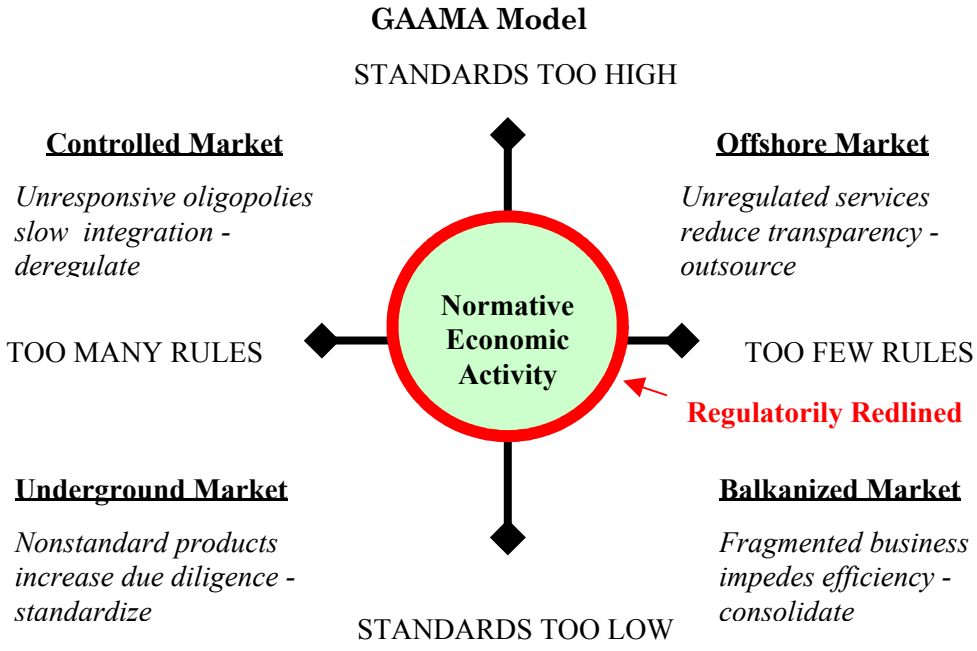
- **G**lobal: widespread in terms of mass and materiality;
- **A**synchronous: not timely information;
- **A**symmetrical: unequal access to or incorrect information;
- **M**arket: economic / financial system; and

- **A**ctivity: researching, pricing, transacting, clearing and settling, and inventorying.

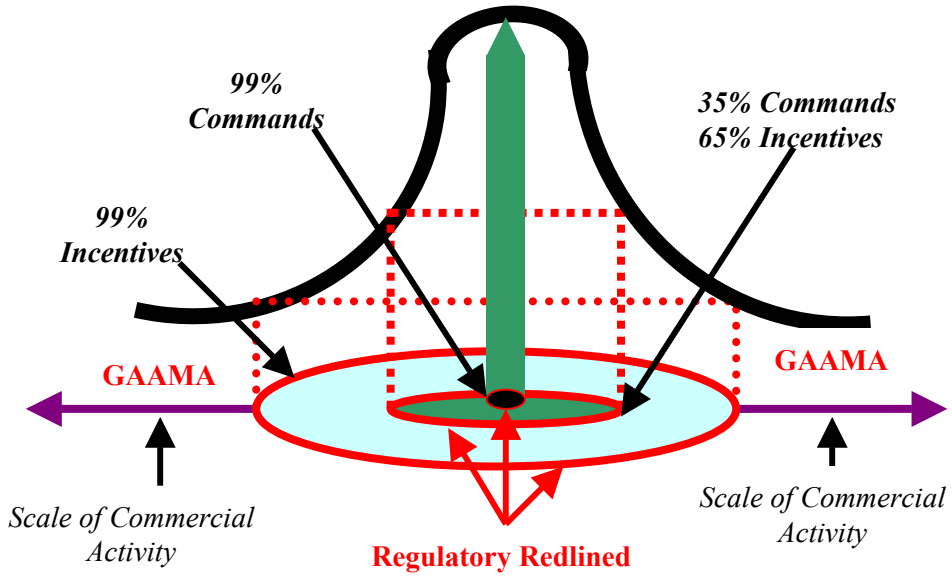
The GAAMA model is a diagnostic tool for measuring the degree of societal compliance with the established governance structure. It analyzes non-normative economic activity evidencing far-from-equilibrium conditions caused by standards that are either too high or too low, interacting with too many or too few rules for a given level of commercial activity. GAAMA is a knowledge transfer system that combines rules and standards to analyze non-normative ranges of economic activity. Like "Alice's looking glass," the GAAMA Model provides metrics and understanding where non-normative commercial activity is the norm.

GAAMA markets are created when commands are disproportionate to incentives for a given level of commercial activity. Attempts to control an economy by using too many rules or too high standards result in reduced resiliency and increased risk of systemic failure. Additionally, GAAMA markets can be created whenever rules are confused with standards and employed prospectively to become commercial censorship. For those goods and services that have attained a critical mass of societal sponsorship, excessive commands do not limit activity. Rather, they serve as GAAMA incentives to direct the order flow to controlled, offshore, balkanized, or underground market that is the low-cost point of sale.

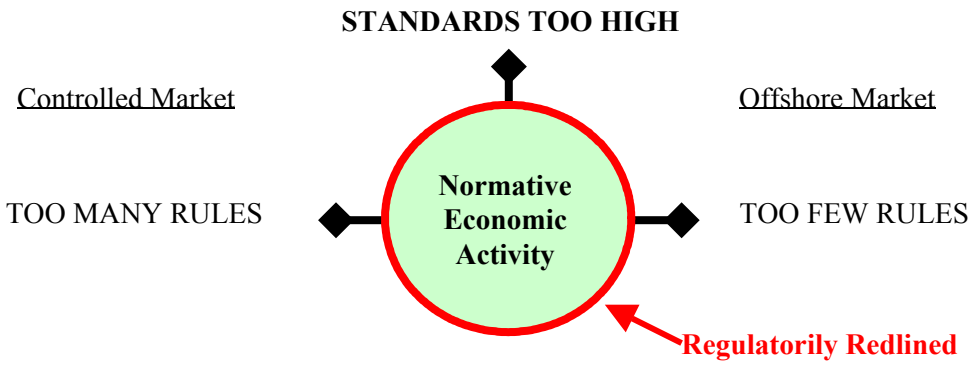
The GAAMA Model graphically represents profit potential attendant to the internalization of transaction costs and conversion of "dead capital." This enables command economy externalities to be internalized by self-sustaining entrepreneurs. These activities are omnipresent in transitioning economies and provide a testament to man's economic adaptability (Reference Appendix B for GAAMA illustration).



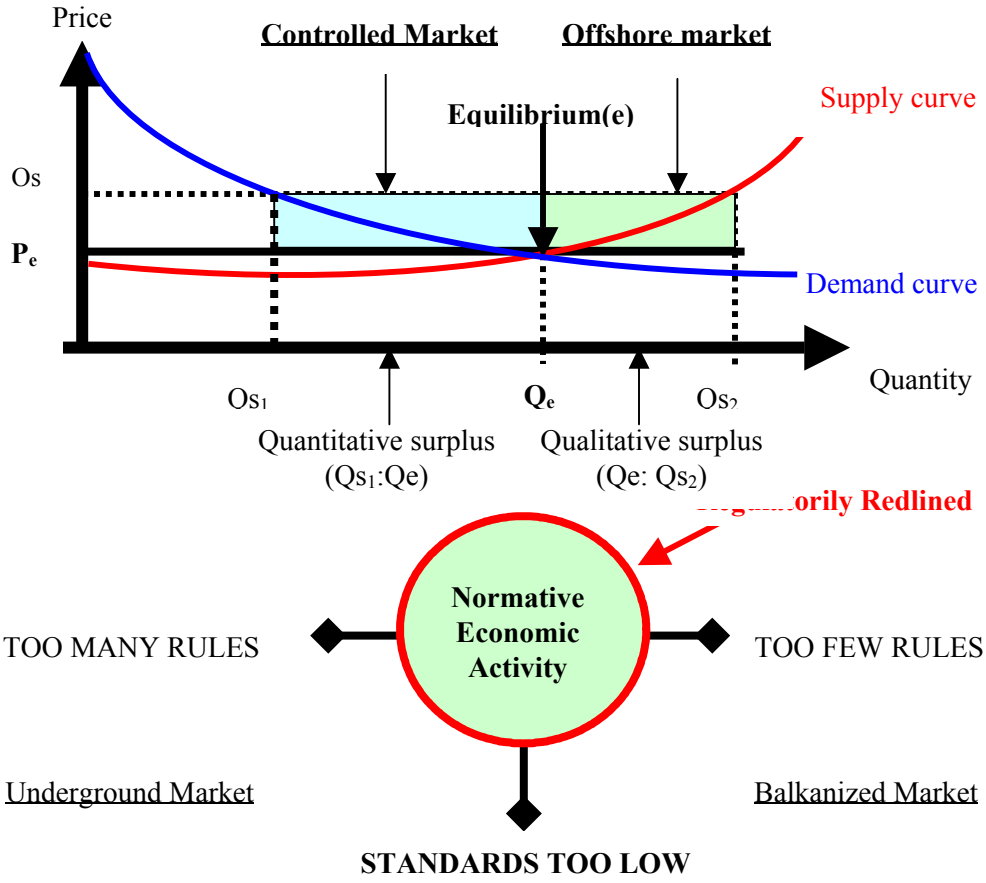
The GAAMA Model is a three-dimensional, non-linear paradigm. It reflexively integrates rules and standards to restructure non-normative economic activity. The x-axis depicts the volume function. It delineates commercial activity resulting from too many rules that cause confusion (i.e. the tax code) and/or too few rules or best practices that cause uncertainty (i.e. solving a computer problem without the help desk). The x-axis resolves bad trade practices. The y-axis displays the pricing function. Standards that are too high are exclusionary operational supports that direct order flow, while standards that are too low are indiscriminate price controls that act as a disincentive to commercial activity. By way of illustration, the tax code has specific rules applicable to the depreciation expense deductible for personal computers. Each rule in the tax code is held to the societal standard that it be assessed "fairly" and held to the cultural standard of "progressivity". The z-axis represents a ratio of commands-to-incentives for a given level of commerce. The z-axis posits that the smaller the ratio of commands-to-incentives, the larger the area of normative economic activity to provide a societal net benefit.



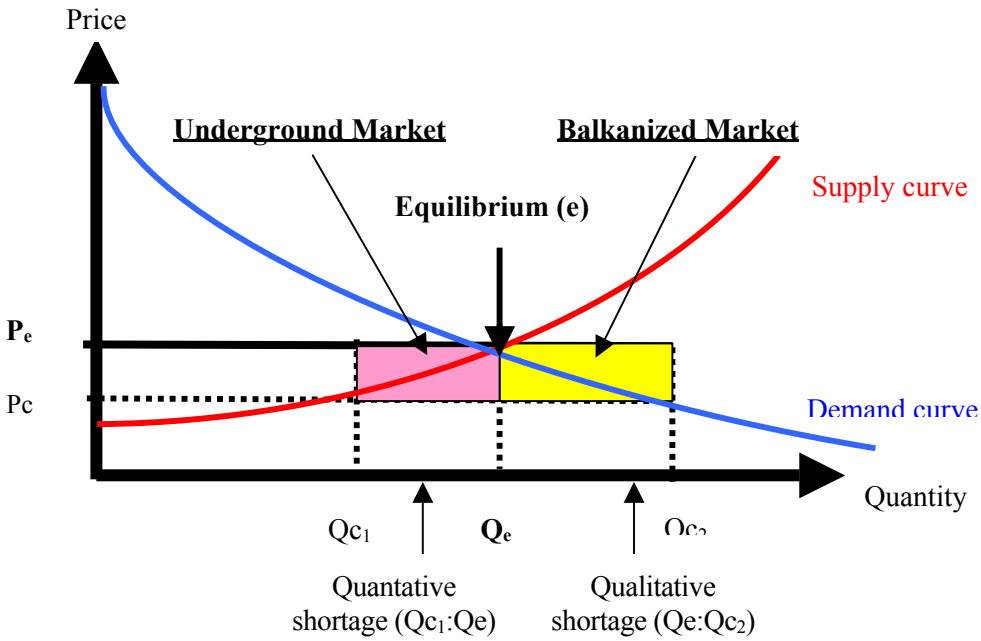
The Market Activity Matrix defines regulatory redlining by delineating near-equilibrium versus far-from-equilibrium conditions of commercial activity. It provides a frame of reference to ensure that governance is proportionate to the level of commerce and relevant to the business culture. It is a 3x3 matrix that replaces an undifferentiated one-size-fits-all approach of trial-and-error antecedents. The business parameters of market share, margins, and multiples form the columns of the matrix and are expressed in terms of percentages. The business drivers of scale, scope, and span comprise the rows of the matrix and are expressed in terms of dollars. The Market Activity Matrix establishes prudential norms that form the basis for a robust governance regime.



As illustrated by the operational support line, Os, in the graph below, excessive government operational supports in the form of exclusionary regulations that result from too high standards limit competition to drive order flow line (Q_{s1}:Qe) to an oligopolistic controlled market (blue shaded area) and/or drive order flow line (Qe:Q_{s2}) to an offshore market (green shaded area) to meet unfulfilled demand. The profit premium as measured by line (Pe:Os) is the excess cost of inefficient policy/regulation borne by the consumers. Attempts to limit market concerns by limiting market activity results in capital rationing and/or economic stagnation. Capital commands order flow as anti-consumer controls foster unresponsive oligopolies that provides incentives to foreign competition.



As illustrated by the price control line, Pc, in the graph below, excessive government price controls resulting from too low standards limit the incentive to produce. This results in either an underground market (the pink shaded area) to cure quantitative supply/service shortages line (Qc1:Qe), and/or a balkanized market (the yellow shaded area) to cure qualitative supply/service shortages line (Qe:Qc2). Too low standards are indiscriminate. They create pricing inefficiencies requiring a high-risk premium in underground markets. In balkanized markets, nonstandard products incur high transaction costs since they require excessive due diligence labor costs.



Fractals

GAAMA markets are fractals. These far-from-equilibrium conditions are self-similar economic patterns that repeat themselves. The causes of these patterns can be determined. The key is to determine whether the demand or supply function may be interdependent or dependent on market prices for a given regulatory cost structure.

Underestimating the importance of informational problems of transparency and corporate governance contributed to the development of the shadow economy. This resulted in the GAAMA Model identifying the demand function as the independent variable. It corrects for these externalities by recommending either raising the relative costs for products and services found in Offshore and Underground Markets or by lowering the cost of doing business in the normative market. Similarly, underestimating the importance of the creation of new enterprises fostered the condition of securitized colonization. This resulted in the GAAMA Model identifying the supply function as the independent variable. It corrects for these externalities by restructuring

the operational metrics and deregulating/consolidating the financial metrics of enterprises found in Controlled and Balkanized Markets.

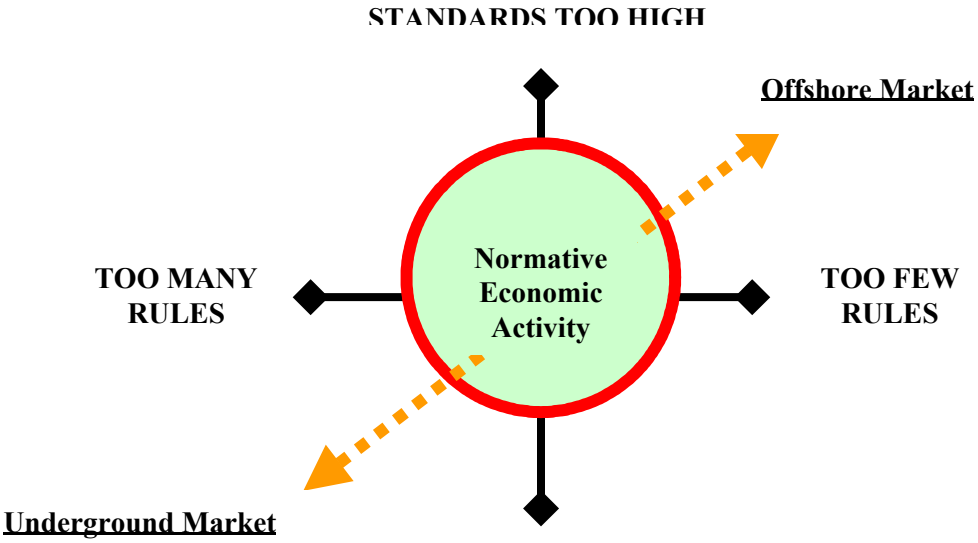
In a white paper entitled "Whither Reform?" Nobel Laureate and former World Bank Chief Economist, Joseph E. Stiglitz reviews the mixed results from a decade of donor-sponsored development programs. Stiglitz argues that the:

> "failures of the reforms in Russia and most of the former Soviet Union are not just due to sound policies being poorly implemented … the failures go deeper, to a misunderstanding of the foundations of a market economy as well as a misunderstanding of the basics of an institutional reform process. For instance, reform models based on conventional neoclassical economics are likely to under-estimate the importance of informational problems, including those arising from the problems of corporate governance. … They are also likely to underestimate the importance of the creation of new enterprises— and the difficulties of doing so."

The GAAMA Model overcomes many of the shortcomings associated with neoclassical economic concepts by reflexively linking far-from-equilibrium supply and demand functions found in transitioning economies with near-equilibrium metrics that exist for developed economies.

Shadow economy: GAAMA diagnosed demand function

The "shadow economy" is a multi-trillion dollar dilemma for transitioning economies. It is a combination of offshore and underground markets. For a large percentage of the world's population, it is an economic sanctuary from the taxman and the policeman that provides a living from either illegal commerce and/or corruption. The shadow economy may act as either a complement to or a substitute for the real goods and services sector of the normative commerce depending on the nature and the extent of government-induced distortions that are the result of inappropriate and/or inefficient policies. The shadow economy will, however, serve as a low-multiple surrogate for the capital market sector of normative commerce to constrain wealth creation.



The presence of an active shadow economy indicates the extent that existing economic policies are either inappropriate or inefficient. High taxes and complicated regulatory regimes drive economic actors into the shadow economy. With regard to Ukraine's shadow economy, it is estimated that approximately 80 to 90 percent of the securities market's transactions are executed offshore (primarily in Cyprus) and 20 to 30 percent of its domestic transactions are effected underground (primarily to avoid taxes). To reduce the size of the shadow economy, post-Soviet successor states need to address the demand function by either contracting with strategic partners to reduce product costs or by increasing transparency to reduce labor-related, due-diligence costs.

Offshore markets result from standards that are "too high" interacting with "too few" best-practice operating rules for a given level of economic activity. The combination of exclusionary pricing and operational uncertainty incentivizes domestic customers to seek foreign goods and services. This occurs because the cost of domestic compliance is greater than the benefits derived from the "Law of Comparative Advantage." Every tax and/or regulation imposed on the normative market that is excessive relative to the level of commercial activity serves as a subsidy to GAAMA Markets.

For the purposes of GAAMA, offshore markets are defined as being outside the normative economy even though they may reside within the borders of the host country. Establishing a capital requirement of 100,000 ECU for Ukrainian securities custodians illustrates how this type of offshore market can develop. The exclusionary high standard selected by regulators resulted from a sample survey of similar requirements in other East-European countries. But, what was the operational justification for the 100,000 ECU capital requirement: customer protection or regulator protection? And was the capital requirement of 100,000 ECU best-practice risk management related to inventory risk or turnover risk?

In a world without operational problems, financial intermediaries would need a capital requirement only to the extent that they acted in a principal capacity. The financial intermediary business operates almost exclusively on other people's money ("OPM"). The principals to the transaction are at financial risk. The custodian provides services for which it receives a fee. Capital requirements are self-funded operational insurance for financial intermediaries. Regulators require a capital requirement as a safety net should an operational problem from transactional activity or the loss of an inventory item occur. The custodian's reserve capital must be sufficient to enable the firm to continue in business without interruption until the operational discrepancy is resolved. The capital requirement should be a prudential norm based on best-practice operating experience. In 1974 when the NYSE average daily volume was 12 million shares, the minimum net capital required for a US broker-dealer was $25,000. While a capital requirement of 100,000 ECU currently may be warranted in Poland, Hungary, and the Czech Republic, given the activity and complexity of their securities industry, is it warranted in the Ukraine?

Underground markets result from a combination of enforcement standards that are too low and too many operating rules for a given level of commercial activity. The nexus of indiscriminate pricing of societal compliance and operational confusion create an environment where the benefits from shadow activity (i.e., illicit activity such as drugs and prostitution; and illegal activity such as tax avoidance) are greater than the penalties for non-compliance. Confusion among market participants shortens the transactional time horizon that necessitates a liquidity premium to consummate transactions. Since "black

marketeers" cannot evolve their enterprise beyond self-sustainable, it is misleading to think of them as market entrepreneurs. As depicted in the chart on page 8, while "black marketeers" generated commercial activity in the amount of line (Q_{c1}:Qe), they under-reported revenues in the amount measured by line (Pc:Pe). This under-reporting of revenues, in turn, reduces the value of the enterprise.

Underground economies were omnipresent in the Soviet Union as economic commands and priorities favored military goods rather than consumer goods. Given the number of conflicting rules to obey, it was easier to ask for forgiveness rather than permission. Also, the shadow economy activity had tacit bureaucratic approval since without it, official business was difficult to conduct. In Communist Hungary, underground markets flourished and were an important source of goods and services that could not have been obtained otherwise. People met at flea markets on weekends to barter goods. No one hired a construction company to build a house. Houses were built with materials pilfered from state-owned enterprises and by builders moonlighting from state employers. Bribery took care of building permits (Buss, 2000). Similarly, in the heart of the Industrial Soviet Union, few people believed that collective farmers had harvested condoms on their private plots … but hard to purchase items could be obtained through bonuses called "special orders" that were often filled from the back door of a state-owned factory (Kotkin, 1991).

Old habits are hard to break. About one-third of the Hungarian economy, as a percent of GDP, is attributable to underground market activity. One explanation for this is that Hungarians do not tolerate high taxes to pay for government programs that they do not fully support (Buss, 2000). A Ukrainian colleague corroborates the problem of high taxes in the following email correspondence.

> "It seems to me that all proposals in the case study are feasible and may be implemented after the tax reform. The cost of shadow economy is much less than that of doing business openly.
>
> My friends who run big businesses say they are 70-80% in the shadow economy. A simple example… personal tax on salary over $300 is 40%. That's why double bookkeeping became an ordinary practice in Ukraine. Most private companies report

> one salary, and pay another. Consider the declared salary of New Ukrainians, (nouveau riche) at $400 monthly. Our New Ukrainians live much better than your middle class. They never live on credit. An apartment in Kyiv with renovation plus furniture costs $400,000 to $500,000.
>
> You think they saved up for that for years? You think they don't want to live undisguised? They do. But under such tax system they will not be able to. Discrepancy between general accounting and tax accounting is also a serious problem for businesses. Tax accounting reflects virtual reality, and not actual results. From January 1, Russia introduced a single income tax rate for citizen's income – 13%. For the 1st quarter of this year budget income for this item has increased 1.6 times. The result speaks for itself."

Things may be improving with Russia's implementation of "a 13 percent flat tax that has exceeded the expectations of the government in terms of revenue. For the vast majority of taxpayers, its implementation is simple, and no forms need to be filed." Adjusting for currency fluctuations, Hoover Scholar Alvin Rabushka adds, "real ruble revenues increased about 28 percent. No wonder Russia's GDP grew 5 percent in 2001" (Murdock, D. April 12, 2002). These findings are consistent with the GAAMA hypothesis that whenever the model identifies the demand function as the independent variable, reducing the cost of doing business in the normative economy and simplifying compliance acts to increase transparency and the level of commercial activity. This enables enterprises to become commercially viable (fully reporting earnings) and provides governments with much needed tax revenues to reduce budget deficits and fund public services.

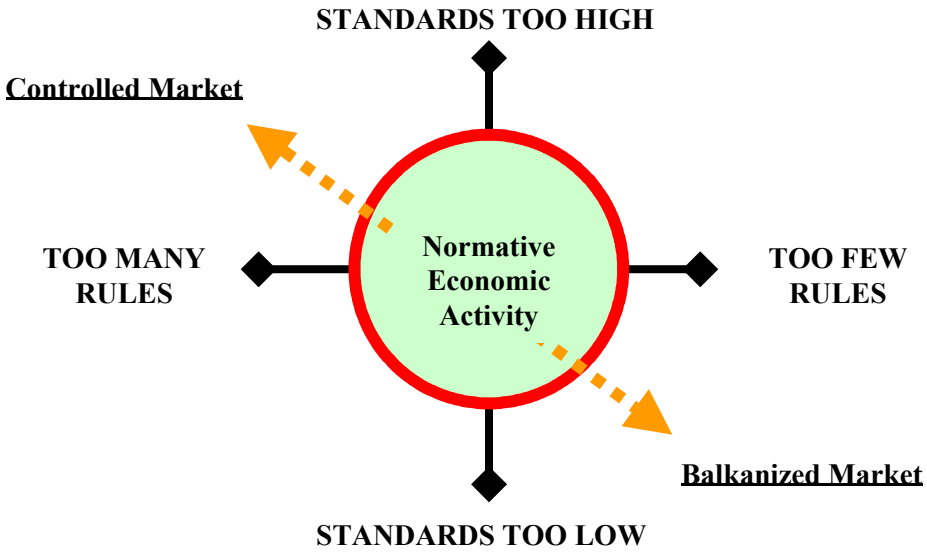
Securitized colonization: GAAMA diagnosed supply function

Securitized colonization occurs when a lack of competition among venture and portfolio investor categories creates monopolistic pricing opportunities for foreign direct investors (FDIs). FDIs have a make-or-buy decision. To the extent other investor categories do not bid for specific goods and services, FDIs are able to acquire resources at bargain prices. Thereafter, FDIs outsource high-touch, stagnant services

to subsidize their production of value-added components. This constricts potential domestic development of commercially viable enterprises.

The components of securitized colonization are Controlled and Balkanized markets. When the GAAMA Model identifies the supply function as the independent variable, the operational parameters of scale, scope, and span need to be standardized for post-Soviet enterprises to be integrated into global markets. The standardization of scale is accomplished by providing for the consolidation of balkanized firms and deregulating controlled enterprises. Standardization of scope is achieved by contracting to cross-sell existing products through established distribution channels. Span standardization enables new and innovative products to be developed from a strategic partner's best practicies.

GAAMA Model for the Securitized Colonization



It should be noted that throughout Eastern Europe it has been exports, not foreign direct investment that has led economic expansions. Even Poland, one of the most successful of the transition economies, did not have its annual FDI rise in excess of $100 per person until 1998. In contrast, Hungary and the Czech Republic succeeded in attracting large amounts of FDI, but those investments did not prove to be all that beneficial for economic development. Contributing to the success of the

Polish economic transformation has been the steady improvement in the structural employment through the reduction in job redundancy and creation of new skill specialization (Mroczkowski, 2000).

Controlled markets result from standards that are too high interacting with too many operating rules for a given level of commercial activity. In "Steeltown, USSR," Dr. Stephen Kotkin, Ph.D., describes the quintessential controlled market. Magnitogorsk, a city located beyond the southern tip of the Ural Mountain range in Southeast Russia was the symbol of Russia's industrial transformation. It was here that Stalin built the world's largest steel plant. The plant measures 43 kilometers around the perimeter and stretches for 15 kilometers down the Ural River. At its peak, Magnitogorsk produced 16 billion tons of steel per year, almost as much as Great Britain. The Soviet Union exported a significant volume of steel, but nowhere near what it would have liked if it could have effectively segmented its market through deregulation and product differentiation. In an investigation undertaken by Gosplan (central planning), investigators found a "vapor shortage" where supposedly scarce metal was simply stored outside plants in huge, undifferentiated rusting heaps. Moreover, workers complained that the Cheliabinsk Regional Trade Ministry hindered production with "many inane regulations and contradictory orders. They gave us independence in law, but in practice they take it away" (Kotkin, 1991).

Yet it was the "too high" standard of full employment that produced GAAMA. This standard was disproportionate to the level of commercial activity. The graph line (Q_{S1}:Qe) on page 7 illustrates controlled market activity that was directed to Magnita where anti-consumer controls created an unresponsive oligopoly. When customers were given a Hobson's choice to decide between thicker strips of steel or nothing at all, customers accepted the thicker alternative. The thicker strips were either bartered for the requested thickness or were machined to the desired specifications with the residual amount going to waste. But what looked like "production for production sake" was really "production for employment sake". To produce more than sixteen billion tons of steel, Magnita employed more than sixty thousand workers. This compared with seven thousand workers employed by USX's Gary, Indiana, plant to produce 8 billion tons of steel per year. The excess revenues as measured by line (Pe:Os) on the graph resulted from directed order flow that was paid to the Magnita employees for

social welfare purposes, not economic reasons. Like all large Soviet enterprises, the Magnitogorsk plant promised its workers not only a secure monthly wage but medical care, housing, and subsidized leisure—regardless of profit margins, in good times and bad (Kotkin, 1991).

Controlled industries need to be deregulated to balance product requirements with market realities. "Sunset" provisions should be incorporated into existing operating rules to reduce redundancies and confusion. This either can occur formally through operational restructurings and/or financial reorganizations; or informally by rightsizing the scale of GAAMA operations relative to the level of commercial activity.

Balkanized markets result from standards that are too low interacting with too few best-practice operating rules for a given level of commercial activity. Balkanized industries are inefficient due to a lack of standardization that discourages the development of specialized skills. "Stagnant services" emerge when technology lacks the incentive to disintermediate operational redundancies. Confusion among market participants shortens the time horizon, which further lessens the likelihood of capital investment. This causes variable costs to rise more rapidly relative to fixed costs with increases in transactional volume. Ukraine's balkanized industries lack the scale, scope, and span required by global markets.

At the 2000 PFTS Securities Conference, I was privileged to meet a member of the Government's Anti-Monopoly Committee (ACM). During our conversation, the individual stated that the ACM was presently reviewing Ukraine's beer brewing industry for potential commercial undue concentration. Ukraine's three leading brewers, Rogan, Slavutich, and Obolon generated 1999 revenues of approximately 550,000,000 hryvnas UA (approximately $100,000,000 US). While this may be significant in Ukrainian scale, it is miniscule when compared to Anheuser Busch's $11.7 billion in 1999 global revenues that comprises approximately nine percent of the world market. The question is which standard—domestic or global—is Ukraine's threshold for a monopoly? Too low a standard for the threshold of a monopolistic commerce creates a lack of critical mass that limits best-practice operating rules for economies of scale and specialization. Random activity institutionalizes costly labor-intensive business practices. Uncertainty created by nonstandard processing rules

causes each market participant to duplicate elements of the transactional process because they are unable to rely upon the efforts of other industry practitioners. Price controls, as illustrated in the graph on page 8, constrain revenues as measured by line (Pc:Pe). This reduces firm valuation to make capital formation more difficult to finance an industry consolidation. The result is a qualitative reduction in goods and/or services as measured by line (Qe:Q_{c2}).

Conclusion

The GAAMA model is a diagnostic tool for measuring the degree of societal compliance with the established governance structure. It holds that GAAMA markets are created when:

1. Commands are mismatched with incentives to produce false constructs and unintended consequences;
2. Rules are confused with standards and are employed prospectively to become commercial censorship that serve as incentives to direct the order flow to the low-cost GAAMA markets; and
3. Commands are greater than incentives resulting in reduced resiliency that increases the risk of systemic failure.

The Soviet Union experienced systemic failure caused by bad policies (i.e. the standard of full employment at any cost, or equating size rather than commercial viability with efficiency). These societal standards were uniformly supported by excessive bureaucratic procedures. Following the demise of Soviet, Inc., the misdiagnosis of the preceding governance structure as an inefficient market and the subsequent implementation of market remedies to correct firm maladies created far-from-equilibrium conditions and unintended consequences for the both the supply and demand functions of the normative economy. The demand function externalities consisted of offshore markets having too high standards and/or too few rules for a given level of commerce and underground markets having too low standards and/or too many rules for a given level of commerce. The supply function externalities consisted of controlled markets having too high standards and/or too many rules for a given level of commerce and balkanized markets having too low standards and/or too few rules for a given level of commerce.

The GAAMA Model is used to overcome many of the shortcomings associated with neoclassical economics. It links neoclassical equilibrium concepts with Chaos Theory to analyze far-from-equilibrium commercial activity where a large number of seemingly independent elements act coherently. The concept of equilibrium is instructive in determining a unique end-condition, but its duration is somewhat ephemeral when stressed-tested in transitioning economies. Equilibrium is an axiomatic system where supply and demand functions are given to produce a unique market-clearing price for normative economies that have attained a critical level of commercial activity. The idea that supply and demand may be interdependent or dependent on market prices for a given governance structure was not considered; yet that is what transitioning economies have demonstrated.