

# Measuring the Efficiency of Capital Market Regulations

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**Abstract.** The paper develops the idea of valuation capital market regulations efficiency. The performance and efficiency measurement idea is very widely spread in the private sector. However efficiency concept in a public sector is rather new approach and still underdeveloped. The goal of this paper is to reveal the possibilities to measure the efficiency of a public sector performance by applying some descriptive dependencies systems and by using the capital market regulations as an example to disclose the possible outcomes of that analysis process.

**Key words:** efficiency, public sector, legal regulations, capital market.

## 1. Introduction

It has been widely recognized that efficient business performance is the key to the success. But this concept of efficiency has been adopted only in the private sector. If we move along to the state level where macroeconomics deals with, the efficiency criteria becomes uncertain because there are many goals and policies that are often in conflict between each other. Free market economy is commonly seen as a solution when there are many intervening goals to be combined. But free economy and perfect competition market are just human fiction. There are only several instances of economy system close to free market observed in worldwide history. Those instances are marked as rapid growth periods, but they did not last long.

Free market and perfect competition is the ideal model where there are no artificial regulations, no taxes, everyone is able to do anything and there is an absolute costless movement possibility for people goods & services and capital. Such limitation causes that in reality free market with a perfect competition is hardly achievable and not stable. Therefore lawyers and economists views in free market term splits at this point. Economists tend to stay with this theoretical model and lawyers have modified free market term adopting to the real world situation and making it possible to achieve.

Free market, under lawyers view, does allow legal regulations, taxation and other intrusions as long as there is no regulations on quantity and price. But it is needless to say that the objective of ideal market system is with the minimal level of regulations that are necessary. This is a primary assumption regarding the efficiency of regulation scope.

However efficiency concept in a public sector is rather new approach and still underdeveloped. There are many studies regarding private sector performance, but turning to the public sector the scientists are still on the efficiency test development stage.

Every business functions in the surrounding environment, that consists of various elements – geographical, demographical, socio-economical and many others. The surrounding environment crates the business possibilities. But on the other hand this environment does include the business activities limitations and the scope of activities permissible, i.e., the pieces of legislation affecting the business. This element of environment is created by and in fact is the product of public sector. Likewise in a private sector we do seek efficiency in a public sector as well. The primary problem in trying to evaluate the efficiency of the regulations is the lack of quantitative measures and very limited possibility to perform an empiric research what economic result would be provoked by executing some changes in legal regulation regime. It goes without saying that there is an opportunity of comparative study testing regulations and their affect on the market in various states. But such study would have comparability problem, because there are different bases for regulations in different countries and also there are the obstacles for comparability regarding difference of economic systems. However the problems identified above does not eliminate the need to have some tools for the efficiency measures, as legislator “. . .needs quantifiable measures to set threshold limitations on the applicability of rules” (Thomas, Cotter, 2000).

Therefore this paper tries find out if there are any alternatives for the regulation effectiveness measurements. The goal of this paper is to reveal the possibilities to measure the efficiency of a public sector performance by applying some descriptive dependencies systems and by using the capital market regulations as an example to disclose the possible outcomes of that analysis process.

## **2. Semantic Dependencies System**

The first problem trying to evaluate the efficiency of the public sector output – regal regulations is the construction of database necessary for this process. The private sector’s analysis does not meet this obstacle, because there are very clear quantitative measures, i.e., profitability, income, cash flows etc. The legal regulation area is rather troublesome in regard to measurement efficiency. The possible alternative is to employ Semantic Dependencies Systems by building up a tree of general and specific goals and tasks as well as policy issues that are attained in a given regulations regime.

As it was mentioned there are goals and policies that are primary input variables. The given result – the regulation set should accomplish as much as possible of given goals. It doesn’t look a very difficult task if these goals, objectives and policies are not contradictory. However in reality there are plenty if policies that are in conflict with each other. It is impossible to realize them in a full scope and the main issue arises how mitigate the conflicts of incompatible objectives. The other question to be decided is the settlement of priorities that helps to regulate the intervening forces. The most obvious and very

general example of goals that are incompatible in part, is the goal of investor's security protection. We want to attract more companies to trade their shares publicly. If we shift a heavy burden of massive disclosure requirements on a company, the investors need for the information and the demand for security will be satisfied. But on the other hand the company's interests are infringed by reporting requirements that may damage its ability to compete in the market. This will lead to the decreasing number of securities traded in the market. Companies will tend to register their shares in the other markets to meet their capital raising needs, where the requirements are not so burdensome. Finally it will affect the investor back again, as there will be not much choice to invest in. It will reduce the possibilities to construct the optimal investment portfolio, as there will be not enough securities listed in the market. So this is a small example how the misbalance of policies leads to overall inefficiency. This shows that by meeting one goal completely and ignoring the other one the final result is not optimal. The better situation could be created if there is partial fulfillment of both goals. But such simple analysis can not show the point where there is an optimal point of meeting two goals. Which one is more important and should be considered more? The given discussive analysis can not establish the priorities of the goals, their consistency levels and the scope of fulfillment. Therefore there is a need to make a qualitative step further in this analysis. After identification of goals (the real sample of this procedure will be presented in the next section of this paper) we need to determine the possible scope of fulfillment. Studies on semantic conflicts (Gustas, 1977) between goal descriptions in similarity analysis assume the following four cases between two given pragmatic objects:

1. the goals are identical,
2. the goals are similar,
3. the goal is in decomposition with the other,
4. the goal is conflicting with the other.

Those cases are ranked according to their levels of compatibility. The first two groups – identical and similar goals could never cause the problem. They are so closely related that by fulfilling one the other will be fulfilled or at least improved as well. Decomposition level occurs if by executing one goal there is no great overall effect to the fulfillment of the other. Despite it could have an impact on realization to some sub-goals, some of them have positive and some of them negative impact and the overall effect is minimal. Moving to the conflicting goals it is necessary to say that there are two possible types of conflicts – compatible and incompatible. Compatible conflicts are seen as such where by executing one goal we deteriorate the achievement level of another. This is the case that was given in disclosure requirement situation. If we want to improve investors situation we can only do it by making company's situation worse. Such situation calls for microeconomic reasoning where there is some level of efficiency achieved, and it is impossible to do a better situation for one side without at least minimal damage to the other.

Finally incompatible conflicts shall be interpreted as a situation where fulfillment of one completely damages the possibilities of other goals realization. Developing the hierarchy of goals shall solve this inconsistent situation. Therefore we need to know what results we get by executing one and ignoring the other and vice versa. The positive result

by realizing the top priority goal shall be greater than the loss deriving of disregarding the low priority goal.

The hierarchy of the goals may be constructed by building up the interconnected goals on various levels of abstraction. The goals are ranging from the top priority strategic policies and go down to the low-level procedural issues those are decomposition of the strategic policies. The downward direction in the hierarchical goal tree describes how the various top-level policies can be achieved by executing the lower ones.

On adjacent levels of decomposition in the hierarchy structure, goals are connected by a specialization link. The dependency of specialization between goal  $A$  and  $B$  will be denoted as:

$$A \prec B,$$

if  $B$  is the subset of  $A$  and  $B$  is inherited by  $A$ . It can also link a specific goal to a more general one. Goals related by a specialization link are similar (if not contradictory). Similarity allows defining union ( $\cup$ ) and intersection ( $\cap$ ) of goals.

There is also possibility of mutual specialization dependency:

$$A \succ \prec B,$$

which means that the goals are identical.

Goals are independent if they have no common constraints and have neither positive nor negative effect on each other. If two goals are independent their intersection is an empty element ( $\perp$ ).

The negative influence from one goal to another points that the first one hinders the achievement of the second and vice versa.. This is the most usual point where the problematic situations arise. Goals conflicts may be compatible and incompatible. Compatible conflicts are permissible because there is at least one sub-goal between the two conflicting goals which could be achieved and satisfy in part both goals in part. Incompatible conflicts shall be regarded as inconsistent situation (Gustas, 1997).

Goal  $A$  is conflicting to goal  $B$  if:

$$A \xrightarrow{-} B.$$

Goal  $B$  is contradictory to goal  $A$  if:

$$A \xrightarrow{-} B \quad \text{and} \quad A \xrightarrow{+} B.$$

If sub-goals are conflicting then a global goal is contradictory. Any contradictory goal has at least two sub-goals that are conflicting. A contradictory goal is consistent if conflicting sub-goal satisfies a more general goal, otherwise it is inconsistent.

The presented set of dependencies and rules is a basic of analysis within policies and goals modeling. It serves as a tool to discover various conflicts, contradictions and

inconsistencies among policies and goals. It also enables to build up a hierarchical policy tree and allows solving the problems concerning goal priorities. The next section will show the process of extraction the policies and goals of legal regulation and the real example of measurement the efficiency of Lithuanian Capital Market regulations.

### 3. Policies and Goals of Legal Regulation

The main policies and goals usually are not clearly indicated in the domestic law. But for the purpose of our analysis it is necessary to extract them from the legal documents that affect capital market. The major sources of top priority goals are the European Council Directives. The special structure of European legal documents where the goals and objectives are clearly indicated in the preamble of the legal act makes it very easy to extract, find out the dependencies and evaluate the effectiveness of that piece of legislation. Therefore for our analysis we pick up the European Council Directives that are regulating the Capital Market and will find out what the major goal of that regulations are.

In every case (there are 8 main Directives controlling Capital Market area) there are two major goals – Investor security and Public disclosure of the company. These goals are conflicting, but the conflict is compatible in part. Some of the sub-goals of Investor security are conflicting with sub-goals for Public Disclosure.

The other Directive (82/121/EEC) points the unification and facilitation of requirements for the company to be listed on Security Exchange. But this one is not the top priority goal and is the sub-goal for Efficient market. Efficient market, even if nor clearly indicated in the EU legislation is an obvious one and does have it’s place in the domestic legislation (Law on Public Trading in Securities, 2000). The Efficient market is the intersection of two sub goals: Profitable investment opportunities (from investor’s point of view)  $\cap$  Rise of capital (for the corporation).

Lithuanian Capital market activity is based on financial intermediaries. Their activities are regulated by the Law on Public Trading in Securities and the series of rules set by

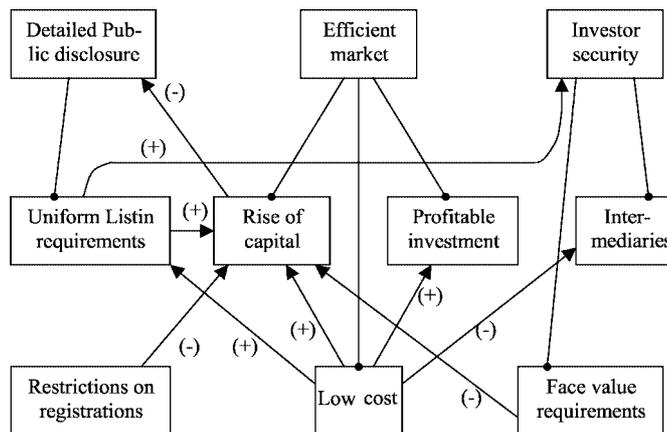


Fig. 1. Semantic dependencies system of the goals in Capital Market regulation.

the Securities Commission. The regulations aim to ensure that the market functions correctly and the investors interests are protected (Bogdanavičius, 2000). Therefore this aim appears to be a sub-goal of Investor security, but it is conflicting with the low cost goal. These regulations are extremely detailed and burdensome. It requires great accounting expenditures and restricts the freedom of transactions between financial intermediaries and their clients. This freedom is also a very general goal, and it raises from the constitutional rights, therefore its conflict is very important. However the achievement of this goal may be reduced to the level which is required in order to balance it with a supreme aim of security interest. As we can see in this case it is reduced far below the necessity for security. The most problematic are the petty regulations regarding order receipt and execution, delays in introducing electronic signatures and unreasonably high requirements on initial brokerage equity.

The face value requirements are derived from the Company Law which does not allow the shares price at the public offering to be below its face value. The other obstacle is that no face value shares aren't allowed as well. Such regulation has an aim to protect investor from the unsecured investment. It is conflicting with the Efficient market sub-goal to provide the place for the corporations to raise the capital. The execution of this goal is defective itself even without conflict with any other objective due to current economic realities. Currently we have many shares listed on the National Security Exchange traded below its face value. This is not only due to economic underdevelopment but also due to former corporate regulations that required companies to index their assets. At that moment and shortly afterwards the revaluation process was necessary and proper. But it failed to provide the possibility for a downward revaluation. When the market situation has shifted corporations reached a deadlock when they can neither devalue assets, nor to issue shares below face value. No face value shares could solve this problem but so far it has not been resolved.

The Company Law also limits the number of shareholders in a private limited liability company may not exceed 50. Many companies during privatization have exceeded this number and had to register themselves as Public limited corporations with the Security Commission. This requirement raises the market transparency aim and should come as the sub-goal for the extensive public disclosure. But this requirement does not reach the public disclosure because has no effect on investor. The liquidity of those shares is extremely low and the supply is minimal therefore it is not related to the investor security and can not have dependency with the disclosure goal. The only conflicting relation it has is with the Raise of capital goal. Companies can not exploit market benefit, because there is very small liquidity of their shares but are forced to register as PLC's. Such over-regulation makes this goal inconsistent within the whole regulation regime. The market transparency goal is not bad itself but the defective fulfillment in the legal document makes it of no positive effect.

Uniform listing requirements mitigate the heavy burden of Public disclosure requirements and helps the company to raise the capital. It also is positive for the investor, because it creates a comparability of stocks in various markets. Investor will be able to compare the investment alternatives at a lower cost.

## Conclusions

The given way to measure regulations efficiency showed that there are alternative methods that can be successfully applied. Despite the narrowness of the scope of the goal tree analyzed in the practical analysis section it is clear that the proposed model is helpful in determining the quality of regulations its economic impact and the efficiency. In order to get a broader view and the extensive list problems arisen from unregulated conflicts of goals it is necessary to make a broader overview of general principles that the whole economy is based. The bigger bouquet of legislature simultaneously analyzed in such a way would also increase the reliability of analysis. Despite limitations indicated above it shall be concluded that the current status of Lithuanian Capital market with its over-regulation can not create favorable conditions for the capital market. It is clear that not every conflict of goals has been solved in such a way where a reasonable and the most efficient balance could be determined. Therefore the overall regulations efficiency level is reduced by the scope of those unbalanced goals. The procedure for the documentation of transactions shall be simplified creating a mutual trust based system between investor and intermediary. The over-regulation trying to reinforce investors security finally turns against the same investor. The regulations on company regulations concerning registration as a PLC should also be simplified and released. Face value requirements are just heavy burden on the company and does not create benefit for the investor. This policy should also be reviewed. Delays in making solutions to these questions will continue to keep National capital market not attractive and will discourage potential investors and corporations from taking an active part in it.

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**Kapitalo rinkos teisinio reglamentavimo efektyvumo matavimas**

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Straipsnyje vystoma kapitalo rinkos teisinio reglamentavimo efektyvumo matavimo idėja. Privataus sektoriaus veiklos efektyvumo matavimas yra įprastas ir paplitęs, tuo tarpu viešojo sektoriaus efektyvumo matavimo sritis yra neišvystyta. Šio straipsnio tikslas – atskleisti efektyvumo matavimo galimybes net ir tais atvejais, kai neegzistuoja pradinės skaitinės reikšmės. Panaudojant semantines aprašomąsias kintamųjų sistemas, parodoma viešojo sektoriaus efektyvumo matavimo galimybė, kuri iliustruojama kapitalo rinkos teisinio reglamentavimo, kaip viešojo sektoriaus produkto, efektyvumo vertinimu.