

ECONOMIC POLICY UNCERTAINTY AND RISK MANAGEMENT IN REGULATED SECTORS

Davit Narmania

*Professor, Department of Management and Administration, Tbilisi State University,
Georgia Commissioner, Georgian National Energy and Water Supply Regulation Commission, Georgia*

ABSTRACT

The economic policy carried out by the government is frequently non-sequential and unpredictable. This is caused by both changes of the environmental factors and those of the government or the approaches. The inconsistent and non-predictable economic policy serves as the problem for both macroeconomic stability and companies operating in the market.

In the circumstances of unstable and non-predictable economic policy companies face growing risks in the market. Therefore, company management considers to either move the capital to other more stable markets or to spend more resources on managing risks.

It is considered that the economically regulated sectors are less risky or completely non-risky. However, this is not always the case. If regulation ensures guaranteed an annual profit of companies, we deal with a less risky or un-risky business. If regulating frameworks are general, separate administrative barriers may even be prevented and place business in a more risky condition.

The paper aims at demonstrating macro and micro-economic reasons of unpredictable economic policy which influence the companies. It also demonstrates to what extent regulatory instruments ensure the companies operating in the sector from the risks caused by the uncertainties of the economic policy.

KEYWORDS: *Uncertainty, Regulation, Sector, Risk Management*

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INTRODUCTION

Uncertain of Economic Policy

Every country carries out an individual economic policy. Even those that belong to this or that economic union do carry out a different one in a number of cases (within the framework of the general policy). Differences among economies, policies flow from both the government's economic platform and the political condition existing in the region/country, public administrative and management experience of the government, society demands, etc.

The economic policy can be viewed as the sequence of alternatives (Benassy-Quereat *at al.*, 2010). The most widely spread alternative (and at the same time a debatable one) is a free market (competition) versus the market subject to regulation. The mentioned alternatives with their positive and negative factors will be discussed below. However, based on the objectives of our research, the economic policy is interesting with another aim too. The most general aim which the economic policy targets at is satisfying the local population with everyday services. The i everyday service for the consumer is expressed by a very simple formula:

$$U_t^i = U (C_{i1}^t, C_{i2}^t, \dots, C_{in}^t; N_t^i; E_t^i; E^t),$$

where C_{ik}^t ($k = 1 \dots n$) is the amount of goods consumed by an i household economy in the t period of time, N_t^i is the amount of workforce supplied by i household economy in the t period of time, E_t^i is the vector of variables (intensity of effort, heavy workload, etc.) depicting working conditions and E^t is the vector of variables denoting the quality of the environment (Benassy-Quere *at al.*, 2010).

It is not only the uncertainty of economic policy that affects the business, but also the one of the government policy in general. For example, the risk of hostilities or internal disorder in any state (when it is unclear when it will happen) leads to a substantially negative impact on the business. In such a case business tries to take away investment to a more stable country/region in order to gain guaranteed profit.

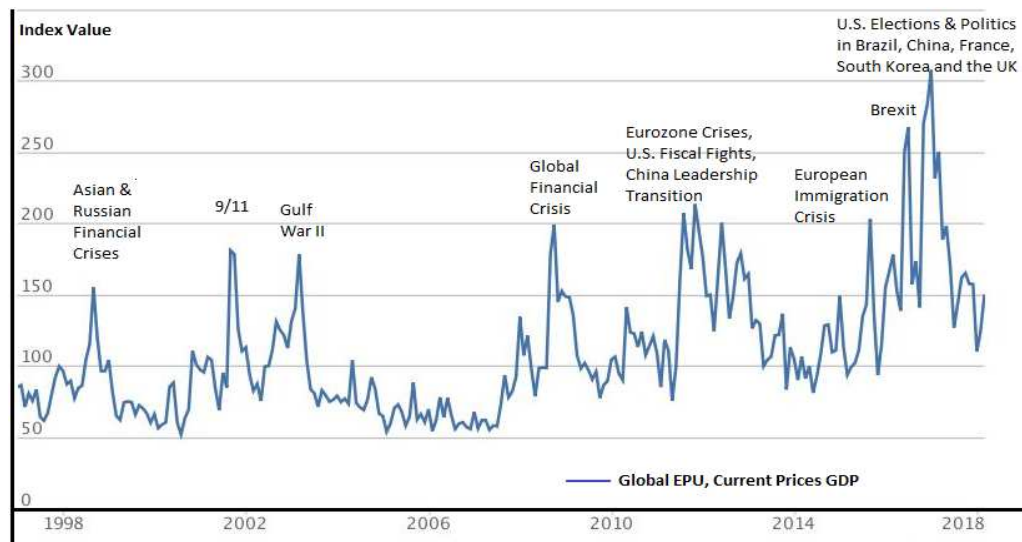
There are a lot of practical examples of uncertainty of economic policy when spontaneous (not planned in advance) decisions made by the government negatively impact the business:

- Increase of tax rates (increase of the tax burden);
- Liberalization of border (customs and other administration) procedures;
- Inflation, which is not prognosticated or deterioration of the exchange rate;
- Large sudden change of the monetary policy rate;
- Introduction of the compulsory pension insurance for employers;
- Making workplace, labor, safety rules stricter;
- Making a decision on regulating separate sectors;
- Unfair subsidizing of separate sectors from the government side;
- Reducing the volume of goods and services procurement by the state;
- Unsustainable legislative base (frequent legislative changes).

It is significant to know how economic policy uncertainty is measured and whether it is possible to forecast it. Measurement uncertainty of economic policy is not simple since the uncertainty itself is a subjective factor (Bloom, 2013). However, according to the most widespread approach, it is possible to make up the index of economic policy uncertainty - EPU - index by combining various parameters - (Baker *at al.*, 2015).

Global EPU calculated as the GDP-weighted average of monthly EPU index values for following countries: US, Canada, Brazil, Chile, UK, Germany, Italy, Spain, France, Netherlands, Russia, India, China, South Korea, Japan,

Ireland, Sweden and Australia, using GDP data from the IMF's World Economic Outlook Database. Each national EPU Index is renormalized to a mean of 100 from 1997 to 2015 before calculating the Global EPU Index (www.policyuncertainty.com).



Source: Economic Policy Uncertainty, www.policyuncertainty.com

Figure 1: Global EPU Index, January 1998 – April 2018

The index of uncertainty globally as well as of a specific country will be calculated along with that related to the specific sector. The latter will lead us to the level of the firms when uncertainty of economic policy affects investments and employment, especially, in such sectors as where the state carries out procurement of goods and services. EPU has a chain reaction as well and affects all sectors. For example, EPU impacts the banking sector. Namely, it makes small and medium size business dependence on loans non-proportionate. Therefore, small and medium-size business access at the capital market is limited (Kaja, 2018).

Provided that uncertainty has a cross cutting impact in the sectors of the economy, it affects household economies, business and the financial market. As for the key impact, it is as follows:

- **Household Economy:** Uncertainty significantly limits consumer spending given the expectation that revenues may decrease in the future. This, in its respect, increases savings of household economies. Therefore, the company revenues get decreased with the amounts that have been saved by the consumers in the mode of expectation;
- **Business:** Uncertainty makes the business limit production (fearing to have sales limited), investment and, respectively, employment. Large-scale projects are the ones that are most sensitive in the circumstances of high level of uncertainty;
- **Financial Market:** In the circumstances of uncertainty, investors tries to gain high risk-premium of capital yield. What this means is that the interest rate on credit may increase in case when the central bank decreases the rate of the monetary policy which in the circumstances of slowing down of the economy is an ordinary phenomenon (Kupelian *at al.*, 2017).

COMPETITION VS. REGULATING MONOPOLIES

According to the existing and established approaches, competition both makes the market health and gives benefit

to the consumer (competitive prices are much lower than monopoly ones). When it comes to monopoly, the monopolist as a single supplier is trying to increase prices and gain super-profit.

Natural monopolies are the only suppliers in the market. Similar to other monopolies, it is within the interests of natural monopolies to gain higher income. Therefore, natural monopolies fall under the regulation of the policy on competition. Natural monopolies are mainly encountered in the section of supplying communal services (electric energy, gas and water supply, fixed telephone communications, etc.). As stated above, provided that the main aim of economic policy is to satisfy the local population with communal services, the present paper discusses those companies which hold a monopoly in such a sector. On the other hand, such sectors are mainly regulated and mechanisms of anti-monopoly regulation are used for this purpose.

Optimal anti-monopoly regulation, as the basic component of economic policy, as such, requires the keeping of a very subtle balance between the burden of regulation and public interests (Murgulia *et al.*, 2012).

It is well-known that one of the key factors of free competition is business efficiency. At one glance, the enterprise with higher index of efficiency is much more competitive in other equal conditions since it can produce the same product with less resources.

Protecting the basic nomenclature markets of raw materials and production from non-market forces is an equally significant area of anti-monopolistic regulation. It is well-known that the price of oil products, gas, water and other elements are directly included in the prime cost of the majority of goods and services produced by the economy. Provided that the demand on basic raw materials and production is not elastic as such, this burden is significantly reflected on the formation of GDP, especially, in those countries, which import a major part of the basic nomenclature.

Provided that the attraction of using non-elasticity of the demand is much higher than that of statistical efficiency, markets of basic nomenclature carry the highest risk of monopolization. What adds to it is the complexity of the infrastructure of energy carrier distribution, which, in a number of cases, leads to the creation of natural monopolies or those artificially initiated by the regulators (Murgulia *et al.*, 2012).

Provided that the policy of supporting competition in separate sectors (especially, natural monopolies) is practically non-operational and they are particularly distinguished by significant specificity, the instruments of separate sector-specific regulation is being determined (See. Table 1). Regulation should be clear and defined only in case when there are market pitfalls. Once the possibility for competition arises, such sector-specific regulation should be abolished and move under the responsibility of the body of competition (Buigues, 2006).

Table 1: Differences between Competition Policy Approach and Sector-Specific Regulation

	Competition Policy Approach	Sector-Specific Regulation
General approach	Ex-post, harm based approach	Ex-ante, prescriptive business conduct
Institution design	Horizontal institution Lawyers and economists	Sector-specific institution: sector-specific engineers and economists
Amount and nature of information required	Only information on the allocated abuse	General and detailed information on the sector
Nature of the remedies imposed on undertaking	Structural remedies addressed to the specific conduct	Detailed conduct remedies requiring extensive monitoring
Nature of public intervention	Permanently based on general competition policy principles	As competition is more effective, part of sector specific regulation replaced by competition law

Source: (Buigues, 2006).

It is important to discuss whether firms or individuals are able to do anything with the view of decreasing the risks of policy uncertainty. There are two possible ways of moving forward in this respect: 1) be more cautious, decrease the volume of investment and analyze the market since at this time consumers generally look at their expenses on long-term production (such as, cars and consumer goods); 2) Firms and consumers should try to manage the risks actively (Bloom, 2013). Instruments of risk management in present-day economic science are extremely developed, starting from identifying the risks, including, reducing them to a minimum. Besides, it is considered that there is no business which is absolutely exempt from the risk (including, even the regulated natural monopoly).

It is determined theoretically that if public policy is based more on rules/regulations, this undoubtedly limits policy uncertainty. In such a case, decision-makers can't be as flexible as they wish. In a similar manner, the transparent public policy as well as limits uncertainty and risks (Bloom, 2014).

In case the firms use the models and approaches of managing usual risks, this is significant for ensuring their financial stability. However, applying the mentioned models does not insure the firms from all the risks (it does not ensure gaining profit). Therefore, one of the additional methods may be regulated on behalf of the government. Here, the question that arises is why the state should insure some businesses from bankruptcy by regulation and whether regulation is the model of risk management.

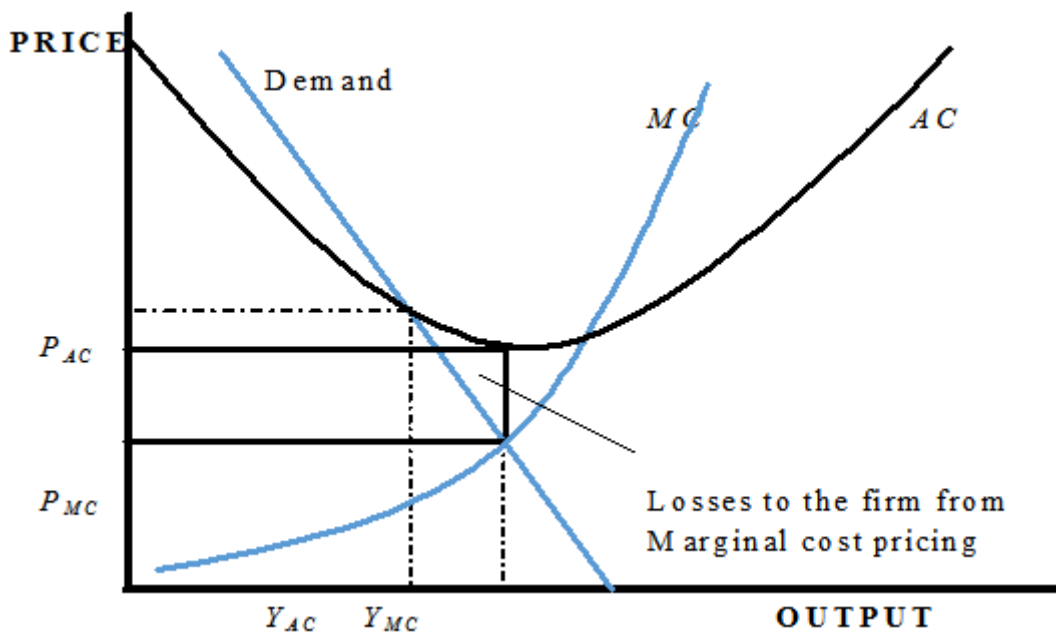
ECONOMIC EFFICIENCY OF REGULATION

It is accepted in the whole world that differ from state or private structures it is only a state or private structures which are able to fulfill the function of regulating natural monopoly in the most rational manner. Such countries as USA, Great Britain, Hungary, Sweden, Germany, Estonia, etc. used independent regulation. Experience has shown that establishing a regulating body in the case of the existence of natural monopolies is one step forward on the way to developing separate branches of economy (Zarnadze *et al.*, 2009).

Regulation in the sector of communal service should be economically efficient and socially just. However, it is not always possible to achieve proper balance in the economy between economic efficiency and social justice. The economic efficiency of regulating natural monopolies can be discussed in the following perspective through keeping social justice:

- Ensuring a fair balance between service providers and consumers;
- Quality and continuous provision of communal services to consumers;
- Defining service provision tariffs so that getting reasonable profit of the service provider is guaranteed.

To illustrate, we can make a micro simulation and analysis of the enterprises providing natural monopoly (See. Figure 2). If natural monopoly ensures service provision in the Marginal Cost (MC) point, then supply volume is efficient. However, there is a potential loss of production/service provision. If we regulate the price and make it equal to marginal value, the amount of profit will cover the total costs. But, the outcome in this case is obviously less than efficient outcome. The volume of the loss is given in the square when the natural monopolist firm produces at the marginal price (Yang *et al.*, 2016).



Source: Yang, & Ji, 2016

Figure 2: Natural Monopoly Firm

Financial sources of natural monopolies consist of two parts: own capital and loan taken. The structure of the capital and the loan taken. The structure of the capital (0 % share of own capital in overall funding and %-share of the loan) is the function of the business risk (uncertainty) and financial risk (exposition) (Kiss *at al.*, 2006).

For natural monopolies in regulated sectors, both service provision tariffs (the so-called consumer tariffs) and separate norms for calculating the expenditure (so that the company does not artificially expand the expenditures and not impose at the increased consumer tariffs) are defined:

- Weighted average cost of capital (WACC);
- Regulated cost base (RCB);
- Regulated asset base (RAB);
- Normative losses in the transmission network.

To make it simple, WACC is the norm of minimal yield, which is acceptable for the investor. This can be connected with the above-given graph. Marginal cost of capital (MCC) is the graph which illustrates the average weighted cost of the firm capital against the total volume of additional attracted capital for each unit.

An important aspect here is that at this time the cost component is regulated by regulating bodies. The norm of profit on the base of regulated assets is the significant component on the base of regulated assets. It is defined through the method of weighted average cost of capital and calculated through the following formula:

$$WACC_{pre-tax} = g \times r_d + \frac{(1-g) \times r_e}{(1-T)}$$

where:

$WACC_{pre-tax}$ – Average weighted cost before taxes (%);

β – share of the loan (%);

r_d – cost of the loan (%);

r_e – own capital cost (%);

T – profit, tax (%).

The cost of the loan and own capital is calculated applying the following formula:

$$r_d = r_{rf} + DP$$

$$r_e = r_{rf} + \beta \times (r_m - r_{rf})$$

Where:

r_{rf} – non-risky interest rate (%);

DP – loan premium (%);

r_m – Market risk (%);

β – sectoral risk coefficient.

Non-risky interest rate (r_{rf}), market risk premium ($r_m - r_{rf}$), sectoral risk factor (β) and the loan premium (DP) for each regulated period is fixed.

Similarly, the regulated cost base (RCB), regulated base of assets and normative losses in the transmission network are determined. RCB is the allowed income for the enterprise which is necessary for efficient functioning of the enterprise and involves reasonable expenses and purposeful profit; RAB are tangible and intangible assets used in regulating activities that are in direct connection with the respective regulated activity and takes part in tariff calculation. The transmission network always has natural losses in accordance with its specific nature. Therefore, on average, defining the amount of natural loss is significant in order to deduct it from the company expenditure and not consider it as non-received income.

For example, the Georgian National Energy and Water Supply Commission (GNERC) defined unrisky interest rate until the expiry of the term on international bonds in the amount of the annual income, whereas the market risk bonus and that of the loan are defined on the basis of expert conclusions and/or comparative analysis. In the process of regulating natural monopolies GNERC is gradually moving to the European model (in accordance with the third EU energy package). According to the mentioned model, tariffs from the companies (electricity, gas and water supply) providing utility services are defined on the basis of the method “expenses plus” for three years. The mentioned method ensures return on invested capital. As for the communal infrastructure, it is organized with the money for profit. (Berisha, 2017). This ensures reasonable guaranteed profit for the company for the medium-term period.

Approximately similar method is used to calculate 2010 tariffs in Estonia as well where WACC determined by a special method is used as well. If WACC does not exceed the average weighted value of capital, it is considered that the company gets a normal profit (Murgulia *at al.*, 2012). Similar approaches are used in European countries, the USA, Japan, Singapour, Hong-Kong, etc.

According to the methodology established in Georgia (GNERC, 2014) international practice is applied upon calculating the tariffs which encourage principles of encouraging regulation (regulation of marginal prices), which ensure stimulation of growth of the efficiency of enterprise functioning. The set tariff covers the fees for service rendered by enterprises through the amounts received from each category of consumers in proportion with the expenses made for this category and supports the stable and reliable functioning of the enterprise.

Despite the fact that tariffs in the regulated sector to ensure a reasonable profit of companies, this does not fully ensure the company from all the risks. It is possible that certain increased risks threaten the company operating in the self-regulating sector. For example, staff strike demanding the salary increase or growth of operational risks. Therefore, natural monopolies themselves should pay attention to reputation and governance risks despite the fact that they have guaranteed profit in case of regulated tariffs.

Eventually, by regulating tariffs the service company gains reasonable and guaranteed profit. It enables him to implement investment, develop the network and provide consistent service. Besides, financial stability of the company ensures the quality provision of the service, which leads to customer satisfaction and the key objective of economic policy is to provide the local population with full communal services. As for the vulnerable (socially unprotected) groups of population, which in the majority of cases face difficulties in paying tariffs for communal services, the state/local government should subsidize the socially. Determining low tariffs on vulnerable groups will be inefficient economically and socially unfair as well. This will reduce the income of the service providing company and it will be necessary to raise the tariff of another group with the view of compensating the income of the company (which is socially unjust as well).

Therefore, setting reasonable communal tariffs based on the rules by the regulatory bodies in economically efficient whereas the government needs to give reasonable funding to vulnerable groups for the purpose of social justice. Regulating bodies should permanently monitor service providing companies with the view of providing high-quality service and not give them the possibility to misuse their dominant condition. The service providing companies themselves should comply with the rules of regulating bodies immediately and manage entrepreneurial risks in accordance with approved instruments.

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