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The impact of managing economics regulation on institution innovation: an imperial study on education institutions

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ABSTRACT

This study is conducted to determine the impact of managing economics regulation on institution innovation: an imperial study on education institutions. Regulatory framework conditions have been identified as important factors influencing the innovation activities of companies, industries, and whole economies. However, in the growing body of empirical-based literature, the impacts of regulation have been assessed as rather ambivalent for innovation in general, often depending on the different types of innovation. Different types of regulations generate various impacts on innovation, and even a single specific regulation can influence innovation in various ways, differentiating between innovation input, research and development, and output–incremental or radical innovations–often depending on how it is implemented. Regulation, innovation, and competitiveness in global markets have been discussed for several decades. Recently, policymakers have started to extend their focus towards the regulatory framework as a possible instrument for innovation policy, especially because many countries have little leeway to increase public spending in R&D and other innovation-related activities after the global financial crises. Despite the variety of regulations and their numerous impacts on innovation, only recently has some progress been made to understand the effect of regulation on the ability of companies to innovate. Meanwhile, some comprehensive studies have been conducted in addition to the great amount of anecdotal evidence. Some in-depth analyses provide insights that allow a further differentiation reflecting the heterogeneous impacts of different types of innovation. Nevertheless, in total, these studies still provide no clear picture of whether the negative impacts of regulation outweigh the positive effects.

Introduction

There are numerous types of regulations, A rather limited number of regulations is immediately dedicated to promoting innovation. The most relevant example is the regime of intellectual property rights, especially patents, and a few specific market regulations such as those recently promoted within the Lead Market Initiative by the European Commission. Most regulations which try to achieve other specific objectives, but not to promote innovation. To realize the challenging objectives, like protecting health, safety or the environment, companies often cannot comply to the requirements of these regulations with slight modifications of their existing product assortment or their production processes but are required to develop at least incremental or even radical new solutions, i.e. product or process innovations. Rules to shape market conditions to ensure a certain level of competition belong to this second type of regulation. In a competitive market environment, companies are required to provide new innovative solutions.

The remaining variety of regulations, which influence companies' strategies and activities, but not necessarily in a positive sense, their innovative activities. In this last category, especially the regulatory burden on innovation is relevant, leading to less innovation in general.

Despite the variety of regulations and their numerous impacts on innovation, only recently has some progress been made to understand the effect of regulation on the ability of companies to innovate. Meanwhile some comprehensive studies have been conducted in addition to the great amount of anecdotal evidence. Some in-depth analyses provide insights that allow a further differentiation reflecting the heterogeneous impacts of different types of innovation. Nevertheless, in total, these studies still provide no clear picture of whether the negative impacts of regulation outweigh the positive effects.

There are a range of dimensions that shape the way regulations impact upon innovation activities of firms:

1. The investigations into the impacts of regulations have to take sector specificities into account and have to address sector-specific regulations

2. Regulations have different kinds of impact for different types of companies. In general, with increasing size, companies have relatively less difficulties with regulatory compliance. Less clear is the influence of firm age. On the one hand, young companies trying to enter new markets or just having entered existing markets have less experience with the requirements set by regulatory bodies, on the other hand they have more flexibility to react to upcoming regulations.

3. The regulation impacts on companies can be differentiated between short- and long-term impacts. In the short term, the required regulatory compliance creates a burden for most companies, which might be negative for innovation.

The purpose of this study:

The purpose of this study is to examine the impact of economics regulation on institution innovation through an imperial study on The Education institutions. To investigate the impact of economics regulation on institution innovation based on literature ravines of previous studies.

According to (BERR 2008 & Blind, K., 2010) Economic regulations:

types:

- Competition enhancing and securing regulations

- Antitrust regulation

- Merger & acquisitions
- Market entry regulation
- Price regulation
- Regulation of natural monopolies and public enterprises

Also, (Acharya V., Subramanian, K., 2009 & Barbosa, N.; Faria, A.P., 2011) mentioned that institution innovation types:

- Institution Size
- Institution Age
- R & D Personal

This study will try to Examine & modify the effect of economic regulation types (Competition, Antitrust and Merger & acquisitions) on institution innovation (Institution Size, Institution Age and R & D Personal).

Problem Statement:

According to (Kerr, W. R., Lincoln, W.F. , 2008 & Manne, G. A. and Wright, J., 2010 & Runnings, K.; Rammer, C., 2011) the impact of economic regulation on innovation Among economic regulations, we differentiate and focus on competition policies, including antitrust regulations, rules for mergers and acquisitions, market entry regulations, price regulation and the regulation of natural monopolies and public utilities. First, we present briefly the theoretical and conceptual arguments of the different types of regulation and the empirical evidence. Although most of the regulations aim to protect competition and even to enhance competitive pressure, we distinguish between the different subcategories to structure the arguments in a more comprehensive way.

Also, (Lumpkin Stephen A., 2009) mentioned that regulation of Competition In general, policies designed to enhance competition increase the incentives for companies to invest in innovation activities to escape - at least partly- from fierce competition. However, if competition becomes so intense that imitation activities are more attractive than innovation activities, because the rents for innovators are significantly reduced the positive impact of competitive pressure on innovation may change into a negative one according to the proposed inverse U-shape between competition and innovation intensity (Manne, G. A. and Wright, J., 2010). Recently, (Lanoie, P.; Patry, M.; Lajeunesse, R., 2008) contested this U-shape by allowing different innovation strategies of the leading companies, which makes more innovation at a higher level of competition especially the likely outcome of fierce rivalry in high technology markets.

Definition of Terms:

Economics Regulation

In general, policies designed to enhance competition increase the incentives for companies to invest in innovation activities to escape - at least partly- from fierce competition. However, if competition becomes so intense that imitation activities are more attractive than innovation activities, because the rents for innovators are significantly reduced (e.g. Scotchmer 2004), the positive impact of competitive pressure on innovation may change into a negative one according to the proposed inverse U-shape between competition and innovation intensity (Aghion et al. 2005). Recently, Amable et al. (2009) contested this U-shape by allowing different innovation strategies of the leading companies, which makes more innovation at a higher level of competition especially likely outcome of fierce rivalry in high technology markets. In addition, if competition regulations, such as Antitrust regulation and rules for merger and acquisitions, restrict the cooperation between companies also in research and development, such innovation activities may not be initiated and possible efficiency gains cannot be exploited (Lanoie, P.; Patry, M.; Lajeunesse, R., 2008).

Our understanding of the relation between regulation and innovation is too fragmentary and uncertain to make the procedural game worth the

candle. The proposal would add to the length and complexity of administrative proceedings and multiply the grounds for judicial review without promising substantial improvement in agency policies. Consider, for example, the difficulties in litigating the impact of a particular "best available technology "effluent limitation on market and social innovation in a particular industry. Paradoxically, such efforts to ameliorate adverse regulatory impacts on innovation might well exacerbate them by adding considerably to decisional costs.

Reliance on legal procedures and litigation, however, is not the only possible way to promote more consideration of innovation impacts. The steps taken within the executive branch over the past several years to make regulatory agencies pay attention to compliance outlays254 suggests that similar steps might be extended to promote consideration of innovation impacts. The use of formal procedures in the existing system of review as a quality control mechanism is arguably (Lumpkin Stephen A., 2009).

Regulatory burdens other than shutdowns are starting to attract widespread attention. Although regulation has not been the principal cause of the slowdown in market-measured productivity growth, it inevitably has diverted some economic resources away from investment in the market sector to meet nonmarket social objectives. Evidence suggests that compliance outlays have contributed to between five and twelve percent of the productivity slowdown in the United States. The impact on productivity of delay, uncertainty, and technical constraints is unknown, but it could be significant. Such impacts must be weighed against the benefits of regulations, which are not adequately reflected in productivity measures. Substantial steps could be taken to minimize the adverse effects of regulation on market innovation without weakening regulatory stringency. Often, the same measures also would promote needed social innovation. Four such step are: (1) promoting greater consideration of innovation impacts within the existing system of regulatory tools and adversary decisional processes; (2) modifying command-and-control tools to promote innovation; (3) greater use of advisory committees, negotiated standard setting, and independent research institutes to promote a cooperative approach to resolving technical and policy questions; and (4) substituting decentralized economic incentives for command-and-control regulation(BERR 2008 & Blind, K., 2010) .

Analysis of innovation impacts should not be enforced through external mechanisms of judicial review. The adversary process in administrative decision making and review is already overloaded. Interjecting difficult and elusive innovation issues into that process would increase cost and delay and thereby have an adverse effect on innovation. Judicially enforced "innovation impact statements" should therefore be avoided. Internal review of innovation analysis-limited to a relatively small number of problems annually-by executive and administrative bodies such as the Task Force on Regulatory Relief and by Congress is far preferable. The gains in innovation offered by this alternative would likely be modest and not without cost. Nevertheless, promoting regulatory agency consideration of innovation effects is a worthwhile step that should be adopted (Manne and Wright 2011).

Antitrust regulation is challenged in markets where innovation is a critical dimension of competition. Traditionally, economic scholars are quite critical against a monopoly position of companies derived from their success mostly based on radical innovations. Courts have also reacted quite drastically against such big players, like Microsoft in the past and Google, Apple and others more recently. A type of company may harm both innovative companies in general and the economy as a whole. To underline their argument, they present a list of case studies, also covering Microsoft, which do not provide clear evidence that antitrust measures can been justified, because the costs to society are higher due to the innovation deterring impacts the same line of reasoning is recently presented in the case of Google (Manne and Wright 2011). The challenge of the impact of antitrust regulation on innovation is that these

cases are quite specific, which allows neither a general conclusion on how to decide the conflicts in court nor a general assessment of the impact of antitrust regulation on innovation.

A new impact of regulations focusing on mergers and acquisitions on innovation has been proposed and analyzed by Chemmani and Tian (2012). They study the relation between so called antitakeover provisions and innovation. On the one hand, they argue that in the long run these provisions foster innovation by protecting managers from short-term pressures, e.g. the equity markets. Empirical evidence of the impacts of regulations of public utilities or even monopolies is connected to their liberalization. At first, the objective of these analyses was to develop instruments to achieve cost covering business models. Later, incentives schemes to increase the productivity of public utilities. In the 1990s the innovations of public utilities were triggered by the deregulation and liberalization of formerly publicly owned or monopolized sectors.

The effect of regulation on innovation in the nuclear power industry. Marcus finds that regulations affected plants differently depending upon their prior safety records, i.e. the regulators take a less flexible approach to plants that had a poor safety record, while it took a more flexible approach to those with good safety records. reviews power plant licensing procedures and finds that they negatively impact market innovation through compliance uncertainty due to regulatory delay.

Finally, extends the analysis of the impacts of regulation on innovation to a cross-country perspective and finds on the one hand that more stringent U.S. emissions standards relevant for electric utilities resulted in greater innovation in the United States, but had no effect on innovation in Japan and Germany. On the other hand, U.S. firms innovate in response to domestic regulations, but not foreign regulations. Recently, Johnstone et al. (2010) examined the effect of various economic regulations on innovations of renewable energy technologies in OECD countries, and find that the effect of different regulatory regimes, including public R&D support, investment incentives, tax incentives, voluntary programs, quantity obligations, and tradable permits, varies across energy sources. Although all the different types of regulation have a positive effect on the innovation of all energy sources, taking all instruments together they find that only tax incentives, quantity obligations, and tradable certificates have a positive effect on renewable energy innovation overall. Based on separate regressions, tax incentives stimulated innovation for a most renewable energy source.

Amara and Landry [8] stated that in spite of a large body of empirical literature on the determinants of innovation, there is not yet a consensus regarding the categories of factors that explain innovation. The
pioneering studies on innovation implicitly assumed that innovation was the result of events initiated by isolated entrepreneurs or isolated inventors. The importance of the innovation for firms is that the competition forces the firms to be innovative in order to survive in the market. Otherwise natural economic selection clears weak innovative firms from the market. That is why all firms have to be strong innovative and competitive characteristics to survive in the market. Main reason for firms to be related in innovation is economical in other words profit maximization. On the other hand it is recommended that a firm's reasons for engaging in innovation activity should be identified via its economic objectives in terms of products and markets, and how it rates a number of goals that process innovation can bring within reach. The innovative behaviour of firm varies in terms of product differentiation, pricing, financing, marketing, management and organization. Firms desire the lowest price elasticity of demand of their products, which leads to them monopoly power against the market. Amara and Landry stated that firms which introduce innovations that are a world first (innovations which have the highest degree of novelty) are more likely to use a larger variety of sources of information to develop or improve their products or manufacturing processes than firms

introducing innovations that are a first at the national level or a first for their firm. Lehtoranta claimed that innovation activities and innovation commercialisations are not pure random. events. He found evidence that they are affected by R&D activities, patenting activities, share and inflow of highly qualified personnel (in large companies) and acquisition activities. The acquisition of innovative business units or start-ups increases the innovativeness of incumbent firms and reduces the probability that the (innovative) target firm will launch a product innovation onto the market.

Aim of the Study:

This quantitative study will use a questionnaire with the selected samples. Moreover, it includes interviews, to test hypothesis. This questionnaire reflected a various dimension of the empirical study in the field according to the sample size, the collected data, and data analysis. As mentioned before the study data analysis aims to identify the impact of economics regulation on institution innovation through an imperial study on education institution.

Moreover, this dissertation aims to participate in better understanding economics regulation processes and its effect on innovation to achieve positive outcomes.

This point supported by studying three points:

1- Examine & modify the strength of the impact of economics regulation on institution innovation through an imperial study on The research institution.

2- Investigate the processing of the impact of economics regulation on institution innovation through an imperial study on The research institution.

3- Expanding the knowledge about the impact of economics regulation on institution innovation.

Research objectives:

- Test the effect of Competition on Institution Innovation.
- Clarify the Antitrust effect on Institution Innovation.
- Test the team Merge & Acquisition on Institution Innovation.
- Define the impact of economics regulation on institution innovation through an imperial study on education institutions.
- Deliver the research recommendation that helps education institutions to achieve their goals.

Variables of the Study:

1. Independents Variables: Economics Regulation:

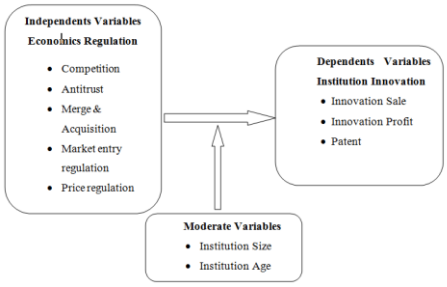
- Competition
- Antitrust
- Merge & Acquisition
- Market entry regulation
- Price regulation

2. Dependents Variables: Institution Innovation:

    - Innovation Sale
    - Innovation Profit
    - Patent

3. Moderate Variables :

    - Institution Size
    - Institution Age
    - R & D Personal



Research Questions:

The main research question of this study as follows:

- Is there an impact of economics regulation on institution innovation through an imperial study on Education institutions?

Specific research questions include:

- To what extend does Competition affect institution innovation?
- To what extend does Antitrust affect institution innovation?
- Does the Merge & Acquisition affect institution innovation?
- To what extent do the economics regulation types affect innovation?
- Does Market entry regulation affect institution innovation?
- Does the Price regulation affect institution innovation?

Hypotheses:

H1. There is a positive statistical relationship between economics regulation on institution innovation through an imperial study on Education institution.

These main hypotheses were tested through the following minor hypotheses:

H1a) There is no statistical relationship between Competition and institution innovations on Education institution.

H1b) There is a positive statistical relationship between Antitrust and institution innovations on Education institution.

H1c) There is a positive statistical relationship between Merge & Acquisition and institution innovations on Education institution.

H1d) There is a positive statistical relationship between the Market entry regulation and institution innovations on Education institution.

H1e) There is a positive statistical relationship between the Price regulation and institution innovations on Education institution.

Organization of the Study:

- Chapter One: Introduction, Purpose of the study, Problem discussion, Research objectives, Research questions, Research hypotheses, and organization of the study.
- Chapter Two: Literature Review.
- Chapter Three: Research Design: Research philosophy, Research approaches, Data collection and Research limitation
- Chapter Four: Empirical Study and Data Analysis.
- Chapter Five: Findings, Conclusion.

Although, science-technology-innovation are very important variables for long run economic growth. In the classical growth models, it was stated that the technological change is exogenously determined and cannot be managed by economy policies until 1970s. On the other hand, by 1970s, endogenous growth models claimed that technological change can be triggered by applying the technology-driven policies efficiently, such as increasing research and development expenditures, researchers on science

and development, education, qualified human capital, information and communication technologies, accessing internet, government policies etc. Therefore, it is very important for the countries to improve the environment stimulating science-technology innovation. constituted an equilibrium model of endogenous technological change in which long-run growth is driven primarily by the accumulation of knowledge by forward-looking, profit-maximizing agents. This focus on knowledge as the basic form of capital suggests natural changes in the formulation of the standard aggregate growth model. In contrast to physical capital that can be produced one for one from forgone output, new knowledge assumed to be the product of a research technology that exhibits diminishing returns. knowledge may have an increasing marginal product. In contrast to models in which capital exhibits diminishing marginal productivity, knowledge will grow without bound. Even if all other inputs are held constant, it will not. be optimal to stop at some steady state where knowledge is constant, and no new research is undertaken.

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