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To cite this article: Marina Ivanova *et al* 2019 *IOP Conf. Ser.: Mater. Sci. Eng.* **497** 012050

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Evaluation of compliance costs interrelation with a level of innovative economic development

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Abstract. Theoretical and methodical provisions of compliance costs influence on the level of economy innovativeness are systematized in this article. The concept of compliance costs in the world literature is investigated, their role in the state regulation quality assurance is determined. Methods of correlation-regression analysis are used to evaluate interconnection of compliance costs in the sphere of tax payment and a number of indicators of social-economical system innovative development. The correlation analysis of interconnection between other components of standard costs was carried out (in particular, aggregate tax burden) in order to establish the influence of different elements of standard costs on the innovation indicators. The analysis has allowed making a conclusion on the absence of significant interconnection of compliance costs and the indicators being studied with simultaneous revelation of noticeable connection with a change in tax burden. The conclusion was made on a greater significance of financial component in the composition of standard costs as compared to the compliance costs.

1. Introduction

Unsatisfactory state regulation impedes innovations and creates barriers for trade, investment and efficiency growth. According to current thinking the satisfactory regulation is a regulation which not only brings net profit to the society, but also uses the maximum efficient method of influence, thus creating a minimum amount of additional burden to the regulation objects.

There is a consensus in the management of science and practice on the issue of critical importance of innovative development for stable economical growth. The systematic character of innovative activity stipulates a necessity in the favorable social, economical and political context the provision of which is mainly a function of the state. The detailed investigation of individual consequences of the state regulation in the sphere of influence on innovative development can be a basis for making decisions providing more qualitative regulation on the whole. This research is aimed at revelation of availability and peculiarities of compliance costs interconnection with key indicators of the innovative economy development. The existing researches consider only the general influence of regulation on innovations, as well as differences in short-term and long-term influences. Investigations of the effect



of individual “manifestations” of regulating influence are not available; at that, they allow making substantiated decisions on the structure and tools of influence.

2. The main theoretical aspects of compliance costs influence on the innovative economy development

2.1. Innovative economy development: review of the main approaches and interconnection with state regulation

Schumpeter [1] separates innovation, i.e. commercially successful application of an idea, from invention, i.e. initial development of an idea, as well as from distribution of innovations, i.e. their wide implementation. He also establishes a connection between the innovative process and the economic growth rate. On the basis of such approach, the ideas on a possibility and a need to support the innovation process in the economy, especially in the “catching-up development” countries, are developed in the literature afterwards [2–4]. The adherers of the process and systematic approach to innovations [5] consider the innovations as a dynamical process of accumulation and diffusion of knowledge, skills and information through interaction between different actors. Such interaction is embedded in the social, political and cultural context the peculiarities of which determine both the structure of interactions and characteristics of economical changes [6, 7]. Thus, during the research it is important to take into account the innovation process driving forces, including the state. OECD distinguishes regulation types (economical, administrative and social) and reveals different trends of their influence on the innovation process [8]. For example, the ecological legislation was often considered as the additional business expenditures diverting resources from innovations [9]. However, the investigations show [10] that the properly developed regulation in this sphere rather provokes emergence of innovations which are able to compensate for compliance costs.

According to the analysis of investigations the conclusion can be made that the characteristics of state regulation are considered as a factor influencing the innovative activity. Moreover, the connection between the state regulation and the innovative development is ambiguous and varies for different innovation and regulation types [11]. Carlin and Soskice [12] make a conclusion on the existence of two main effects of the regulating standard implementation. Firstly, this is emergence of a compliance burden; such effect negatively influences the innovations, but its action is short-term. Secondly, they recognize more positive stimulating regulation effect which, however, emerges on a long-term horizon.

2.2. Compliance costs: analysis of approaches to definition

Appearance of business expenditures due to a need to provide compliance with the introduced or revised standard represents an evident consequence of state regulation. The term “regulatory costs” used by OECD [13] includes all costs involved due to the acceptance of regulatory requirements of direct or indirect character which can be incurred by business enterprises, consumers, government and governmental organizations (i.e. taxpayers) or other groups.

OECD [13] structures the general regulatory costs as follows: firstly, compliance costs are the costs incurred by the subjects which may be the targets of regulation, necessary to take any actions aimed at compliance with the law requirements, as well as the governmental costs for standard acceptance and process administration. Their composition is as follows: administrative burden; substantive compliance costs; administration&enforcement costs. The composition of general regulatory costs also includes financial costs, indirect costs, alternative costs and macro-economical costs. At that, selection of regulation tools in practice is more often based on evaluation of compliance costs connected with its application [13, 14].

The subject of this investigation is the analysis of state regulation influence on the innovation development indicators, which can give rise to both negative and positive effects; at that, the main negative effect is exercised by the appearance of compliance burden [12]. In the present research the authors consider general regulatory costs as an analogue to compliance burden. Compliance costs are

one of the most important component parts of the regulatory costs and, in the opinion of the authors, can make substantial contribution to general negative effect of the compliance burden relative to the innovation activity. The investigation hypothesis consists in that there is a correlation between the compliance costs value and a number of key indicators of the innovation development. In other words, the investigation is aimed at more thorough study of the structure of compliance burden negative influence on the innovation development.

3. Method

In view of limitation of the available quantitative data the authors consider the compliance costs of one type of the state regulation - tax regulation. The following aspects are investigated as the indicators of the innovation development during the analysis: overall level of innovation activity [15, 16] and level of costs for R&D [17]. The indicator of the overall level of innovation activity represents a percentage of organizations performing process, marketing, organizational innovations in the total number of organizations in the countries of interest [15, 16]. The R&D cost level indicator reflects the cost level of countries expressed in percents of GDP, for the total activities aimed at reception of new knowledge and its practical application for solution of specific tasks [15–17]. By means of the correlation-regression analysis the connection [18–21] can be revealed between the listed above indicators and compliance costs indicators on tax payment, in the function of which the following has been selected: time to comply, time to comply with VAT refund and time to obtain VAT refund. Interpretation of costs was carried out on the basis of evaluation of approximation reliability value by Chaddock scale. Indicators of the following countries have been studied: Israel, Germany, Luxembourg, Canada, Ireland, Italy, Sweden, Belgium, Portugal, Austria, France, Finland, Netherlands, Denmark, Great Britain, Estonia, Slovenia, Norway, Czech Republic, Cyprus, Croatia, Slovakia, Spain, Lithuania, Hungary, Latvia, Bulgaria, Poland, Romania and Russia. A list of the countries is conditioned by availability of information on the innovation activity indicators in the open data sources. The data source for compliance costs indicators was annual reports on Paying Taxes of the World Bank [22, 23]. Data on all indicators are represented for the period of 2010–2015. Based on the classification of costs involved at tax payment [24] the authors consider it substantiated to include into analysis the data on total tax burden in composition of the general regulatory costs. Availability or absence of correlation between compliance costs for tax payments and indicators of innovation development in case of such extended analysis can be compared with correlation of tax burden and innovation indicators. The main goal at this point is a possibility to make a conclusion on correlation of contribution of different types of regulatory costs to the total effect.

4. Results and discussion

According to the analysis results, the connection between “Time to comply” indicator at the moment and in moving fashion and the innovation development indicator lies in the range of low values. The similar results were obtained for the rest selected indicators of compliance costs and innovation development indicators for all years under study. Figures 1–3 show individual analysis results by compliance costs indicators.

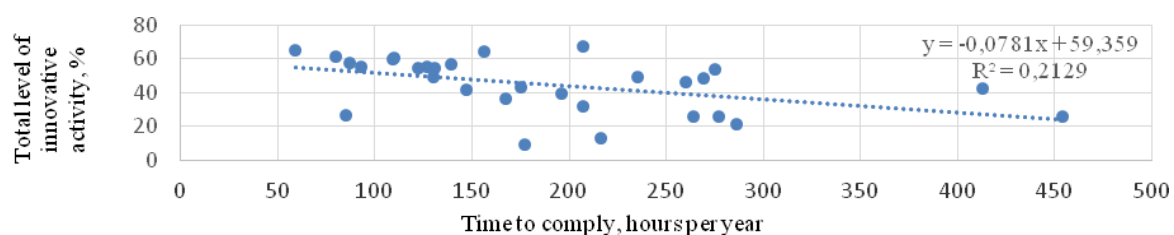


Figure 1. Interrelation analysis of “Time to comply” and total level of innovative activity (2013–2014).

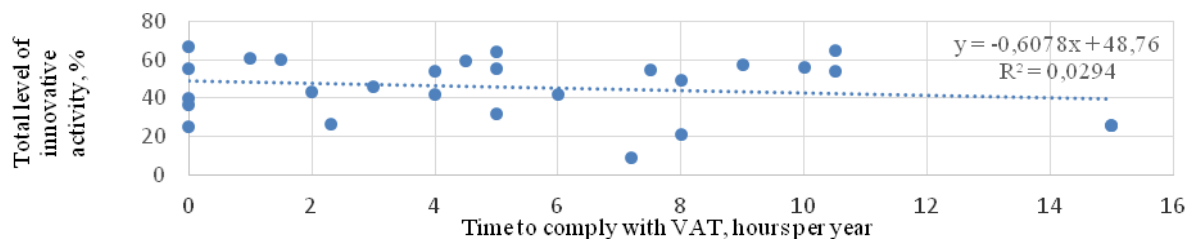


Figure 2. Interrelation analysis of “Time to comply with VAT refund” and total level of innovative activity (2013–2014).

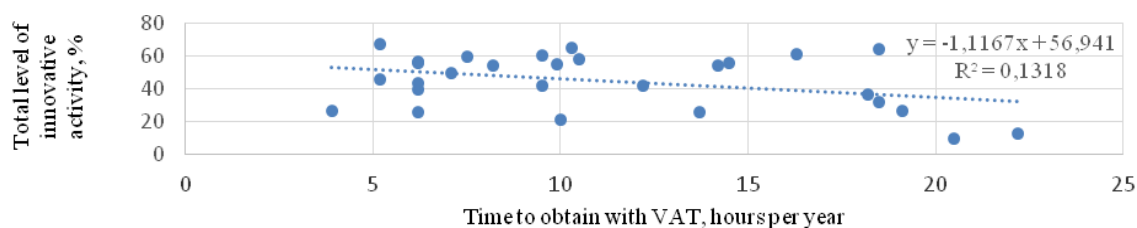


Figure 3. Interrelation analysis of “Time to obtain VAT refund” and total level of innovative activity (2013–2014).

According to the results of correlation analysis of the innovation development indicators under study and the total tax burden it has been found that neither general level of total tax burden, nor its changes throughout the spectrum have significant connection with the innovative activity level in all time moments being considered. However, if the factor consideration range is limited and the relation of decrease or increase in the total tax burden with the investment process indicators is considered individually, the following results can be obtained. Decrease in the total tax burden, just like the earlier considered components of the compliance costs, is in the range of low connection with the total innovative activity indicator. At the same time, increase in the total tax burden shows the high connection with decrease of the total innovative activity (figure 4).

The obtained results allow the authors making a conclusion on that the investigation hypothesis has not been confirmed. In the composition of regulatory costs occurred at tax payment, the innovative activity indicators are influenced not by compliance costs, but by other cost elements, primarily, the tax burden itself.

The authors consider it necessary to make a number of comments concerning the obtained results:

1. The revealed negative interrelation of the total tax burden with the innovation development indicators confirms the conclusions of Carlin, Soskice [12] on that the compliance burden has a negative influence on innovations. Besides, the obtained conclusions made it possible to specify a structure of such influence and to compare the contribution of compliance burden individual elements to the negative effect. Since the compliance costs connection with the total effect is absent, then, in case the tax regulation tools are selected, the state should be oriented, primarily, to the total tax burden.



Figure 4. Interrelation analysis of Total Tax Rate increase and change in total level of innovative activity (2011–2014).

2. The attention is drawn to the absence of positive connection between decrease of the total tax burden and the innovative activity growth. This can be explained by the fixed character of regulatory costs, as well as by temporary lag between the tax decrease and activity growth. The conclusion can be made on that at selection of the regulation tools the state considers it more important not to create new costs as compared to decrease of the existing ones.

3. It should be noted that this investigation included compliance costs study concerning tax payment only. At that, the regulatory costs may take place in the firms in connection with other trends in regulation as well (labor, ecological, etc.). It is impossible to apply the conclusions of this investigation to other types of regulations. It is incorrectly to make a conclusion on the absence of any influence of compliance costs on the innovation development indicators according to the results of this investigation. Thus, at selection of regulation tools the states must carry out their complete and accurate evaluation.

4. The investigation is also limited by non-proportional action of compliance costs on the firms of different size. Compliance costs of a small enterprise are six times more than those for the large company [2]; so we can suppose that the results could be different during the analysis of data on innovative activity indicators for small enterprises individually.

5. Conclusion

Within the present investigation the authors have studied a multi-aspect interrelation of innovations and state regulation. Within the frames of Carlin and Soskice conceptual model the structure of one of two main effects of the regulating norm implementation — compliance burden occurrence — has been studied. In particular, the element of this structure — compliance costs and their interrelation with the innovation development — is considered thoroughly. Methods of correlation-regression analysis are used to evaluate interconnection of compliance costs in the sphere of tax payment and a number of indicators of innovative development. The correlation analysis of interconnection between other components of standard costs was carried out in order to establish the influence of their different elements on the innovation indicators. The conclusion is made on the absence of significant connection of compliance costs with the indicators under study. At that, a negative interrelation of the total tax burden and the innovation development has been revealed. The obtained conclusions made it possible to specify a structure of such interrelation and to compare the contribution of compliance burden individual elements to the negative effect. The conclusion has been made on that the most important contribution to the influence in the structure of regulatory costs is made by the tax burden and not by other elements. This makes it possible to recommend that the state is oriented, primarily, to the total tax burden in case of tax regulation tools selection. The investigation of compliance costs interrelation by non-tax regulation and innovation development indicators will become a trend for the author's further work.

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