

# **NATIONAL SYSTEM OF CERTIFICATION OF WORKER'S COMPETENCE AND QUALIFICATION AS THE INSTITUTE OF LABOUR MARKET**

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## **Abstract**

The analysis of the National system of certification of worker's competence and qualification as the institute of labour market shows that system involve four parties as minimum: employees, employers, government authorities, higher and vocational education establishments. In this situation it is impossible to avoid conflict of interest between the participants which together with significant level of uncertainty and information asymmetry creates opportunistic behavior and welfare losses caused by transaction costs. For the system of competencies and qualifications certification to become an effective tool for minimizing transaction costs in the labor market it is necessary to understand the reason for low efficiency of the present recruitment system.

The paper investigates the problem of constructing a national system for certification of employee competencies and qualifications in regions of Russian Federation within the framework of the contract theory. The contractual environment of the Russian labour market is described; existence of a potential positive effect of introduction of the certification system is formally proved. A comparative analysis of different strategies for implementing a certification system is provided. Having analyzed the practice of introducing certification systems in the Sverdlovsk oblast the authors prove that transaction costs and specifics of employment contracts limit significantly the incentives for employers to create a unified system of certification. The recommendations on the optimal model of the certification system are given.

In this article we showed that overcoming the negative effects of high monopoly power of the employer in individual markets can be provided by involving trade unions and other stakeholders in creating the system of certification under corporate social responsibility system principles.

The article may be interesting for researchers specialized in Labor economics, corporate and social responsibility and human research management. Results of the research

are useful for elaborating personnel recruiting systems, systems of competence and qualification or labor market regulation policy.

**Key words:** adverse selection; screening; incentive-compatible employment contracts; certification of employee qualification.

**JEL Code:** J24, J31, M51

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## **Introduction**

The growth of national economy and welfare of the population in the global economic environment is in total defined by its competitiveness in resources and their utilization. For the high added value manufacture and the service sector it is important to have competitive labor force which in this article means competitiveness of employee competencies (qualification).

The importance of employee's competitive competencies accumulation for a company, region and national economy was the reason for coming up with the national entrepreneurial initiative which aims to improve the investment climate in the Russian Federation. The initiative is called "Creating the National System of Competencies and Qualifications". The stated goal of this initiative is to create a system balanced between the government, businesses and people that enable to quickly and effectively form highly-skilled labor having the set of qualifications and competencies needed for increased global competitiveness of Russian companies.

The dialog between executive authorities and entrepreneurial community helps to pass and implement the regulatory legal acts that provide formal institutional frameworks of the national system of competencies and qualifications. This national system must be based on the professional standards, developed under the RF Ministry of Labor and Social Protection. Professional standards should be used in the educational programs and assessment materials of an independent system for assessing the learning outcomes that is competencies and qualifications certification.

Emphasizing the certainty of success, it should be noted that there have been some issues of concern in the process of forming the national system:

- independent assessment (certification) of competencies and qualifications gets much behind development of professional standards;

- leading employers' developing their own corporate professional standards and using them to train professional labor within the dual educational system does not only increase employee intra-industry competitiveness but also hinders their professional mobility.

The importance of these problem issues rises because of breaking up the system of giving skill categories to vocational school graduates. In the Sverdlovsk Oblast only abolishing the assignment of skill categories affects 30 thousand vocational school graduates yearly.

These graduates account for 40 percent of first are employment seekers.

## **1 Theoretical framework**

The analysis of the economic relationships having the above mentioned problems shows their complicated character. They are complicated as they involve four parties as minimum: employees, employers, government authorities, higher and vocational education establishments.

In this situation it is impossible to avoid conflict of interest between the participants which together with significant level of uncertainty and information asymmetry creates opportunistic behavior and welfare losses caused by transaction costs. For the system of competencies and qualifications certification to become an effective tool for minimizing transaction costs in the labor market it is necessary to understand the reason for low efficiency of the present recruitment system.

The most suitable behavior strategies for the four above mentioned participants of the employment market with the competencies and qualifications assessment system as well as equilibrium results of their interaction can be shown as a formal model. The main models of contract relation under the asymmetric information were developed by Holmstrom and Milgrom (Fudenberg, Holmstrom, 1990), (Holmstrom, 1983), (Holmstrom, 1982), (Holmstrom, 1979), (Holmstrom, Milgrom, 1987), Mirrlees (Mirrlees, 1976), Schattler and Sung (Schattler, Sung, 1993) etc.

As the basis for this we take the modified model of Grossman-Hart's optimum contract (Grossman, Hart 1983). This model helps to consider discrete alternatives in recruitment and payment, which allows clarifying the possible reasons for ineffective recruitment practices.

Suppose there are two workers in the labor market – a skilled one (g), an unskilled one (b) and one employer. The company can't see the type of a worker. The technology

controlled by the worker is uncertain about the output. The output takes on two values  $q_s > q_f$ .

The probability of increased output depends on the worker's effort which is not visible to the firm. The cost of the effort made depend on the type of the worker in the following way:  $a_{bb} \ll a_{gb} < a_{gg} \ll a_{bg}$ , where the first index means the type of the worker and the second index means the type of the effort. Thus for the unskilled worker little effort requires much lower cost than for the skilled worker, and much effort requires much higher cost. The probability of increased output is higher with more effort than it is with less effort  $P > p$ . The company is neutral towards risk. Worker's preferences are characterized by the elementary function of worker-type utility:  $U = f(w) - a, f'(w) > 0, f''(w) < 0$ . Reserve worker-utility will be expressed as R.

To begin with let's consider the model when there is no system of competencies and qualifications certification. In this case profit maximization motivates educational establishments to give diplomas to all those who pay for the education regardless their real level of qualification. This means both types of workers have their diplomas. In this situation an educational establishment becomes a passive participant of the market providing just formal conditions for the access to the market. The evaluation of the worker quality becomes the responsibility of the company. Provided the company doesn't have such a system, its functions will be limited to choosing different levels of payment for different output.

Choosing the type of the contract a company has four strategies to follow depending on what type of a worker it needs and what level of effort it expects to be put in.

Let's take the first variant: the company implements high level of effort being oriented to a skilled worker. The company problem takes the form:

$$\begin{aligned} \max_{w_s, w_f} E\pi &= P(q_s - w_s) + (1 - P)(q_f - w_f) \\ \text{s.t.} \left\{ \begin{aligned} Pf(w_s) + (1 - P)f(w_f) - a_{gg} &\geq pf(w_s) + (1 - p)f(w_f) - a_{gb} \\ Pf(w_s) + (1 - P)f(w_f) - a_{gg} - R &\geq 0 \end{aligned} \right. \quad (1) \end{aligned}$$

Here the first constraint is incentives constraint suggesting that a skilled worker is motivated to put much effort, and the second constraint is participation constraint suggesting that a skilled worker benefits from the contract.

It is easy to see that this profit is definitely smaller than it could be if recruiting the skilled worker was guaranteed.

The second type of contract suggests that the company stimulates high level of effort being oriented to an unskilled worker. In this case the company problem takes the form:

$$\begin{aligned} \max_{w_s, w_f} E\pi &= P(q_s - w_s) + (1 - P)(q_f - w_f) \\ \text{s.t.} \left\{ \begin{aligned} Pf(w_s) + (1 - P)f(w_f) - a_{bg} &\geq pf(w_s) + (1 - p)f(w_f) - a_{bb} \\ Pf(w_s) + (1 - P)f(w_f) - a_{bg} - R &\geq 0 \end{aligned} \right. \quad (2) \end{aligned}$$

It is easy to demonstrate that in this case the skilled worker benefits from the contract and he is likely to make much effort as well as the unskilled one.

In this case profit is obviously smaller than it could be if recruiting the skilled worker was guaranteed and thus more effort was made. It is clear that with rather high  $a_{gg}$  this variant is worse than the first one.

The third type of contract suggests practicing less effort and is oriented to a skilled worker.

In this case the problem doesn't have incentives constraint and it takes the following form:

$$\begin{aligned} \max_{w_s, w_f} E\pi &= p(q_s - w_s) + (1 - p)(q_f - w_f) \\ \text{s.t.} \left\{ \begin{aligned} Pf(w_s) + (1 - P)f(w_f) - a_{gb} - R &\geq 0 \end{aligned} \right. \quad (3) \end{aligned}$$

In this case it is obvious that the unskilled worker will also apply for this job and he will put a lower level effort.

As it might be seen, the expected profit is not necessarily lower than that with stimulating more effort, but probability of lower profit is as high as is the difference in productivity and the possibility of bigger output. At the same time the probability of lower profit is as low as is bigger the difference in levels of effort made.

Finally, the fourth type of contract which implies lower level of effort and is oriented to an unskilled worker.

In this case the company problem takes the form:

$$\begin{aligned} \max_{w_s, w_f} E\pi &= p(q_s - w_s) + (1 - p)(q_f - w_f) \\ \text{s.t.} \{ & Pf(w_s) + (1 - P)f(w_f) - a_{bb} - R \geq 0 \end{aligned} \quad (4)$$

In this situation the unskilled worker will refuse the contract.

Due to  $a_{bb} \ll a_{gb}$  that is the company doesn't need to be oriented to a skilled worker if wants a low-level effort. It should also be mentioned that in implementing a low-level effort there is no problem of selection.

Next we assume that the company faces the selection problem that is the best of the four makes a lower profit than in the case when a skilled worker could be hired and more effort could be implemented.

In this situation creating the institution for external evaluation of competencies and qualifications can help to increase the economy's wealth by increasing the profit of the company, through the equilibrium of production and optimal allocation of resources if such system proves to be efficient which means it will provide hiring skilled workers.

We move on to forming the system of candidates' selection.

The first thing to identify in the formation of the selection system is the condition for external efficiency, in other words the condition under which the system provides a certain signal of the worker's qualities. Besides, it should be taken into account that there are increasing economies of scale with the quality measurement.

The second condition for a separate institution of certifying competencies and qualifications is internal efficiency that means, at least, break-even operation of the certifying body.

We consider the possible sources of financing.

The first mechanism suggests direct funding by the companies concerned which will be represented by the major employers of the region. The advantage of this mechanism is a more efficient control exercised by employers over the certification procedures. However, to our mind, this mechanism is not optimal because it has a lot of disadvantages. The disadvantages include a threat of creating monopoly in certification and using certification as an instrument of pressure on competitors and the labor market, little interest in certifying external customers or high price of a certificate, corruption in giving certificates to the customers who are in close relations with the management of the companies, other.

The second mechanism suggests using the government funding, though this mechanism causes even more problems, which is explained by a weak interest of the government in efficient functioning of the system.

The third mechanism suggests financing the system of certification by the customers.

In this case there will arise the same problems that led to the formal education's losing its signaling role in the labor market. The certifying bodies in order to maximize profit will practice a formal approach to certification, which guarantees receiving a certificate by everyone who pays for it.

Finally, the fourth variant of financing which seems to be the most optima.

It suggests shared funding of the certifying system by the worker himself, the company and the government. In this case it becomes rather complicated to make direct pressure on the certifying bodies, a sufficient level of control is provided and the threat of monopolizing the system is reduced.

The significant factor for increasing the efficiency of the certification system is the base for financing. It seems obvious that per-capita funding (depending on the number of certified people) is not optimal. It either stimulates making more attempts if the certificate is required for employment (the demand is not price elastic), or makes it just a formal procedure if the certificate is not required (the demand is price elastic). It is also necessary to provide the mechanism of co-financing the certification by the customer because receiving certificates free of charge provokes irresponsible attitude to them, participating in the procedures without being properly prepared and resulting from these overloading the certification bodies. Charging for certification procedures can easily solve the problem of consumer-tourists. At the same time to prevent certifying bodies from being motivated to increase the number of certifications, it is necessary not to make customer fees a source of revenue for the certifying body. These funds obtained may, for example, be paid to the customers as bonuses for the successfully passed certification.

## **2 Empirical evidence**

At present all the expenses of developing professional standards and educational programs based on them are born by employers and the government.

In the Sverdlovsk oblast, for example, the giant employers SPA Uralvagonzavod", JSC "UMMC-holding", JSC "Pervouralsk new pipe plant", JSC "Nizhny Tagil metallurgical plant" are successfully developing the professional standards. They have developed over one

thousand corporate professional standards on the basis of which within the dual education system the institutions of secondary vocational education are practicing educational programs.

However to expect employers to play the main role in promoting the certification system means not to understand the laws of market economy. As shown in our previous studies (Kokovikhin, 2015) based on Williamson's concept (Williamson, 1985) a company is ready to invest in the assets of another owner (for example, in a worker's qualification) only if there is a guarantee of long-term relations which provide the return on investments. Such a guarantee with no "bonded" relationships is the specifics of the asset (professional competencies) which has low alternative value.

Therefore, paying for the recognized certificate that gives a worker high alternative value contradicts the rational interest of a particular employer. Thus, acting in isolation the employers form a closed system of personnel training which solves short-term problems of upgrading worker's competencies and qualifications, but deprives the industry of the advantages of using mobile highly- skilled labor force.

The theoretical conclusions are supported by the results of the sociological research which involved questioning the top managers of 80 largest construction companies from January to March 2015 (table 1).

The strategic goal of this research was to find out the attitude of employers to the system of professional standardization. It should then be followed by their active engagement in a balanced interaction between citizens, businesses and government authorities for forming, developing, accumulating, reproducing, assessing and protecting qualifications and competencies.

The objectives of this research included: employer awareness of the need to develop professional standards and of the purposes of competencies and qualifications system, identifying the position of the employers in the construction industry towards the system of competencies and qualifications and professional standards, finding out the reason for their attitude, an opportunity of forming an expert community represented by employers and industry specialists whose opinion is important for the employers.

**Tab. 1: The results of sociological research in the attitude of construction business employers to implementing the system of professional standards and qualifications assessment (certification).**

Question	Respondents %
Awareness of NSCQ (national System of Competencies and Qualifications)	100



Readiness to take part in developing national professional standards, providing representatives in the industry expert groups	50
Planning to create the system of corporate professional standards	50
Attracting foreign labor force	50
Readiness to participate in the work of qualifications assessment center (certification)	
As an expert	44
As a founder	0
Certification system implementation will increase staff turnover in the organization	22

Source: Authors' own elaboration

The research showed that most interested in implementing the system of professional standards and certification are those employers who use foreign labor (50%). Those who are concerned about growing personnel turnover because of increased labor mobility make up 22% of employers. Organizations that is oriented to implementing internal (closed) system of professional standards and qualification assessment account for 50%. It is important that none of the employers expressed willingness to be the founder of the qualification assessment (certification) center. This confirms the conclusion of the theoretical model about employers 'not being interested in paying for the open certification procedure of a worker.

The organization implementing the industry-wide interests of employers are industrial unions which must participate in establishing the system of competencies and qualifications certification. On the other hand, the experience of certifying specialists in the Sverdlovsk oblast shows that workers are ready to pay for the certification procedures only if the certificate is recognized by employers and their associations. In case of certifying personnel management specialists the partner was Association of managers and specialists of human resources management of the Sverdlovsk oblast.

## Conclusion

In this article we showed that overcoming the negative effects of high monopoly power of the employer in individual markets can be provided by involving trade unions and other stakeholders in creating the system of certification under corporate social responsibility system principles. As an effective instrument of their interaction with industrial unions of employers in forming the system of competencies and qualifications certification it is proposed to engage the institute of corporate social responsibility (CSR) – trilateral agreements, made at regional level and in some industries between employers, trade unions and government authorities.

One of the main problems for system for competence and qualification evaluation is the lack of empirical data on Russian labor market especially on demand side. This obstacle makes much more complicated evaluation of its expected efficiency, and sufficiently devalues given recommendations.

The main propose for the next researches involve collecting the representative empirical database on demand for qualification and skills and quality of education provided by Russian educational institutions. We hope that further empirical researches will help in minimizing transaction costs of national system for competence and qualification evaluation and will grant for labor market efficiency increasing.

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