OPPORTUNISM AND EFFICIENCY OF CONTRACTUAL RELATIONS IN RUSSIAN CORPORATIONS

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Abstract: Issues related to research of the corporate sector efficiency are extremely important because it is the corporations, which act as a nucleus of almost any economic system. Efficiency of the corporations is largely due to internal corporate quality interactions, i.e. the level of contractual relations efficiency. In the existing economic literature, the questions of contractual relations efficiency still lack sufficient investigation. The present article examines the efficiency of the contractual relations and the factors affecting it, as well as problems of opportunism in Russian corporations and its impact on the contractual relations efficiency. In the graphic models presented, the efficiency curves of contractual relations and opportunism are described; the major factors that reduce the contractual relations efficiency in corporations are highlighted. The article examines the impact on the contractual relations efficiency of quality of corporate institutes. The basic corporate institutes and their key features are allocated. A quantitative analysis of the contractual relations efficiency, by building production functions of Cobb-Douglas, is conducted; this analysis introduces indicators characterizing the dividend policy and the level of remuneration for management personnel as factors.

Introduction

Questions related to enhancing the efficiency of Russian corporations remain relevant at the present stage of development of the corporate sector, which should be the main engine propelling a new economy. Modern Russian corporations are characterized with a low level of efficiency in comparison with other countries which, in our opinion, is the result of imperfect contractual relations and poor quality of the institutional environment, both at the macro level and at the level of individual corporate institutions. One of the significant causes of the imperfection in contractual relations is a high level of opportunism in Russian corporations and the problem of its "integration" in the existing corporate institutions. Dysfunction of corporate institutions is related to the effects of coordination and conjugation. Substandard institutions, including institutions of opportunism, however, have a positive impact on the stability of the firms. In our view, the problem of increasing the efficiency of the contractual relationship and the quality of corporate institutions remain insufficiently studied in the current economic works. The purpose of this paper is to analyze the root causes of institutions of opportunism in Russian corporations and their impact on the efficiency of contractual relations in theses corporations.

Literature review

Many scientists have considered the problems and peculiarities of the corporate sector in Russian economy, such as Auzan & Satarov (2012), Radygin & Entov (2006), and Barhatov & Pletnev (2013), along with many other Russian and foreign scientists who are involved in the analysis of contractual relations. Jensen & Meckling (1993) focused on the efficiency of such factors of contractual relationship as information asymmetry and behavioral opportunism. They examined a particular form of contractual relations—agency relationship. The problem of information asymmetry and behavioral opportunism arises within the agency relationship that involves the principal and the agent. The scientific foundations

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of the topic researched can be found in the works of Baker (2000), Macneil (1983), Parker (2003), and Xiao & Proverbs (2003).

Substantial theoretical and methodological contributions to the development of the efficiency of contractual relations were introduced by Williamson (2001). He singled out the types of contractual relations management and considered the questions of opportunism and transaction costs economy attributing these questions to "efficient" branch of cognitive contract map he developed. Williamson (2001) identified two types of contracts in accordance with the frequency of recurrence—casual and recurring, as well as three types of contracts differing in the degree of asset specificity—mainstream, partially specialized, and highly specialized. Furubotn & Richter (2005) expanded the understanding of efficiency of contractual relations problem; they systematized and identified three types of contractual relations theories: agency theory, theory of self-fulfilling agreements, and relational contract theory.

Study of the problems of opportunism has great importance in contemporary institutionalism. In fact, many Russian economists actually pay attention to this issue. Through the analysis of existing approaches, it is worth noting that they placed emphasis on the various characteristics of opportunistic behavior. In their works, Popov & Simonova (2006) placed information asymmetry among the major causes of opportunistic behavior, which is used to maximize their own benefit at the detriment of others corporation. Opportunism based on this asymmetry is manifested in concealing relevant information or deliberate distortion of reality that can significantly influence decision-making about the future interaction. Self-interest orientation is the main characteristic according to Barhatov & Pletnev (2013), who viewed opportunism of the subjects of the corporation in terms of realization of an individual (selfish) activity. Nesterenko & Belkin (2011) distinguished evasion of the terms of the contract as one of the key characteristics of opportunism within the corporation. Violation of their obligations, as a rule, is hidden, which exacerbates the problem of opportunism measurement in the corporation.

Data and methodology

To quantify the efficiency of contractual relations (EC) in Russian corporations, there was an investigation carried out during which the impact of the quality of corporate institutions on the corporation growth was studied. The key characterizing indicators of the efficiency of corporate institutions were dividend payment and remuneration for management personnel. The degree of contribution of corporations to efficiency improvement of contractual relations in Russian corporations was analyzed. The growth rate of sales revenue was also considered as an indicator of the corporation efficiency. The factors influencing the growth rate of sales revenue were analyzed, the basis for the analysis was the Cobb-Douglas production function with some clarifications:

- as indicators of volume of production, labor, and capital have monetary evaluation and are represented in the financial statements of corporations, let us consider sales revenue for the volume of production, corporate staff costs for capital will be taken for labor, and the value of fixed assets will be considered for capital (understanding capital as real capital);

- for a resulting indicator we will take the growth rate of sales revenue, and for factor variables the growth rate for staff costs and the growth rate of the residual value of fixed assets will be taken;

- we introduce in the production function in the first case the growth rate of dividends paid to shareholders for the year as the third factor, in the second case—the growth rate of remuneration paid to key management personnel.

Under the prerequisites mentioned above, the production function in the first case will have the following form:

$$i_Q = A \cdot i_K^{\alpha} \cdot i_L^{\beta} \cdot i_D^{\gamma} \tag{1}$$

wherein,

i_Q – changes in corporation revenue index (the ratio of the proceeds from sales to revenue of the previous period);

i_K – changes of corporation capital index (the ratio of fixed assets to total assets of the previous period);

i_L – changes of labor index (the ratio of the amounts of funds for payment of wages to the appropriate amount of the previous period);

i_D – change of the dividends paid to shareholders index (the ratio of dividends to total dividends of the previous period);

A, α, β, γ – function parameters. In the second case, the production function has the following form:

$$i_o = A \cdot i_k^{\alpha} \cdot i_L^{\beta} \cdot i_p^{\gamma} \tag{2}$$

wherein, i_P – changes in the amount of remuneration paid to key management personnel of the corporation index (the ratio of the rate in 2011 to the amount of remuneration in 2010).

Large corporations with clearly different rates of growth of revenue from sales included in the top 400 ranking published by the rating agency Expert RA were selected as an object of analysis.

Results and discussion

Quantitative EC can be defined as the ratio of the change in the share of income of each entity (in the total income of the corporation) to the share of ownership transfer (from shareholders to managers and from managers to employees):

$$EC = k \cdot \frac{\Delta I}{\Delta S} = k_1 \cdot \frac{\Delta I_1}{\Delta S} + k_2 \frac{\Delta I_2}{\Delta S} + k_3 \cdot \frac{\Delta I_3}{\Delta S} + ... \tag{3}$$

wherein,

k – elasticity coefficient of efficiency of contractual relations in the corporation at change of the ownership transfer share to 1%;

k_i – elasticity coefficient of efficiency of contractual relations in the corporation at change of the i-th power share by 1%;

ΔI – change in the share of income of the subject of contractual relations in the total income of corporation;

ΔS – changes in the share of transferredownership.

We introduce the efficiency curve of contractual relations in E Corporation, as shown in Figure 1. Efficiency curve E_0 is built under the following assumptions: 1) the maximum level skill of the manager, and 2) behavioral opportunism of the manager is absent. Then, point A indicates the maximum level of efficiency, which is explained by the absolute transfer of property rights to the manager. The greater share of property rights gives more ownership rights to the manager, while the more opportunities the manger has the better the management of the corporation. In addition, point A can characterize the situation where the manager is the owner.

Under the conditions of the simplifications imposed above that the skill level of the manager is at maximum, while a behavioral opportunism is absent, the question of an optimal ownership share transfer does not arise. However, if we ignore the background of the absence of opportunism, achieving the maximum level of performance of contractual relations would be impossible. Consequently, the question of determining the optimal share of transferred ownership arises. Optimization in this case involves finding such share of transferred ownership, which will result in the maximum efficiency of contractual relations with the existing level of behavioral opportunism (Benz, 2010).

Managerial opportunism begins to emerge under diverging interests, i.e. when their personal interests and the interests of the owners no longer coincide. Shareholders are primarily interested in getting income from capital invested in the corporation, while managers are focused on personal enrichment.

The presence of opportunism convergent graphical model is shown in Figure 1. O_0 curve characterizes the absence of opportunism on the part of the manager. The higher the share of the ownership transferred to the manager, the lower the efficiency of the contractual relationship assuming that the manager showed a tendency towards opportunism. This explains the negative slope on the opportunism curve O.

Figure 1: Change in the optimal level of property rights transferred to a manager at conditions of the manager's inclination to opportunism
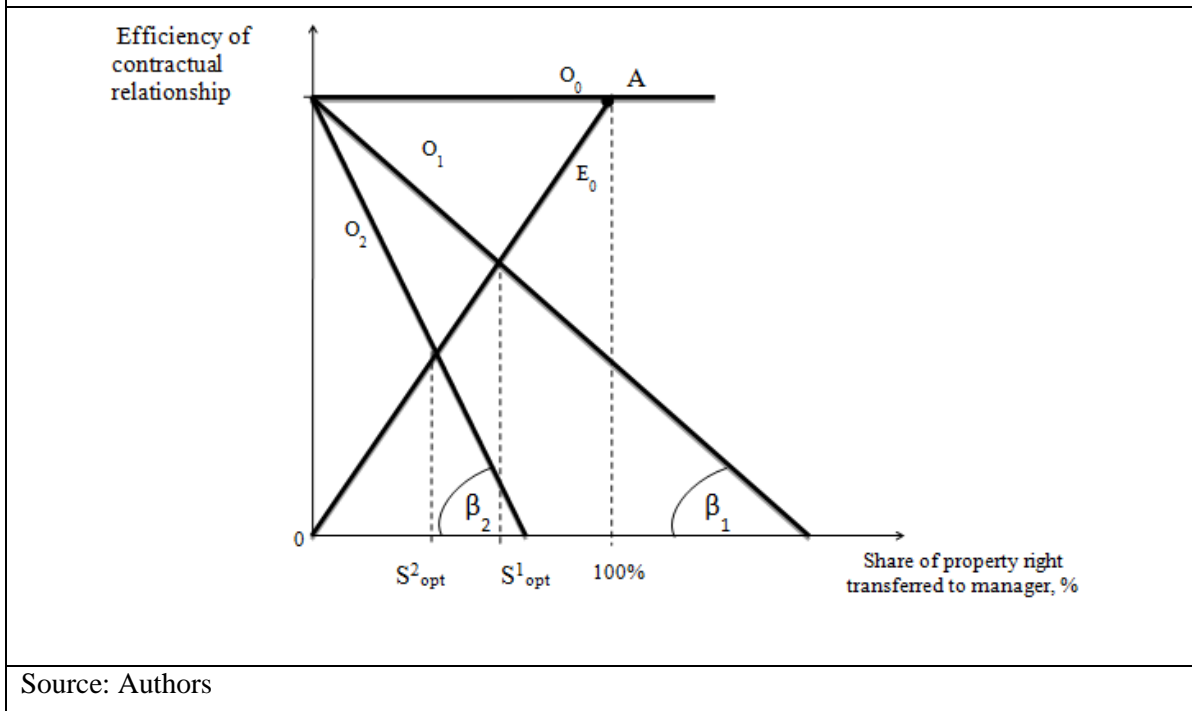
Source: Authors

The higher the managerial tendency towards opportunism, the greater the angle β will characterize the opportunism curve O. In other words, the higher the manager's inclination to opportunism, the stronger the reduction in efficiency of contractual relations, while a transfer of ownership to the manager at 1% will be:

$$tg\beta_1 < tg\beta_2 \qquad (4)$$

Figure 1 allows us to determine the optimal share of ownership transferred to a manager. The intersection of the opportunism curves (O_0, O_1, and O_2) and efficiency of contractual relationship curve (E_0) characterizes the optimal share of transferred powers. The higher the tendency towards opportunism a manager has, at his given qualifications, the less the share of ownership transferred should be.

Overall effectiveness of contractual relations curve (TE_1), represented in Figure 2, reflects the overall efficiency—the resulting composition of two curves E_0 and O_1. In the absence of behavioral

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opportunism, the maximum level of EC (E^0_{max}) would be at point A. The appearance of opportunism on the part of the manager in the behavioral model reduces the attainable level of performance of contractual relations to the level of E^1_{max}. As mentioned earlier, the manager's increasing inclination toward opportunism steepens the slope of the opportunism curve (O) with respect to the horizontal axis. As a result, the total efficiency curve of contractual relationship shifts from TE_1 to TE_2. The new efficiency curve (TE_2) is characterized by a lower level of the maximum achievable efficiency (E^2_{max}), under the new contractual relationship conditions (Figure 2).

Figure 2: Overall efficiency curve of contractual relationship with respect to the growth of manager's tendency towards opportunism
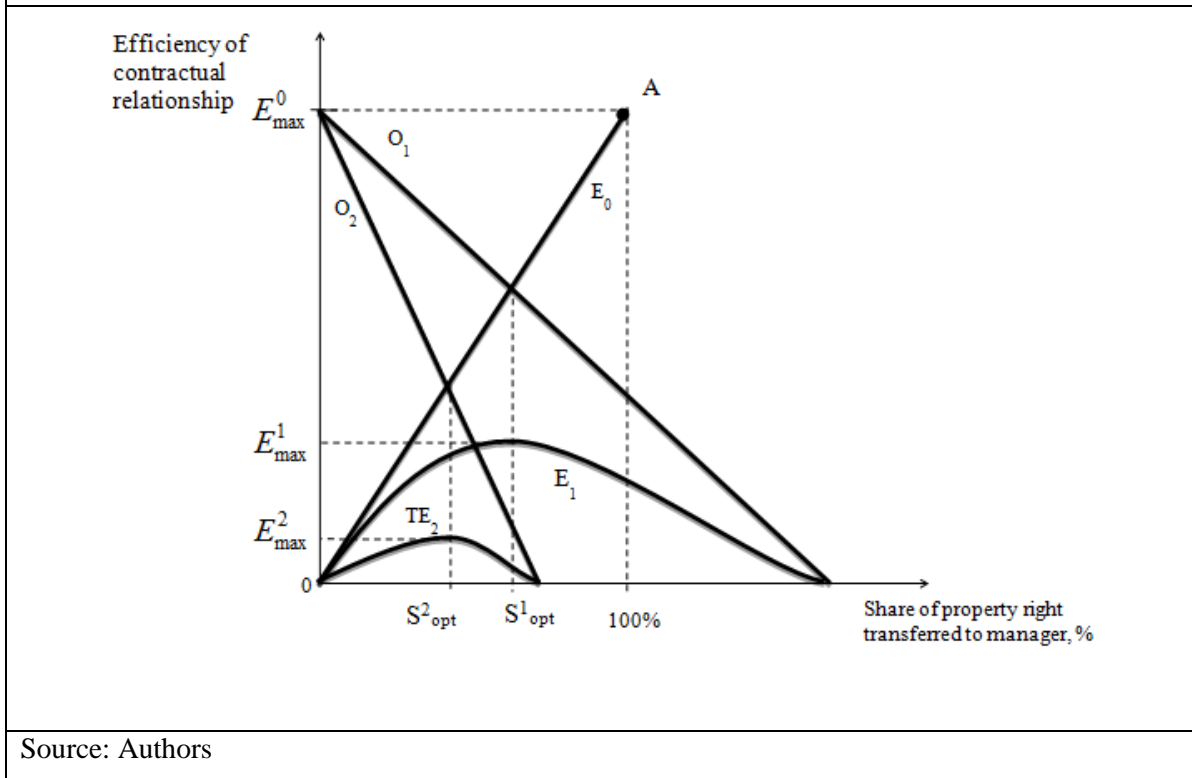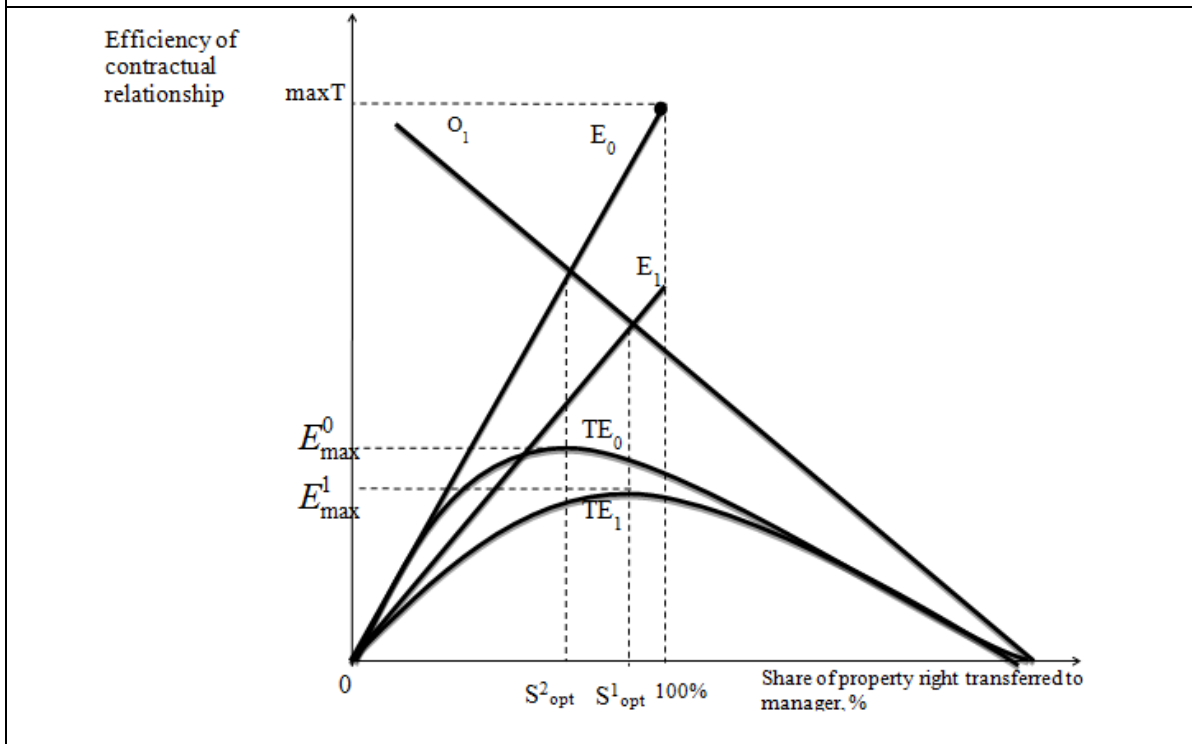

Source: Authors

Furthermore, if we abandon the invariance of one of the prerequisites of the model and introduce manager's skill level into the model, the slope of the contractual relationship efficiency curve (E_0) will change (Figure 3). The lower the manager's skill level, the smaller the slope angle ($\alpha_1 < \alpha_0$) of the efficiency curve (E_0, E_1). In other words, the lower the manager's skill level, the lower the level of efficiency ensures the unit of ownership transferred to the manager. For example, if the level of the qualification corresponds to efficiency curve (E_1), even if the absolute ownership transfer to the manager occurs, the level of performance of contractual relationships will not be higher than E_{max}^1. In other words, the E_{max}^1 level is a kind of ceiling for efficiency of contractual relationships for a given manager's skill level. Reduction of manager's skill level, in a similar manner with increasing opportunism, affects the level of efficiency of the contractual relationship as shown in Figure 3.

For a given level of opportunism (O_1) and at the manager's maximum skill level, the level of the maximum achievable efficiency of contractual relations is at E^0_{max}. With a decrease in the manager's qualification, the angle of the curve E_0 changes to that of E_1. At a lower manager's skill level, the highest attainable level of performance of contractual relations is reduced to E^1_{max} level. Furthermore, the quality of corporations and institutional environment, in which the corporation operates, has a significant influence on the EC, which raises the need to quantify the efficiency of corporations.

Figure 3: Shift of the overall efficiency of the contractual relationship curve with respect to the change in the manager's qualification level

Source: Authors

Corporate institutions that actively influence the activity of Russian corporations can be divided into two classes—internal and external, and their impact is considered from the standpoint of the level of contractual relations: shareholder-manager and manager-employee (Table 1).

Table 1: Internal and external corporate institutions from the standpoint of contractual relations

Level of contractual relationship	Internal corporations	External corporations
Shareholder – manager	- Information disclosure - Independent director - Procedure of the General Shareholders Meeting - Reorganization Institute of major transactions - Interested party transactions	- Listing rules - Code of Corporate Conduct (management) - Market of corporate control
Manager – employee	- Probation - Selection and staff placement - Remuneration and profit participation system - System of incentives and support	- Labor legislation - System of Education and Science

Source: Authors

The key functions of corporations are reduction of interaction uncertainty of all stakeholders, reduction of transaction costs, and relationship harmonization of all participants of corporate relations.

Let us assume that the efficiency of corporate institutions and EC in the corporation are in close relationship. The EC in the corporation will be understood as the ability to meet the economic interests, of the subjects of contractual relations in the corporation, on the basis of redistribution of property rights.

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Under the contractual relationship within the corporation, the economic relations of shareholder – manager and manager – employee, concerning the property rights transfer on the basis of the existing system of institutions, harmonize the economic interests of the subjects (Benz, 2010).

The assessment of the impact of corporate institutions on the EC is made based on the production function to construct, in which the indicators affecting the outcome were calculated, i.e. the growth rate of sales revenue. Among the factors affecting the resulting indicators, growth rate of capital, wages and dividends were considered. Calculation of the parameters of the production function for Russian corporations led to the following results. The function has the following form:

$$i_Q = 1{,}13 \cdot i_K^{0,1} \cdot i_L^{1,32} \cdot i_D^{-0,01} \tag{5}$$

The coefficient of multiple determination (R^2) of the regression built is 0.52, which indicates an acceptable level of adequacy of the constructed model. The degree of size of dividends paid index (γ) is -0.01, which indicates, on the one hand, the inverse relationship between the amount of sales revenue and the size of dividends paid; on the other hand, the absolute value of the degree is too small to testify about any relationship at all. Therefore, we can assume that the dividend size is declared by factors other than the growth rates of a corporation.

To construct the production function of the second kind, we introduced an indicator characterizing the change in the amount of remuneration paid to key management personnel of the corporation. Calculation of production function parameters led to the following results. The function has the following form:

$$i_Q = 1{,}07 \cdot i_K^{0,01} \cdot i_L^{1,37} \cdot i_P^{-0,19} \tag{6}$$

The coefficient of multiple determination (R^2) of the regression built is 0.72, which indicates a high level of adequacy of the constructed model. The degree of remuneration of top management index (γ) is -0.19, indicating an inverse relationship between the size of the sales revenue and the size of remuneration paid. Thus, the construction of production functions allows us to conclude that the payments to shareholders and managers do not depend on the rate of corporation development and growth.

To verify the resulting output, the coefficients of bivariate correlation between the studied variables were calculated. The correlation coefficient between the growth rate of dividends and sales revenue is -0.29, which is negative and indicating no correlation between these values, and once again confirms the fact that the dividend payment does not depend on the growth of the corporation. The correlation coefficient between the growth rate of labor remuneration and revenue growth rate is also very low; that is also indicating the absence of communication as such.

Conclusion

At the present stage of development of the Russian economy, the corporations are characterized by reduced EC under the influence of such factors as manager's skill level and their tendency toward opportunism. The relationship between these indicators indicates the lack of sufficient incentives for execution of the contract in full. The analysis allows us to make an assumption about the impact of the EC of corporation efficiency as a whole. Another factor in the EC is the efficiency of corporate relations, by which we mean the harmonization of interests of the contractual relationship subjects. However, we could not discuss about harmonization, as these calculations suggest otherwise. Neither on the first level of contractual relations (shareholder – manager) nor on the second level (manager – employee) exists any harmonization of interests. Moreover, the growth of dividend payments is not determined by the growth of remuneration payment and vice versa (correlation coefficient in this case is -0.21). Again,

the growth of remuneration payment does not relate to the growth of employees labor costs—in this case the ratio is only 0.4. Thus, we can conclude that the relationship is reversed.

The analysis of factual data showed that the main "distortion" in the efficiency of corporate institutions is due to the presence of clear manifestation of behavioral opportunism from both the owners (shareholders) and the key management personnel (top management).

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